



# **Substantive Application for a Listed Project under the Fast Track Approvals Act 2024**

## **The Point Solar Farm**

FAR NORTH SOLAR FARM LTD

WWLA0631 | REV. 1

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## The Point Solar Farm – Substantive Application

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## Glossary of Abbreviations

| Term             |                                                                                                                                                    |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| AECL             | Aoraki Environmental Consultancy Limited                                                                                                           |
| AEE              | Assessment of Effects on the Environment                                                                                                           |
| AMP              | Avian Management Plan                                                                                                                              |
| CLWRP            | Canterbury Land and Water Regional Plan                                                                                                            |
| CMP              | Construction Management Plan                                                                                                                       |
| CTMP             | Construction Traffic Management Plan                                                                                                               |
| CVA              | Cultural Values Assessment                                                                                                                         |
| DoC              | Department of Conservation                                                                                                                         |
| EEP              | Ecological Enhancement Plan                                                                                                                        |
| EPA              | Environmental Protection Authority                                                                                                                 |
| ERP              | Emissions Reduction Plan                                                                                                                           |
| ESCP             | Erosion and Sediment Control Plan                                                                                                                  |
| FENZ             | Fire and Emergency New Zealand                                                                                                                     |
| FTA              | Fast Track Approvals Act 2024                                                                                                                      |
| FTE              | Full Time Equivalent                                                                                                                               |
| GIP              | Grid Injection Point                                                                                                                               |
| HAIL             | Hazardous Activities and Industries List                                                                                                           |
| HVDC             | High Voltage Direct Current                                                                                                                        |
| IBA              | Important Bird Area                                                                                                                                |
| LMP              | Lizard Management Plan                                                                                                                             |
| MBIE             | Ministry of Business, Innovation and Employment                                                                                                    |
| MDP              | Mackenzie District Plan                                                                                                                            |
| MW               | Megawatts                                                                                                                                          |
| MWp              | Megawatts-Peak                                                                                                                                     |
| NES – Freshwater | Resource Management (National Environmental Standards for Freshwater) Regulations 2020                                                             |
| NESCS            | Resource Management Act (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 |
| NESETA           | National Environmental Standards for Electricity Transmission Activities 2009                                                                      |
| NGS              | National Grid Substation                                                                                                                           |
| NPS-HPL          | National Policy Statement for Highly Productive Land 2022                                                                                          |
| NPS-IB           | National Policy Statement for Indigenous Biodiversity 2023                                                                                         |
| NPS-REG          | National Policy Statement for Renewable Electricity Generation 2011                                                                                |
| NREL             | National Renewable Energy Laboratory                                                                                                               |
| ONL              | Outstanding Natural Landscape                                                                                                                      |
| OPGW             | Optical Ground Wire                                                                                                                                |
| PV               | Photovoltaic                                                                                                                                       |
| REG              | Renewable Energy Generation                                                                                                                        |
| RGMP             | Robust Grasshopper Management Plan                                                                                                                 |
| RMA              | Resource Management Act 1991                                                                                                                       |

# 1 Introduction

## 1.1 Overview

This substantive application has been prepared on behalf of Far North Solar Farm Ltd (the Applicant). The Assessment of Effects on the Environment (AEE) supports applications for resource consent and a concession lodged with the Environmental Protection Authority (EPA) to authorise the construction and operation, and grid connection of a 450 megawatts-peak (MWp) photovoltaic solar farm at Section 3 SO 384036 (the site) located in the Mackenzie Basin.

The proposed solar farm represents significant new utility-scale renewable energy generation within New Zealand, which will be connected to the adjacent BENMORE-ISLINGTON line via a new Grid Injection Point (GIP) for supply into the national electricity network.

This substantive application has been prepared by Williamson Water & Land Advisory Ltd (WWLA) in fulfilment of Section 43 and Schedule 5 of the Fast-track Approvals Act 2024 (FTA).

## 1.2 Applicant and Property Details

Table 1. Applicant and property details.

|                                                                        |                                                                                                                                                   |
|------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Applicant</b>                                                       | Far North Solar Farm Ltd                                                                                                                          |
| <b>Legal Description</b>                                               | Section 3 SO 384036                                                                                                                               |
| <b>Record of Title</b>                                                 | 509805                                                                                                                                            |
| <b>Owner of application site</b>                                       | [REDACTED]                                                                                                                                        |
| <b>Occupier of application site</b>                                    | Far North Solar Farm Ltd                                                                                                                          |
| <b>Owners of land adjacent to site</b>                                 | [REDACTED]<br>Meridian Energy Limited<br>Genesis Energy Limited<br>(Refer to the table in <b>Appendix A</b> for further details)                  |
| <b>Occupiers of land adjacent to site</b>                              | [REDACTED]<br>(Refer to the table in <b>Appendix A</b> for further details)                                                                       |
| <b>Site area</b>                                                       | 968 ha total site area (work area is approximately 670 ha)                                                                                        |
| <b>Councils Plans</b>                                                  | <b>Mackenzie District Council</b><br>Mackenzie District Plan 2004<br><br><b>Environment Canterbury</b><br>Canterbury Land and Water Regional Plan |
| <b>Address for service during consent processing</b>                   | <b>Williamson Water &amp; Land Advisory</b><br>Attention: Laila Alkamil<br>[REDACTED]<br>[REDACTED]                                               |
| <b>Address for service during consent implementation and invoicing</b> | <b>Far North Solar Farms Ltd</b><br>Attention: Richard Homewood<br>[REDACTED]<br>[REDACTED]                                                       |

We attach the relevant Record of Title in **Appendix A**.

In accordance with Section 30(6)(a) of the FTA, respective notices from Canterbury Regional Council and Mackenzie District Council are attached as **Appendix B** confirming no consents have been issued for the project.

### 1.3 Project Background

The Point Solar Farm is listed in Schedule 2 of the FTA (Application ref. FTA006). A pre-FTA resource consent application<sup>1</sup> was lodged with Mackenzie District Council and Canterbury Regional Council under the Resource Management Act 1991 (RMA) in June 2023; that application was suspended pending inclusion of The Point Solar Farm in Schedule 2 of the FTA. Both applications were formally withdrawn from processing with Mackenzie District Council and Canterbury Regional Council on 12 February 2025 (refer to correspondence in **Appendix C**).

For the avoidance of doubt, this substantive application seeks approval under the FTA for the following approvals:

- Land use consents required to authorise the construction and operation of the solar farm under the Mackenzie District Plan;
- Regional consents required to authorise earthworks and stormwater discharges under the Canterbury Land and Water Regional Plan in relation to the development of the solar farm;
- Regional consents required to authorise the construction of the GIP;
- Subdivision consent required to authorise a lease arrangement with Transpower under section 218 of the RMA and to enable the separation of the operational solar farm from the farmed area;
- Land use consent associated with the subdivision of the site to enable farming and infrastructure access; and
- A concession required from the Department of Conservation (DoC, associated with a stream crossing for telecommunications and computer media.

A full assessment of resource consent triggers sought under this application is provided in **Section 5**.

In accordance with Clause 8(1)(a) of Schedule 5 of the FTA, the position of all new boundaries for the proposed subdivision is provided in the Transpower Lease Documentation - refer to **Section 4.7** and **Appendix D**.

In accordance with Clause 3(1) of Schedule 6 of the FTA, an assessment of the concession sought is provided in **Section 5.6** and **Appendix E**.

### 1.4 Eligibility Assessment

Under Section 43(1)(c) of the FTA, a substantive application must demonstrate that a project does not involve any ineligible activities. An assessment of the project against the meaning of ineligible activity as defined under Section 5 of the FTA is set out below:

- The project is not on identified Māori land or Māori customary land;
- The project is not occurring within land subject to a customary marine title or protected customary rights area;
- The project is not for an aquaculture activity;
- The project does not require access arrangements under section 61 or 61B of the Crown Minerals Act 1991;
- The project is not for an activity prevented under the RMA;
- No activity is proposed on land held as a reserve under the Reserves Act 1977;
- The project is not a prohibited activity under either the RMA or the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012;
- The project is not related to decommissioning in relation to the Exclusive Economic Zone and Continental Shelf; and
- The project is not for the purposes of offshore renewable energy.

<sup>1</sup> Mackenzie District Council consent ref. RM230057 and Canterbury Regional Council consent ref. CRC240932-933.

On that basis, the project is deemed to be eligible for consideration under the FTA.

### **1.5 Duration of Approvals Sought**

Resource consent is sought for a duration of 35 years. A consent duration of 35 years is sought as this is the maximum permissible term under the RMA.

The duration of the concession sought is 60 years; this is the term normally granted to Transpower for DoC concessions as it is considered the life of the asset. A term of 60 years also reflects the solar farm lease arrangement of 30 plus 30 years. The concession is therefore sought to be consistent with the lease arrangement.

### **1.6 Applicant's Legal Interest in Site**

The Applicant is the lessee of the site, noting a 35-year lease has been signed between the Applicant and the property owner to enable the proposed solar farm development. The resource consent and concession will remain in the Applicant's name for the duration of the project.

A resource consent of 35 years is sought for the proposed solar farm to align with the lease term.

### **1.7 Compliance Record of Applicant**

The Applicant has had no history of compliance or enforcement action taken against them in relation to any of their existing resource consents or concessions for their other solar farm sites.

## 2 Electricity Supply Network

### 2.1 Overview

Between now and 2050, demand for electricity is expected to rise by more than 68%, making the creation of new renewable energy generation a matter of national urgency to enable New Zealand to transition to a low emissions economy. As a renewable energy project, The Point Solar Farm directly supports Target Nine of the Government Targets approved by Cabinet - to reduce net greenhouse gas emissions by helping displace reliance on fossil fuel electricity generation. The project will provide significant national benefit through the creation of new renewable electricity and is therefore consistent with the intention of the FTA's purpose to *"facilitate the delivery of infrastructure... with significant... national benefits"*. The project also aligns with the Government's desire to double renewable electricity generation by 2050.

This section sets out an overview of the Applicant's involvement in solar farm development, the country's current electricity portfolio and the current challenges facing renewable energy generation (REG).

### 2.2 Applicant's Involvement in the REG Sector

The Applicant is one of the largest developers of solar farms in New Zealand. The Applicant currently holds resource consents which authorise the construction and operation of six solar farms in the North Island, with construction almost complete at the first, construction underway at a second, and the remainder under active development.

This experience and ongoing work allows the Applicant to understand the issues and solutions concerning responsible solar farm development in rural and semi-rural areas. Based on this, the Applicant has developed a specific site-selection criteria to identify suitable sites, based on available grid connection and National Grid capacity, visual screening and landscape features, topography, irradiance, and site features.

### 2.3 Overview of New Zealand's Electricity Portfolio

#### 2.3.1 Electricity Generation

The majority of New Zealand's electricity is provided via hydroelectric schemes. Currently, there is 5,500 Megawatts (MW) of installed hydro capacity, providing around 60% of New Zealand's electricity, most of which is located in the South Island.<sup>2</sup>

Geothermal generation is an integral part of New Zealand's electricity portfolio, with most of the country's installed capacity situated in the Taupō Volcanic Zone. Currently, geothermal makes up approximately 18% of New Zealand's electricity generation.

Wind generation also forms an important source of electricity generation, with the sector currently making up approximately 7% of the country's electricity generation. The remainder of New Zealand's electricity portfolio is created through the use of thermal generation using coal, oil and gas and is typically used to provide baseload, backup and peak electricity supply. The Point Solar Farm will have the capacity to provide around 2.3% of the annual electricity currently generated by hydro power, making that energy available for peak time use and consequently reducing the need for reliance on thermal generation.

For further information, refer to **Figure 1** below.

<sup>2</sup> <https://www.mbie.govt.nz/building-and-energy/energy-and-natural-resources/energy-statistics-and-modelling/energy-statistics/electricity-statistics/>

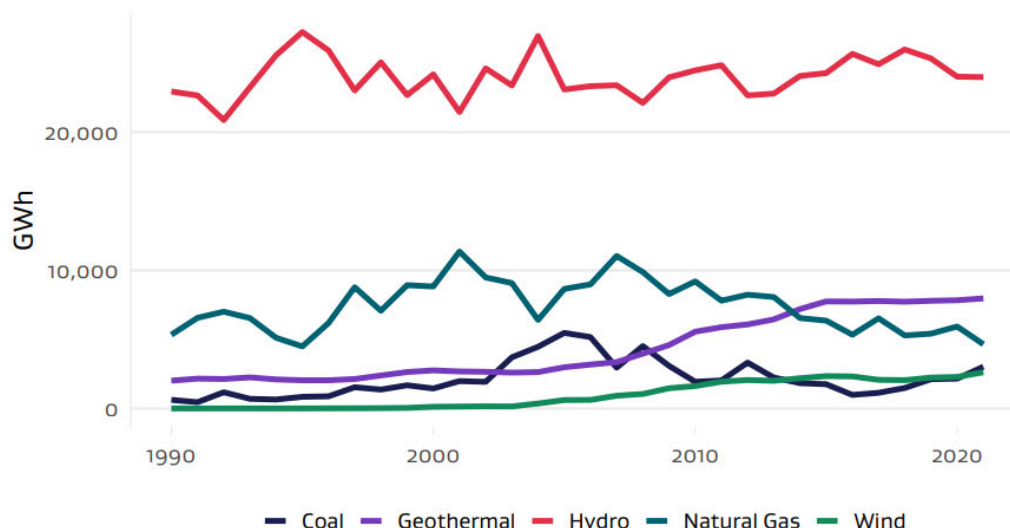


Figure 1. Electricity generation by major source. (Source: MBIE, 2022).

### 2.3.2 Electricity Demand

According to the Ministry of Business, Innovation and Employment (MBIE), approximately a third of New Zealand's electricity demand comes from households, a third from the industrial sector, with the remainder attributed to the commercial, agricultural, forestry and fishing sectors.<sup>3</sup> The majority of industrial electricity demand is from the wood, pulp, paper and printing sectors and the basic metals sectors, with the Tiwai Point aluminium smelter being the largest single user of electricity in the country. Electricity demand is expected to increase substantially with the advent of electrification driven by the need for decarbonisation. Whilst 40% of all energy in 2022 came from renewables, this will need to increase to 100% by 2050 if New Zealand is to meet its goal of carbon neutrality. Additional demand growth is also expected from the electrification of process heat and transport, as well as new growth sectors such as the Meridian South Island Hydrogen, Electrification of NZ Steel Arc furnaces, and multiple recently announced new data centres. The Electricity Authority has noted this demand growth will need to be met with a substantial increase in renewable energy.<sup>4</sup>

Alongside this, residential electricity consumption also continues to grow. In 2023, New Zealand's residential electricity consumption reached approximately 13,730 gigawatt-hours (GWh), marking an increase from previous years. Over the past five years, residential consumption has grown by 4.6% (587 GWh), with over 75,000 new residential connections added during this period. In 2024, New Zealand experienced a significant electricity price crisis primarily due to declining hydro storage levels, reduced natural gas production, and increased demand driven by extreme weather conditions. Between July and early August, wholesale electricity prices surged from approximately \$300/MWh to over \$800/MWh. Consequently, residential consumers faced a 4.6% increase in electricity prices in 2024, with projections indicating a real risk of double-digit increases in power prices in the near future.<sup>5</sup> The urgent need for the creation of significant new renewable energy infrastructure to support this growing demand has been acknowledged by industry and government alike.

### 2.3.3 Emissions Reduction Plan

On 16 May 2022, the Government released New Zealand's first Emissions Reduction Plan (ERP), which sets out the objectives, policies and actions required for meeting the country's emissions budget (which covers the period of 2022 to 2025). The ERP also sets out the direction for how future emissions budgets will be met and how New Zealand will contribute to efforts to limit global temperature rises to 1.5 Celsius above pre-industrial levels. Chapter 11 of the ERP outlines New Zealand's direction for reducing emissions in the energy and industry sectors. With these sectors making up just over a quarter of New Zealand total's gross greenhouse gas emissions, decarbonising them will be vital to achieving the country's emissions budget.

<sup>3</sup> Ibid.

<sup>4</sup> <https://www.ea.govt.nz/news/eye-on-electricity/new-zealands-electricity-future-generation-and-future-prices/>

<sup>5</sup> <https://www.ea.govt.nz/news/eye-on-electricity/what-was-behind-high-wholesale-electricity-prices/>



However, the impacts of climate change on hydro storage is impeding New Zealand's ability to rely on this renewable energy source. In 2022, hydro storage and inflows were below the 90-year average for the first half of the year, due to dry weather conditions from La Nina weather patterns. This, in addition to low natural gas production, resulted in a 29.5% increase in coal use for electricity generation.<sup>6</sup> The following year saw Manapōuri and Te Anau, the important southern hydro lakes, experience their lowest January inflows since 1953.

As a result of this, the Government has signalled that significantly more REG is needed to support New Zealand's electricity network, taking into account population growth and impacts of climate change on the capacity of hydro storage.<sup>7</sup>

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<sup>6</sup> Ibid.

<sup>7</sup> <https://www.mbie.govt.nz/have-your-say/renewable-electricity/>

## 3 Environmental Setting

### 3.1 Site Location and Description

The site of The Point Solar Farm is located within the Mackenzie Basin and in close proximity to Lake Benmore. This proximity to existing infrastructure has important implications for electricity transmission (see **Figure 2** below). The site is accessed off State Highway 8, east of the Twizel River and via a 7 km gravel farm track through the Bendrose Farm.

The site is flat pastoral land, with the surrounding area dominated by other rural land uses. The entire site is classed as “improved pasture” under the Mackenzie District Plan (MDP). Current farming activities include dairy support through grazing, green feed cropping and hay production. The site is intensively tilled to support this agricultural activity and has been described as ecologically depauperate by DoC ecologists.<sup>8</sup> There are no identified natural hazards on the site, including no fault lines or flood prone areas. A review of the Mackenzie District Council’s GIS Viewer indicates no HAIL<sup>9</sup> activities on the site.

A centre pivot irrigator is located to the north of the site. Other farming infrastructure within the site include water tanks and sheds associated with the pivot irrigator, sheds, water tanks, containers for storage along the northern boundary of the site, temporary storage of hay bales, farm fences and farm tracks.

A 220 kV Transpower transmission line (BEN-ISL-A) and its associated support structures extend north to south through the approximate centre of the site. This transmission line extends north from the Benmore Hydro Power Station, northeast to supply Christchurch and other parts of the South Island.

The site is adjacent to a statutory acknowledgement area, being Schedule 59 of the Te Ao Mārama, Lake Benmore)) of the Ngai Tahu Claims Settlement Act 1998.

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<sup>8</sup> DoC letter DOCCM-7507754 24 November 2023 - Page 5 of **Appendix X** - DoC Engagement.

<sup>9</sup> Hazardous Activities and Industries List.

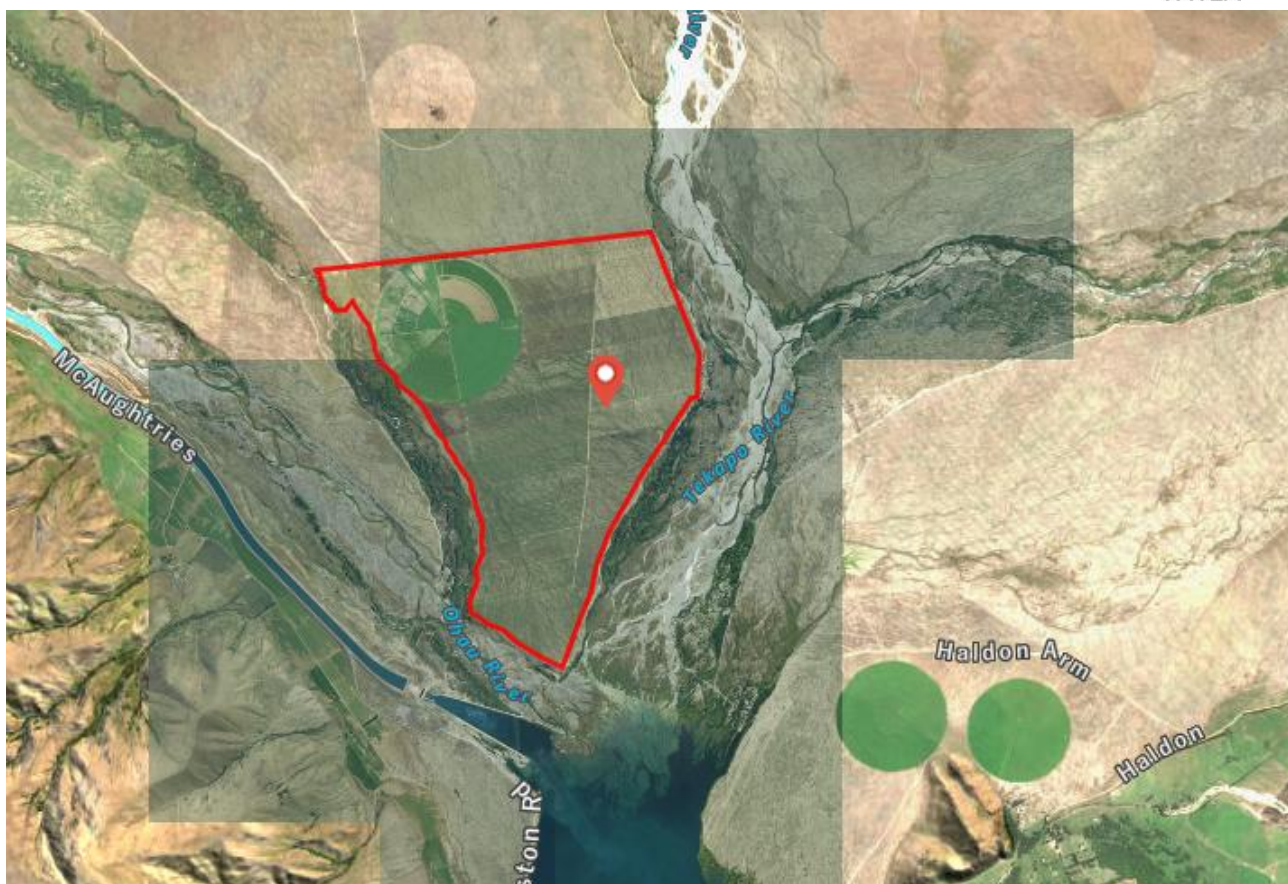


Figure 2. Site plan (property boundary shown in red). (Source: Mackenzie District Council, 2025).

### 3.2 Geology and Soils

The soil on the site is described as consisting of stony silt loam to sand loam textured brown (upland and high country yellow brown earth) soils in low (500-900mm) rainfall inland areas with a potential for slight to moderate wind erosion.<sup>10</sup> The soil on the site is classed as having a Land Use Capability (LUC) of 6, indicating non-arable soil with slight to moderate limitations to pastoral use (refer to **Figure 3** below).<sup>11</sup> Therefore, the National Policy Statement for Highly Productive Land 2022 (NPS-HPL) does not apply to this site.

<sup>10</sup> According to information obtained from Manaaki Whenua Landcare Research: [https://ourenvironment.scinfo.org.nz/maps-and-tools/app/Land%20Capability/lri\\_luc\\_main](https://ourenvironment.scinfo.org.nz/maps-and-tools/app/Land%20Capability/lri_luc_main)

<sup>11</sup> Ibid.

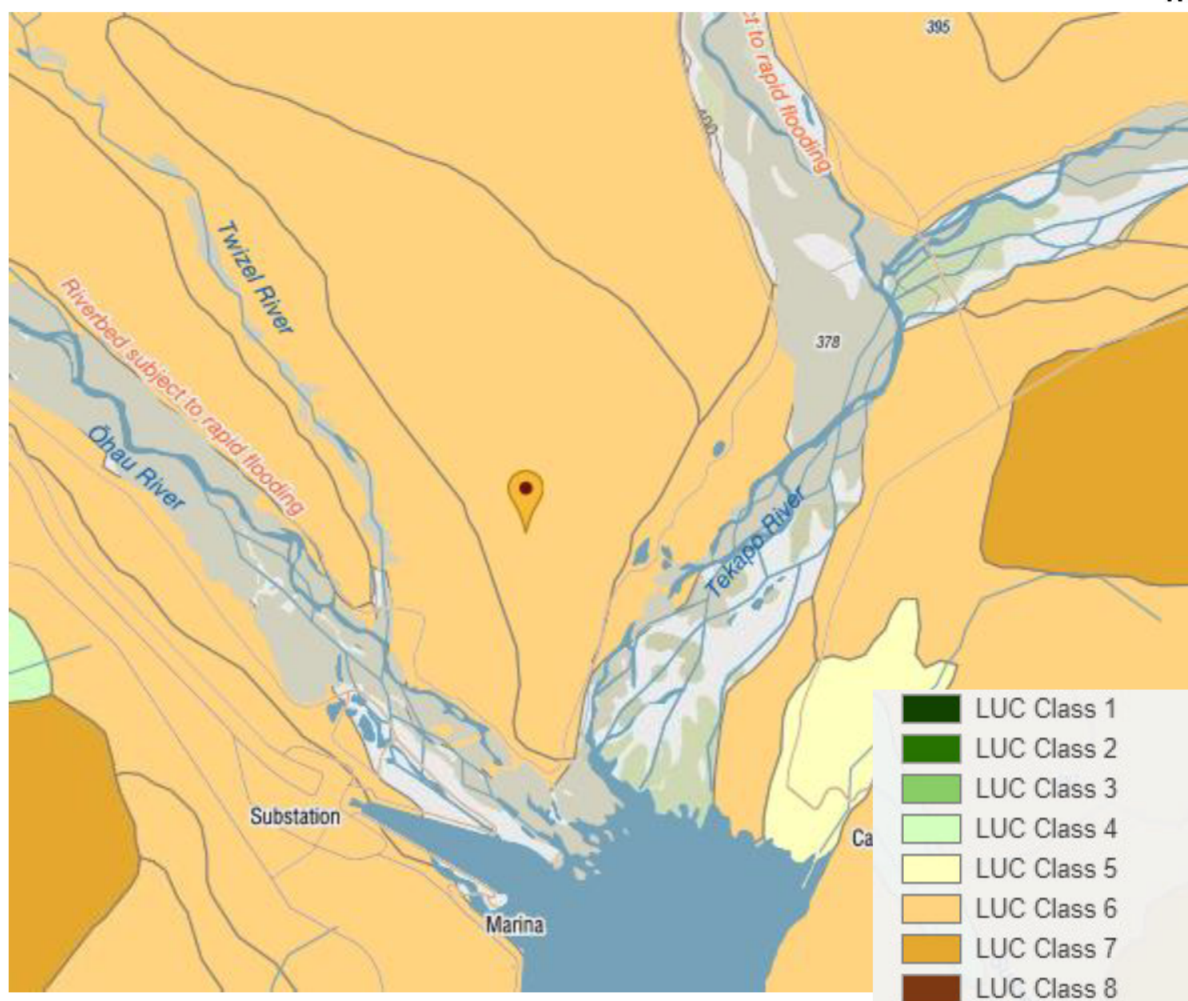


Figure 3. LUC Map (site location indicated by pin). (Source: Manaaki Whenua Landcare Research, 2025).

The geology of the site is described as *Late Quaternary*, consisting of unconsolidated to poorly consolidated mud, sand, gravel and peat of alluvial and colluvial origin.<sup>12</sup>

### 3.3 Archaeology and Cultural Heritage

A review of the NZ Archaeological Association 'ArchSite' database has been undertaken and there are no known archaeological features registered on the site. Accidental Discovery Protocols will be followed in the unlikely event an archaeological site is discovered through the course of the works. Extensive engagement with mana whenua in relation to the site has taken place (refer to **Section 8.2** for further details).

### 3.4 Landscape Values

A Landscape and Visual Assessment (Landscape Report) has been prepared for the project and is attached as **Appendix F**. The below sections summarise information contained in that assessment.

#### 3.4.1.1 General Setting

The Mackenzie Basin subzone in which the site is situated has been identified as an Outstanding Natural Landscape (ONL) in the MDP.

At a broad scale, the outstanding physical, perceptual and associative values of the Mackenzie Basin stems from:

<sup>12</sup> Information retrieved from <https://data.qns.cri.nz/geology/>

- Its distinctive Mackenzie Country landscape character with its unique, natural and visual qualities of the high-mountain basin environment;
- Its unspoiled openness and vastness and the long open views to the Southern Alps and other mountains encircling the basin;
- The highly legible landscape features throughout the basin, including the moraines, roches moutonnées, valleys, terraces, fans, and outwash plains;
- The high degree of aesthetic and experiential values afforded by the highly legible, glacially derived basin and expansive sky, large river valleys and enclosing mountains, the scenic outlook over Lake Pūkaki and Lake Tekapo with their vivid turquoise blue water colour, the golden tussock-laden slopes which surround the basin and transient values contributed to by seasonal weather and vegetation colour; and
- The high degree of shared and recognised values that are evident through inspiration works by artists and writers, being nationally important for tourism, astronomy and the plentiful recreational opportunities that are provided.

At a local scale, the site adds to most of the above-mentioned landscape values. However, the outwash plain that the site is situated on is not unspoiled. This is because the land cover consists of a centre pivot irrigator and is used intensively for agricultural purposes including dairy support (e.g. the greening effect has occurred on site) and hay production, despite the site being identified as an ONL in the MDP.

The outwash plain that the site is situated on displays a moderate degree of perceptual values and a moderate degree of associate values. Even though these landscape values are not deemed as high as the wider area, they add to the landscape values of the wider area.

### 3.4.2 Visual Catchment

The site, much like the majority of the land within the Mackenzie Basin, is privately owned and views of and access to the site and from its perimeter are difficult to gain. The exception to this is a gravel four-wheel drive track which wraps around the east, south and western boundaries of the site and affords users views over the site and the braided Tekapo, Ōhau and Twizel Rivers alongside.

The Landscape Report thoroughly assessed the visibility and actual and potential adverse visual effects from the surrounding public places. In summary, it concludes the adverse visual effects resulting from the proposed solar farm are as follows:

- State Highway 8 - Nil to a very low degree.
- The Alps to Ocean Trail - Nil to a very low degree.
- McAughtries Road - Upper Stretch: Moderate degree.
- McAughtries Road – Lower Stretch: Nil.
- Falston Road - A low to low-moderate degree of temporary visual effect, reducing to nil in the longer term once screen planting has matured.
- Haldon Road - A very low to low degree of temporary visual effect, reducing to nil in the longer term once screen planting has matured.
- Haldon Arm Road - A very low to low degree of temporary visual effect, reducing to nil in the longer term once screen planting has matured.
- Pukaki, Tekapo, Ōhau Rivers – A very low to moderate degree of temporary visual effect, reducing to very low to nil once screen planting has matured.
- Lake Benmore - A very low degree of temporary visual effect, reducing to nil in the longer term once screen planting matures.
- The Benmore Range - Moderate degree.
- Ben Ōhau - Greta Track - Moderate degree.

### 3.5 Ecological Values

Wildlands have undertaken an assessment of the terrestrial ecological values of the proposed solar farm site. Their report is provided in **Appendix G** and is summarised in the following sections.

#### 3.5.1 Overview

The site is a privately owned and located between the lowest reaches of the Tekapo and Twizel Rivers. The Tekapo River discharges into the head of Lake Benmore, a human-made hydro lake, immediately adjacent to the east of where the Ohau River also discharges into the lake. The Twizel River flows into the Ohau River about 1 km upstream from the lake.

The site is low-lying flat land, comprising the low interfluvium between the Tekapo and Twizel Rivers. As such, the site is underlain by alluvial gravels. The lower reaches of the Tekapo and Twizel Rivers are both braided systems, with a line of low eroded cliffs on the edges of the river channels.

The site is located in the Pukaki Ecological District, which is characterised by dry outwash plains between Lakes Tekapo and Benmore, mostly below 600 m above sea level. The Ecological District was historically typified by extensive red tussockland, replaced at altitude by snow tussock. Pasture now occupies much of this Ecological District, with some tussocklands and areas of scrub remaining. Agricultural activities and rabbits have significantly affected previously indigenous grasslands.

In terms of the wider area, the Lake Ruataniwha Conservation Area is adjacent to the subject site and is made up of several separated sections. One of these sections primarily lies along the Twizel River, on the western side of the site.

In addition to this, the entirety of the Ohau River' also to the west of the site, has been identified as a Site of Natural Significance in the MDP. It is recognised primarily for its avifauna habitat values, as well as areas of wetland. It extends along the Ohau River from Lake Benmore into, and including, areas of Lake Ruataniwha. This area overlaps with the north-eastern boundary of the site.

The site is also immediately adjacent to an Important Bird Area (IBA), which includes the Ohau, Pukaki, Twizel and Tekapo Rivers. The area is in the wedge that forms the Ohau-Tekapo Delta, where the Ohau and Tekapo Rivers enter Lake Benmore.

#### 3.5.2 Notable Existing Environmental Modifications

The site is in close proximity to the Ohau C hydro power station on the Ohau canal network, which is part of the larger Waitaki hydro scheme. This scheme comprises five hydro-generation stations in the Upper Waitaki catchment and three in the Lower Waitaki catchment, as well as a series of dams and canals to optimise generation potential. The Ohau canal network runs from Lake Ohau down through Lake Ruataniwha and into Lake Benmore. It is also fed by the Pukaki Canal, which brings water from Lakes Tekapo and Pukaki. Development of this hydro scheme has caused notable modifications to the surrounding environment through the construction of dams, formation of lakes (e.g. Lake Benmore), and diversion of water and has drastically altered the hydrological regimes of the rivers in the Mackenzie Basin.

#### 3.5.3 Vegetation

##### 3.5.3.1 Vegetation and Habitat Types

Vegetation cover at the site is predominantly grazed exotic grassland and cropland, with some small remnants of indigenous dryland and shrubland communities around the margins.

There are no wetlands on site, but a number of wetlands were identified within 100 m of the site boundary (see **Figure 4** and **5** below). Including the off-site wetlands, the following six vegetation and habitat types were identified:

- Sweet briar-matagouri shrubland.
- Cocksfoot grassland.
- Brassica cropland.

- Brome-hawkweed-sheep's sorrel grassland/herbfield.
- Stonefield drylands.
- Wetlands (off-site only).



**Figure 4. A view of the site, looking east towards Tekapo River. (Source: FNSF, 2025).**

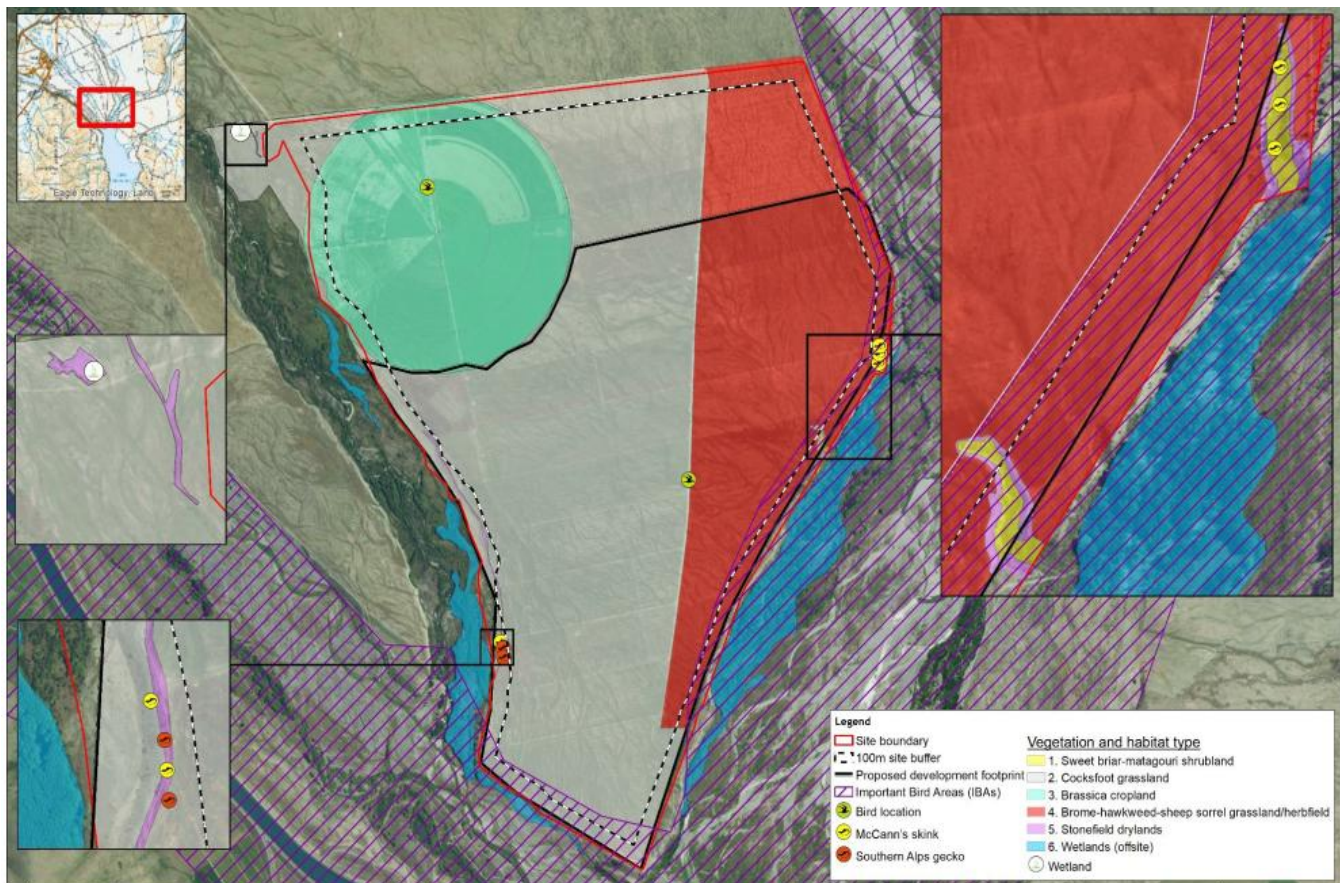


Figure 5. Ecological features identified on site. (Source: Wildlands, 2023).

### 3.5.4 Flora

Fifteen indigenous and 42 exotic vascular plant species were recorded on the site during field surveys. Only one species with a national threat ranking was recorded on the fringes of the site – the tumatakura/matagouri (classified as At Risk-Declining).

The following four species with a national threat ranking were recorded within 100 m of the site boundary:

- Maniototo peppergrass: Threatened – Nationally Critical.
- Stout dwarf broom: At Risk – Declining.
- Desert broom: At Risk – Declining.
- Common mat daisy: At Risk – Declining.

### 3.5.5 Avifauna

The desktop assessment found records of 47 species (and two hybrid taxa) within five kms of the subject site between January 2021 and January 2023. Records of seven 'Threatened' species were found in the desktop assessment, including the Nationally Critical kaki/black stilt and kotuku/white heron, Nationally Endangered tarapirohe/black-fronted tern, Nationally Vulnerable puteketeke/Australasian crested grebe, taranui/Caspian tern and parera/grey duck and Nationally Increasing ngutu pare / wrybill.

The desktop assessment found records of eight 'At Risk' species on the site, including:

- Declining pohowera/banded dotterel;
- Tarapuka/black-billed gull;
- Kotereke/marsh crane;
- Pihoihi/ New Zealand pipit;
- Torea/South Island pied oystercatcher;

- Relict mapunga/black shag;
- Kawaupaka/little shag; and
- Nationally Uncommon Australian coot.

Thirty bird species were recorded during the field survey of the site. Of these, 15 are indigenous and 15 exotic. Only one 'Threatened' species (the tarapirohe/black-fronted tern, Nationally Endangered) and four 'At Risk' species were detected (the 'Declining' pohowera/banded dotterel and tarapuka/black-billed gull, and 'Relict' mapunga/black shag and kawaupaka/little shag). Exotic passerines were the most common birds at the site, with skylarks being especially abundant.

Tarapirohe/black-fronted tern and pohowera/banded dotterel were observed during the field survey. Both species use the site for foraging and breed in or directly adjacent to the site. The site provides potential foraging and breeding habitat for kaki/black stilt, although its more natural habitat is braided riverbeds, side streams, swamps and tarns, as well as several other 'Threatened' or 'At Risk' species.

The stonefield dryland areas provide suitable habitat for the pohowera/banded dotterel and South Island pied oystercatcher ('At Risk – Declining') to forage and breed and may also be utilised by the pihoihoi/New Zealand pipit. Banded dotterel were observed feeding in the cocksfoot grassland, brome-hawkweed-sheep sorrel grassland/herbfield, and brassica cropland, and they could use these habitats for breeding.

### 3.5.6 Lizards

Two lizard species were found during the field visit. The McCann's skink ('Not Threatened') and Southern Alps gecko ('At Risk – Declining') were observed in stonefield dryland habitat. Two individuals of each species were found in rock piles at the base of a west-facing terrace slope in the southwestern part of the site. Three McCann's skinks were also found among rock piles in a gully in the northeastern part of the site.

'Confirmed' and 'potential' lizard habitats were present in the following vegetation types:

- Sweet briar-matagouri shrubland.
- Cocksfoot grassland.
- Brome-hawkweed-sheep's sorrel grassland/herbfield.
- Stonefield drylands.

Areas of high quality lizard habitats are present on the fringes of the site. These include the areas of stonefield dryland and sweet briar-matagouri shrubland, particularly where there are relatively deep rock piles amongst indigenous shrubland vegetation (i.e. embedded cobbles at the bottom of talus slopes). These areas could potentially support 'Threatened' species (i.e. Lakes skink and/or scree skink), which are present in similar habitat in the Mackenzie Basin.

### 3.5.7 Terrestrial Invertebrates

The desktop survey revealed that four notable invertebrate species have been recorded within a five km radius of the site:

- Grass moth.
- Giant dragonfly.
- Bumblebee.
- Cabbage white butterfly.
- New Zealand blue butterfly.

In general, habitat was lacking or was of low-quality for indigenous invertebrates. The invertebrate fauna were generally found to be lacking in diversity, though the hot weather during surveys is likely to have suppressed activity.

Robust grasshopper populations, if present, will be confined to the braided river margins off-site, in particular the eastern margin. Minute grasshopper and short-horned grasshopper may also be present in the open stonefield and herbfield habitat at the eastern margin of the site., though due to time and weather constraints



this part of the site was not investigated. Some patches of relatively open ground – currently thickly overgrown with exotic herbs - could become habitat for indigenous grasshoppers if restored.

### 3.6 Summary of Ecological Values

Ecological features and values adjacent to the site, associated with the rivers and their margins, are extremely high.

Ecological values on site vary considerably, subject to the character of the vegetation and habitat types that are present. Most of the site has a cover of exotic pasture and part of it is irrigated and cropped. These areas have low value for indigenous plants but are nevertheless utilised by 'Threatened' and 'At Risk' indigenous birds and it is possible that lizards may also be present, albeit these habitat types are unlikely to provide significant habitat for lizards. Undeveloped gullies on the margins of the site are important habitat for indigenous plants, avifauna, lizards and invertebrates.

## 4 Description of Proposed Works

### 4.1 Project Overview

The Applicant has selected a site suitable for a grid connected solar farm which will significantly assist to help New Zealand move towards its goal of Zero Emissions, while at the same time increasing generation capacity to meet known growing demand for electricity. The selected site is unique in its scale, with capacity to power up to 6% of New Zealand's daytime peak energy demand, a scale which is supported by the substantial existing grid transmission infrastructure running through the property, alongside the high sunshine hours and flat terrain of the Mackenzie Basin. This proposed solar farm will provide power to support around 100,000 homes based on average annual household consumption. Utility scale solar in New Zealand has the benefit of enhancing security of overall electricity supply compliments other renewable during dry periods of low hydro-electricity production in New Zealand by providing generation to help meet daytime demand. In doing so, these alternative renewable sources can instead be rationed to meet peak energy demands at night. This in turn helps displace thermal generation currently used to supplement the peak demand, thus helping to stabilise and lower energy prices in real terms. This will greatly assist the transition away from thermal fossil fuel energy generation which is still a significant part of the energy mix in the country. This solar generation will by displacing thermal and hydro generation from meeting the daytime energy demand, leave water in the hydro dams for evenings and peak times, reducing the current reliance on thermal generation.

The site was carefully selected after a large search across the district and surrounding districts. The site has a suitable location due to the presence of transmission infrastructure which can export the electricity. The land is also rural, flat and north facing with few neighbours and limited viewpoints overlooking the land.

The site is currently used as dairy support and is intensively farmed. It is described as ecologically depauperate from a native ecological point of view in its current state and without development, it is likely to remain in a degraded state. A detailed Ecological Enhancement Plan (EEP) has been created to support the solar farm development and will be implemented in tandem with construction and ongoing operation of the facility. The EEP has been created in close consultation with DoC and will generate a net gain for ecology at the site. The EEP includes:

- An adaptive management restoration approach on up to 80 ha of the site will re-establish the regeneration of threatened flora species. A planting regime of up to 100,000 plants is planned.
- Creation of an invertebrate reserve inside the boundary of the solar farm to be run by DoC.
- Development of a pest plant management programme to support the adaptive management approach and allow natural regeneration in selected areas.
- Expansion of mammalian pest control regime within the site to include the river and delta areas immediately adjacent to both sides of the site to support avifauna. Design and implementation to be carried out by DoC.
- Development of standards for eco-sourcing flora species used in restoration and monitoring of success rates in line with the adaptive management approach.
- Support of DoC's Kākī Recovery Programme agreed in principle as mitigation for any potential avifauna impact.
- Pest proof fencing around the entire site to support natural regeneration across the entire 670ha site.
- Development of an avian mortality monitoring programme (see **Section 7.3.1**) to help better understand the potential impact of solar farms on birds.

The site is currently operated as an extension of a dairy farm, providing feed and grazing to the main farm near Twizel. The area of the solar farm will change to low scale sheep grazing, to prevent the growth of weeds and minimise fire risk. The solar farm has been designed to allow continued grazing by sheep, with wide spacing of the solar panels and ample space under the panels and a reasonably high, mounting system. This light grazing will control exotic weeds across the entirety of the site as well as keep vegetation levels within fire safety standards.

## 4.2 General Layout Overview

The proposed solar farm will consist of approximately 450 MWp photovoltaic panels on single axis trackers (see site layout plan in **Appendix H**). This will include the solar array and associated structures (medium voltage substations, inverters, main control room, SCADA data room and staff office). Overall, panels will only cover approximately 33% of the site, when considering setbacks from property boundaries, river margins and space between the arrays.

The solar tables on which the panels are mounted are steel structures, and each table is attached to the ground by eight steel poles, centralised along its length. The panels will be on a single axis tracker mounting system. For more information, refer to **Figures 6** and **7** below. The tracker mounting system allows the solar panels to pivot east to west towards the rays of the sun as the sun moves through the sky during the day, maximising energy generation efficiency.

The panels are mounted in a single, portrait format (known as 1P), with the pivot in the middle of the 2 m high panel. They will have automated positions for high wind and snow events. They will start each day at a relatively low angle (to prevent shading of other panels) and tilt up as the sun rises higher, then once self-shading stops, will follow the sun across the sky, being level with the ground at noon. Late in the afternoon, as self-shading occurs, they will reduce their angle and be almost flat again at sunset. The highest tilt is expected to be around 65 degrees (this depends on the exact panels selected, the tracker hardware and the spacing between the rows). The maximum tilt height will occur for a relatively short time, twice a day.

Inverters convert the electricity generated by the panels to AC for injection into the grid. They are similar in size to a 20-foot shipping container being approximately 6 m long, 2.4 m wide and 2.9 m high. The container frames and all parts of the inverter will be finished in the colours black, sandstone grey, gull grey, or similar to help blend with the environment.

Inverters have been clustered within specific parts of the site, so they are as efficient as possible. They have also been situated within the central part of the site where the solar tables assist in visually screening them from view, in particular, when potentially seen from the west.

Example drawings of the mounting scheme, inverters and substation are provided in **Appendix H**. The final design of the layout and mountings will be confirmed closer to the commencement of works, as part of the construction, final design, and project implementation phase.



Figure 6. Single axis tracker in 1P format. (Source: FNSF, 2025).

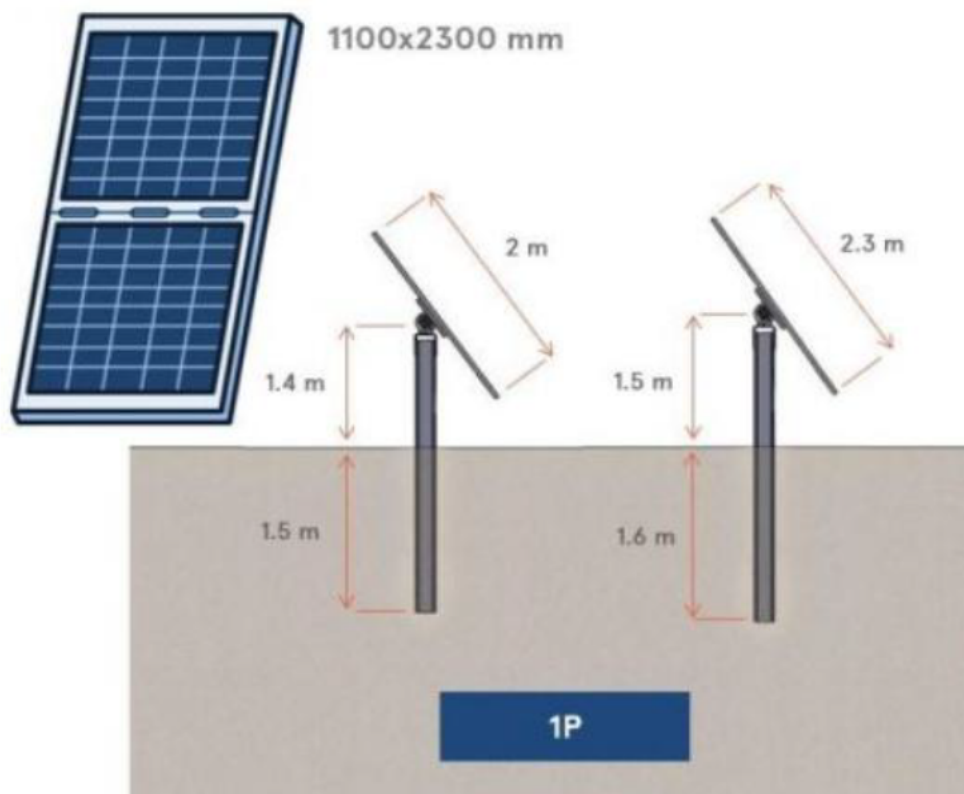


Figure 7. Sample dimensions for a 1P Single Axis Tracker (Source: [www.altenergymag.com](http://www.altenergymag.com), 2023).

### 4.3 Site Preparation and Staging

There are no stages proposed for this project.

Since the mounting structures are screw or driven piles (see **Figure 8**), establishing the solar farm requires minimal earthworks across the entire site as outlined in **Table 2** below. The site preparation works involve the following:

- Upgrading and re-gravelling of internal accessways.
- Creating a temporary compound for loading, unloading and turning.
- Foundation blocks for the substations.
- Perimeter security fencing (barbed wire fencing to a height of 1.8 m).



Figure 8. Example of screw pile driving method to be used on site. (Source: FNSF, 2025).

Table 2. Earthwork volumes.<sup>13</sup>

| Description                                               | Volume (m <sup>3</sup> ) | Area (m <sup>2</sup> ) |
|-----------------------------------------------------------|--------------------------|------------------------|
| Earthworks to create the internal access through the site | 23,868.80                | 119,344.00             |
| Hardstands for the inverters and fire appliances          | 6,418.80                 | 30,490.92              |
| Mounting posts for solar panels                           | Not applicable           | Not applicable         |
| Contingency (20%)                                         | 6,057.52                 | 29,966.98              |
| <b>Total</b>                                              | <b>36,345.12</b>         | <b>179,801.90</b>      |

#### 4.4 Infrastructure Establishment and Construction - Overview

A new 220 kV GIP substation will be built on the solar farm site to connect the solar farm into the National Grid. The new GIP will connect to the existing 220kV BEN-ISL-A transmission line that traverses the site.

The GIP will comprise of Transpower and the Applicant's owned assets on the same platform – the 220 kV Transpower switchyard and the 33 kV Applicant switchyard. A security fence will be installed to separate the switchyards. For further details on the GIP works, refer to the Solution Study Report in **Appendix I**.

The connection between the existing lines and the new GIP is outside of the scope of this application and Transpower will obtain any necessary consents under the NESETA, such as for the new tie-in structure (Tower 83A).

The overall construction period will be approximately 24-36 months, with the mechanical construction and primary electrical works all being carried out in the first 18 months on site. Deliveries will be to a strict schedule during the regular working week with an average of 10 per day throughout the construction period.

<sup>13</sup> The earthwork volumes specified in this table do not include the land disturbance required in relation to the GIP works, such as the platform development (see Section 4.6.2).

Some 250 full time equivalent (FTE) staff will be employed during the course of construction and there is opportunity for short term and longer-term jobs for people from the local area.

## 4.5 Operational Activities

### 4.5.1 Maintenance Requirements

Once constructed, the solar farm requires some maintenance which will involve the creation of 5 FTE roles locally. Monitoring of the system is carried out remotely however maintenance to the communications systems, motors for the tracking tables, solar panel and inverter connections will all require some intervention during the operational life of the plant. Annual cleaning will also be carried out.

Row spacing (pitch) of 6m will be used throughout the site which provides a 4 m gap between the rows at level.

The panels themselves are warranted with a 30-year power warranty and an expected useful lifespan.

At the end of the consented period the solar farm will either be repowered and seek consent to continue operation or be decommissioned with all materials and associated onsite cabling removed for recycling. The site will be completely reinstated as per the lease agreement.

### 4.5.2 Planting and Maintenance

As discussed in the Landscape and Visual Assessment (**Appendix F**), to assist with screening the site from visual receptors, native shrub vegetation will be planted. This will consist of the following:

- A 40 m wide landscape strip along the southern boundary of the site.
- The vegetation within the landscape strip will consist of the following species:
  - *Plagianthus regius subsp. regius* – ribbonwood/*mānatu*;
  - *Discaria toumatou* – Matagouri;
  - *Olearia lineata*;
  - *Corokia cotoneaster*; and
  - *Kunzea robusta* – Kānuka.
- Plants will be approximately 50 cm tall when planted.
- Planting of up to 100,000 individual plants will occur within the first two planting seasons following the granting of the resource consent.
- The landscape strip will be fenced off by a pest proof fence around the perimeter of the site and the security fencing around the site. Additionally, plants will be planted with pest protective sleeves as appropriate.
- A slow-release fertiliser will be included at the time of planting, as appropriate.
- All vegetation will be implemented with mulch, to suppress weeds and retain moisture.
- Vegetation will be irrigated as required, noting that drought-tolerant species will be selected.
- At the southeastern boundary of the site, planting within 12 m of the existing transmission lines will be limited to low lying species with a height not exceeding 2 metres.

Included in the proposed planting required for visual screening, the Applicant is proposing to plant unused land on the site for the purposes of improving ecological values, as outlined in the EEP, and as part of the 100,000 plants to be planted. This will involve planting an area of approximately 80 ha, which can support around 890,000 individual plants which we anticipate will establish naturally over time. A 40 m wide strip of approximately 33,900 plants around the development footprint will be revegetated with shrubs and trees, for the purposes of providing visual screening. The rest of the ecological enhancement area includes approximately 66,100 low lying plants and will be characterised by indigenous shrubs, tussocks and herbs, with exposed stony gravel. This will be representative of a restored outwash plain and will provide habitat for 'Threatened' and 'At

Risk' indigenous lizards and invertebrate species. The total number of indigenous plants to be planted in the enhancement area will be 100,000 plants and will be mixture of the species below (amongst others):

- *Aristotelia fruticose*
- *Coprosma Dumosa*
- *Corokia cotoneaster*
- *Discaria toumatou*
- *Muehlenbeckia complexa var complexa*
- *Sophora microphylla*
- *Aciphylla aurea*
- *Austroderia richardii*
- *Coprosma propinqua var. propinqua*
- *Corokia cotoneaster*
- *Discaria toumatou*
- *Ozothamnus vauvilliersii*
- *Festuca novae-zelandiae*;

For further information on this, refer to the Ecological Assessment (**Appendix G**).

#### 4.5.3 Firefighting Supplies and Emergency Access

The Applicant has been in discussions with Fire and Emergency New Zealand (FENZ) regarding other solar farm proposals. Based on these discussions, the following is proposed for The Point Solar Farm:

- Installing sprinkler or inert gas emergency systems for the substations on site, as these were identified as having the highest fire risk;
- Firefighting supplies (via a water tank/irrigator) will be provided on the site with the tanks having suitable couplings as in New Zealand Fire Service Firefighting Water Supplies Code of Practice SNZ PAS 4509:2008 (Water Supplies Code of Practice);
- Ensuring access around the perimeter of the site is provided for fire appliances; and
- Ensuring grass beneath the panels is effectively managed to reduce fire risk over summer. The Applicant has proposed that grass is maintained on the site via sheep grazing.

We also note that there is sufficient width between the panels to allow for emergency access.

In addition to the points above, the Applicant will engage with FENZ during design, construction and pre-commissioning of the facility in order for FENZ to:

- Familiarise themselves with the site;
- Understand what materials are located on site;
- Understand what owners wish to protect in the event of a fire (i.e. substations, particular assets);
- Understand what emergency response plans and procedures are in place; and
- Provide advice on other fire risk management measures should be considered.

More information regarding the fire risk reduction design features as set out in the conditions in **Appendix J**.

##### 4.5.3.1 Works in Proximity National Grid Infrastructure

All works in proximity to the National Grid support structures and transmission lines will be undertaken in accordance with the New Zealand Code of Practice for Electrical Safe Distances 2001 (NZECP34: 2001).

No works will be carried out within 12 m of the outer edge of the transmission lines. There will be no machinery operating in proximity to the transmission lines and no piling / earthworks will be undertaken within the 12 m

setback. Therefore, specific mitigation, with respect to dust and operation of machinery, is not considered necessary given the separation distance provided.

Access to the transmission lines and support structures for Transpower will be maintained at all times. The Applicant has proffered resource consent conditions to address these matters (see **Appendix J**).

Furthermore, Transpower is fully aware of the project, as the Applicant has entered into a Transpower Works Agreement for the connection of the solar farm to the National Grid.

#### 4.5.4 Stormwater

A stormwater assessment for the solar farm construction and operation is provided in **Appendix K**.

Whilst the panels themselves are impermeable, they are mounted individually with a minimum 20 mm spacing in between each panel. The ground underneath will remain vegetated and permeable. Rain (stormwater) will runoff from the panels and fall to the ground, where it will infiltrate into the soil as normal. As noted above, only minor earthworks associated with the upgrade of existing site tracks are proposed for the development. No grading or contouring of the site is proposed which would otherwise alter the flow of stormwater runoff.

### 4.6 GIP Substation

To enable the connection of the proposed solar farm to the National Grid, a GIP is required. A GIP is a point or facility – usually two adjacent substations- in the electricity supply chain where electricity flows from the solar farm (which is owned and operated by the Applicant) to the National Grid (which is owned and operated by Transpower).

Full details of the GIP are provided in the civil design plans in **Appendix L**.

Two substation areas will be constructed on the underlying platform, and will comprise switchyards containing power transformers, electrical switchgear, as well as control room buildings, fencing, onsite stormwater management and disposal systems, vehicle accessways and onsite parking.

With regards to the structure of this application and the consents sought in relation to the GIP, the Applicant is managing the land acquisition and environmental approvals process. The Applicant will obtain all regional consents for both the Transpower and Applicant components of the GIP. Any consents that authorise Transpower's ongoing operation, maintenance, upgrade and development of the National Grid Substation (NGS) will be subsequently transferred to Transpower.

#### 4.6.1 Cabling

The GIP connection requires the installation of an Optical Ground Wire (OPGW) or fibre cable. An OPGW cable is a combination earth wire and communications cable. The preferred route will involve the following:

- Use existing OneNZ cable from the Twizel Substation to Tower BEN-ISL-A0079;
- Install a new underground cable from Tower BEN-ISL-A0079 up to The Point Substation and a second cable back to the same tower in a separate trench;
- Install a new overhead OPGW over the river between Towers BEN-ISL-A0079 and BEN-ISL-A0075; and
- At Tower BEN-ISL-A0075 the cable will join back into the existing OneNZ cable.

If Transpower is not able to arrange a suitable leasing agreement to undertake the preferred route, the alternate route involves installing a new underground fibre cable from Tower BEN-ISL-A0079 to The Point Substation, out to the main road, along the road to the entrance of The Point solar farm and connecting to Transpower's Twizel Substation. This route does not require an OPGW cable.

#### 4.6.2 Platform Development

A 220 kV switchyard platform is required, comprising an area of approximately 9,545 m<sup>2</sup> (92.4 m x 103.3 m). The platform has been sized to allow for a standard 220 kV switchyard, which includes two transformer bays, two line bays, a bus and a 33 kV switchyard, including 33 kV switchgear building and two 220/33 kV

transformers. The platform will contain equipment owned by Transpower and the Applicant and will accommodate the digital substation control and facilities building.

The platform will have a finished level of R.L. 397.5 m, which has been designed to mitigate the effects of the expected maximum flood level and ensure that overland drainage flows do not inundate the platform (refer to the GIP Flood Assessment in **Appendix M**).

Materials will be imported to form the switchyard's platform. The expected earthwork volumes are as follows:

- Platform imported fill – 5,395 m<sup>2</sup>;
- Bulk fill – 4,035 m<sup>3</sup>;
- Cut – 7 m<sup>3</sup>; and
- Topsoil strip (cut to waste) – 3,105 m<sup>3</sup>.
- Total earthworks – approximately 12,600 m<sup>3</sup>.

#### 4.6.3 Stormwater and Subsoil Drainage

The surface runoff from the platform is proposed to be drained via a stormwater pipe network. The subsoil drainage shall collect runoff from the engineered fill basecourse below the switchyard metal, thereby connecting to the stormwater pipe. The drainage network has been split into two separate systems to service Transpower and the Applicant's areas individually.

Oil containment systems are proposed for the Applicant to ensure discharges are free of hydrocarbon contaminants. The surface and subsoil drainage will be designed to capture minor sediment from wind-blown silt. The subsoil drains and soak pit outlet will be constructed with a filter sock to minimise sediment discharge to the ground via the soak pit.

#### 4.6.4 Other Facilities

A toilet is proposed to be included in the Digital Facilities building for maintenance staff. A septic tank will be installed to capture the wastewater from the toilets and sinks. This tank will be a closed system that requires pumping out when it is full.

### 4.7 Subdivision

To enable the construction and operation of the solar farm, the site is proposed to be subdivided as set out in **Table 3** below.

**Table 3. Lot details.**

| Lot number | Purpose of subdivision                             | Area of lot |
|------------|----------------------------------------------------|-------------|
| 1          | To enable farm operations                          | 289 ha      |
| 2          | To enable solar farm operations                    | 678 ha      |
| 3          | Required for Transpower's access to the substation | 0.634 ha    |
| 4          | Required for the solar farm switch yard component  | 0.348 ha    |

Right of ways will be provided for Lots 2-4. For further information, refer to the Scheme Plan provided in **Appendix N**.

Additionally, as the lease arrangement for the site could be in excess of 35 years, the proposal is a deemed subdivision under section 218 of the RMA.

For completeness, an assessment of the information requirements pertaining to subdivision under clause 8(1) of the FTA is provided in **Table 4** below.

**Table 4. Assessment under Clause 8(1) of the FTA.**

| Information requirements | Comment |
|--------------------------|---------|
|--------------------------|---------|

|                                                                                                                                                                  |                                                 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|
| Areas of any new allotment.                                                                                                                                      | Refer to the Scheme Plan in <b>Appendix N</b> . |
| Locations and areas of any new reserves to be created, including any esplanade reserves and esplanade strips.                                                    | Not applicable.                                 |
| Locations and areas of any existing esplanade reserves, esplanade strips, and access strips.                                                                     | Not applicable.                                 |
| Locations and areas of any part of the bed of a river or lake to be vested in Mackenzie District Council under section 237A of the Resource Management Act 1991. | Not applicable.                                 |
| Locations and areas of any land to be set aside as new road.                                                                                                     | Not applicable.                                 |

## 4.8 Site Selection Process

The Applicant has assessed the viability of sites across New Zealand for solar farming and holds resource consents for six solar farm site developments, as well as up to six other sites currently under active development. This particular site was chosen as being suitable for a solar farm for the following reasons:

- National grid transmission lines traverse the site and provide a suitable grid connection point to the Benmore-Islington 220 kV transmission line, which stretches south to Benmore and connects with the High Voltage Direct Current (HVDC) line, and north to Christchurch as a major load centre. Very few transmission lines are better suited in terms of capacity that would allow a solar farm of this scale to connect. Solar farms must be built next to existing electricity transmission infrastructure to remain economically viable.
- The site receives well above average sunlight hours / irradiance and is flat – making it suitable for solar panels to be erected.
- The site is co-located next to the extensive Hydro Power Scheme within the Mackenzie Basin, further strengthening the grid connection point.
- The site is extensively modified and currently degraded with limited native ecological value, making it suitable for regeneration and enhancement under and around the solar farm infrastructure through the implementation of an Ecological Enhancement Plan and removal of dairy grazing.
- The site is remote and is unable to be seen from most public locations.

On this basis, the subject site is considered the best practicable option for a solar farm of this scale.

## 5 Resource Consent Requirements

### 5.1 Overview

The requirements for resource consent are determined by the rules in the MDP and the Canterbury Land and Water Regional Plan (CLWRP). The rules which apply are determined by the zoning of the site, any identified notations and the nature of the activities proposed.

The overlays and planning limitations which apply to the site are presented in **Table 5**.

**Table 5. Zoning and planning notations.**

| Planning notation                                 | Comment                                                                                                                                                                                                                                            |
|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mackenzie Basin Subzone                           | Applies across the entire site. This zone identifies the site as being an Outstanding Natural Landscape.                                                                                                                                           |
| Rural Zone                                        | Applies across the entire site.                                                                                                                                                                                                                    |
| Sites of Natural Significance                     | Sites of Natural Significance have been identified in proximity to the site, but not within the site itself, around the margins of Lake Benmore by the north-eastern corner of the site. No proposed works or structures are located in this area. |
| Mackenzie Basin Subzone High Visual Vulnerability | The entire site is located within an area identified as being of high visual vulnerability.                                                                                                                                                        |

### 5.2 Mackenzie District Plan

Resource consents required for the proposed works under the MDP are outlined in **Table 6**.

**Table 6. Resource consents required under the MDP (solar farm and GIP consents).**

| Proposed activity                                                                                                                                       | Rule reference / description                                                                                                                                                                          | Activity status          | Comment                                                                                                                                                                                                                                                                                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Solar Farm Consents</b>                                                                                                                              |                                                                                                                                                                                                       |                          |                                                                                                                                                                                                                                                                                                         |
| Construction and operation of a solar farm in an Outstanding Natural Landscape, including earthworks and formation of access tracks and hardstand areas | <b>REG-R7<sup>14</sup></b> – Any renewable electricity generation activities not otherwise listed including associated clearance of indigenous vegetation and earthworks for roads and access tracks. | Discretionary            | The project is not otherwise listed for as a large-scale solar farm in an Outstanding Landscape.                                                                                                                                                                                                        |
| Construction and operation of a solar farm not specially provided for under the Utility Rules                                                           | <b>Rule 1.5e</b> – Solar farm activities not specifically provided for under the Utility Rules.                                                                                                       | Discretionary            | Section 16 of the operative MDP takes precedence over the Rural Zone <sup>15</sup> rules when assessing utility infrastructure like a large-scale solar farm. Resource consent is triggered under this provision as a renewable generation facility is not specifically listed as a permitted activity. |
| <b>GIP Consents</b>                                                                                                                                     |                                                                                                                                                                                                       |                          |                                                                                                                                                                                                                                                                                                         |
| Earthworks required for the GIP works, including platform development (approximately 12,600 m <sup>3</sup> )                                            | <b>EW-R3</b> – Earthworks not specified in EW-R1 or EW-R2.                                                                                                                                            | Restricted discretionary | Earthworks are required for the cut and fill of the platform. This exceeds the permitted volume of earthworks (being 1,500 m <sup>3</sup> ). The proposed earthworks will comply with the relevant standards under EW-S1 – EW-S6 in relation to restricted discretionary activities.                    |
| Subdivision in an Outstanding Natural Landscape                                                                                                         | <b>SUB-R8</b> – Subdivision outside a Farm Base Area in the Te Manahuna / Mackenzie Outstanding Natural Landscape.                                                                                    | Discretionary            | The proposed subdivision will result in 4 lots, enabling farming to occur alongside the solar farm operations.                                                                                                                                                                                          |

<sup>14</sup> Subject to appeal – Plan Change 26.

<sup>15</sup> Section 16, Utility Rules, Page 16-7. *The rules contained in this part of section 16 take precedence over any other rules that may apply to utilities in the District Plan, unless specifically stated to the contrary.*

| Proposed activity                                             | Rule reference / description                                                   | Activity status          | Comment                                                                        |
|---------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------|--------------------------------------------------------------------------------|
| <b>Solar Farm Consents</b>                                    |                                                                                |                          |                                                                                |
| Subdivision to create access, reserve or infrastructure sites | <b>SUB-R3</b> – Subdivision to Create Access, Reserve, or Infrastructure Sites | Restricted discretionary | The proposed solar farm is for the purpose of creating an infrastructure site. |

For the avoidance of doubt, the Applicant is seeking resource consents under the rules above and any other rules which may apply to the activity, even if not specifically noted. Overall, resource consent is required from Mackenzie District Council for a **discretionary** activity.

### 5.2.1 Plan Change 18

Mackenzie District Council is in the process of reviewing the MDP provisions relating to the ongoing loss or potential loss of indigenous biodiversity. Plan Change 18 (PC18) both rationalises removal of all vegetation, both exotic and indigenous through changes to definitions and rules, and also introduces a new Section 19 – Indigenous Biodiversity (but for the reasons set out below is not relevant to the proposal).

The clearance of vegetation, which is strictly limited to exotic vegetation for this proposal, complies with the permitted activity performance standards of the MDP as changed by PC18, noting that only grazed exotic grassland and cropland will be removed to construct the solar farm. Small remnants of indigenous dryland and shrubland communities around the margin of the site will not be disturbed.

While PC18 deletes some of the rules in Section 7 – Rural Zone relating to the clearance of vegetation which are contained in Rule 12 and relocates them to Section 19, it retains and amends permitted activity Rule 12.1.1a and discretionary activity Rule 12.2.1 which apply to the clearance of all types of vegetation. The proposal has therefore been assessed against Rule 12.1.1a regarding vegetation clearance and the relevant standards are considered to be met (as outlined in Table 8 below) meaning that resource consent is not required.

It is noted that PC18 is subject to appeal pursuant to clause 14 of Schedule 1 of the RMA. Following communication with Mackenzie District Council, the Applicant understands that Rule 12.1.1a itself is being treated by Council as operative under section 86F of the RMA. The Applicant also notes that three appeals challenge the definition of ‘vegetation clearance’ used in Rule 12.1.1a; however, the relevant grounds and relief sought do not challenge the definition’s application to the clearance of exotic vegetation for the purposes of the Applicant’s proposal.

## 5.3 Canterbury Land and Water Regional Plan

Resource consent required for the proposed works under the CLWRP are outlined in Table 7.

Table 7. Resource consents required under the CLWRP.

| Proposed activity                                                                                           | Rule reference / description                                                                                                                                                                                                                                                                     | Activity status          | Comment                                                                                                                                                                     |
|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Solar Farm Consents</b>                                                                                  |                                                                                                                                                                                                                                                                                                  |                          |                                                                                                                                                                             |
| Earthworks in relation to the solar farm construction and the formation of access roads and hardstand areas | <b>Rule 5.176</b> – The use of land to excavate material that does not comply with one or more of the conditions of Rule 5.175.                                                                                                                                                                  | Restricted discretionary | There may be instances when less than 1 m of undisturbed material is present between the deepest part of the excavation and the highest groundwater level.                  |
| Operational stormwater in relation to rainwater off the solar panels                                        | <b>Rule 5.97</b> – The discharge of stormwater, other than from a reticulated stormwater system, into a river, lake, wetland or artificial watercourse or onto or into land in circumstances where a contaminant may enter water that does not meet one or more of the conditions of Rule 5.93A. | Discretionary            | The discharges from the operational solar farm do not meet Condition 2(d) of Rule 5.96, as a utility-scale solar farm is not a residential, educational, or rural activity. |
| <b>GIP Consents</b>                                                                                         |                                                                                                                                                                                                                                                                                                  |                          |                                                                                                                                                                             |

| Proposed activity                                                                  | Rule reference / description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Activity status          | Comment                                                                                                                                                    |
|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Earthworks in relation to the GIP works (i.e. platform development)                | <b>Rule 5.176</b> – The use of land to excavate material that does not comply with one or more of the conditions of Rule 5.175.                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Restricted discretionary | There may be instances when less than 1 m of undisturbed material is present between the deepest part of the excavation and the highest groundwater level. |
| Construction phase stormwater discharge associated with Transpower's GIP           | <b>Rule 5.94B</b> – The discharge of construction-phase stormwater, other than into or from a reticulated stormwater system, into a surface waterbody, or onto or into land in circumstances where a contaminant may enter groundwater or surface water, that does not meet one or more of the conditions of Rule 5.94A is a restricted discretionary activity.                                                                                                                                                                                                                       | Restricted discretionary | The area disturbed at any one time may exceed 2ha.                                                                                                         |
| Construction phase stormwater discharge associated with the Applicant's substation | <b>Rule 5.94B</b> – The discharge of construction-phase stormwater, other than into or from a reticulated stormwater system, into a surface waterbody, or onto or into land in circumstances where a contaminant may enter groundwater or surface water, that does not meet one or more of the conditions of Rule 5.94A is a restricted discretionary activity.                                                                                                                                                                                                                       | Restricted discretionary | The area disturbed at any one time may exceed 2ha.                                                                                                         |
| Operational stormwater from the Transpower's GIP                                   | <b>Rule 5.97</b> – The discharge of stormwater, other than from a reticulated stormwater system, into a river, lake, wetland or artificial watercourse or onto or into land in circumstances where a contaminant may enter water that does not meet one or more of the conditions of Rule 5.95 or Rule 5.96; and the discharge of stormwater or construction-phase stormwater into a reticulated stormwater system that does not meet the condition of Rule 5.93A; is a discretionary activity except that within the boundaries of Christchurch City it is a non-complying activity. | Discretionary            | The proposed discharge is not from a listed (permitted) activity under this rule and therefore consent is required.                                        |
| Operational stormwater from the Applicant's substation                             | <b>Rule 5.97</b> – The discharge of stormwater, other than from a reticulated stormwater system, into a river, lake, wetland or artificial watercourse or onto or into land in circumstances where a contaminant may enter water that does not meet one or more of the conditions of Rule 5.95 or Rule 5.96; and the discharge of stormwater or construction-phase stormwater into a reticulated stormwater system that does not meet the condition of Rule 5.93A; is a discretionary activity except that within the boundaries of Christchurch City it is a non-complying activity. | Discretionary            | The proposed discharge is not from a listed (permitted) activity under this rule and therefore consent is required.                                        |

## 5.4 Permitted Activities

The activities listed in **Table 8** have been identified as permitted activities under the Canterbury Air Regional Plan and MDP. An assessment against the relevant standards is set out below.

Table 8. Permitted activities.

| Proposed activity                                                                                                               | Rule reference / description                                                                                                                                      | Comment on compliance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Canterbury Air Regional Plan</b>                                                                                             |                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Dust discharges to air in relation to the construction of the solar farm and GIP works                                          | <b>Rule 7.32 – Dust generating activities</b>                                                                                                                     | Will comply. <ul style="list-style-type: none"> <li>A Dust Management Plan has been prepared for the works, in accordance with Schedule 2 and will be implemented by the contractor responsible for the construction works (see <b>Appendix Y</b>).</li> <li>The proposed discharge of dust to air will not cause an offensive or objectional effect beyond the boundary of the property of origin, as assessed in accordance with Schedule 2.</li> </ul>                                                                                                                                                                                   |
| <b>Mackenzie District Plan</b>                                                                                                  |                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Operational noise                                                                                                               | <b>Rule 2.3 – Permitted Noise Activities</b>                                                                                                                      | Will comply. <ul style="list-style-type: none"> <li>The noise from the substation will not exceed 65 dB at a distance of 10 m from the inverters. Therefore, no standards under Rule 2.3 are infringed.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Vegetation clearance (riparian areas)                                                                                           | <b>Rule 12.1.1a<sup>16</sup> – Riparian Areas</b>                                                                                                                 | Will comply.<br>Vegetation clearance within riparian areas will not exceed 100 m <sup>2</sup> per ha in any continuous period of 5 years and the exemptions (1)-(3) in Rule 12.1.1a do not apply.                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Installation of underground cable from Tower BEN-ISL-A0079 up to The Point Substation and a second cable back to the same tower | <b>Rule INF-R7 – Below Ground Infrastructure</b>                                                                                                                  | Will comply. <ul style="list-style-type: none"> <li>The cable is not located in an identified 'sensitive area'.</li> <li>The activity does not involve the removal of indigenous vegetation.</li> <li>Accidental discovery protocols will be adhered to.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                         |
| Lighting                                                                                                                        | <b>Rule LIGHT-R2: Security Lights</b> <ol style="list-style-type: none"> <li>Security lights must be fitted and controlled with a motion sensor.</li> </ol>       | Will comply. <ul style="list-style-type: none"> <li>The proposed lighting will be controlled with a motion sensor.</li> <li>All lighting will be directed away from adjacent roads, residential properties and lakes.</li> <li>All lighting will be positioned so that light shines below in a vertical fashion.</li> <li>The colour temperature of the lighting will not exceed 300 K.</li> <li>Only light emitting diode, low pressure sodium and high pressure sodium light sources will be used.</li> <li>No more than 5 lux between 0600 and 2200 hours will be spilled from outdoor lighting to any receiving environment.</li> </ul> |
| Security fencing                                                                                                                | <b>Rule GRUZ-R5</b> <ol style="list-style-type: none"> <li>Activities in the General Rural Zone not otherwise listed that meet the relevant standards.</li> </ol> | Will comply. <ul style="list-style-type: none"> <li>There will be no fencing within any Scenic Viewing Areas, Scenic Grasslands, Sites of Natural Significance or Lakeside Protection Areas.</li> <li>Fencing will be less than 2 m in height.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>National Environmental Standards for Electricity Transmission Activities 2009</b>                                            |                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

<sup>16</sup> Mackenzie District Council has confirmed Rule 12.1.1a is now treated as operative under s86F of the RMA, following the notification of decisions on PC18. It is noted that this rule is yet to be incorporated into the E-Plan version of the MDP and has not been adopted to National Planning formatting as of time of lodgement of this substantive report.

| Proposed activity                                              | Rule reference / description                                                                                                                                                                                                                                                                                                                                | Comment on compliance                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Replacement existing earth wire with a new overhead OPGW cable | <b>Regulation 7</b> –Permitted activities: earth-wires and overhead telecommunication cables<br>(1) Adding an earth-wire or overhead telecommunication cable, or part of an earth-wire or overhead telecommunication cable, to an existing transmission line is a permitted activity if both of the conditions in subclauses (4) and (5) are complied with. | Will comply. <ul style="list-style-type: none"> <li>Transpower has advised that the existing earth wire is 11.13mm in diameter, and the new OPGW may be slightly larger but will be less than 25mm.</li> <li>As the existing wire is less than 25mm and the new cable will be less than 25mm, the replacement of the existing earth wire with the new OPGW overhead between the two towers is a permitted activity under Regulation 7 of the NESETA.</li> </ul> |

The Applicant will obtain all regional consents for both the Transpower and Applicant components of the GIP. Any consents that authorise Transpower's ongoing operation, maintenance, upgrade and development of the National Grid Substation (NGS) will be subsequently transferred to Transpower.

## 5.5 Other Consents and Approvals Required

The appropriate approvals from Transpower have been sought for the connection of the solar farm to the electricity transmission network in accordance with the Electricity Industry Participation Code 2010.

The connection between the existing lines and the new GIP is outside of the scope of this application and Transpower will obtain any necessary consents under the NESETA, such as for the new tie-in structure (Tower 83A).

Upon completion of the detailed design, the Applicant will obtain building consents (if required) for the proposed structures in accordance with the Building Act 2004.

If required, a Wildlife Act Authority from the Department of Conservation (DoC) will be sought prior to salvage and translocation of lizards in accordance with the Wildlife Act 1953 and in accordance with the Lizard Management Plan (LMP).

## 5.6 DoC Concession

### 5.6.1 Overview

The Applicant requires access and services to the proposed solar farm and GIP from State Highway 8 near Twizel through private land owned by Bendrose Farm 2014 Limited.

A concession from DoC pursuant to Part 4A of the Conservation Act 1987 to cross Bendrose Stream to reach the sites to be constructed on nearby private land.

The concession will provide rights for access, telecommunications and computer media.

The concession is required to access, install, operate and maintain both the solar farm and Transpower's GIP. The Applicant's solar farm will connect to Transpower's GIP to inject into the Electricity National Grid via the existing transmission line. The existing transmission line is situated on the same block of nearby land where it is proposed to construct the solar farm and GIP. The low-voltage connection is required for on-site power.

There is an existing box culvert where the access track crosses the Bendrose Stream which the proposed fibre installation plans to use.

This route through the Bendrose Station (and the Bendrose Stream crossing) will be the main access for the construction, operation and maintenance of the solar farm and GIP, avoiding the residence on the title to the north (Record of Title 634898, Lot 1 DP 470213). This route via Bendrose Station is a well-utilised existing farm track.



Similar to the NESETA consents, Transpower has confirmed in a letter dated 26 August 2025 will be making the following separate concession applications to DoC and Land Information New Zealand (LINZ) via the usual processes:

- Right of way and telecommunications and computer media Department of Conservation Concession Easement; and
- A right of way and telecommunications and computer media easement from the Commissioner of Crown Lands.

For further information, refer to the Concession Application and Transpower letter in **Appendix O**.

### 5.6.2 Description of Concession Sought

An assessment of the concession sought is provided in **Table 9** below accordance with schedule 6, clause 3(1) of the FTA.

**Table 9. Information requirements under schedule 6, clause 3(1) of the FTA.**

| Information requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Comment                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (a) A description of the proposed activity                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Refer to Sections 4 and 5.6.1<br><br>The Point Solar Farm, located in the Pukaki District near Twizel, requires access over Bendrose Station. The project involves the installation of a fibre optic cable along this route which includes crossing the Bendrose Stream via an existing box culvert. The total distance of the DoC crossing is approx. 47 metres following the existing farm track. |
| (b) A description, maps, and GPS co-ordinates identifying the places where the proposed activity will be carried out (including the classification of those places, the ownership and management arrangements, and, if applicable, the name, of the places):                                                                                                                                                                                                                                      | Refer to the Concession Application in <b>Appendix O</b> for map and location references.                                                                                                                                                                                                                                                                                                           |
| (c) Information about whether the project could reasonably be undertaken in another location, or in another conservation area or another part of the conservation area, where the potential adverse effects would be significantly less:                                                                                                                                                                                                                                                          | Refer to the Concession Application in <b>Appendix O</b> .<br><br>The DoC marginal strip intersects both properties and the fibre optic cable will need to intersect at this point.                                                                                                                                                                                                                 |
| (d) In the case of an application for an approval within paragraph (a) of the definition of concession or paragraph (a) of the definition of Reserves Act approval, information about the extent to which the project is consistent with—<br>(i) the relevant conservation management strategy and conservation management plan:<br>(ii) any conservation management strategies or conservation management plans that have been co-authored, authored, or approved by a Treaty settlement entity: | Not applicable – not a concession under the Reserves Act.                                                                                                                                                                                                                                                                                                                                           |
| (e) In the case of an application for an approval within paragraph (b) of the definition of Reserves Act approval, information about the extent to which the project is consistent with any management plan approved under section 41 of the Reserves Act 1977:                                                                                                                                                                                                                                   | Not applicable.                                                                                                                                                                                                                                                                                                                                                                                     |

|                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>(f) Information about the extent to which the project is in keeping with the purposes for which the land is held, status, ownership and administration:</p>                                                                                                                                                                                                                                                      | <p>The installation of the fibre optic cable using the current infrastructure will result in minimal (if any) environmental impacts and will be mitigated through careful planning and implementation of best practices. The project itself aligns with the goals of sustainable development and environmental conservation.</p>                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <p>(g) A description of –</p> <ul style="list-style-type: none"> <li>(i) the potential effects (positive and negative) of the proposed activity:</li> <li>(ii) any actions that the applicant proposes to take to avoid, remedy, mitigate, offset, or compensate for any adverse effects of the proposed activity:</li> <li>(iii) details of the type of concession for which the applicant is applying:</li> </ul> | <p>Refer to the Concession Application in <b>Appendix O</b>.</p> <ol style="list-style-type: none"> <li>1. <u>Earthworks</u>: Minor earthworks are planned within the marginal strip adjacent to the area where the fibre optic cable exits and re-enters the track.</li> <li>2. <u>Effects on existing infrastructure</u>: The proposed installation of a fibre optic cable is a very minimal addition to an existing track and box culvert.</li> <li>3. <u>Effects on other users</u>: The additional traffic during construction will be minor and for a limited time.</li> </ol> <p>The Applicant is proposing mitigation measures, such as undertaking earthworks in accordance with best practice erosion and sediment control guidelines.</p> |
| <p>(h) A statement of –</p> <ul style="list-style-type: none"> <li>(i) the proposed duration of the concession; and</li> <li>(ii) the reasons for the proposed duration:</li> </ul>                                                                                                                                                                                                                                 | <p>The duration of the concession sought is 60 years; this is the term normally granted to Transpower for DoC concessions as it is considered the life of the asset. A term of 60 years also reflects the solar farm lease arrangement of 30 + 30 years. The concession is therefore sought to be consistent with the lease arrangement.</p>                                                                                                                                                                                                                                                                                                                                                                                                         |
| <p>(i) Relevant information relating to the applicant, including any information relevant to their ability to carry out the proposed activity (including whether the applicant or any company director, trustee, partner, or anyone else involved with the application has been convicted of any offence or has any current criminal charges pending before a court).</p>                                           | <p>Refer to Section 1.7 – the Applicant has no history of non-compliance or have any criminal charges laid or pending.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <p>(j) If the applicant applies for a lease, a licence granting an interest in the land, or an easement, -</p> <ul style="list-style-type: none"> <li>(i) Reasons for the request; and</li> <li>(ii) Sufficient information to satisfy the panel that, in terms of clause 7, it is appropriate under section 81 to grant the lease, license, or easement (as the case may be).</li> </ul>                           | <p>The purpose of the concession is to enable the installation of a fibre optic cable and access across the existing culvert.</p> <p>Further information is provided in <b>Appendix O</b>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <p>(k) Full details of any consultation undertaken with relevant iwi and with reserve owners and managers.</p>                                                                                                                                                                                                                                                                                                      | <p>Refer to the Concession Application in <b>Appendix O</b>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <p>(l) Information about financial and legal liabilities and obligations associated with the land.</p>                                                                                                                                                                                                                                                                                                              | <p>The Applicant is leasing the site from the landowner.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <p>(m) In the case of an application for an approval referred to in paragraph (b) of the definition of Reserves Act approval where the reserve is owned or managed by a local authority, confirmation that the local authority has provided written agreement for the activity to be undertaken on the reserve.</p>                                                                                                 | <p>Not applicable.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <p>(n) confirmation that the applicant has written agreement from the holder of a right of first refusal or right of offer or return to waive that right for the</p>                                                                                                                                                                                                                                                | <p>Not applicable.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

|                                                                                                                                                                                                                                                                                                            |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <p>purposes of any lease proposed in the application if—</p> <p>(i) the proposed lease would be for a term (including any renewals) that will, or is likely to, be more than 50 years; and</p> <p>(ii) the granting of the lease would trigger the right of first refusal or right of offer or return.</p> |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

5.6.3 Canterbury (Waitaha) Conservation Management Strategy 2016

The Canterbury (Waitaha) Conservation Management Strategy (CMS) describes the conservation values present in Canterbury. It provides guidance for DOC's work in the form of a vision, objectives, outcomes for places, policies and milestones. These translate DOC's strategic outcomes to Canterbury.

The Point Solar Farm concession is consistent with the vision and policy framework set out in the CMS – so long as it avoids ecologically sensitive areas (such as braided-river corridors), incorporates mitigation for any unavoidable impacts, and reflects active partnership with Ngāi Tahu in its design and implementation. These matters are incorporated in the assessment recorded in Section 6 Assessment of Effects on the Environment.

## 6 Assessment of Effects on the Environment

### 6.1 Introduction

The following sections identify and assess the types of effects that may arise from the proposed works. This assessment also outlines the measures that the Applicant proposes to avoid, remedy or mitigate any potential adverse effects on the environment.

Actual and potential effects on the environment have been identified as including:

- Positive effects;
  - Renewable Electricity
  - Ecological Enhancement
- Effects on soils;
- Landscape and visual effects;
  - Physical effects
  - Perceptual effects
- Cultural effects;
- Construction effects;
  - Noise effects
  - Dust effects
  - Traffic effects
- Operational effects;
  - Noise effects
  - Glare effects
- Stormwater diversion and discharge effects;
- Effects of earthworks and sedimentation generation on water quality; and
- Ecological Effects:
  - Vegetation and flora;
  - Avifauna;
  - Lizards;
  - Terrestrial invertebrates;
  - Freshwater.

### 6.2 Positive Effects

The project directly supports the uptake of low-carbon REG and contributes to New Zealand's commitment to reducing greenhouse gas emissions. The development of new renewable energy infrastructure is critical to achieving the targets set out in the Climate Change Response (Zero Carbon) Amendment Act 2019, which mandates a net-zero carbon economy by 2050. Additionally, the Emissions Reduction Plan 2022 emphasizes the urgent need to scale up renewable energy generation to meet growing electricity demand while phasing out fossil fuel-based generation.

New Zealand's Interim Climate Change Committee and the Climate Change Commission have repeatedly highlighted the need to rapidly increase renewable electricity generation to meet the previous government's goal of achieving 100% renewable electricity by 2030. While this aspirational target has been abandoned, the New Zealand Energy Strategy under development by the current government underscores its commitment to expanding renewable energy generation as a central component of achieving a low-emissions economy and in helping to provide a secure and cost efficient national energy system. The Point proposal aligns with the recommendations of these agencies by supporting a low-carbon energy system that reduces reliance on fossil fuels, such as coal and gas peaking plants, which are still used during periods of high demand and low hydro storage.



In addition to reducing emissions, the project enhances the security and resilience of New Zealand's electricity network. This diversification of generation sources is crucial, particularly given New Zealand's increasing vulnerability to climate change-induced extreme weather events, as seen in the winter of 2024. The Ministry of Business, Innovation and Employment has acknowledged that climate change is likely to cause more frequent and severe droughts, which could impact hydroelectric generation. The proposed solar farm will help mitigate this risk by providing daytime generation and allowing hydro lakes to store more water for use during peak evening demand periods.

Solar energy is also a highly efficient low-carbon technology. While solar panels have an initial carbon footprint from manufacturing and transport, they become carbon neutral relatively quickly. A 2024 report by the National Renewable Energy Laboratory (NREL) indicates that modern Utility PV systems can achieve energy payback times between 0.5 and 1.2 years.<sup>17</sup> Given the expected operational life expectancy of the facility is 30 years, it will be a significant renewable energy generating asset.

The Mackenzie region is uniquely positioned to contribute to New Zealand's renewable energy transition. The region benefits from substantial existing grid infrastructure, including its interconnection to the Benmore substation and the HVDC link that transfers electricity to the North Island. Coupled with its high solar irradiance and expansive flat land, the region is ideal for large-scale solar development.

More broadly, the proposed solar farm will generate enough electricity to meet the annual demand of approximately 100,000 homes, providing significant economic and social benefits. This project will also contribute to New Zealand's emissions reduction efforts, with an estimated annual reduction in carbon emissions equivalent to removing 65,000 cars from the road.

As New Zealand transitions toward a low-emissions future, accelerating renewable energy projects such as this solar farm is essential. The New Zealand Energy Strategy, currently under development, will set the long-term direction for the energy sector, with a strong focus on decarbonization and increased renewable generation. By investing in solar energy now, New Zealand can ensure a more resilient, secure, and sustainable electricity system for the future.

### 6.3 Ecological Enhancement

Ecological enhancement of the entire 670ha site represents an integral complimentary component of the project's development. The immediate effect of removing dairy from the site will provide significant benefit to the whenua as inputs, from animals and fertilisers, will immediately cease. Cessation of cattle grazing and seed drilling will also allow natural regeneration to occur across the site in and amongst the solar arrays which will only cover 33% of the actual land area of the site. Light grazing by sheep to maintain safe grass heights to mitigate fire risk will serve to control exotic weeds whilst allowing hardier native vegetation to regenerate naturally and survive. The entire site will also benefit from being enclosed within a rabbit-proof fence.

A breakdown of all specific planting areas within the site is provided in **Table 10** below.

**Table 10. Breakdown of planting areas within the site.**

| Planting area   | Description and purpose of planting area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ecological Area | <p>The subdivision of the solar farm area includes areas that will be enhanced from the current dairy operation native vegetation/reserves.</p> <p>The key issue is that it is not possible to simply leave a farmed area and expect it to return to its natural state. The area would simply become covered in weed species, which would become a fire risk and habitat for pest animal and plant species.</p> <p>The ecological area makes up the eastern side of the solar farm area, and there will be an ecological enhancement program carried out here (see <b>Figure 9</b> and <b>10</b> below). This will include projects such as small-scale reserves for critical flora and fauna, large scale planting to return the area to a dryland reserve, and other areas to promote Avi fauna, in particular the Kaki Black Stilt.</p> <p>The challenge with this project is that there is no existing model that can be replicated, and the developer is working with DoC and other parties to develop an ecological enhancement program. This program will be implemented throughout the life of the solar farm project.</p> |

<sup>17</sup> <https://search4.nrel.gov/textis/search/?pr=metanrel&query=energy+payback+time>

|                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                    | The ecological area will be subject to planting programs, pest control (active and by fencing) and various weed control measures including light grazing, spot spraying and hand weeding.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Screen planting (Mitigation strip) | <p>Around the southern areas of the solar farm area a planting program will work to develop screening plants to mitigate the visual impact of the site from selected viewpoints. (Shown in <b>Figure 9</b> and <b>10</b> below.)</p> <p>The Applicant expects screen planting to be undertaken on a trial-and-error basis, but it will be based on existing knowledge and local best practices, utilising local expertise and with an adaptive management approach taken.</p> <p>The visual mitigation areas will have careful pest management controls, as set out in the proposed consent conditions in <b>Appendix J</b> to protect the plantings, irrigation as required, and careful stock control to manage weed growth but to protect the plantings.</p> |
| Reserves                           | The project team has identified multiple flora and fauna species that should be given special attention to enhance their environment. These include the Robusta grasshopper, various lizard, and several plant and moss species, as mentioned in the Ecological Assessment ( <b>Appendix G</b> ) Where a species (such as Robusta) has a known habitat requirement, a reserve can be planned in advance and is shown on the plans. Other reserve will need to be identified and created during the project lifespan.                                                                                                                                                                                                                                            |
| Solar array area                   | <p>The area is currently grazed and used for bailage and silage, with cattle on the site at various times of the year. With the conversion to a solar farm, the stock will be limited to the subdivided portion of the site set aside for farming purposes. The purpose of the stock will be to maintain low vegetation around the solar farm to prevent fire risk, and to lead towards a conversion from exotic grasses and weeds to native species.</p> <p>The long-term aim is to have similar vegetation as in other reserve areas in the Mackenzie district, being a dryland tussock style landscape.</p> <p>A key feature will be wilding pine removal, spot spraying of pest weeds, and continued pest animal control.</p>                               |
| Farm area                          | The area that is being left with the landowner will continue to be farmed by them. This includes the area of the pivot irrigator and the northern strip adjacent to Bendose Station.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

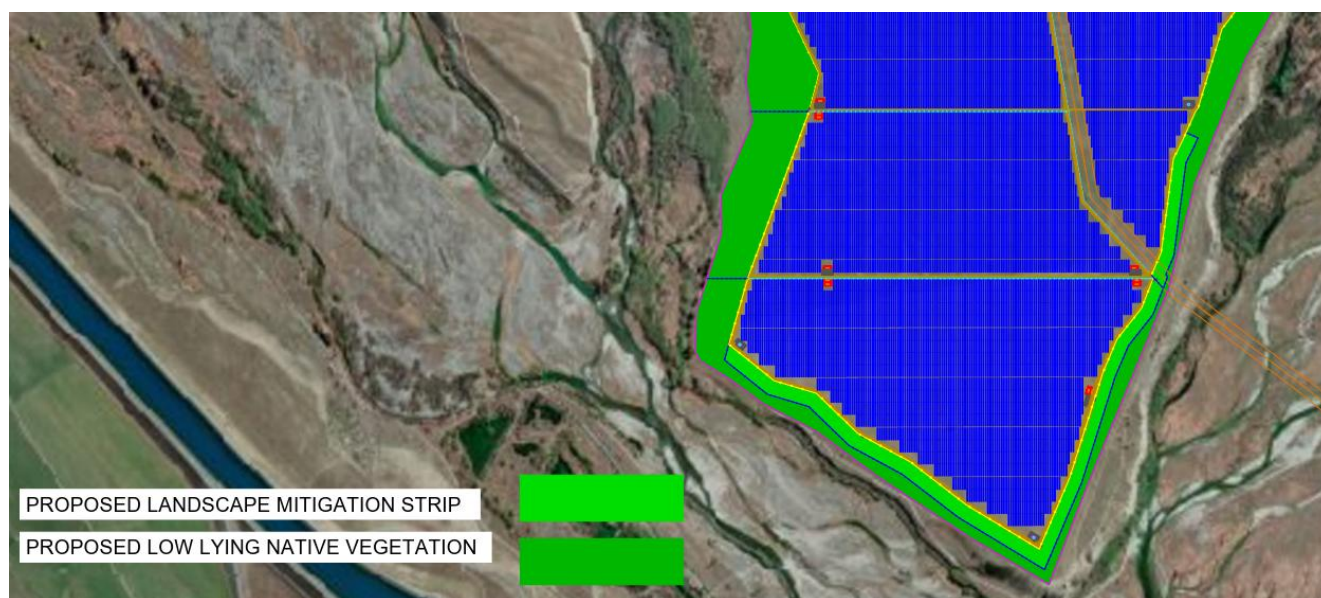


Figure 9. Detail of landscape mitigation strip. (Source: FNSF, 2025).

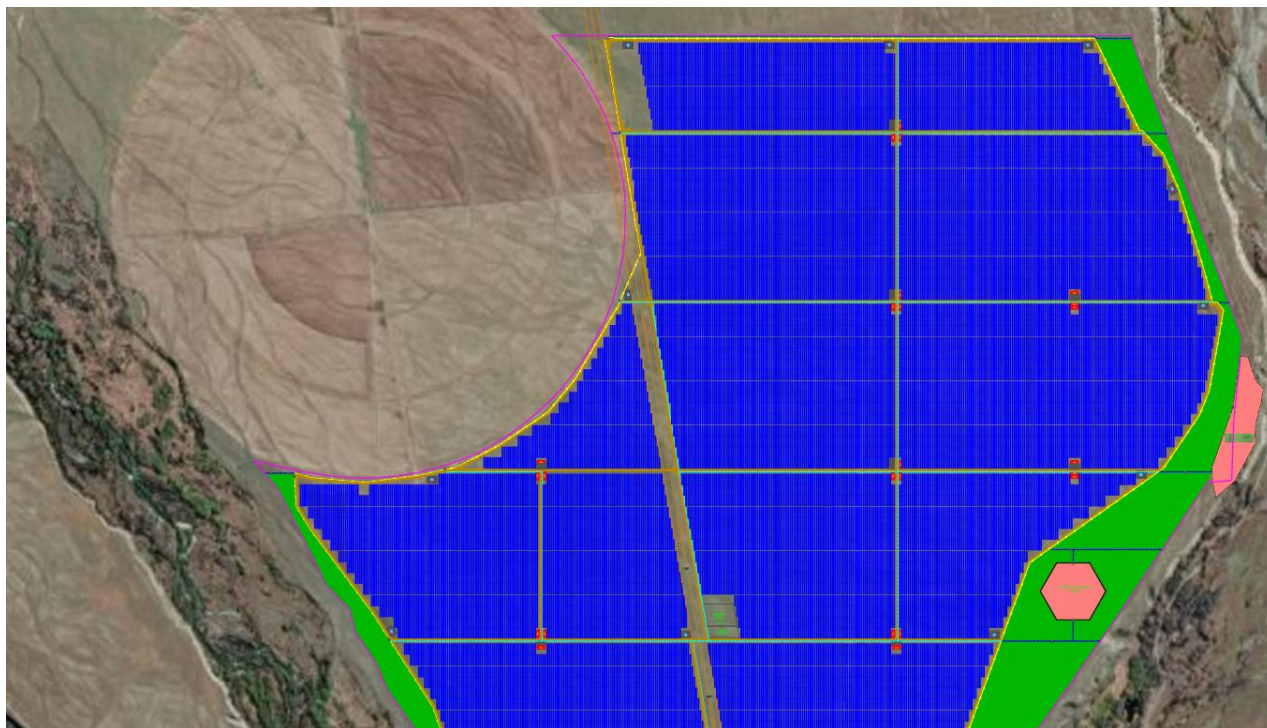


Figure 10. Northern part of site showing reserves and ecological enhance areas with Robusta reserve shown. (Source: FNSF, 2025).

The proposed ecological enhancement zones and initiatives described in the EEP (see **Appendix P**) will provide significant ecological benefits for the immediate and wider area.

In summary, these benefits include:

- An area of approximately 80ha is proposed for native regeneration through adaptive management to gauge what works, with 66ha for low lying vegetation and 23ha for native screening vegetation. This will see specific sites within the enhancement area fenced from all predators meaning enclaves of protected vegetation and other fauna will have the best chance of success. The intention is not to plant the whole of the site, but to establish these species and communities in appropriate areas where they can provide a seed source to naturally spread and become self-supporting on the site.
- Approximately 100,000 plants native to the Mackenzie will be established, with the expectation that this number will increase naturally over time.
- Increased habitat for locally-indigenous lizards and invertebrates with increased biodiversity values on site overall, creating a significant ecological corridor for birds, invertebrates and other 'At Risk' and 'Threatened' fauna.
- Funding the creation of an invertebrate sanctuary set up and maintained by DoC for the Robust Grasshopper. *Brachaspis robustus* is New Zealand's largest lowland grasshopper and is only found along the edges of the braided rivers of the Mackenzie Basin.
- Mammalian pest control regime on site will be expanded to include the braided river and delta areas adjacent to the site. These areas are not currently protected but are part of DoC's Project River Recovery programme. Implementing a pest control regime over the wider area is expected to provide significant assistance to local avifauna, an important benefit given the area as part of a wider IBA.

The priority of restoration in The Point reserve is to restore and enhance habitat to be representative of indigenous Mackenzie Basin ecosystems. As well as providing the obvious benefit of renewable energy, The Point development and its associated restoration plans have the potential to be an exemplar of cost-effective, large-scale high-country restoration, presenting opportunities for habitat creation, species conservation, and research.

## 6.4 Effects on Soils

As described in **Section 3.2** of this report, the site has a LUC classification of 6, indicating non-arable soil with slight to moderate limitations to pastoral use. On that basis, this project will have no effect on prime soils.

Furthermore, this project also allows for sheep or seasonal crop farming to take place in-between the solar panels. The carbon status of the soils will be maintained, and the solar panels can be easily removed and the site reinstated to full grazing on the completion of solar use. Overall, there are considered to be no effects on soils.

## 6.5 Landscape and Visual Effects

The Landscape and Visual Assessment and Landscape Addendum (see **Appendix F**) considers effects that can occur in relation to physical features, viewing audiences and visual amenity as well as effects on existing landscape character and amenity values. The below sections summarise the information contained in that assessment.

### 6.5.1 Landscape and Visual Effects – Solar Arrays

#### 6.5.1.1 Physical Effects

The proposed solar farm is situated over approximately 670 ha of land within the Mackenzie Basin and will inevitably introduce elements of built form within the site, replacing the rural character within the site with a renewable energy generation character.

The solar farm will be situated on the flat topography of the outwash plain. Earthworks associated with the solar farm will consist of creating new access tracks throughout the site, placing cables underground in which the land cover will be immediately reinstated, and pile driving, or screwing, the supporting pole structures of each solar table into the ground. These changes to landform are relatively small, to the point that the legibility of the outwash plain will not be affected by these earthworks. Also, when seen, the low-lying nature of the solar farm will be in keeping with the outwash plains flat topography, therefore the landforms legibility will remain evident and intact from beyond the site.

The solar farm, as the name suggests, is a method of farming a readily available natural and renewable resource within the Mackenzie Basin, being one of the sunniest places within Aotearoa New Zealand.<sup>18</sup> Much like the current agricultural land use of the site and neighbouring station, it will specialise in its task. Similar to a farm and the way paddocks and stock-lanes are carefully arranged, the solar farm has been arranged to optimise the best energy yield from the site.

The point of difference with this proposed solar farm, unlike other solar farms in New Zealand, is it will reduce the amount of stock grazing within the site, with the long-term goal of re-establishing native vegetation throughout the entire site. The associated ecological benefits that accompany this land use change have been discussed above.

One of the key characteristics of the rural landscape of the Mackenzie Basin is its open character which stems from its openness, vastness, lack of built form (which is mostly clustered in discrete areas) and in part due to the prevalence of large farms / stations and landholdings.

The reduction in open character will not impact on the wider basin as it is concentrated to the site area only and, as assessed below in **Section 6.5.1.2**, it is difficult to distinguish from most public places, which includes areas within the South Basin. The exceptions to this are elevated areas on the Benmore Range and Ben Ohau, however, given the distance from which the solar farm will be viewed at these locations, it will appear only as a darker area on the land. From the closer public places, it is simply the size and scale of the solar farm that visually reduces the open character of Mackenzie Basin.

Within this 'South Basin' area, which is approximately 21,500 ha in area, the 670 ha solar farm will equate to an approximate net reduction of 2.8% of the open area. While this percentage is small, the solar farm will still be perceived as large as it sits within an area of high visual vulnerability and will result in a reduction to the open

<sup>18</sup> <https://niwa.co.nz/climate/summaries/seasonal/summer-2022-23>

character of the South Basin area that forms part of the much larger Mackenzie Basin, which is an intrinsic value of this ONL.

#### 6.5.1.2 Perceptual Effects

The site will be visible to varying degrees from a small number of public places (for further information on this, refer to the Visual Simulations included in **Appendix F**). Unlike a dwelling or residential development, large portions of the solar farm, in particular the solar panels, will be seen, sitting just above ground level at 1.5m – 2.8m tall. Within the context of the expansive wider landscape this is a very low height. When visible, the panel's low height is highlighted through the ability to look across the solar farm and see the existing vegetation on the farm side of the outwash plain, outwash plains on the far side of the site and the surrounding mountains. As such, the solar farm does not interfere with the open and long ranging views over the Mackenzie Basin.

The visible changes arising from the solar farm will result in a change of character within the site, from that of an open rural pastoral character to a predominately renewable energy generation character. In addition to the open character of the site, the aesthetic values of the site also stem from its relatively flat topography, and the steep scarp faces that dramatically descend to the adjacent rivers. Because the solar farm sits so low on the site, the visual coherence of this landform and its aesthetic values will remain intact.

Due to the location of the site in one of the sunniest locations in Aotearoa New Zealand, the power generation aspect of the solar farm will be perceived as in keeping with the large-scale hydro canals and the presence of the other local electricity infrastructure.

Based on the above, the proposed solar farm has been located, and its associated landscape mitigation has been designed, so as to mitigate its potential visibility from all but three public places. Unavoidably, the farm will be seen from McAughtries Road, Greta Track and the Benmore Range Easement Track in which its resulting adverse visual effects will be of a moderate degree.

Once the mitigation vegetation has matured, the project will also have no to a very low degree of adverse visual effects on people travelling / spending time in all other public places. This is because the project will be screened from view by the proposed vegetation or will be seen from so far away it will be difficult to distinguish.

#### 6.5.2 Landscape and Visual Effects – Substation

The substation is located towards the centre of the site, immediately east of the 220kV transmission line. It is located 1.9km away from the northern boundary, 1.4km from the eastern boundary, 2.5km from the site's southern corner and 1km from the western boundary. Therefore, the viewing distance to the substation from the surrounding public places is greater than the edge of the solar farm, as described in the Landscape Report.

Due to these distances, the solar panels / tables themselves and in time the proposed mitigation, vegetation will visually screen the switchgear, facilities, and control buildings and most other utility infrastructure that is less than 4m high. The upper parts of gantries, masts and mono poles with lighting rods will be the only elements within the substation that may be seen.

That being said, these taller elements will be difficult to discern from the surrounding public places, owing to distance from viewing locations (being in excess of 2.4km away), the slim and unobtrusive nature of these structures and the way they will be seen alongside, and in most instances behind the 220kV transmission towers and lines, as the main viewing audience is along McAughtries Road to the west.

Overall, these additional structures will not exacerbate the adverse visual effects of the project, as assessed in the Landscape and Visual Assessment in **Appendix F**.

#### 6.5.3 Summary of Landscape Effects

In summary, taking into account the proposed landscaping package and the ecological and biodiversity enhancement activities proposed, the proposed solar farm and substation will have a more than minor adverse effect on the outstanding landscape values of the Mackenzie Basin. These adverse effects will be reduced by the proposed landscape mitigation and the ecological and biodiversity enhancements planned, which will benefit the natural character landscape values of the basin.

## 6.6 Cultural Effects

Engagement with Iwi and Rūnaka groups took place over a 10-month period from February to November 2023. This engagement included a total of 64 individual interactions with mana whenua groups and their agencies and consisted of emails, phone calls, online hui and site visits. An itemised log of all engagement activity can be found in **Appendix Q**.

Engagement began with Ngāi Tahu iwi through a request by the Applicant to introduce the company and the kaupapa of The Point solar farm. Ngāi Tahu directed it was appropriate for the Applicant to undergo all further engagement with the local Rūnaka and facilitated these introductions. In-person and online engagement then took place with Arowhenua and Waihao who instructed the Applicant to formally engage via respective consultancies which represented their interests. The Applicant also engaged the services of an experienced RMA planner and cultural consultant, Dee Isaacs, to assist with engagement. A full summary of engagement with mana whenua can be found in **Appendix Q**.

Following detailed engagement, Te Rūnanga o Arowhenua and Te Rūnanga o Waihao decided to not support the application. More detail about the scope and outcomes of engagement with mana whenua, and how it informed the project, can be found in **Appendix Q**.

The Applicant intends to liaise with mana whenua to explore opportunities to create positive cultural benefit through the implementation of activities associated with the EEP. Initial discussions have already identified possible opportunities to engage locally owned plant nurseries to supply product, expertise and labour.

## 6.7 Construction Effects

A detailed Construction Management Plan (CMP) will be prepared by the appointed contractor to minimise the impact of construction activities. The CMP will reflect the proposed work sequencing and site establishment works required for the project.

### 6.7.1 Noise Effects

The proposed construction activity is limited to earthworks for the construction of internal accessways, installation of the solar arrays (which use a small rig for driving piles to the relevant depth (c. 1.6m)) and battery powered hand tools. The proposed construction works will be undertaken in accordance with the *New Zealand Standard NZS 6803:1999 'Acoustics – Construction Noise'*.

The noise produced from the construction activities is likely to be indiscernible from normal rural activities, such as harvesting or cultivating. Overall, the noise effects from construction activity are considered to be less than minor.

### 6.7.2 Dust Effects

The proposed works require minor earthworks only and a low number of daily truck movements are required for construction<sup>19</sup>; therefore the potential for dust generation is low. Furthermore, there are no sensitive receptors (i.e. dwellings) in close proximity to the works area and considerable setbacks are proposed from public roads.

Notwithstanding this however, appropriate dust control measures will be implemented to minimise potential effects. Dust mitigation measures are likely to include the following:

- Minimise the extent of exposed areas at any given time where possible;
- Maintain site accesses in good condition, including with gravel to minimise dust generation;
- Enforcement of maximum speed limits on the site to prevent dust generation; and
- Any vehicle loads moving fine material to be covered appropriately.

The Canterbury Regional Council, in accordance with Schedule 2 of the CLWRP, assesses dust discharges in accordance with the following criteria:

1. The frequency of odour events;

<sup>19</sup> Approximately 15 trucks per day during construction.

2. The intensity of events, as indicated by the degree of strength, but taking account of character or quality; and Environment Canterbury 8 –7 Canterbury Air Regional Plan - Te mahere ā-rohe mō te hau o Waitaha 2017;
3. The duration of each odour event;
4. The offensiveness of the discharge, having regard to the character of the odour; including reference to the “hedonic tone”; and
5. The location of the odour, having regard to the sensitivity of the receiving environment, including taking into account the relevant zone(s) and provisions in the relevant District Plan

Regarding this criteria, the following is noted regarding the potential and actual dust effects from this project:

- Dust effects are limited to construction of the solar farm, which will be for a relatively limited period of time (approximately 36 months);
- Earthworks will be undertaken in accordance with best practice measures and in accordance with a Dust Management Plan (see **Appendix Y**), therefore the intensity of dust events is expected to be minimal;
- In terms of the offensiveness and location of the odour, it is noted that due to the Site’s remote location and setback from sensitive receptors, dust effects are likely to be contained within the Site entirely.

Overall, with these control measures in place and the Dust Management Plan, dust effects are considered to be less than minor.

### 6.7.3 Traffic Effects

A Construction Traffic Management Plan (CTMP) will be prepared to manage construction traffic.

Construction traffic will be focused towards the initial phase of the build period with up to 15 truck deliveries per day over the construction period (approximately 36 months). Construction staff will park on site in the temporary compound area. All construction plant and equipment will be unloaded within the site and all turning and manoeuvring of vehicles is limited to the site. Once completed, site maintenance is limited and will be carried out by staff arriving in small vans.

Overall, traffic effects are considered to be less than minor.

## 6.8 Operational Effects

### 6.8.1 Noise Effects

Refer to the Acoustic Memo in **Appendix R**.

Operational noise effects are minimal and will not be noticeable from the boundary of the site. The substation units are vented and will emit a low hum in operation. Average maximum sound pressure at a 10m distance was measured at 65dBA.

Overall, operational noise effects are considered to be negligible.

### 6.8.2 Glare Effects

Refer to the Glint and Glare Study in **Appendix S**.

The solar panels are coated in low-reflectivity material to reduce the reflection of light and are set at low angles to reduce glare effects offsite. PV solar panels are designed to reflect as little sunlight as possible (generally around 2% of light received), resulting in minimal glare. Seen from above (such as from an aircraft), they appear dark-grey and do not cause a glare or reflectivity hazard. Compared to other everyday materials, solar panels reflect less light than building roofs, vehicles and water.

In addition to this, the Glint and Glare Study found that providing ample screening around solar farms largely addresses any potential or actual glint and glare effects on road users and neighbours. For this site, generous setbacks are provided from the property boundary and extensive planting is proposed. On that basis, glint and glare effects are considered to be less than minor.

## 6.9 Stormwater Diversion and Discharge Effects

As discussed in **Section 4**, the solar arrays will be elevated above the ground, thereby enabling the existing groundcover below to remain. On that basis, there is no significant increase in impermeable surface cover across the site, and existing site drainage channels will remain. For further information, refer to the Stormwater Assessment prepared for the solar infrastructure in **Appendix K**.

In relation to the stormwater effects from the 220 kV platform for the GIP, the proposed stormwater management will ensure that there is full separation between discharges and hydrocarbon contaminants. Appropriately designed soak pits in accordance with NZBC E1 9.0 will be provided. Furthermore, these soak pits will accommodate vegetation planting on top to reduce the effects of erosion by stormwater runoff.

Oil containment systems are proposed to ensure discharges are free of hydrocarbon contaminants (refer to the Solution Study Report in **Appendix I**).

## 6.10 Groundwater Effects

Groundwater was not encountered in the shallow geotechnical investigations undertaken to date and based on information on ECan Wells Database, groundwater levels get deeper along the site from the north to the south. The data shows the groundwater level to be around 9m depth within the northern section of the site, increasing to around 11m depth for the central and 17m for the central and southern sections of the site respectively. Based on this input, the groundwater should not be interfered with for the proposed solar farm and associated connection works and de-watering is not expected to be required.

Adverse effects on groundwater may occur from construction phase and operational phase stormwater discharges, and from groundwater take from the subsoil drainage system. The subsoil drainage system will be in place beneath the substation platform and will collect water that has not otherwise been collected by surface drainage as stormwater. The subsoil drains (consisting of a network of perforated pipes) ensure that this water is not left to pond within the base of the substation platforms due to the more densely compacted AP65 aggregate below the platform hardstand. The surface drainage and subsoil drainage systems combine in the piped network beneath each substation, allowing the stormwater to be discharged to soakpits alongside the platform.

Upon entering the soakpits, the stormwater and drainage water is then able to naturally infiltrate through the base of the soakpit to groundwater. The drainage water will ultimately enter groundwater through infiltration, with the take considered to result in no adverse effects on the environment.

With the proposed treatment of potentially contaminated stormwater within the transformer bunds, drainage from hardstand and use of subsoil drainage with filter socks at outlets, the stormwater from the site will be adequately captured and treated prior to discharge to groundwater via soak pits.

## 6.11 Effects of Earthworks and Sedimentation Generation on Water Quality

Earthworks activities have the potential to cause adverse erosion and sedimentation effects. In particular, earthworks and the associated mobilisation of sediment may adversely affect high quality freshwater habitats and associated aquatic organisms in the vicinity of the works, if not managed appropriately.

The works involve approximately 36,345 m<sup>3</sup> across the site for the installation of panels and site access tracks and 12,600 m<sup>3</sup> in relation to the GIP connection and platform development.

No earthworks will be undertaken within 100m of any surface waterbody. The proposed works will be undertaken in accordance with an approved Erosion and Sediment Control Plan (ESCP), which will be

developed in line with best practice erosion and sediment control measures as set out in *Environment Canterbury's Erosion and Sediment Control Toolbox*.<sup>20</sup>

The measures to be implemented to protect against the adverse effects from earthworks will include:

- Stabilised entry / exit points and wash down facilities;
- Silt fences (as required);
- Sediment retention devices (as required);
- Stockpiles to generally be avoided (and if not avoided, covered when not in use); and
- Runoff diversion bunds where appropriate to capture sediment in any surface water runoff.

Taking into account the minimal nature of earthworks proposed across the site area and the measures set out above, any potential effects of earthworks and sedimentation generation on water quality are considered to be less than minor.

## 6.12 Effects on Wider Community – Social, Economic and Cultural Effects

The project constitutes a large-scale solar farm in a high-value natural landscape of the Mackenzie Basin, and therefore it has potential to give rise to wider social, economic and cultural effects.

The project will have significant national benefit, as described in **Section 6.2** of this report. Furthermore, effects on landscape and cultural effects are assessed in **Section 6.5** and **6.6** respectively.

The project will assist with New Zealand's efforts to achieve net zero emissions by 2050 and forms part of a bigger transition occurring within the country towards more renewable energy generation. On that basis, the project is considered to have an overall positive effect on the wider community.

## 6.13 Effects on Natural and Physical Resources

As discussed in the Landscape and Visual Assessment (**Appendix F**), the Mackenzie Basin as an ONL has aesthetic, recreational, spiritual and cultural value.

The project has been designed to minimise adverse effects on these values, through proposed screen planting and the arrangement of solar panels and infrastructure. Notwithstanding this, the project will result in changes to the landscape, but this is not considered to have wider effects on the Mackenzie Basin and its current values. On that basis, effects on natural and physical resources are considered to be minor.

## 6.14 Ecological Effects

Ecological effects, and proposed mitigation measures, are discussed in the Ecological Assessment in **Appendix G**. The below sections summarise the findings contained in that assessment.

### 6.14.1 Vegetation and Flora

Refer to **Table 11** below for an assessment of potential and actual effects on vegetation and flora.

**Table 11. Assessment of effects on vegetation and flora.**

| Effect                             | Comment                                                                                                                                                                                             | Level of effect |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| Clearance of indigenous vegetation | The proposed works will require vegetation for access roads, trenching and pole installation. Most of the site is exotic grassland so minimal indigenous vegetation will be required to be cleared. | Negligible.     |

<sup>20</sup> <https://esc.canterbury.co.nz/>

| Effect                                                                            | Comment                                                                                                                                                                                                                                                                                                             | Level of effect              |
|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|
| Clearance of At Risk plants                                                       | Heavy machinery moving around the site during construction has the potential to result in damage to At Risk plant species. However, this risk is minimal, noting the site is mainly exotic vegetation.                                                                                                              | Less than minor.             |
| Microclimate changes beneath the solar panels, resulting in changes to vegetation | At Risk plant species could be shaded out due to the presence of the solar panels. The solar panels will rotate as well, which will limit the height of larger At Risk shrub species or exclude them from being within the rotational range of each solar panel.                                                    | Potential – minor.           |
| Risk of introducing pest plants                                                   | If the works require the importation of metal, soil or fill for construction, there is potential that this material will be contaminated with seeds of pest plants. This could result in the introduction of pest plants on the site. This is unlikely to occur, noting no importation of soil or fill is proposed. | Potential - more than minor. |

#### 6.14.2 Avifauna

An assessment of potential and actual effects on avifauna is provided in **Table 12** below.

**Table 12. Assessment of effects on avifauna.**

| Effect                                          | Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Level of effect                                                                         |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| Habitat modification or loss                    | The project will result in habitat modification on the site, noting it is currently in exotic vegetation.                                                                                                                                                                                                                                                                                                                                                                                                                         | Potential – minor.                                                                      |
| Displacement of breeding avifauna               | Construction works have the potential to disrupt avifauna, particularly during breeding season.                                                                                                                                                                                                                                                                                                                                                                                                                                   | Minor (subject to mitigation measures and management plans in the proposed conditions). |
| Death or injury of avifauna during construction | If birds are breeding within the site during construction, there is a risk of injury and death to those birds as a result of ground clearance and machinery. This is addressed through a site-clearance condition, that will require the site is checked for birds prior to commencing construction.                                                                                                                                                                                                                              | Minor (subject to proposed conditions).                                                 |
| Risk of bird strike                             | It is noted that there is a lack of international and local information on the potential bird strike risk. Glare off the reflective surfaces of PV solar panels can create an attraction to birds (e.g. pond effect) and disorientation, especially when they are installed in large quantities on solar farms. Refer to Bird Strike Memo in <b>Appendix T</b> . Mitigation measures, such as having visual makers on the solar panels, is understood to reduce the risk of bird strike. This has been included by the Applicant. | Minor (subject to visual markers on solar panels included as a mitigation measure).     |

#### 6.14.3 Lizards

An assessment of potential and actual effects on lizards is provided in **Table 13** below.

**Table 13. Assessment of effects on lizards.**

| Effect | Comment | Level of effect |
|--------|---------|-----------------|
|--------|---------|-----------------|

|                                               |                                                                                                                                                                                                                                                                          |                                                                                  |
|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| Injury / Death / Displacement                 | The construction of the solar farm has potential to result in the injury, death or displacement of indigenous lizards. This is mitigated by the implementation of a Lizard Management Plan, which will require specific surveys to be undertaken within the development. | Less than minor (subject to the controls set out in the Lizard Management Plan). |
| Habitat loss and reduction in habitat quality | The project could result in the loss of lizard habitat or reduce the quality of habitat where panels are erected. This can be mitigated through the implementation of a Lizard Management Plan.                                                                          | Less than minor (subject to the controls set out in the Lizard Management Plan). |
| Fragmentation                                 | The proposed solar farm may result in the potential local fragmentation of an unknown sized lizard population.                                                                                                                                                           | More than minor.                                                                 |
| Disturbance during earthworks                 | The proposed earthworks for the solar farm has the potential to disrupt lizards on site. This can be addressed through the implementation of a Lizard Management Plan.                                                                                                   | Less than minor (subject to the controls set out in the Lizard Management Plan). |

#### 6.14.4 Terrestrial Invertebrates

An assessment on actual and potential effects on terrestrial invertebrates is provided in **Table 14** below.

**Table 14. Assessment of effects on terrestrial invertebrates.**

| Effect                                                 | Comment                                                                                                                                                                                                                                       | Level of effect                                                                              |
|--------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| Reduction in invertebrate habitat                      | The proposed development will result in habitat loss for invertebrates at this site – this will be managed through the Robust Grasshopper Management Plan.                                                                                    | More than minor.                                                                             |
| Mortality of invertebrates and disruption during works | Earthworks, including trenching and panel installation, has potential to result in the destruction, or disruption, of invertebrates present on site. This will be managed through the implementation of a Robust Grasshopper Management Plan. | Less than minor (subject to the controls set out in the Robust Grasshopper Management Plan). |
| Habitat quality reduction due to panel shading         | High quality habitats within the site could potentially be shaded out due to the placement of solar panels. Shading effects may benefit the New Zealand blue butterfly but may adversely affect other terrestrial invertebrates.              | Potential - more than minor.                                                                 |
| Creation of concrete and cobbled areas                 | The project involves the creation of hardstand areas. This provides basking opportunities for indigenous invertebrates, including the New Zealand blue butterfly.                                                                             | Net positive gain.                                                                           |

#### 6.14.5 Freshwater

There are no waterbodies on the site, however consideration of the surrounding waterbodies is important. Earthworks have the potential to give rise to sediment generation, which in the event they enter waterbodies through overland flow paths, or wind, could impact freshwater values.

Taking into account the erosion and sediment controls proposed by the Applicant and the minimal extent and volume of earthworks proposed, effects on freshwater are considered to be less than minor.

## 6.15 Summary of Effects

The proposed solar farm will provide numerous positive effects, notably the provision of REG for the equivalent of approximately 100,000 homes.

The project will also increase security of electricity supply overall and in particular during dry periods of low hydro electricity production, assist in stabilising electricity prices with more renewable generation, and help achieve New Zealand's emissions reductions targets. There are also important social and economic benefits at a local and regional level associated with the construction of the solar farm, including improved biodiversity values associated with the proposed EEP as well as local job creation.

Construction of the proposed solar farm and associated connection works has the potential to give rise to a limited range of adverse effects, which overall are considered to be less than minor, albeit with some visual and landscape effects being minor or more than minor. Taking into account the positive effects, in particular the provision of renewable energy and the ecological benefits proposed by the ecological enhancement planned, the actual and potential effects of the project are able to be appropriately managed and mitigated.

## 7 Statutory Assessment

### 7.1 Section 104 of the RMA

Section 104 of the RMA sets out the matters to which a consent authority must have regard, subject to Part 2 and section 77M of the RMA, when considering an application for resource consent. These are:

- Any actual and potential effects on the environment of allowing the activity (refer **Section 6** above);
- Any relevant provisions of:
  - a national environmental standard;
  - other regulations;
  - a national policy statement;
  - a New Zealand coastal policy statement;
  - a regional policy statement or proposed regional policy statement;
  - a plan or proposed plan; and
- Any other matter the consent authority considers relevant and reasonably necessary to determine the application.

The following subsections address the relevant provisions identified above.

### 7.2 Part 2 of the RMA

Part 2 of the RMA sets out the purpose and principles of the RMA. The purpose of the RMA is to promote the sustainable management of natural and physical resources.

In accordance with schedule 5, clause 5 (1)(g) of the FTA, a substantive application made under the FTA must provide an assessment of the proposed activity against sections 5, 6 and 7 of the RMA. The following assessment is set out below.

#### 7.2.1 Section 5 – Purpose

The project will manage the use, development and protection of natural and physical resources in a way, or at a rate, which will enable people and communities to provide for their social, economic and cultural well-being and for their health and safety by providing renewable energy generation and increasing the resilience of New Zealand's electricity supply and network.

The sustainable management of natural and physical resources under the RMA also include the matters in section 5(2)(a) through to (c). In this regard, the following conclusions are made:

- a) *Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations:*
  - The intent of the application is to provide renewable electricity, which will strengthen New Zealand's electricity network and enable emission targets to be achieved. This provides for the foreseeable needs of future generations.
  - The application includes extensive ecological enhancement planting on site, which will provide positive environmental gains.
- b) *Safeguarding the life-supporting capacity of air, water, soil, and ecosystems:*
  - Air – dust will be managed during construction and operation of the solar farm through earthwork controls set out in the proposed consent conditions (**Appendix J**).
  - Water – Erosion and sediment controls in the proposed consent conditions (**Appendix J**) will be in place during construction and operation of the proposed solar farm. The project also enables the

retirement of the site from dairy farming, which is expected to improve water quality in respect of reduced nitrogen run-off.

- Soil – Best practice erosion and sediment controls measures as set out in the proposed consent conditions in **Appendix J**, will be implemented during the construction works.
- Ecosystems – Ecosystems will be protected by avoiding (where practicable), remedying, and mitigating adverse effects on natural features and habitats. The project involves extensive ecological enhancement works which aims to provide important dryland habitat.

*c) Avoiding, remedying, or mitigating any adverse effects of activities on the environment:*

The project avoids (where practicable), remedies and mitigates the majority of adverse effects on the environment in the indicative plans, and through the identification of mitigation measures (as outlined in the AEE report).

### 7.2.2 Section 6 – Matters of National Importance

An assessment against section 6 of the RMA is set out below:

- a) The preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development:*

Not applicable – no coastal environment involved.

- b) the protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development:*

The site's landscape features have been carefully considered in the design of this project. The placement of panels will result in changes to the landscape character. However, due to the location of the solar farm and its visibility being limited to a small number of public places, the openness and vastness of the Mackenzie Basin when perceived from the surrounding public places will remain largely intact. On that basis, landscape values are protected from inappropriate subdivision, use and development.

- c) the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna:*

The site does not currently have significant indigenous vegetation or habitats of indigenous fauna, noting that it is used for dairy farming. The project includes extensive ecological enhancement planting, which will result in the creation of significant indigenous vegetation and habitat for indigenous fauna.

- d) the maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers:*

The project does not impact any public access in relation to any coastal marine area, lake or river.

- e) The relationship of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga:*

Refer to **Section 6.6** regarding cultural effects. The project is not anticipated to impact the relationship of Māori and their ancestral land and taonga.

- f) the protection of historic heritage from inappropriate subdivision, use, and development:*

Not applicable to this project.

- g) the protection of protected customary rights:*

Not applicable to this project.

- h) the management of significant risks from natural hazards:*

Not applicable to this project.

### 7.2.3 Section 7 – Other Matters

An assessment against the relevant Section 7 matters is set out below.

#### a) *Kaitiakitanga:*

The Applicant has engaged with mana whenua, noting consultation is ongoing and will continue to inform the project design.

#### aa) *The ethic of stewardship:*

The ethic of stewardship has been recognised in the engagement with and participation of mana whenua and those who have a specific interest in and exercise stewardship over resources.

#### b) *The efficient use and development of natural and physical resources:*

The purpose of the project is to provide renewable electricity which will provide for current and future generations' needs. The project will support New Zealand achieving emission reduction targets and strengthen the National Grid network.

#### ba) *The efficiency of the end use of energy*

Consistent with previous Environment Court findings, the location of The Point Solar Farm adjacent to existing Transpower infrastructure and corresponding reductions in transmission losses, is consistent with this matter.<sup>21</sup>

#### c) *The maintenance and enhancement of amenity values:*

The site selection and design process has sought to avoid adverse effects on existing and likely future amenity values. A landscape and visual assessment have been undertaken. Regard has been given to the maintenance and enhancement of amenity values through the proposed screening and placement of solar panels.

Furthermore, the project enhances amenity values through the extensive planting on site.

#### d) *Intrinsic values of ecosystems:*

The selection of the location and design has sought to avoid adverse effects on ecosystems and protect their intrinsic values. Ecological values will increase as a result of the proposed planting on site.

#### f) *Maintenance and enhancement of the quality of the environment:*

Effects on the environment can be appropriately avoided, remedied and mitigated. Refer to (c) above, the proposed planting will significantly increase ecological values on site.

#### g) *Any finite characteristics of natural and physical resources:*

As noted above, the project enables the efficient use and development of natural and physical resources by providing renewable energy and ecological enhancement planting.

#### h) *the protection of the habitat of trout and salmon:*

Not applicable to this project.

#### i) *the effects of climate change:*

The project will provide renewable electricity generation, supporting New Zealand's emission reduction targets and assisting with climate change efforts.

<sup>21</sup> *Genesis Power Ltd v Franklin DC* [2005] NZRMA 541 (EnvC) at [222].

- j) *the benefits to be derived from the use and development of renewable energy:*

Refer to **Section 6.2**. The project will have significant national benefit in relation to the generation of renewable energy.

### 7.3 Proposed Conditions of Consent

Section 108AA of the RMA sets out the requirements for conditions of resource consents as follows:

- (1) *A consent authority must not include a condition in a resource consent for an activity unless –*
- (a) *The applicant for the resource consent agrees to the condition; or*
  - (b) *The condition is directly connected to 1 or [both] of the following:*
    - (i) *An adverse effect of the activity on the environment:*
    - (ii) *An applicable district or regional rule, or a national environmental standard: [or]*
    - (iii) *...*
  - (c) *The condition relates to administrative matters that are essential for the efficient implementation of the relevant resource consent...*

Mitigation measures are recommended throughout the supporting technical reports, particularly the Ecological Assessment (**Appendix G**), in order to ensure adverse effects are appropriately avoided, remedied, mitigated or otherwise compensated for. Draft conditions proposed by the Applicant are set out in **Appendix J**. The Applicant recognises and expects that a full suite of conditions will be developed through the resource consent process.

The proposed conditions represent key conditions which capture all of the mitigation measures and management plans identified in the Ecological Assessment (see **Appendix G**). In particular, the proposed conditions require:

- The preparation and implementation of the following management plans, which will contain measures that will clearly avoid, mitigate, offset or compensate the disturbance to species, populations and their habitats:
  - LMP
  - Avian Management Plan (AMP)
  - Robust Grasshopper Management Plan (RGMP)
- An EEP, which will set out measures for how indigenous vegetation on site will be managed, including measures for invasive species removal, soil cultivation and weed control. The EEP will also include what ongoing monitoring will take place to assess the success of the ecological enhancement initiatives.
- The preparation and implementation of a CTMP. The CTMP will include the required traffic management measures, site access points and heavy vehicle restrictions.
- The preparation and implementation of a CMP, which will detail management procedures and methods to be implemented to ensure ongoing compliance with these conditions.
- The preparation and implementation of an ESCP that will outline the erosion and sediment controls to be used on site to manage sediment runoff and earthwork effects.

#### 7.3.1 Monitoring Requirements

The proposed conditions include a suite of management plans and monitoring requirements to manage actual and potential effects from the project. In accordance with schedule 5, clause 6(1)(g) of the FTA, **Table 15** sets out the details of monitoring proposed by the Applicant.



As noted above, any consents that authorise Transpower's ongoing operation, maintenance, upgrade and development of the NGS will be subsequently transferred to Transpower. Upon transfer, Transpower will be responsible for the implementation and compliance of stormwater monitoring in relation to Transpower's GIP.

Table 15. Details of monitoring as set out in the proposed conditions.

| Purpose of Monitoring                               | Frequency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Avifauna monitoring programme to assess bird strike | To be determined in the Avifauna Management Plan.<br>It is widely acknowledged that more research needs to be done to understand any potential impact solar farms may have on birds. Collaboration with DoC has discussed developing a suitable avian monitoring programme and it is expected that they will provide valuable input.                                                                                                                                                                                                                                                                                                        |
| Ecological Enhancement Planting Monitoring          | Monitoring methodology is laid out in section 12 of the EEP. In summary, regular monitoring will be carried out to ensure management can be adapted to ensure successful growth and establishment of all species.<br>Monitoring will include: <ul style="list-style-type: none"> <li>• UAV orthomosaic photo monitoring</li> <li>• Walk through surveys to monitor plant health, weed location and pest plants, pest mammal sign</li> </ul> Pest plant control will only be carried out during the appropriate seasons when pest plants can be more easily identified and targeted for control, and control is likely to be most effective. |
| Groundwater and soil monitoring                     | Groundwater and soil monitoring is proposed to be taken in accordance with an approved State of Environment Monitoring Plan (SEMP).<br><br>The monitoring requires groundwater and soil data to be obtained prior to the commencement of construction, prior to operation, every fifth year after the commencement of operation and at decommissioning of the solar farm.                                                                                                                                                                                                                                                                   |

## 7.4 National Environmental Standards

### 7.4.1 Resource Management Act (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011

The National Environmental Standards for Assessing and Managing Contaminants in Soil to Protect Human Health Regulations 2011 (NESCSC) came into effect in 2012. The NESCSC applies to assessing and managing the actual or potential adverse effects of contaminants in soil on human health from five activities, including soil disturbance. The NESCSC only applies to land which is considered to have had an activity occur which is on the Hazardous Activities and Industries List (HAIL). As set out in **Section 3.1**, there is no indication any HAIL activities have been undertaken on the site and therefore the NESCSC is not considered to apply to this proposal.

### 7.4.2 The Resource Management (National Environmental Standards for Freshwater) Regulations 2020 (NES-Freshwater)

The Resource Management (National Environmental Standards for Freshwater) Regulations 2020 (NES-Freshwater) sets out requirements for carrying out certain activities that pose risks to freshwater and freshwater ecosystems.

There are no wetlands on site, but a number of wetlands were identified within 100m of the site boundary. No works are proposed within 100m of the wetlands. On that basis, the NES-Freshwater does not apply to the project.

### 7.4.3 National Environmental Standards for Electricity Transmission Activities 2009

The National Environmental Standard for Electricity Transmission Activities (NESETA) provides for the operation, maintenance and upgrading of existing electricity transmission lines.

As discussed in **Section 5.4**, the proposed replacement overhead OPGW cable meets the permitted activity standards under regulation 7 and therefore consent is not required under the NESETA.

The connection between the existing lines and the new GIP is outside of the scope of this application and Transpower will obtain any necessary consents under the NESETA, such as for the new tie-in structure (Tower 83A).

## 7.5 National Policy Statements

### 7.5.1 National Policy Statement Renewable Energy Generation 2011

The National Policy Statement for Renewable Electricity Generation 2011 (NPS-REG) recognises the importance of renewable energy in helping New Zealand achieve the Government's target of 90% of electricity from renewable sources by 2025. The NPS-REG promotes a more consistent approach to balancing the competing values associated with the development of New Zealand's renewable energy resources when councils make decisions on resource consent applications.

This project is directly supported by the single objective of the NPS-REG, which sets out to provide for the development, operation and maintenance and upgrading of new and existing REG activities. The proposed solar farm will provide a resilient and renewable source of electricity generation for the Mackenzie District, which will reduce the dependency and pressure on the National Grid and improve the resilience of New Zealand's electricity network.

It is also noted that the Government is proposing to strengthen the NPS-REG to enable renewable electricity activities. The Government has identified that an additional 300-500 MW of electricity is required per year over the next 30 years to meet projected demand – 170% more than today's capacity.<sup>22</sup> This project will contribute an additional 450 MWp to the National Grid, significantly increasing the nation's renewable electricity store.

### 7.5.2 National Policy Statement for Freshwater Management 2020

The National Policy Statement for Freshwater Management (NPS-Freshwater) came into effect on 3 September 2020, and was amended in October 2024. The objective of the NPS-Freshwater is to ensure natural and physical resources are managed so as to 'give effect' to Te Mana o te Wai:

- Through involving tāngata whenua;
- Engaging with tāngata whenua and communities to set out long-term visions in the regional policy statement; and
- Prioritising the health and wellbeing of water bodies, then the essential needs of people, followed by other uses.

The project does not adversely affect any freshwater resources. Furthermore, the conversion of the site from dairy farming to solar farm operation is expected to reduce nutrient run-off and therefore have a positive impact on freshwater quality. On that basis, the project is considered to be consistent with the objective and policies of the NPS-Freshwater.

### 7.5.3 National Policy Statement for Indigenous Vegetation 2023

The National Policy Statement for Indigenous Vegetation 2023 (NPS-IB) is focused on the protection and enhancement of indigenous biodiversity. It has a single objective, being:

<sup>22</sup> <https://www.mbie.govt.nz/have-your-say/renewable-electricity/>

(a) *To maintain indigenous biodiversity across Aotearoa New Zealand so that there is at least no overall loss in indigenous biodiversity after the commencement date; and*

(b) *To achieve this:*

- (i) *Through restoring the mana of tāngata whenua as kaitiaki of indigenous biodiversity; and*
- (ii) *By recognising people and communities, including landowners, as stewards of indigenous biodiversity; and*
- (iii) *By protecting and restoring indigenous biodiversity as necessary to achieve the overall maintenance of indigenous biodiversity; and*
- (iv) *While providing for the social, economic and cultural wellbeing of people and communities now and in the future.*

The following policies are relevant to this proposal:

- *Policy 1: Indigenous biodiversity is managed in a way that gives effect to the decision-making principles and takes into account the principles of the Treaty of Waitangi;*
- *Policy 3: A precautionary approach is adopted when considering adverse effects on indigenous biodiversity;*
- *Policy 10: Activities that contribute to New Zealand's social, economic, cultural and environmental wellbeing are recognised and provided for as set out in this National Policy Statement; and*
- *Policy 1: Increased indigenous vegetation cover is promoted in both urban and non-urban environments.*

Removal of indigenous vegetation will be avoided by the proposed development footprint and only exotic grassland is proposed to be removed. Furthermore, the project involves planting approximately 80 ha of native vegetation. This will provide significant enhancement of indigenous biodiversity values on site, which will provide important habitat for 'Threatened' and 'At Risk' species. On that basis, the project is considered to be consistent with the NPS-IB.

## 7.6 Mackenzie District Plan Assessment

An assessment of the project against the relevant provisions of the MDP is provided in **Table 16** below.

**Table 16. Mackenzie District Plan objectives and policy assessment.**

| Objective/policy                                                                                                                                                                   | Comment                                                                                                                                                                                             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Strategic Direction</b>                                                                                                                                                         |                                                                                                                                                                                                     |
| <b>A Thriving Community</b>                                                                                                                                                        |                                                                                                                                                                                                     |
| Objective ATC-O1 – The Mackenzie District is a desirable place to live, work, play and visit, where:                                                                               | The project will contribute to the desirability and liveability of the district by:                                                                                                                 |
| 1. (14) There are a range of living options, businesses and recreation activities to meet community needs;                                                                         | - Providing local employment opportunities associated with the construction and on-going operation of the solar farm;                                                                               |
| (1) Activities that are important to the community's social, economic and cultural well-being, including appropriate economic development opportunities, are provided for; and     | - Providing renewable electricity which will improve the resilience of the National Grid and support activities that are important to the community's social, economic and cultural well-being; and |
| (2) The anticipated amenity values and character of different areas are maintained or enhanced.                                                                                    | - Provide mitigation (via extensive screening) in order to maintain amenity values as far as practicable.                                                                                           |
| Objective ATC-O3 – The importance to the District and beyond of infrastructure, particularly nationally and regionally significant infrastructure, is recognised and provided for. | The proposed solar farm will be a regionally significant piece of infrastructure, providing approximately 450MWp of electricity to the National Grid.                                               |
| Objective ATC-O4 – The local, regional and national benefits of the District's renewable electricity generation and electricity                                                    | The project provides a unique opportunity to generate power during the day, thereby allowing the hydro lakes to store more water during                                                             |

| Objective/policy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| transmission activities and assets are recognised and provided for.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | the day to increase capacity at night. Overall, this will improve the resilience of the National Grid and hydro schemes.                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Mana Whenua</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Objective MW-O1 – The role of mana whenua is recognised and their historic and contemporary relationship with the District's land, water bodies, indigenous species and other sites and areas of significance are recognised and provided for.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Engagement with mana whenua is ongoing as discussed in <b>Section 8.3</b> , in order to ensure this project provides for their relationship with the land's whenua, water bodies and indigenous vegetation and species.                                                                                                                                                                                                                                                                     |
| Objective MW-O2 – Mana whenua are able to: <ul style="list-style-type: none"> <li>(2) Be actively involved in decision making that affects their values and interests;</li> <li>(3) Exercise their kaitiakitanga responsibilities; and</li> <li>(4) Carry out customary activities in accordance with tikanga.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | The project will provide opportunities for meaningful engagement with mana whenua throughout the project lifecycle. Through this, mana whenua can determine their own desired level of involvement in the project by helping to identify opportunities for collaboration, as well as identifying potential adverse cultural effects and measures to address these. The Applicant is committed to developing the solar farm in the spirit of partnership, in line with Te Tiriti o Waitangi. |
| <b>Natural Features and Landscape</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Objective NFL-O1 – Protection of outstanding landscape values and of those natural processes and elements which contribute to the District's overall character and amenity.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | The Landscape and Visual Assessment ( <b>Appendix F</b> ) has taken into consideration the outstanding landscape values of the Mackenzie Basin and has assessed the proposed solar farm, which is within an area of high visual vulnerability. However, as discussed in this report, the solar farm in this location is not entirely inappropriate and has been designed to protect the outstanding landscape values.                                                                       |
| Objective NFL-O2 <sup>23</sup> <ol style="list-style-type: none"> <li>1. To protect and enhance the outstanding natural landscape of Te Manahuna/the Mackenzie Basin ONL, in particular the following characteristics and/or values: <ul style="list-style-type: none"> <li>a. the openness and vastness of the landscape;</li> <li>b. the tussock grasslands;</li> <li>c. the lack of houses and other structures;</li> <li>d. residential development limited to small areas in clusters;</li> <li>e. the form of the mountains, hills and moraines, encircling and/or located in, Te Manahuna/the Mackenzie Basin; and</li> <li>f. undeveloped lakesides and State Highway 8 roadside.</li> </ul> </li> <li>2. Subject to NFL-O2.1 above and to the rural objectives: <ul style="list-style-type: none"> <li>a. To enable pastoral farming;</li> <li>b. To manage pastoral intensification and/or agriculture conversion throughout Te Manahuna/the Mackenzie Basin and to identify areas where they may be enabled (such as Farm Base Areas); and</li> <li>c. To enable rural residential subdivision, cluster housing and farm buildings within Farm Base Areas around existing homesteads (where they are outside hazard areas).</li> </ul> </li> </ol> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Policy NFL – P1<br>Recognise the values of the identified ONF and ONL overlays on the Planning Maps and protect these values from adverse effects by: <ol style="list-style-type: none"> <li>1. Avoiding inappropriate subdivision, use and development in those parts of outstanding natural features and landscapes with limited capacity to absorb such change;</li> <li>2. Avoiding inappropriate use and development that detracts from extensive open views, or detracts from or damages the unique landforms and landscape features;</li> <li>3. Managing building density, scale and form to ensure it remains at a low level, maintains a predominance</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | The open character of the site will not be protected due to the size and scale of the solar farm. However, due to the location of the solar farm and its visibility being limited to a small number of public places, the openness and vastness of the Mackenzie Basin when perceived from the surrounding public places will remain largely intact.                                                                                                                                        |

<sup>23</sup> Under appeal – Plan Change 23.

| Objective/policy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Comment                                                                                                                                                                                                                                                                                                                                                          |
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| <p>of vegetation cover and sense of low levels of human occupation;</p> <ol style="list-style-type: none"> <li>4. Avoiding buildings and structures that break the skyline;</li> <li>5. Ensuring buildings and structures are designed to minimise glare and the need for earthworks, and are mitigated by plantings to reduce their visual impact where appropriate;</li> <li>6. Recognising and providing protection for identified values in Sites and Areas of Significance to Māori; and</li> <li>7. Recognising the existence of working pastoral farms and their contribution to the outstanding natural features and landscapes of the Te Manahuna/Mackenzie District.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                  |
| <p>Policy NFL – P2</p> <ol style="list-style-type: none"> <li>1. To recognise that within Te Manahuna/the Mackenzie Basin's outstanding natural landscape there are: <ol style="list-style-type: none"> <li>a. Many areas where development beyond pastoral activities is either generally inappropriate or should be avoided.</li> <li>b. Some areas with greater capacity to absorb different or more intensive use and development, including areas of low or medium visual vulnerability and identified Farm Base Areas as shown on the Planning Maps.</li> <li>c. Areas, places and features of particular significance to Ngāi Tahu.</li> </ol> </li> <li>2. To identify, describe and map as overlays, specific areas within Te Manahuna/the Mackenzie Basin that assist in the protection and enhancement of the characteristics and/or values of the outstanding natural landscape contained in NFL-O2.1 being: <ol style="list-style-type: none"> <li>a. Lakeside Protection Areas, shown on the Planning Maps;</li> <li>b. Scenic Viewing Areas, in NFL-SCHED1 and shown on the Planning Maps;</li> <li>c. Scenic Grassland Areas, in NFL-SCHED1 and shown on the Planning Maps;</li> <li>d. Sites of Natural Significance, in Appendix I and shown on the Planning Maps; and</li> <li>e. Land above 900m in altitude, shown on the Planning Maps.</li> </ol> </li> <li>3. As part of an assessment of the suitability of an area for a change in use for development: <ol style="list-style-type: none"> <li>a. To identify whether the proposed site has high, medium or low ability to absorb development according to the visual vulnerability areas shown on the Planning Maps.</li> <li>b. To require an assessment of landscape character sensitivity (incorporating natural factors including geomorphology, hydrology, ecology, vegetation cover, cultural patterns, landscape condition and aesthetic factors such as naturalness and remoteness).</li> </ol> </li> </ol> | <p>The site is within an area of high visual vulnerability, therefore by default it would have a low ability to absorb development. The Landscape and Visual Assessment however finds that the proposed solar farm will only be seen from a limited number of public places, meaning the open space values associated with the landscape will be maintained.</p> |
| <b>Natural Environment</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                  |
| Objective NE-O1 – The values of the natural environment, including those that make the District unique, contribute to its                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | The design of the proposed solar farm has prioritised ecological enhancement and restoration. Approximately 80 ha of native planting                                                                                                                                                                                                                             |

| Objective/policy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Comment                                                                                                                                                                                            |
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| <p>character, identity and well-being, or have significant or outstanding intrinsic values, are recognised and provided for, and where appropriate protected and enhanced. This includes, but is not limited to, values associated with the following important natural resources:</p> <ol style="list-style-type: none"> <li>(1) Mahika kai resources;</li> <li>(2) Night sky darkness;</li> <li>(3) Outstanding natural features and landscapes;</li> <li>(4) Significant indigenous biodiversity; and</li> <li>(5) Water bodies and their margins.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <p>is proposed to provide a net gain of ecological values as a result of the project.</p>                                                                                                          |
| <b>General Rural Zone</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                    |
| <p>Objectives GRUZ-O1 – The General Rural Zone prioritises primary production and activities that support primary production and provides for other activities where they rely on the natural resources found only in a rural location.</p> <p>Objective GRUZ-O2<sup>24</sup> – The adverse effects of activities and built from within the General Rural Zone are managed in a way that:</p> <ol style="list-style-type: none"> <li>(2) Maintains a rural character consisting of a low overall building density with a predominance of open space and vegetation cover;</li> <li>(3) Supports, maintains, or enhances the function and form, character and amenity values of the zone;</li> <li>(4) Recognises the functional needs and operational needs of activities within the zone; and</li> <li>(5) Allows primary production, activities that directly support primary production and other activities that have a functional or operational need to locate in the General Rural Zone to operate without risk of being compromised by reverse sensitivity.</li> </ol> <p>Policy GRUZ-P2 – Recognise the importance of primary production activities to the economic wellbeing of the district, and prioritise primary production and activities which support primary production, within the General Rural Zone, by:</p> <ol style="list-style-type: none"> <li>(1) Providing for new economic activity that directly supports, is dependent on, or is ancillary to primary production, or otherwise has a functional need or operational need to locate in the General Rural Zone;</li> <li>(2) Enabling recreation and tourism activities based on farming experiences or conservation activities and/or experiencing the natural environment;</li> <li>(3) Ensuring the land resource of the General Rural Zone is not compromised by activities with no functional need or operational need to locate in the zone; and</li> <li>(4) Providing for workers accommodation which exceeds the density requirements, where its location, scale and design maintains the character and amenity values of the surrounding area without compromising the safety or efficiency of the road corridor.</li> </ol> | <p>The proposed solar farm has an operational and functional requirement to locate in the rural zone and on that site. A solar farm is not congruent with other primary production activities.</p> |
| <b>Renewable Electricity Generation<sup>25</sup></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                    |

<sup>24</sup> Under appeal – Plan Change 23.

<sup>25</sup> The Renewable Electricity Generation chapter of the MDP is subject to Plan Change 28 and some of its provisions are under appeal and therefore not currently operative.

| Objective/policy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| Objective Reg-O1 (under appeal) – The output from renewable electricity generation activities in the District for national, regional, and local use is increased to support achievement of the New Zealand Government's national target for renewable electricity generation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | The proposed solar farm will make a significant contribution to renewable electricity generation and support New Zealand's national target for net zero emissions by 2050.                                                                                                                                                                                                                                                                                                                          |
| Objective REG-O2 (under appeal) – The adverse effects of renewable electricity generation activities are managed in a way that recognises and provides for national significance of renewable electricity generation activities.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Actual and potential effects from the project are managed appropriately, noting the functional and operational need of the project to be located on the subject site.                                                                                                                                                                                                                                                                                                                               |
| Policy REG-P1 – Recognise and provide for the national, regional, and local benefits of renewable electricity generation activities and assets, including avoiding, reducing, or displacing greenhouse gas emissions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | The project will provide renewable electricity, which will strengthen the resilience of the electricity network by complementing existing hydropower schemes. This in turn will provide national, regional and local benefits, in the form of a more secure electricity network and environmental improvements.                                                                                                                                                                                     |
| <p>Policy REG-P6 – Provide for renewable electricity generation activities (not otherwise specified in REG-P3 and REG-P4) within areas of significant indigenous vegetation and significant habitats of indigenous fauna, Outstanding Natural Landscapes, Outstanding Natural Features, Sites and Areas of Significance to Māori, riparian areas, or within area of Highly Productive Land, where:</p> <ul style="list-style-type: none"> <li>(6) There is a functional need or operational need for the activity to be in that location;</li> <li>(7) Adverse effects on the values of the area are avoided as far as practicable, including through site, route or method selection, design measures and other management methods;</li> <li>(8) Adverse effects on the values of the area that cannot be avoided are remedied or mitigated, where practicable;</li> <li>(9) Other adverse effects (that do not affect the values of the area) are avoided, remedied or mitigated as far as practicable;</li> <li>(10) Regard is had to any proposed offsetting measures or environmental compensation, where there are significant residual adverse effects that cannot be avoided, remedied or mitigated; and</li> <li>(11) Particular regard is had to the practical constraints associated with renewable electricity generation activities, including the: <ul style="list-style-type: none"> <li>i. Location and efficient use of existing electricity generation, transmission and distribution infrastructure; and</li> <li>ii. The need to locate the renewable electricity generation activity where the renewable energy resource is located.</li> </ul> </li> </ul> | <p>There is a functional and operational need for the activity to locate on the subject site, as set out in <b>Section 4.8</b>. This is in relation to the proximity of the site to a National Grid.</p> <p>As far as practicable, adverse effects on the values of the site have been appropriately avoided, remedied or mitigated through the project design.</p> <p>The project involves a large-scale replanting programme, which will provide significant ecological benefits to the site.</p> |
| <b>Subdivision</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <p>Objective SUB-O1<sup>26</sup> - Subdivision is designed to:</p> <ul style="list-style-type: none"> <li>(1) align with the purpose and character of the zone in which it occurs;</li> <li>(2) maintain the values of any overlays within which it is located;</li> <li>(3) achieve integration and connectivity with surrounding neighbourhoods; and</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | The proposed subdivision is in relation to the lease agreement and will not adversely impact the site.                                                                                                                                                                                                                                                                                                                                                                                              |

<sup>26</sup> This provision is now operative, subject to the Environment Court's recent consent order (ENV-2024-CHC-89).

| Objective/policy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Comment                                                                                                                                                                                                                                                                                                                                                                                                        |
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| <p>(4) provide servicing infrastructure that is appropriate for its intended use and which is integrated with existing infrastructure;</p> <p>(5) avoid reverse sensitivity effects on renewable electricity generation activities and electricity transmission activities; and</p> <p>(6) minimise conflict between incompatible activities.</p>                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                |
| Policy SUB-P1 – Require subdivision design to accord with the purpose and character of the applicable zone and, where practicable, to follow natural and physical features such as landscape, topography, and established vegetation of the site.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | The proposed subdivision is for the purpose of enabling the solar farm operations and will not adversely impact the natural or physical features of the site.                                                                                                                                                                                                                                                  |
| <p>Policy SUB-P8 – In order to minimise its adverse effects, subdivision in the Te Manahuna / Mackenzie Basin ONL will not be encouraged except:</p> <p>(a) in Farm Base Areas;</p> <p>(b) where subdivision is for the purposes of enabling the recognition of and provision for the Ngāi Tahu relationship with Te Manahuna/the Mackenzie Basin;</p> <p>Further subdivision of Lakeside Protection Areas, Scenic Viewing Areas and Scenic Grasslands, Sites of Natural Significance, and areas above 900 masl should be avoided;</p> <p>All subdivision shall address the need to remove exotic wildings from the land being subdivided;</p> <p>All subdivision should have regard to topographical and ecological constraints.</p> | The subdivision is in relation to the lease agreement required for the operation of the solar farm. It will not trigger any physical works on site, such as vegetation removal and will be in accordance with the ecological constraints of the site.                                                                                                                                                          |
| <b>Light</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                |
| <p>Objective LIGHT-O1 – Outdoor lighting allows activities to occur beyond daylight hours and provides safety and security for activities, while:</p> <p>(1) Protecting views of the night sky; and</p> <p>(2) Managing light spill to maintain amenity values, health and safety and the safe operation of the transport network.</p>                                                                                                                                                                                                                                                                                                                                                                                                | The site will have security lighting installed with motion sensors. Overall, the views of the night sky will be maintained and light spill will be negligible from the site. There will be no effects on the safety of road users or on amenity values in receiving zones.                                                                                                                                     |
| <p>Policy LIGHT-P1: Manage the location, design and operation of outdoor lighting to ensure:</p> <p>(1) It does not distract or interfere with the safety of road users; and</p> <p>(2) It is compatible with the zone in which any light spill is received.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Rural Zone</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                |
| Objective 2 - The preservation of the natural character and functioning of the District's lakes, rivers, and wetlands and their margins, and the promotion of public access along these areas.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | The preservation of the natural character and functioning of the District's lakes, rivers and wetland and public access along these areas will be maintained.                                                                                                                                                                                                                                                  |
| Objective 3A - Protection of outstanding landscape values, the natural character of the margins of lakes, rivers and wetlands and of those natural processes and elements which contribute to the District's overall character and amenity.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | The aesthetic value of the site stems from its relatively flat topography and open character that forms part of the wider Mackenzie Basin. Because the project will not be seen from most frequented public places, it will not impact on the general open character of the Mackenzie Basin, when experienced from these surrounding public places as the project will not interrupt the views over the basin. |
| Rural Policy 3A2 - To limit structures and tall vegetation within scenic viewing areas to enable views of the landscape to be obtained within and from these areas.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | The site does not form part of nor is adjacent to a scenic viewing area. Therefore, it will not interfere with the views gained from these identified areas.                                                                                                                                                                                                                                                   |
| Rural Policy 3A3 - Avoid or mitigate the effects of subdivision, uses or development which have the potential to modify or detract from areas with a high degree of naturalness, visibility,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | The site forms part of the Mackenzie Basin's ONL, which is an important landscape at a national level. As discussed in <b>Section 3.4</b> of this report, the agricultural land use activities within the site and                                                                                                                                                                                             |

| Objective/policy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| aesthetic value, including important landscapes, landforms and other natural features.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | neighbouring blocks of land have reduced the landscape values attributed to this site.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Policy 3A5 - To encourage the use of guidelines for the siting and design of buildings and structures, tracks, and roads, tree planting, signs and fences.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | This policy and the Landscape Guidelines contained in Appendix K of the MDP are focused on buildings, rather than solar panels and inverters. Nonetheless, the Landscape and Visual Assessment ( <b>Appendix F</b> ) considers the project against the Landscape Guidelines in Appendix K.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <p>Objective 3B – Activities in the Mackenzie Basin's outstanding natural landscape</p> <p>(5) Subject to (2)(a), to protect and enhance the outstanding natural landscape of the Mackenzie Basin subzone in particular the following characteristics and/or values:</p> <ul style="list-style-type: none"> <li>(a) The openness and vastness of the landscape;</li> <li>(b) The tussock grasslands;</li> <li>(c) The lack of houses and other structures;</li> <li>(d) Residential development limited to small areas in clusters;</li> <li>(e) The form of the mountains, hills and moraines, encircling and/or located in, the Mackenzie Basin;</li> <li>(f) Undeveloped lakesides and State Highway 8 roadside;</li> </ul> <p>(6) To maintain and develop structures and works for the Waitaki Power Scheme:</p> <ul style="list-style-type: none"> <li>(a) Within the existing footprints of the Tekapo-Pukaki and Ohau Canal Corridor, the Tekapo, Pukaki and Ohau Rivers, along the existing transmission lines, and in the Crown-owned land containing Lakes Tekapo, Pukaki, Ruataniwha and Ohau and subject only (in respect of landscape values) to the objectives, policies and methods of implementation within Chapter 15 (Utilities) except for management of exotic tree species in respect of which all objective (1) and all implementing policies and methods in this section apply;</li> <li>(b) Elsewhere within the Mackenzie Basin subzone so as to achieve objective (1) above.</li> </ul> <p>(7) Subject to objective 3B(1) above and to rural objectives 1, 2 and 4:</p> <ul style="list-style-type: none"> <li>(a) To enable pastoral farming;</li> <li>(b) To manage pastoral intensification and/or agricultural conversion throughout the Mackenzie Basin and to identify areas where they may be enabled (such as Farm Base Areas);</li> <li>(c) To enable rural residential subdivision, cluster housing and farm buildings within Farm Base Areas around existing homesteads (where they are outside hazard areas)</li> </ul> | <p>The open character of the site will not be protected due to the size and scale of the solar farm. However, due to the location of the solar farm and its visibility being limited to a small number of public places, the openness and vastness of the Mackenzie Basin when perceived from the surrounding public places will remain largely intact.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <p>Policy 3B1 – Recognition of the Mackenzie Basin's Distinctive Characteristics</p> <p>(8) To recognise that within the Mackenzie Basin's outstanding natural landscape there are:</p> <ul style="list-style-type: none"> <li>(a) Many areas where development beyond pastoral activities is either generally inappropriate or should be avoided;</li> <li>(b) Some areas with greater capacity to absorb different or more intensive use and development, including areas of low or medium visual vulnerability and identified Farm Base Areas;</li> <li>(c) Areas, places and features of particular significance to Ngāi Tahu.</li> </ul> <p>(9) To identify, describe and map as overlays, specific areas within the Mackenzie Basin that assist in the</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <p>The assessment in the Landscape and Visual Assessment (<b>Appendix F</b>) has taken into consideration the outstanding landscape values of the Mackenzie Basin and has assessed the proposed solar farm, which is within an area of high visual vulnerability. However, as discussed in this report, the solar farm in this location is not entirely inappropriate.</p> <p>The site is within an area of high visual vulnerability, therefore by default it would have a low ability to absorb development. However, regarding the solar farm and its location, it will only be seen from a small number of public places. This means the open space values that stem from the vastness of the open plains, as perceived from most of the surrounding public places, will be maintained. However, when seen from the nearby public places, due to its size and scale, the solar farm will be likely to be a prominent feature.</p> |

| Objective/policy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| <p>protection and enhancement of the characteristics and/or values of the outstanding natural landscape contained in Objective 3B(1) being:</p> <ul style="list-style-type: none"> <li>(a) Lakeside Protection Areas, shown on the planning maps;</li> <li>(b) Scenic Viewing Areas, in Appendix J and shown on the planning maps;</li> <li>(c) Scenic Grassland Areas, in Appendix J and shown on the planning maps;</li> <li>(d) Sites of Natural Significance, in Appendix I and shown on the planning maps, and</li> <li>(e) Land above 900m in altitude, shown on the planning maps.</li> </ul> <p>(10) As part of an assessment of the suitability of an area for a change in use for development:</p> <ul style="list-style-type: none"> <li>(a) To identify whether the proposed site has high, medium or low ability to absorb development according to Appendix V (Areas of Landscape Management);</li> <li>(b) To require an assessment of landscape character sensitivity (incorporating natural factors including geomorphology, hydrology, ecology, vegetation cover, cultural patterns, landscape condition and aesthetic factors such as naturalness and remoteness).</li> </ul> | <p>The underlying ecological values of the site will be significantly enhanced. Mackenzie Basin is the fifth sunniest place within Aotearoa New Zealand. These elements provide the context that assists in visually absorbing the proposed solar farm into the receiving environment. In doing so this landscape setting reduces the potential degree of adverse visual effects.</p> <p>It is worthwhile mentioning that by locating the solar farm near a substation, rather than elsewhere in the landscape, it reduces the amount of potential additional infrastructure that may be seen from public places, e.g. additional transmission towers and overhead power lines. It is also noted the site is relatively adjacent to the Ohau canal and can be viewed in association with this element in the landscape. For the above reasons it is considered that this landscape has some capacity to absorb change.</p> |
| <p>Policy 3B2 – To ensure adverse effects, including cumulative effects, on the environment of sporadic development and subdivision are avoided or mitigated by:</p> <ul style="list-style-type: none"> <li>(1) Managing residential and rural residential subdivision and housing development within defined Farm Base Areas (refer to Policy 3B3);</li> <li>(2) Enabling farm buildings within Farm Base Areas and in areas of low visual vulnerability subject to bulk and location standards and elsewhere managing them in respect of location and external appearance, size, separation and avoidance of sensitive environments;</li> <li>(3) Strongly discouraging non-farm buildings elsewhere in the Mackenzie Basin outside of Farm Base areas.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                             | <p>This policy matter is focused on residential and rural residential development and its potential sprawl throughout the district. Therefore, it is not applicable to the proposed solar farm.</p> <p>It is applicable to note that the project will not result in additional domestic activities within the landscape.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <p>Policy 3B8 – To recognise and provide for the use and development of renewable energy generation and transmission infrastructure and operations within the footprint of current operations or on land owned by infrastructure operators as at 1 October 2011 while, as far as practicable, avoiding, remedying or mitigating significant adverse effects on the outstanding natural landscape and features of the Mackenzie Basin.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <p>The proposed 4520 MWp solar farm will provide renewable energy into the National Grid, which is equivalent to powering 100,000 homes. The solar farm is within a property that has a national grid power line extending north to south through its centre, and within close proximity of Ohau C Power Station and is immediately north of Lake Benmore. However, this property was not owned by an infrastructure operator prior to 1 October 2011.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <p>Policy 3B10 – To avoid, remedy or mitigate adverse reverse sensitivity effects of non-farm development and residential activity on rural activities and activities such as power generation, transmission, infrastructure, state highways and the Tekapo Military Training Area.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <p>The proposed solar farm will not result in reverse sensitivity effects on the surrounding environment.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <p>Objective 6 – A level of rural amenity which is consistent with the range of activities anticipated in rural areas, but which does not create unacceptably unpleasant living or working conditions for the District's residents or visitors, nor a significant deterioration of the quality of the general rural and physical environment.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <p>Nationally and internationally, solar farms of this size and scale are commonly located within rural environments and represent an additional type of production activity that features a grid pattern of built form directly associated with electricity infrastructure. However, unlike farming crops which use the land and soil for productive use, the project uses the sky and climate to produce energy, and in this instance the Mackenzie Basin has the fifth highest sunshine hours in Aotearoa New Zealand.</p> <p>Unlike a busy housing development, the solar farm will be a relatively static operation with very few people coming and going from the site. Due to this, the project will not result in a busy environment, rather it will remain relatively 'quiet' similar to that of the current pastoral use of the site. As assessed above, the solar farm will be seen from a small</p>            |

| Objective/policy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | number of public places. When seen, in particular from the McAugtries Road beside the Ohau C Power Station where people fish, the static appearance and quiet nature of the solar farm will not result in reverse sensitivity effects on these people, and the current pleasantness will not be affected to a significant degree.                                                                                                                                                                                                                                 |
| Rural Policy 6D - To encourage and/or control activities to be undertaken in a way which avoids, remedies or mitigates adverse effects on the amenities and physical environment of rural areas.                                                                                                                                                                                                                                                                                                                                                                                                                                                         | The proposed solar farm will be appropriately screened, with extensive setbacks of the panels from the property boundary. These measures aim to avoid, remedy and mitigate adverse effects on amenity and the physical environment.<br>The onsite revegetation and reserve areas will provide areas of enhancement to the physical environment of the area.                                                                                                                                                                                                       |
| Objective 7 - Minimal loss of life, damage to assets and infrastructure, or disruption to the community of the District, from natural hazards.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | There are no natural hazards identified for the site. In any case, the proposed solar farm is designed to withstand seismic events and extreme weather such as rain, wind and snow.                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Section 16 Utilities</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Objective 1 – Utilities whose functioning and operation avoid, remedy, or mitigate adverse effects on their surrounding environment.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | The proposed solar farm is relatively static with very few people coming and going from the site and will therefore not result in a visually busy environment, like a residential development of this size and scale. Due to this, when experienced from the surrounding public places, its operations will not exacerbate the adverse visual effects.                                                                                                                                                                                                            |
| Policy 1 – To avoid, remedy or mitigate adverse environmental effects created by the operation of utilities through the application of performance standards to separate incompatible activities, maintain visual amenities, safety, and the quality of the environment.                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Section 19 Ecosystems and Indigenous Biodiversity<sup>27</sup></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Objective – Land use and development activities are managed to:<br><br>(a) Protect areas of significant indigenous vegetation and significant habitats of indigenous fauna;<br><br>(b) Outside areas of significant indigenous vegetation and significant habitats of indigenous fauna, ensure the maintenance and enhancement of indigenous biodiversity, and<br><br>(c) Despite (a) and (b), recognise and provide for the national significance of the Waitaki Power Scheme and the National Grid when managing effects on indigenous biodiversity arising from the development, operation, maintenance, refurbishment or upgrade of those utilities. | No significant indigenous vegetation will be lost as a result of this project. All proposed works and structures will be appropriately setback from areas of significant ecological value.<br><br>In addition to this, the project will enhance indigenous vegetation on site by planting an area of approximately 80 ha. This will contribute to the permanent habitat creation for 'Threatened' and 'At Risk' plants and fauna and provide a significant increase in the extent of indigenous vegetation on site.                                               |
| Policy 3 – Outside areas of significant indigenous vegetation and significant habitats of indigenous biodiversity is maintained or enhanced by:<br><br>(a) Avoiding adverse effects on indigenous vegetation and habitats of indigenous fauna as far as practicable;<br><br>(b) Remedying any adverse effects that cannot be avoided; then<br><br>(c) Mitigating any adverse effects that cannot be remedied; then<br><br>(d) Offsetting any significant residual adverse effects in accordance with Policy 4.                                                                                                                                           | Adverse effects on indigenous vegetation and habitats of indigenous fauna are appropriately avoided and remedied by the following: <ul style="list-style-type: none"><li>• Ensuring no works are undertaken in areas identified as having high ecological value;</li><li>• Undertaking lizard surveys prior to undertaking works on the site to identify and relocate (if needed) any protected species; and</li><li>• Planting approximately 80 ha of native vegetation, providing significant ecological benefits as discussed in <b>Section 6.2</b>.</li></ul> |
| Policy 8 – To recognise and provide for activities, including voluntary initiatives, that contribute towards the protection, maintenance or enhancement of indigenous biodiversity.                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | The project involves planting approximately 80 ha of native vegetation. This will provide significant enhancement of indigenous biodiversity values on site, which will provide important habitat for 'Threatened' and 'At Risk' species. In addition to this, the project will provide nationally important information regarding the management of dryland ecosystems and will help address a critical dryland ecosystem knowledge gap that currently exists in New Zealand.                                                                                    |

<sup>27</sup> Section 19 was incorporated into the MDP following public notification of Plan Change 18. Plan Change 18 is still subject to appeal.

## 7.7 Canterbury Regional Policy Statement

An assessment against the relevant provisions of the Canterbury Regional Policy Statement is provided in Table 17 below.

Table 17. Canterbury Regional Policy Statement objective and policy assessment.

| Section 5 – Land Use and Infrastructure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| Objective / Policy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <p>Objective 5.2.1 – Development is located and designed so that it functions in a way that:</p> <ul style="list-style-type: none"> <li>(2) Enables people and communities, including future generations, to provide for their social, economic and cultural well-being and health and safety; and which: <ul style="list-style-type: none"> <li>(a) Maintains and where appropriate, enhances the overall quality of the natural environment of the Canterbury region, including its coastal environment, outstanding natural features and landscapes, and natural values;</li> <li>(b) Provides sufficient housing choice to meet the region's housing needs;</li> <li>(c) Encourage sustainable economic by enabling business activities in appropriate locations;</li> <li>(d) Minimises energy use and /or improves energy efficiency;</li> <li>(e) Enables rural activities that support the rural environment including primary production;</li> <li>(f) Is compatible with, and will result in the continued safe, efficient and effective use of regionally significant infrastructure;</li> <li>(g) Avoids adverse effects on significant natural and physical resources including regionally significant infrastructure, and where avoidance is impractical, remedies or mitigates those effects on those resources and infrastructure;</li> <li>(h) Facilitates the establishment of papakāinga and marae; and</li> <li>(i) Avoids conflict between incompatible activities.</li> </ul> </li> </ul> | <p>The project will provide renewable electricity to the National Grid – and in doing so, will enable people and communities, including future generations, to provide for their social, economic and cultural well-being and health and safety. Furthermore, the project will maintain and, where practical, enhance the quality of the natural environment.</p> <p>The project is located on rural land outside urban areas, supporting sustainable growth by diversifying rural production (replacing dairy with solar and grazing – refer to <b>Section 3.2</b> and <b>Appendix P</b>). It enhances social and economic well-being via the provision of renewable energy (see <b>Section 2.3</b>) and jobs (see <b>Section 6.12</b>).</p> <p>Natural resources are improved (i.e., reduced nitrogen from the cessation of dairy – see <b>Section 6.10</b>). Amenity is maintained with low visual effects anticipated (see <b>Appendix F</b>) and no noise beyond construction (see <b>Appendix H</b>).</p> <p>Ngāi Tahu values are protected through consultation (see <b>Appendix Q</b>).</p> <p>The Ecological Assessment (<b>Appendix G</b>) emphasises net biodiversity gain through tailored management, avoiding high-value habitats (e.g., Stonefield drylands), and the implementation of the EEP which will enable the restoration of indigenous-dominant outwash plains for long-term ecosystem improvement.</p> <p>The project has an operational and functional requirement to be located in the rural zone. It will not cause reverse sensitivity effects, instead it is complementary to the agricultural activities and hydro scheme infrastructure already in place.</p> |
| <p>Objective 5.2.2 – Development is located and designed so that it functions in a way that:</p> <ul style="list-style-type: none"> <li>(1) Achieves consolidated, well designed and sustainable growth in and around existing urban areas as the primary focus for accommodating the region's growth; and</li> <li>(2) Enables people and communities, including future generations, to provide for their social, economic and cultural well-being and health and safety; and which: <ul style="list-style-type: none"> <li>(a) Maintains, and where appropriate, enhances the overall quality of the natural environment of the Canterbury region, including its coastal environment, outstanding natural features and landscapes, and natural values;</li> <li>(b) Provides sufficient housing choice to meet the region's housing needs;</li> <li>(c) Encourages sustainable economic by enabling business activities to appropriate locations;</li> <li>(d) Minimises energy use and/or improves energy efficiency;</li> <li>(e) Enables rural activities that support the rural environment including primary production;</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                          | <p>The project integrates with regionally significant infrastructure by connecting to Transpower's National Grid via a GIP, enhancing electricity transmission reliability without adverse effects.</p> <p>Locational constraints are addressed by siting near existing transmission lines, avoiding constraints on other infrastructure (see <b>Section 3.1</b>).</p> <p>Maintenance and operation are enabled with low-impact design (e.g., pile-driven panels minimize disruption; <b>Section 4.4</b>). This supports social/economic well-being through 330 jobs and renewable energy (see <b>Section 6.12</b>), aligning with the objective's focus on coordinated land use.</p> <p>The Ecological Assessment (<b>Appendix G</b>) confirms no significant ecological constraints, with effects managed to low levels through avoidance of high-value habitats like sweet briar-matagouri shrubland.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

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| <ul style="list-style-type: none"> <li>(f) Is compatible with, and will result in the continued safe, efficient and effective use of regionally significant infrastructure;</li> <li>(g) Avoids adverse effects on significant natural and physical resources including regionally significant infrastructure, and where avoidance is impracticable, remedies or mitigates those effects on those resources and infrastructure;</li> <li>(h) Facilitates the establishment of papakāinga and marae; and</li> <li>(i) Avoids conflicts between incompatible activities.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <p>Policy 5.2.2 (1) – To recognise the benefits of enabling people and communities to provide for their social, economic and cultural well-being and health and safety and to provide for infrastructure that is regionally significant to the extent that it promotes sustainable management in accordance with the RMA.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <p>The project directly supports the uptake of low-carbon REG and supports the reduction of New Zealand's greenhouse gas emissions. In doing so, the project enables people and communities to provide for their social, economic and cultural well-being, while also providing ecological benefits in the form of native vegetation planting. Overall, the project promotes sustainable management in accordance with the RMA.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <p>Policy 5.2.2 (2) – To achieve patterns and sequencing of land-use with regionally significant infrastructure in the wider region so that:</p> <ul style="list-style-type: none"> <li>(b) Adverse effects resulting from the development or operation of regionally significant infrastructure are avoided, remedied or mitigated as fully as practicable.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <p>Adverse effects from the proposed solar farm are sufficiently avoided, remedied and mitigated as far as practicable.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <p>Policy 5.3.9 – In relation to regionally significant infrastructure (including transport hubs):</p> <ul style="list-style-type: none"> <li>(1) Avoid development which constrains the ability of this infrastructure to be developed and used without time or other operational constraints that may arise from adverse effects relating to reverse sensitivity or safety;</li> <li>(2) Provide for the continuation of existing infrastructure, including its maintenance and operation, without prejudice to any future decision that may be required for the ongoing operation or expansion of that infrastructure; and</li> <li>(3) Provide for the expansion of existing infrastructure and development of new infrastructure, while: <ul style="list-style-type: none"> <li>(a) Recognising the logistical, technical or operational constraints of this infrastructure and any need to locate activities where a natural or physical resource base exists;</li> <li>(b) Avoiding any adverse effects on significant natural and physical resources and cultural values and where this is not practicable, remedying or mitigating them, and appropriately controlling other adverse effects on the environment; and</li> <li>(c) When determining any proposal within a sensitive environment (including any environment the subject of section 6 of the RMA), requiring that alternative sites, routes, methods and design of all components and associated structures are considered so that the proposal satisfies section 5(2)(a) – (c) as fully as is practicable.</li> </ul> </li> </ul> | <p>The project represents significant renewable infrastructure. It is sited near existing Transpower transmission lines in order to minimise constraints on existing infrastructure (refer to <b>Section 3.1</b>). There is no reverse sensitivity effects anticipated, noting it is an isolated site.</p> <p>The development of the solar farm is enabled via a new substation GIP; Transpower has assessed the National Grid and assessed there to be sufficient capacity to enable the connection of The Point Solar Farm.</p> <p>The logistical, technical and operational constraints of this infrastructure are met – such as proximity to the National Grid and the suitability of the GIP. The Ecological Assessment confirms the site has low ecological value (see <b>Appendix G</b>) and the project ensures cultural values protected (see <b>Appendix Q</b>). The project avoids any adverse effects on significant natural and physical resources and cultural values as far as practicable.</p> <p>Effects are short-term (in relation to construction) and are appropriately mitigated through the provision of management plans.</p> |
| <p>Policy 5.3.12 – Maintain and enhance natural and physical resources contributing to Canterbury's overall rural productive economy in areas which are valued for existing or foreseeable future primary production, by:</p> <ul style="list-style-type: none"> <li>(1) Avoiding development, and/or fragmentation which; <ul style="list-style-type: none"> <li>(a) Forecloses the ability to make appropriate use of that land for primary production and/or</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <p>The site has low productive soils (LUC 6-7 - see <b>Section 3.2</b>), and the project enables dual use with sheep grazing under panels, maintaining rural production without foreclosure (see <b>Section 4.3</b>).</p> <p>There is no fragmentation of the site proposed; while subdivision separates areas, access is retained between all lots of land.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |



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| <p>(b) Results in reverse sensitivity effects that limit or precludes primary production.</p> <p>(2) Enabling tourism, employment and recreational development in rural areas, provided that it:</p> <p>(a) Is consistent and compatible with rural character, activities and an open rural environment;</p> <p>(b) Has a direct relationship with or is dependent upon rural activities, rural resources or raw material inputs sourced from within the rural area;</p> <p>(c) Is not likely to result in proliferation of employment (including that associated with industrial activities) that is not linked to activities or raw material inputs sourced from within the rural areas; and</p> <p>(d) Is of a scale that would not compromise the primary focus for accommodating growth in consolidate, well designed and more sustainable development patterns.</p> <p>And</p> <p>(3) Ensuring that rural land use intensification does not contribute to significant cumulative adverse effects on water quality an quantity.</p> | <p>Reverse sensitivity effects are avoided as the site is isolated. The project is not anticipated to impact tourism/recreation, with the Landscape and Visual Assessment noting low visual effects (see <b>Appendix F</b>).</p> <p>The Ecological Assessment (<b>Appendix G</b>) notes benefits from the retirement of intensive farming practices, improving water quality, while the EEP (<b>Appendix P</b>) improves rural resources through biodiversity restoration, supporting sustainable rural growth. The site's LUC Class 6-7 soils indicate low versatility. The shift to low-scale grazing is compatible, with net environmental benefits outweighing minor productivity reduction.</p>                                                                                                             |
| <b>Section 7 – Fresh Water</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <p>Objective 7.2.3 – The overall quality of freshwater in the region is maintained or improved, and the life supporting capacity, ecosystem processes and indigenous species and their associated fresh water ecosystems are safeguarded.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <p>Freshwater quality is maintained and improved by the project, noting the following:</p> <ul style="list-style-type: none"> <li>• There are no operational discharges (stormwater soaks onsite via bunds and soak pits – refer to <b>Appendix K</b>);</li> <li>• Construction discharges are short-term. All earthworks will be undertaken in accordance with best practice guidelines and in accordance with the approved ESCP. Thereby, the potential for sediment runoff into waterbodies is minimised.</li> <li>• The project does not affect any wetlands/hāpua.</li> <li>• The Ecological Assessment (<b>Appendix G</b>) confirms no adverse effects on waterbodies, with implementation of the EEP enhancing riparian zones through native planting / pest control for net ecological gain.</li> </ul>  |
| <p>Policy 7.3.1 – To identify the natural character values of fresh water bodies and their margins in the region and to:</p> <p>(1) Preserve natural character values where there is a high state of natural character;</p> <p>(2) Maintain natural character values where they are modified but highly values; and</p> <p>(3) Improve natural character values where they have been degraded to unacceptable levels;</p> <p>Unless modification of the natural character values of a fresh water body is provided for as part of an integrated solution to water management in a catchment in accordance with Policy 7.3.9, which addresses remedying and mitigating adverse effects on the environment and its natural character values.</p>                                                                                                                                                                                                                                                                                           | <p>The natural character values of waterbodies is maintained, noting the following:</p> <ul style="list-style-type: none"> <li>• There is no stormwater proposed to be diverted into any waterbody (refer to <b>Appendix K</b>). Onsite stormwater management ensures no discharges to the lake, with low run-off risk (no hazardous; reduced from farming), and consistency demonstrated through avoidance (no significant effects) and enhancement.</li> <li>• No modification of any river or lake is proposed;</li> <li>• The Ecological Assessment (<b>Appendix G</b>) concludes that there are no direct freshwater impacts;</li> <li>• The EEP (<b>Appendix P</b>) includes planting of the riparian zone, which will result in the enhancement of natural character values along waterbodies.</li> </ul> |
| <p>Policy 7.3.3 – To promote, and where appropriate require the protection, restoration and improvement of lakes, rivers, wetland and their riparian zones and associated Ngāi Tahu values, and to:</p> <p>(1) Identify and protect areas of significant indigenous vegetation and significant habitats, sites of significant cultural value, wetlands, lakes and</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <p>The project is well setback from site boundaries and all waterways and protects and promotes the enhancement of waterbodies as follows:</p> <ul style="list-style-type: none"> <li>• No works are proposed in riparian zones and no outstanding waterbodies are affected (see <b>Section 3.5</b>);</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |



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| <p>lagoons/ Hapūa,, and other outstanding water bodies; and</p> <p>(2) Require the maintenance and promote the enhancement of indigenous biodiversity, inland basin ecosystems and riparian zones; and</p> <p>(3) Promote, facilitate or undertake pest control.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <ul style="list-style-type: none"> <li>• The EEP (<b>Appendix P</b>) includes extensive riparian planting to enhance ecological values and provide net gain for indigenous plant species.</li> <li>• The project will reduce nitrogen run-off from farming operations and contribute to improve water quality.</li> <li>• There are no anticipated trout/salmon impacts and no required water takes or discharges.</li> </ul>                                                                                                                                                                                                                                                          |
| <p>Policy 7.3.6 – In relation to water quality:</p> <p>(1) To establish and implement minimum water quality standards for surface water and groundwater resources in the region, which are appropriate for each water body considering:</p> <p>(a) The values associated with maintaining life supporting capacity, ecosystem processes and indigenous species including their associated ecosystems, and natural character of the waterbody;</p> <p>(b) Any current and reasonably foreseeable requirements to use the water for individual, marae or community drinking water or stockwater supplies, customary uses or contact recreation;</p> <p>(c) The cultural significance of the fresh waterbody and any conditions or restrictions on the discharge of contaminants that may be necessary or appropriate to protect those values; and</p> <p>(d) Any other current or reasonably foreseeable values or uses; and</p> <p>(2) To manage activities which may affect water quality (including land uses), singularly or cumulatively, to maintain water quality at or above the minimum standards set for that water body; and</p> <p>(3) Where water quality is below the minimum water quality standard set for that water body, to avoid any additional allocation of water for abstraction for that water body and any additional discharges of contaminants to that water body, where any further abstraction or discharges, either singularly or cumulatively, may further adversely affect the water quality in that water body:</p> <p>(a) Until the water quality standards for that water body are met; or</p> <p>(b) Unless the activities are undertaken as part of an integrated solution to water management in that catchment in accordance with Policy 7.3.9, which provides for the redress of water quality within that waterbody within a specified timeframe.</p> | <p>The project will not adversely impact water quality and, taking into account the proposed planting and retirement of the land from dairying, is expected to enhance overall water quality.</p> <p>The Ecological Assessment (<b>Appendix G</b>) notes reduced run-off from the retirement of dairy farming, benefiting ecosystem processes, while EEP (<b>Appendix P</b>) includes measures like revegetation to further safeguard water quality and indigenous species habitats.</p> <p>There are no stormwater discharges to surface waterbodies proposed (all soakage to ground) and no discharge of hazardous substances, noting the site does not contain battery storage.</p> |
| <p>Policy 7.3.7 – To avoid, remedy or mitigate adverse effects of changes in land uses on the quality of fresh water (surface or ground) by:</p> <p>(1) Identifying catchments where water quality may be adversely affected, either singularly or cumulatively, by increases in the application of nutrients to land or other changes in land use; and</p> <p>(2) Controlling changes in land uses to ensure water quality standards are maintained or where water quality is already below the minimum standard for the water body, it is improved to the minimum standard within an appropriate timeframe.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <p>The project improves water quality by changing the land use, and converting the site from dairy to solar – this reduces nutrient runoff associated with farming activities.</p> <p>Furthermore, the retirement of the site as a dairy farm reduces the need for extensive irrigation which places strain on groundwater resources. The Ecological Assessment (<b>Appendix G</b>) demonstrates avoidance on waterbodies through the project design, with the EEP (<b>Appendix P</b>) contributing to improved water quality through extensive riparian planting.</p>                                                                                                                 |

| Section 9 – Ecosystems and Indigenous Biodiversity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| Objective 9.1.1 – Land use and development, and the introduction and spread of animal and plant pests, have contributed to the ongoing loss and degradation of Canterbury's ecosystems and indigenous biodiversity.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | The project aims to deliver ecological benefits in the form of an 80 ha enhancement area, which will support approximately 890,000 native plants. This will include a 40 m wide strip surrounding the entire development footprint, which will be revegetated with shrubs and trees. Overall, this is expected to increase ecological values on the site significantly, which will support Canterbury's ecosystems and indigenous biodiversity.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Objective 9.2.1 – The decline in the quality and quantity of Canterbury's ecosystems and indigenous biodiversity is halted and their life-supporting capacity and mauri is safeguarded.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | In terms of potential adverse effects on ecosystems and indigenous biodiversity, all proposed works will be undertaken in accordance with management plans (including a Lizard Management Plan and Biosecurity Management Plan).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Objective 9.2.2 – Restoration or enhancement of ecosystem functioning and indigenous biodiversity, in appropriate locations, particularly where it can contribute to Canterbury's distinctive natural character and identity and to the social, cultural and environmental and economic well-being of its people and communities.                                                                                                                                                                                                                                                                                                                                                                                                 | <p>The project includes extensive restoration (89 ha of native planting and pest control) which will contribute to indigenous biodiversity. The proposed solar farm will support regional identity.</p> <p>While the solar array will require land disturbance during construction, the project includes mitigation and enhancement measures such as retiring low-value pasture, establishing indigenous groundcover and shrubland plantings, and managing pests and weeds. These measures will improve habitat connectivity, soil stability, and water quality outcomes.</p> <p>The integration of solar infrastructure with restored indigenous vegetation will contribute to the distinctive natural character of the Mackenzie Basin, aligning energy generation with ecological restoration. The project will also support the social, cultural, environmental, and economic well-being of communities by delivering renewable energy while enhancing the resilience of local ecosystems.</p> |
| Objective 9.2.3 – Areas of significant indigenous vegetation and significant habitats of indigenous fauna are identified and their values and ecosystem functions protected.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | The project has been designed to avoid adverse effects on areas of significant indigenous vegetation and habitats of indigenous fauna within the Mackenzie Basin. The Ecological Assessment (Appendix G) has identified that the site is predominantly modified pastoral land with limited ecological value, and that any patches of indigenous vegetation or fauna habitat present can be either avoided through site layout or protected through management measures. The project incorporates an EEP that provides for protection of remnant indigenous vegetation, control of invasive species, and restoration planting to improve habitat quality. By doing so, the proposal ensures that the values and ecosystem functions of significant ecological areas are safeguarded, consistent with the intent of the policy.                                                                                                                                                                      |
| <p>Policy 9.3.1</p> <p>(1) Significance, with respect to ecosystems and indigenous biodiversity will be determined by assessing areas and habitats against the following matters:</p> <p>(a) Representativeness</p> <p>(b) Rarity or distinctive features</p> <p>(c) Diversity and pattern</p> <p>(d) Ecological context</p> <p>The assessment of each matter will be made using the criteria listed in Appendix 3.</p> <p>(2) Areas or habitats are considered to be significant if they meet one or more of the criteria in Appendix 3.</p> <p>(3) Areas identified as significant will be protected to ensure no net loss of indigenous biodiversity or indigenous biodiversity values as a result of land use activities.</p> | <p>The Ecological Assessment (<b>Appendix G</b>) confirms that the site is primarily modified pastoral land with limited indigenous vegetation and fauna habitat.</p> <p>The project has been assessed against Policy 9.3.1 and will be developed in a manner that avoids or protects areas of significant indigenous vegetation and habitats of indigenous fauna, ensuring that no net loss of indigenous biodiversity values occurs. The implementation of the measures set out in the EEP (Appendix P) align with this policy by strengthening the ecological resilience of the Mackenzie Basin environment.</p>                                                                                                                                                                                                                                                                                                                                                                                |
| <p>Policy 9.3.2 – To recognise the following national priorities for protection:</p> <p>(1) Indigenous vegetation in land environments where less than 20% of the original indigenous vegetation cover remains.</p> <p>(2) Areas of indigenous vegetation associated with sand dunes and wetlands.</p>                                                                                                                                                                                                                                                                                                                                                                                                                            | <p>The site is primarily pastoral with little indigenous value. Areas within the site of dryland / shrubland will be avoided by the development footprint.</p> <p>Whilst there are wetlands identified within 100 m of the site, the project avoids any direct impact (refer to the Ecological Assessment in <b>Appendix G</b>). The project avoids adverse effects on remaining fragments of rare ecosystems, and will incorporate measures to</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |



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| <p>(3) Areas of indigenous vegetation located in "originally rare" terrestrial ecosystem types not covered under (1) and (2) above.</p> <p>(4) Habitats of threatened and at risk indigenous species.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <p>ensure no net loss of indigenous biodiversity values or habitats of threatened species – through the provision of the EEP. In doing so, the project is consistent with the policy direction to protect New Zealand's most vulnerable ecosystems and species.</p>                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <p>Policy 9.3.4 – To promote the enhancement and restoration of Canterbury's ecosystems and indigenous biodiversity, in appropriate locations, where this will improve the functioning and long term sustainability of these ecosystems.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <p>The project has been designed to not only avoid adverse effects on areas of ecological significance, but also to provide opportunities for enhancement and restoration of indigenous biodiversity within the Mackenzie Basin. The project includes measures such as retiring degraded pasture from intensive grazing, planting and natural regeneration of indigenous groundcover and shrubland species, and weed and pest control to reduce pressures on remnant habitats. These actions will improve the functioning and resilience of local ecosystems, supporting soil stability, water quality, and habitat connectivity.</p>                                                       |
| <b>Section 10 – Beds of Rivers and Lakes and their Riparian Zones</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <p>Objective 10.2.1 – Enable subdivision, use and development of river and lake beds and their riparian zones while protecting all significant values of those areas, and enhancing those values in appropriate locations.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <p>The project design ensures that all significant riparian values are protected by maintaining setbacks from water bodies, implementing erosion and sediment controls during construction, and preventing contamination of waterways – refer to the Ecological Assessment in <b>Appendix G</b>.</p>                                                                                                                                                                                                                                                                                                                                                                                        |
| <p>Objective 10.2.3 – Protection of the stability, performance and operation of essential structures from activities in river and lake beds and on their banks or margins.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <p>There is no interference with structures (e.g., hydro canal – see <b>Section 3.1</b>). The proposed GIP enhances grid stability (<b>Appendix L</b>). The Ecological Assessment (<b>Appendix G</b>) notes no impacts on structures, with EEP ensuring stability through erosion and sediment control measures.</p>                                                                                                                                                                                                                                                                                                                                                                        |
| <p>Objective 10.2.4 – Maintenance and enhancement of public and Ngāi Tahu access to and along rivers and lakes.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <p>The project will maintain public and Ngāi Tahu access to and along rivers and lakes. No restrictions to public or mana whenua access are proposed (refer <b>Appendix F</b>), and consultation with Ngāi Tahu (<b>Appendix Q</b>) has confirmed that access values are recognised and provided for. The Ecology Assessment (<b>Appendix G</b>) supports that the proposal does not create barriers to access, while the EEP (<b>Appendix P</b>) outlines measures such as indigenous habitat restoration and riparian improvement that will enhance the experience of access without reducing availability.</p>                                                                           |
| <p>Policy 10.3.1 – To provide for activities in river and lake beds and their riparian zones, including the planting and removal of vegetation and the removal of bed material, while:</p> <ol style="list-style-type: none"> <li>(1) Recognising the implications of the activity on the whole catchment;</li> <li>(2) Ensuring that significant bed and riparian zone values are maintained or enhanced; or</li> <li>(3) Avoiding significant adverse effects on the values of those beds and their riparian zones, unless they are necessary for the maintenance, operation, upgrade, and repair of essential structures, or for the prevention of losses from floods, in which case significant adverse effects should be mitigated or remedied.</li> </ol>                                        | <p>The project proposes limited activities within riparian zones (e.g. access crossing), is designed to comply with best practice and avoids adverse effects on significant bed and riparian values (<b>Appendix G</b>), ensures that existing structures remain unaffected (<b>Section 3.1</b>), and maintains public and mana whenua access.</p> <p>The Ecological Assessment (<b>Appendix G</b>) confirms that significant riparian values will not be compromised, while the EEP (<b>Appendix P</b>) provides mitigation through indigenous planting and habitat restoration, further enhancing riparian function, provision of mitigation to ensure long-term ecological outcomes.</p> |
| <p>Policy 10.3.2 – To preserve the natural character of river and lake beds and their margins and protect them from inappropriate subdivision, use and development, and where appropriate to maintain and/or enhance areas of river and lake beds and their margins and riparian zones where:</p> <ol style="list-style-type: none"> <li>(1) They exist in a degraded state and enhancement will achieve long-term improvement in those values;</li> <li>(2) They have ecological values for which protection and / or enhancement will assist in the establishment or re-establishment of indigenous biodiversity or ecosystems, particularly for ecosystems that are threatened or unrepresented in protected areas;</li> <li>(3) They have existing significant trout or salmon habitat;</li> </ol> | <p>The proposal preserves the natural character of river and lake margins by avoiding inappropriate development within riparian zones. The only activities proposed (e.g. a minor access crossing) have been designed to comply with best practice and avoid significant effects on riparian values.</p> <p>Where riparian areas are in a degraded state, the project will actively provide for enhancement and restoration through the EEP (<b>Appendix P</b>).</p>                                                                                                                                                                                                                        |

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| <ul style="list-style-type: none"> <li>(4) Maintenance and/or enhancement will improve or establish connections between habitats and create corridors for indigenous species and trout and salmon and their movement between areas;</li> <li>(5) Riparian zones provide a buffer from activities that may adversely affect bed values;</li> <li>(6) Opportunities exist to create habitat corridors for plants and animals; or</li> <li>(7) Riparian zones provide spawning or other significant habitats for at risk or threatened species, such as inanga or Canterbury mudfish.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <p>Policy 10.3.4 – To manage the use and removal of vegetation and bed material in river beds and their margins to ensure:</p> <ul style="list-style-type: none"> <li>(1) The maintenance of flood-carrying capacity of rivers</li> <li>(2) The protection of essential structures; and</li> <li>(3) Erosion control and prevention.</li> </ul> <p>Provided its management does not adversely affect:</p> <ul style="list-style-type: none"> <li>(a) The instream and other values of the beds including habitat and associated ecosystems; or</li> <li>(b) The stability, performance, operation and maintenance, upgrade and repair of essential structures.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                      | <p>The project involves no removal of vegetation or river/lake material and therefore there is no impact on the flood-carrying capacity of rivers.</p>                                                                                                                                                                                                                                                                                                          |
| <p>Policy 10.3.5 – To promote the maintenance and enhancement of public and Ngāi Tahu access to and along the beds of rivers and lakes, and to ensure that subdivision use and development does not result in inappropriate loss of existing access, subject to:</p> <ul style="list-style-type: none"> <li>(1) Protecting public health and safety, and avoiding conflict between different types of access;</li> <li>(2) Avoiding adverse effects on the values of the beds, or stability of banks;</li> <li>(3) Protecting Ngāi Tahu cultural values and sites of significance from inappropriate public access;</li> <li>(4) Protecting the stability, performance and operation of essential structures in, on, under or over the beds;</li> <li>(5) Ensuring the integrity of flood-protection vegetation is maintained;</li> <li>(6) Avoiding conflicts with the legal rights and lawful activities of owners/operators of infrastructure in, on, under or over the bed; and</li> <li>(7) Engaging with the Walking Access Commission to identify and negotiate issues around public access.</li> </ul> | <p>The project does not impact any existing public access along the Ohau and Twizel Rivers. The site is currently fenced, with public access only available on adjacent land.</p> <p>On that basis, public access will be maintained at all times.</p>                                                                                                                                                                                                          |
| <b>Section 11 – Natural Hazards</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <p>Objective 11.2.1 – New subdivision, use and development of land which increases the risk of natural hazards to people, property and infrastructure is avoided or, where avoidance is not possible, mitigation measures minimises such risks.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <p>The Stormwater Assessment (<b>Appendix K</b>) concludes that runoff during extreme events is not expected to increase as a result of the proposed development. Adverse downstream effects are not foreseen. In addition, the Fire Risk Assessment (<b>Appendix W</b>) sets out measures, which have been adopted in the project, to minimise and mitigate fire risk. On that basis, the project appropriately avoids and mitigates natural hazard risks.</p> |
| <p>Policy 11.3.1 – To avoid new subdivision, use and development (except as provided for in Policy 11.3.4) of land in high hazard areas, unless that subdivision, use or development:</p> <ul style="list-style-type: none"> <li>(1) Is not likely to result in loss of life or serious injuries in the event of a natural hazard occurrence; and</li> <li>(2) Is not likely to suffer significant damage or loss in the event of a natural hazard occurrence; and</li> <li>(3) Is not likely to require new or upgraded hazard mitigation works to mitigate or avoid the natural hazard; and</li> <li>(4) Is not likely to exacerbate the effects of the natural hazard; or</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                        | <p>As identified in the Stormwater Assessment (<b>Appendix K</b>), the site is not identified in a high hazard area and there are no anticipated effects on flooding risk as a result of the project. This is assessed further in the Flooding Assessment in <b>Appendix Z</b>.</p>                                                                                                                                                                             |

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| <p>(5) Outside of greater Christchurch, is proposed to be located in an area zoned or identified in a district plan for urban residential, industrial or commercial use, at the date of notification of the CRPS, in which case the effects of natural hazard must be mitigated.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <p>Policy 11.3.2 – In areas not subject to Policy 11.3.1 that are subject to inundation by a 0.5% AEP flood event; any new subdivision, use and development (excluding critical infrastructure) shall be avoided unless there is no increased risk to life, and the subdivision, use of development:</p> <ol style="list-style-type: none"> <li>(1) Is of a type that is not likely to suffer material damage in an inundation event; or</li> <li>(2) Is ancillary or incidental to the main development; or</li> <li>(3) Meets all the following criteria: <ol style="list-style-type: none"> <li>(a) New buildings have an appropriate floor level above the 0.5% AEP design flood level; and</li> <li>(b) Hazardous substances will not be inundated during a 0.5% AEP flood event;</li> </ol> </li> </ol> <p>Provided that a higher standard of management of inundation hazard events may be adopted where local catchment conditions warrant (as determined by a cost/benefit assessment). When determining areas subject to inundation, climate change projections including sea level rise are to be taken into account.</p> | <p>Refer to the Flooding Assessment (<b>Appendix Z</b>). All infrastructure on the site will be designed to withstand a 0.5% AEP flood event. There is no battery storage proposed on site and therefore no hazardous substances subject to inundation.</p> <p>Furthermore, the Stormwater Assessment notes that the project is not expected to result in an increase in runoff during extreme events (see <b>Appendix K</b>).</p>                                                                                                                                                                                                                                                                                                                                                                            |
| <p>Policy 11.3.5 – For natural hazards and/or areas not addressed by policies 11.3.1, 11.3.2 and 11.3.3 subdivision, use or development of land shall be avoided if the risk from natural hazards is unacceptable. When determining whether risk is unacceptable, the following matters will be considered:</p> <ol style="list-style-type: none"> <li>(1) The likelihood of the natural hazard event; and</li> <li>(2) The potential consequence of the natural hazard event for: people and communities, property and infrastructure and the environment, and the emergency response organisations.</li> </ol> <p>Where there is uncertainty in the likelihood or consequences of a natural hazard event, the local authority shall adopt a precautionary approach. Formal risk management techniques should be used, such as the Risk Management Standard or the Structural Design Standard.</p>                                                                                                                                                                                                                                  | <p>Natural hazard risk for the project is not considered unacceptable, for the following reasons:</p> <ul style="list-style-type: none"> <li>• The Flooding Assessment (<b>Appendix Z</b>) finds that the maximum flood level and flood depth corresponding to a 450y ear ARI RCP8.5 event are 397.2m RL and 0.1m, respectively at the upstream of the site.</li> <li>• The Stormwater Assessment (<b>Appendix K</b>) notes that runoff during extreme events from the operation of the solar farm is not expected to increase and there are no adverse downstream effects anticipated.</li> <li>• The Fire Risk Assessment (<b>Appendix W</b>) finds fire risk to acceptable, subject to a suite of fire risk conditions being implemented – these measures have been proffered by the Applicant.</li> </ul> |
| <b>Section 12 – Landscape</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <p>Objective 12.2.1 – Outstanding natural features and landscapes within the Canterbury region are identified and their values are specifically recognised and protected from inappropriate subdivision, use and development.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <p>The assessment in the Landscape and Visual Assessment (<b>Appendix F</b>) has taken into consideration the outstanding landscape values of the Mackenzie Basin and has assessed the proposed solar farm, which is within an area of high visual vulnerability. However, as discussed in this report, the solar farm in this location is not entirely inappropriate.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <p>Policy 12.3.2 – To ensure management methods in relation to subdivision, use or development, seek to achieve protection of outstanding natural features and landscapes from inappropriate subdivision, use and development.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <p>Policy 12.3.4 – Seek to achieve regional consistency in the identification of outstanding natural features and landscape values by:</p> <ol style="list-style-type: none"> <li>(1) Considering the following assessment matters which address biophysical, sensory and associative values when assessing landscape in the Canterbury region: <ol style="list-style-type: none"> <li>(a) Natural science values</li> <li>(b) Legibility values</li> <li>(c) Aesthetic values</li> <li>(d) Transient values</li> <li>(e) Tāngata whenua values</li> <li>(f) Shared and recognised values</li> <li>(g) Historic values</li> </ol> </li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

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| <p>(2) Requiring methods of landscape management to be developed and considered, having regard to the management methods in adjoining districts or regions, and the extent to which these may, in combination, protect outstanding natural features and landscapes.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Section 15 - Soils</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <p>Objective 15.2.1 – Maintenance and improvement of the quality of Canterbury's soils to safeguard their mauri, their life supporting capacity, their health and their productive capacity.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <p>Soil quality is improved by the project, noting the following:</p> <ul style="list-style-type: none"> <li>• Minimal earthworks are required (see <b>Section 6.4</b>)</li> <li>• The Ecological Assessment (<b>Appendix G</b>) notes the benefits derived from retiring the site from dairy farming and transition to solar farming, in terms of reduction in nutrient runoff and soil disturbance.</li> <li>• There are no hazardous discharges proposed – the panels are fully covered in glass to contain PV material and no batteries are included on the site.</li> <li>• The EEP (<b>Appendix P</b>) includes a comprehensive significant revegetation planting, which will improve soil quality and health.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <p>Policy 15.3.1 – In relation to soil:</p> <p>(1) To ensure that land uses and land management practises avoid significant long-term adverse effects on soil quality, and to remedy or mitigate significant soil, degradation where it has occurred, or is occurring; and</p> <p>(2) To promote land-use practices that maintain and improve soil quality.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <p>The project avoids soil degradation and overall assists with improving soil quality. Piles are pile-driven into the ground, which requires minimal soil disturbance. Existing farm tracks are utilised where possible to reduce the extent of earthworks required.</p> <p>Furthermore, the site will be retired from dairy farming and will be subject to extensive revegetation planting, which will assist with soil quality. There are no discharges of contaminants proposed from the project, noting that panels are fully coated in glass and no batteries are included on site.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Section 16 – Energy</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <p>Objective 16.2.2 – Reliable and resilient generation and supply of energy for the region, and the wider contributions beyond Canterbury, with a particular emphasis on renewable energy, which:</p> <p>(11) Provides for the appropriate use of the region's renewable resources to generate energy;</p> <p>(12) Reduces dependency on fossil fuels;</p> <p>(13) Improves the efficient end-use of energy;</p> <p>(14) Minimises transmission losses;</p> <p>(15) Is diverse in the location, type and scale of renewable energy development;</p> <p>(16) Recognises the locational constraints in the development of renewable electricity generation activities; and</p> <p>(a) Avoids any adverse effects on significant natural and physical resources and cultural values or where this is not practicable, remedies or mitigates; and</p> <p>(b) Appropriately controls other adverse effects on the environment.</p> | <p>The project provides a unique opportunity to generate power during the day, thereby allowing the hydro lakes to store more water during the day to increase capacity at night.</p> <p>Given climate change and more extreme weather events that are expected, there is a higher likelihood of severe drought affecting the performance of hydro lakes. Therefore, the co-location of the proposed solar farm with the hydro power scheme will assist with providing a more resilient power generation network.</p> <p>Adverse effects on significant natural and physical resources and cultural values are appropriately avoided and managed, as discussed in <b>Section 6</b>.</p> <p>The annual generation is equivalent to the average annual load of around 100,000 homes. This generation replaces hydro from the local sources, which allows that water to be used in the evening or morning peaks.</p> <p>The solar farm will use the existing transmission infrastructure, which is designed to be as efficient as possible and is already in place. Due to the capacity of the existing infrastructure, a large scale solar farm is required to justify the connection costs incurred.</p> <p>The diversity of having solar and hydro together allows them to be co-optimised, matching a controllable generation type (hydro) with an intermittent generation (solar).</p> |
| <p>Policy 16.3.3 – To recognise and provide for the local, regional and national benefits when considering proposed or existing renewable energy generation facilities, having particular regard to the following:</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <p>The project directly supports the uptake of low-carbon renewable electricity generation, which contributes to New Zealand achieving net-zero status by 2050. In addition, the project will increase the security of supply at a national level, providing renewable electricity that could</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |



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| <ul style="list-style-type: none"> <li>(1) Maintaining or increasing electricity generation capacity while avoiding, reducing or displacing greenhouse gas emissions;</li> <li>(2) Maintaining or increasing the security of supply at local and regional levels, and also wider contributions beyond Canterbury</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <p>power approximately 100,000 houses and improving the resilience of the National Grid.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <p>Policy 16.3.4 – To encourage a reliable and resilient national electricity transmission network within Canterbury by:</p> <ul style="list-style-type: none"> <li>(1) Having particular regard to the local, regional and national benefits when considering operation, maintenance, upgrade or development of the electricity transmission network;</li> <li>(2) Avoiding subdivision, use and development including urban or semi urban development patterns, which would otherwise limit the ability of the electricity transmission network to be operated, maintained, upgraded and developed;</li> <li>(3) Enabling the operational, maintenance, upgrade, and development of the electricity transmission network provided that, as a result of the route, site and method selection where: <ul style="list-style-type: none"> <li>(a) The adverse effects on significant natural and physical resources or cultural values are avoided, or where this is not practicable, remedied or mitigated; and</li> <li>(b) Other adverse effects on the environment are appropriately controlled.</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <p>The proposal supports the reliability and resilience of the National Grid by contributing renewable generation capacity to Canterbury, delivering local, regional and national benefits.</p> <p>The site is not located in a way that would constrain the ability of the transmission network to operate, be maintained, or upgraded. Connection to the network is planned in a manner that avoids conflict with existing transmission infrastructure. Adverse effects on natural, physical and cultural values have been assessed and are appropriately avoided, remedied, or mitigated, as set out in the Ecological Assessment (<b>Appendix G</b>).</p>                                                                                                                                                                                        |
| <p>Policy 16.3.5 – To recognise and provide for efficient, reliable and resilient electricity generation within Canterbury by:</p> <ul style="list-style-type: none"> <li>(1) Avoiding subdivision, use and development which limits the generation capacity from existing or consented electricity generation infrastructure to be used, upgraded or maintained;</li> <li>(2) Enabling the upgrade of existing, or development of new electricity generation infrastructure, with a particular emphasis on encouraging the operation, maintenance and upgrade of renewable electricity generation activities and associated infrastructure: <ul style="list-style-type: none"> <li>(a) Having particular regard to the locational, functional, operational or technical constraints that result in renewable electricity generation activities being located or designed in the manner proposed;</li> <li>(b) Provided that, as a result of site, design and method selection: <ul style="list-style-type: none"> <li>i. The adverse effects on significant natural and physical resources or cultural values are avoided, or where this is not practicable remedied, mitigated or offset; and</li> <li>ii. Other adverse effect on the environment are appropriately controlled.</li> </ul> </li> </ul> </li> <li>(3) Providing for activities associated with the investigation, identification and assessment of potential sites and energy sources for renewable electricity generation;</li> <li>(4) Maintaining the generation output and enabling the maximum electricity supply benefit to be obtained from the existing electricity generation facilities within Canterbury, where this can be achieved without resulting in additional significant adverse effects on the environment which are not fully offset or compensated.</li> </ul> | <p>The project supports efficient, reliable and resilient electricity generation by introducing new renewable generation capacity in Canterbury. It does not constrain existing or consented generation infrastructure. Instead, it directly enables the development of new renewable infrastructure, aligning with the policy's emphasis on supporting renewable generation.</p> <p>The project responds to functional and locational requirements such as flat topography, solar exposure, and proximity to grid connections. Potential adverse effects on natural, physical, cultural and amenity values are avoided where practicable, or otherwise appropriately mitigated. The project also contributes to identifying and utilising suitable renewable energy sites and maximises generation output without impeding existing facilities.</p> |
| <b>Section 17 – Contaminated Land</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |



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| Objective 17.2.1 – Protection of people and the environment from both on-site and off-site adverse effects of contaminated land.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <p>A review of the Mackenzie District Council's GIS Viewer indicates no HAIL activities on the site.</p> <p>Furthermore, the proposed set of conditions (<b>Appendix J</b>) include the provision of Detailed Site Investigation (DSI) after decommissioning of the infrastructure and the requirement for the site to be remediated at the expiry of consent. This provides for the protection of people and the environment from any adverse effect of contaminated land.</p> |
| <p>Policy 17.3.2 – In relation to actually or potentially contaminated land, where new subdivision, use or development is proposed on that land, or where there is a discharge of contaminant from that land:</p> <ol style="list-style-type: none"> <li>(1) A site investigation is to be undertaken to determine the nature and extent of any contamination; and</li> <li>(2) If it is found that the land is contaminated, except as provided for in Policy 17.3.3, the actual or potential adverse effects of that contamination, or discharges from the contaminated land shall be avoided, remedied or mitigated in a manner that does not lead to further significant adverse effects.</li> </ol>                                                                                                                                                                                                                                             | <p>The site is not considered to be actually or potentially contaminated (refer to <b>Section 3.12</b>). Notwithstanding this however, the proposed conditions (<b>Appendix J</b>) include baseline monitoring requirements, which has provision for soil quality and soil contamination to be recorded prior to works being undertaken.</p>                                                                                                                                    |
| <b>Section 18 – Hazardous Substances</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Objective 18.2.1 – Adverse effects on the environment from the storage, use, disposal and transportation of hazardous substances are avoided, remedied or mitigated.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | The solar farm does not contain any batteries or storage of large quantities of hazardous substances. Panels are fully encapsulated and are inert. There is no discharge of contaminants proposed.                                                                                                                                                                                                                                                                              |
| Objective 18.2.2 – To avoid contamination of land.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <p>There are no batteries proposed as part of the proposed solar farm.</p> <p>As per the proposed consent conditions (<b>Appendix J</b>), baseline monitoring and post-decommissioning remediation is proposed to ensure there is no contamination of land.</p>                                                                                                                                                                                                                 |
| <p>Policy 18.3.1 – Avoid actual or potential adverse effects, resulting from the use, storage or disposal of hazardous substances, in the following locations:</p> <ol style="list-style-type: none"> <li>(1) High hazard areas</li> <li>(2) Within a community drinking water protection zone, or within such a distance from a community drinking water supply that there is a risk of contamination of that drinking water source</li> <li>(3) In areas of unconfined or semi-confined aquifer, where the depth to groundwater is such that there is a risk of contamination of that groundwater</li> <li>(4) Within the coastal marine area and in the bed of lakes and rivers</li> <li>(5) Within any area identified by a district or regional plan as being sensitive to potential effects of hazardous substances, which may include, but are not limited to, areas such as wāhi tapu, unupa, institutions and residential areas.</li> </ol> | There is no storage of hazardous substances proposed within any of these identified areas.                                                                                                                                                                                                                                                                                                                                                                                      |
| Policy 18.3.2 – To avoid, remedy or mitigate adverse effects on the environment, including contamination of land, air and water, associated with the storage, use, transportation or disposal of hazardous substances.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | No storage of hazardous substances are proposed. Baseline groundwater and soil contamination testing is proposed as part of the proposed conditions ( <b>Appendix J</b> ), including site remediation post-decommissioning.                                                                                                                                                                                                                                                     |

## 7.8 Canterbury Land and Water Regional Plan

An assessment against the relevant provisions of the CLWRP is provided in **Table 18** below.

**Table 18. Canterbury Land and Water Regional Plan objective and policy assessment.**

| Objective / Policy                                                                                                                                                                      | Comment                                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Objective 3.1 – Land and water are managed as integrated natural resources to recognise and enable Ngāi Tahu culture, traditions, customary uses and relationships with land and water. | The project manages land and water resources in an integrated manner that provides opportunities for iwi to exercise their kaitiakitanga. |

|                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                            |
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| Objective 3.3 – Naturally and regionally significant infrastructure is enabled and is resilient and positively contributes to economic, cultural and social wellbeing through its efficient and effective operation, on-going maintenance, repair, development and upgradings.                                                                                                                                                          | The project supports the uptake of low-carbon REG and supports the reduction of New Zealand's greenhouse gas emissions, thereby providing for economic, cultural and social wellbeing.                                                                                                                                                                     |
| Objective 3.5 – Land uses continue to develop and change in response to socio-economic and community demand.                                                                                                                                                                                                                                                                                                                            | The project constitutes a shift from dairy farming to solar farming which is a response to New Zealand's need to reduce greenhouse gas emissions and uptake low-carbon REG.                                                                                                                                                                                |
| Objective 3.23 - Soils are healthy and productive, and human-induced erosion and contamination are minimised.                                                                                                                                                                                                                                                                                                                           | The carbon status of the soils will be maintained, and the solar panels can be easily removed and the site reinstated to full grazing on the completion of solar use. Earthworks will be undertaken in accordance with best practice guidelines to ensure erosion is minimised.                                                                            |
| Objective 3.24 – All activities operate at good environmental practice or better to optimise efficient resource use and protect the region's fresh water resources from quality and quantity degradation.                                                                                                                                                                                                                               | The project will be constructed and operated in accordance with best practice environment practices and in accordance with robust consent conditions (see <b>Appendix J</b> ).                                                                                                                                                                             |
| Policy 4.17 – Stormwater run-off volumes and peak flows are managed so that they do not cause or exacerbate the risk of inundation, erosion or damage to property or infrastructure downstream or risks to human safety.                                                                                                                                                                                                                | Stormwater effects are assessed in <b>Section 4.5.4</b> and <b>Section 4.6.3</b> ; overall stormwater effects are considered to be less than minor and will be appropriately managed through the design of the solar farm and stormwater management proposed to not exacerbate the risk of inundation or erosion to property or infrastructure downstream. |
| Policy 4.18 – The loss or discharge of sediment or sediment-laden water and other contaminants to surface water from earthworks, including roading, works in the bed of a river or lake, land development or construction, is avoided, and if this is not achievable, the best practicable option is used to minimise the loss or discharge to water.                                                                                   | The proposed earthworks will be undertaken in accordance with best practice guidelines to minimise the discharge of sediments or sediment-laden water and other contaminants to surface water.                                                                                                                                                             |
| Policy 4.22 – Sedimentation of water bodies as a result of land clearance, earthworks and cultivation is avoided or minimised by the adoption of control methods and technologies, such as maintaining continuous vegetation cover adjacent to water bodies, or capturing surface run-off to remove sediment and other contaminants or by methods such as direct drilling crops and cultivation that follows the contours of a paddock. |                                                                                                                                                                                                                                                                                                                                                            |

## 7.9 Other Matters

### 7.9.1 Climate Change Response (Zero Carbon) Amendment Act 2019

The Climate Change Response (Zero Carbon) Amendment Act 2019 provides a framework for the development and implementation of climate change policies to address climate change in New Zealand and contribute to the global effort under the Paris Agreement to limit the global average temperature increase to 1.5 Celsius above pre-industrial levels. The amendments set a new domestic greenhouse gas emissions reduction target for New Zealand, including reducing net emissions of all greenhouse gases (except biogenic methane) to zero by 2050.

The proposed solar farm will generate renewable electricity for the Canterbury region, which decreases reliance of the National Grid on fossil fuel sources of electricity, and directly supports the goal of net zero emissions from greenhouse gases by 2050.

## 7.10 Iwi Management Plans

### 7.10.1 Waitaki Iwi Management Plan 2019

The Waitaki Iwi Management Plan 2019 sets forward the aspirations for Te Rūnanga o Arowhenua, Te Rūnanga o Waihao and Te Rūnanga o Moeraki (Kā Papatipu Rūnaka). It constitutes their expression of rakatirataka in fulfilment of their kaitiaki responsibilities in the Waitaki Catchment.

Of relevance to this project, the plan outlines the following strategic objectives:

- Manawhenua have a co-governance and co-management role over the Aoraki; and
- Wāhi tūpuna are protected and the relationship Manawhenua have with these landscapes is enhanced.

The project will provide opportunities for Manawhenua to be actively involved throughout the project lifecycle. In addition, the mitigation measures put forward (see **Section 6**) and the ecological enhancement proposed will ensure the landscape values of the surrounding area is protected.

Overall, the project is consistent with the strategic objectives identified in this plan.

#### **7.10.2 Iwi Management Plan of Kati Huirapa 1992**

The Iwi Management Plan of Kati Huirapa sets forward a number of key aspirations / objectives for their rohe.

Of relevance to this application are the following aspirations:

- The Crown and other agents with authority delegated by the Crown, consult with Takata Whenua on all matters Māori as set out in the Resource Management Act;
- Breeding areas for fish, birds, all species in waterways remain undisturbed;
- Corridors of undisturbed vegetation be maintained along all rivers, and between rivers and forests, any areas of indigenous flora and habitats of indigenous fauna to maintain the seasonal migration and movement of birds, all creatures;
- The protection and restoration of natural habitats be encouraged; and
- The planting of flax and other native species which are a source of traditional materials be encouraged.

The project will provide opportunities for kaitiakitanga over the lifecycle of the project; will increase the biodiversity value of the site by the proposed ecological enhancement area and will provide important habitat for birds and other species. There will be no discharge of contaminants or stormwater to any adjacent waterbody. The project is overall consistent with the aspirations expressed in the document.

#### **7.10.3 Ngāi Tahu Resource Management Strategy for the Canterbury Region 2014**

This document outlines the key issues and aspirations for Ngāi Tahu in the Canterbury region with regards to natural resource management. Of relevance to this project are the following policies:

- That Ngāi Tahu retain the right to be involved in and contribute to, the resource allocation and management decisions which impact on Tribal resources; and
- That the Canterbury Regional Council should encourage landowners or occupiers to plant vegetation on riparian strips to prevent contaminated run-off into any wetland, waterway or lake.

The project involves extensive planting that will provide important habitat for At-Risk and Threatened species. The project will result in a transition away from intensive dairy farming to an activity that will result in no discharge to any waterbody / wetland. There will be no impact on waterways as a result of the proposed works. As noted above, mana whenua will be provided opportunities for engagement throughout the entire lifecycle of the project.

## 8 Consultation

### 8.1 Overview

The Applicant had a pre-application meeting with Mackenzie District Council on 1 July 2022 to outline the project and seek guidance from Council regarding likely consent requirements. Further details on consultation undertaken to date are provided in the sections below.

### 8.2 Identification of Likely Affected Persons and Groups

In accordance with section 13(4)(j) of the FTA, an Applicant must list of persons and groups considered likely to be affected by the project.

For the purposes of this assessment, the following groups / persons are noted as potentially affected by the project:

- All submitters on the now-withdrawn resource consent applications under Mackenzie District Council and Canterbury Regional Council (Mackenzie District Council consent ref. RM230057 and Canterbury Regional Council consent ref. CRC240932-933) – for a full list of all submitters, refer to **Appendix U**;
- DoC;
- FENZ;
- Transpower;
- Owners and occupiers adjacent to the site; and
- Mana whenua.

### 8.3 Mana Whenua

Engagement with iwi and Rūnaka groups took place over a 10-month period from February to November 2023. This engagement included a total of 64 individual interactions with Mana Whenua groups and their agencies and consisted of emails, phone calls, online hui and site visits. An itemised log of all engagement activity and the Iwi, Rūnaka and Mana Whenua groups involved can be found in **Appendix Q**.

Following a hui with Ngāi Tahu Group Head, Strategy & Environment in May 2023, the Applicant was directed to undertake all further engagement with the local Rūnaka and was introduced to each party by Ngāi Tahu. In-person and online engagement then took place with Te Rūnanga o Arowhenua and Te Rūnanga o Waihao who instructed the Applicant to formally engage via respective consultancies who represented their interests. Te Rūnanga o Moeraki did not respond to requests for engagement.

Separate Consultant Agreements were accordingly signed between the Applicant and Aoraki Environmental Consultancy Limited (AECL) on behalf of Te Rūnanga o Arowhenua on 1 June 2023 and between the Applicant and consultancy Aukaha, acting on behalf of Te Rūnanga o Waihao, on 13 June 2023. All site plans, technical reports and the draft Assessment of Environmental Effects (for resource consent applications subsequently lodged under the RMA) were provided. The scope of works for both consultancies included:

- Liaising with each of the Rūnaka whose takiwā includes the application site. The application would be summarised (including an assessment of cultural values) and sent to representatives at the Rūnaka who have the mandate to reply. Once a reply from all Rūnaka was received, a letter would be sent with their response.
- Frequent engagement between the Applicant, Aukaha and AECL, including at times delegates from Waihao and Arowhenua, took place over the next three months. These included email, phone, online hui as well as a visit to the application site.

In a letter dated 12 September 2023, and with an accompanying memo, AECL communicated that they and Te Rūnanga o Arowhenua were unable to support the Applicant's project. In a letter dated 14 September 2023, Te Rūnanga o Waihao wrote to advise that they fully supported the position and reasoning reached by Te Rūnanga o Arowhenua.

The Applicant wrote to both Rūnaka to thank them for their consideration and introduced Mr Dee Isaacs (Te Aupōuri, Ngāti Tūwharetoa and Te Ātihaunui a Pāpārangi Taumarunui), an experienced RMA planner and Māori engagement and local government consultant. Mr Isaacs holds a graduate diploma in te reo Māori translation and interpretation, as well as bachelor and master degrees in law.

Under the guidance of Mr Isaacs, the Applicant requested a hui to discuss the respective Rūnaka decisions and concerns with the project. At this subsequent hui on 7 November 2023, representatives from AECL and Aukaha emphatically stated they did not wish to have any further kōrero with the Applicant or discuss any matters relating to the project.

Following the commencement of the FTA, the Applicant withdrew the resource consent applications lodged under the RMA which had been the subject of consultation with Iwi. The subject matter of those applications is now contained in this Substantive Application under the FTA.

A full description of how engagement and consultation with the Rūnaka informed the Applicant's project previously captured in the resource consent applications under the RMA and now incorporated in the Substantive Application under the FTA is provided in (see the Mana Whenua Consultation information in **Appendix Q**).

### 8.3.1 Response to Iwi Feedback

A summary of iwi engagement is attached in **Appendix Q**. A description of how feedback from iwi was incorporated into the project design is outlined below.

- The EEP names mana whenua as stakeholders and the Applicant will seek further input from them during its further development as an ongoing workstream post grant of consent, as well as in implementation, thus ensuring iwi Māori perspectives are provided for and integrated into the project.
- In response to Kā Rūnaka kōrero throughout the engagement process, the importance of the surrounding ecology to mana whenua, not just on the site itself, was made clear to the Applicant. As a result, pest control efforts are now intended to be expanded beyond the site to encompass the river and delta areas adjacent to the site for the benefit of indigenous ecology. This is expected to provide substantial benefit for avifauna in these areas and aligns with existing Papatipu Rūnanga activity in pest control initiatives, often in collaboration with government agencies and local communities, in other locations throughout the South Island.
- Combined, the activity described above has been assessed by the EEP as providing a net ecological gain for the area and is in line with Ngāi Tahu's principles of guardianship and stewardship.
- In recognition of Kā Rūnaka kōrero about the taonga status of the Black Kakī, the Applicant has agreed to work with DoC to explore opportunities to support its Kakī Recovery Programme, an initiative also supported by Ngāi Tahu.
- The importance of the awa which run adjacent to the site to Kā Rūnaka has ensured the Applicant has expressly investigated if the development would have an adverse effect on water quality. The Stormwater Assessment confirms no negative impact on watercourses near the site which aligns with Ngāi Tahu's Te Mana o Te Wai framework. The report confirms there will be no adverse impact on natural water bodies addressing another aspect of cultural concern.
- The proposed development will reduce faecal contaminants from the site as cattle grazing is to be replaced with sheep grazing.

## 8.4 Relevant Local Authorities

### 8.4.1 Canterbury Regional Council

The Applicant lodged a resource consent application with Canterbury Regional Council in October 2023. A site visit with council staff was held on 2 February 2024. The Applicant provided further information on the application via a section 92 RMA response.

Following this, the Applicant had circulated a draft copy of the Fast Track Application to Canterbury Regional Council for review and comment. Their comments are included in **Appendix V**.

#### 8.4.2 Mackenzie District Council

Engagement took place with Mackenzie District Council through the resource consent process, starting when the application was lodged in July 2023. Following lodgement, the Applicant engaged with Mackenzie District Council through the provision of section 92 RMA responses and a site visit with council staff on 2 February 2024.

Following this, the Applicant had circulated a draft copy of the Fast Track Application to Mackenzie District Council for review and comment. Their comments are included in **Appendix V**.

#### 8.5 Department of Conservation

Engagement with DoC began in March 2023 and has, at the time of writing, totalled more than 65 separate interactions including emails, phone calls, online meetings, in-person meetings at DoC offices in both Twizel and Christchurch, as well as several site visits to the application site with specialist DoC staff. A summary of engagement with DoC is provided in **Appendix X**.

Engagement and consultation with DoC remains active and ongoing and good working relationships have been formed with key members of the DoC team. All technical documents related to the AEE have been shared with DoC, including the Landscape and Visual Impact Assessment report and EEP.

DoC has had a significant impact on the philosophical and practical development of the EEP to the extent that it now directly incorporates DoC recommendations. Consultation has resulted in the following being accommodated within the development of the solar farm and the EEP:

- Visual screening and restoration around the entire circumference of the application site has changed to the adoption of an adaptive management approach around selected areas of the 80 ha restoration area in line with DoC's preference, as well as responding to DoC's desire to prioritise avifauna support.
- Support of DoC's Mackenzie Basin Kākī Recovery Programme agreed in principle as mitigation for any potential avifauna impact.
- Expansion of pest control regime to the river and delta areas immediately adjacent to both sides of the application site to support avifauna. Design and implementation of the pest control regime is to be carried out by DoC.
- Creation of an invertebrate reserve inside the boundary of the application site is to be funded by the Applicant and managed by DoC.

Engagement has also occurred in relation to access to the application site which crosses the Bendrose Stream managed by DoC and LINZ. The Applicant has a current concession application file (Reference 118964-OTH) (refer to the application in **Appendix E**).

#### 8.6 NZ Transport Agency Waka Kotahi

The Applicant consulted with the NZ Transport Agency Waka Kotahi (Waka Kotahi) on the previous resource consent applications.

Waka Kotahi made the following comments regarding the project:

- The existing access is suitable but a new permit from Waka Kotahi will be required for the operation of the solar farm;
- A Construction Traffic Management Plan will be required for certification for the construction-phase of the project.

The Applicant proffers consent conditions to address these matters (refer to the proposed conditions in **Appendix J**).

Waka Kotahi also raised concerns relating to potential glint and glare effects, which were resolved when further information from the glint and glare specialist was provided.

## 8.7 Fire and Emergency New Zealand

FENZ was consulted with during the design-phase of the project. FENZ had input into the tree species selected for screening, ensuring low-flammability species were chosen.

Furthermore, the Applicant has worked closely with FENZ on other solar farm projects throughout New Zealand and are cognisant of the design considerations that need to be taken into account from their perspective.

FENZ noted their interest in the following matters:

- Ensuring there was onsite and dedicated firefighting water provided;
- Ensuring access to the site provided for FENZ appliances;
- Ensuring landscaping utilised low-flammability species and incorporated fire breaks;
- Implementation of an Emergency Response Plan.

These considerations have been incorporated into the final design of the proposed solar farm. Furthermore, the Applicant has proffered a suite of fire-risk management conditions which goes beyond the comments raised from FENZ on this project (refer to the proposed conditions in **Appendix J**).

A Fire Risk Assessment has been carried out for the project (**Appendix W**). The report evaluates the principles and conclusions reached in a specialised BECA Ltd Fire Risk Assessment prepared for the Applicant in relation to a proposed solar farm in Greytown, Wairarapa, and then demonstrates how these have been applied to the proposed solar farm development.

## 8.8 Transpower

Transpower has been consulted throughout the project, both as an affected party and a partner in the GIP works.

Transpower's comments on the project were as follows:

- A lease and subdivision consent are required to ensure Transpower has access to the new switchyard;
- Ensure proposed structures adhere to NZECP setback distances from under National Grid transmission lines and support structures;
- Ensure vegetation is maintained to provide for the necessary clearance under National Grid transmission lines;
- Implement a Construction Management Plan at the start of the project;
- Agreement that Transpower will be responsible for obtaining consents triggered under the NESETA; and
- The Applicant to undertake an Earth Potential Rise Study.

The Applicant has incorporated these matters into the project design, as well as proffering relevant consent conditions (refer to **Appendix J**) which address these matters.

Transpower has had the opportunity to review this application and comment on proposed conditions.

## 9 Conclusion

This report has been prepared on behalf of the Applicant to accompany a Substantive Application to the EPA to authorise the construction and operation, and grid connection of a 450 MWp photovoltaic solar farm at Section 3 SO 384036 located in the Mackenzie Basin.

The project requires resource consent under the rules of the MDP and CLWRP as a **discretionary activity**. The project also requires a concession for the Applicant.

The report draws the following conclusions:

- The project has the potential to give rise to landscape and visual amenity effects. Consistent with the mitigation hierarchy, where effects on landscape values cannot be avoided, they have been appropriately remedied and mitigated.
- The actual and potential effects of the project include significant positive effects in relation to the provision of REG for the Mackenzie District as well as the enhancement of ecological values on site.
- The project is considered consistent with the purpose of the FTA and Part 2 of the RMA;
- The project is consistent with the objectives and policies of the MDP, CLWRP, Canterbury Regional Policy Statement and NPS-REG; and
- The application complies with section 46(2)(a), (b) and (d) of the FTA and is therefore complete and within scope for consideration under the FTA.

The project will be undertaken in accordance with robust mitigation measures to ensure adverse effects on the receiving environment are appropriately mitigated.

## **Appendix A. Record of Title and Table of Owners / Occupiers of Land Adjacent to the Site**

## Appendix B. Section 30 Notices

## Appendix C. Confirmation of Resource Consent Withdrawal

## Appendix D. Transpower Lease Documentation

## Appendix E. Concession Application

## Appendix F. Landscape and Visual Assessment and Addendum and Visual Simulations

## Appendix G. Ecological Assessment

## Appendix H. Site Layout Plan and Drawings

## Appendix I. Solution Study Report

## Appendix J. Proposed Conditions

## Appendix K. Stormwater Assessment (Solar Farm)

## Appendix L. GIP Civil Design Plans

## Appendix M. GIP Flood Assessment

## Appendix N. Subdivision Scheme Plan

## Appendix O. Concession Application and Transpower Letter

## Appendix P. Ecological Enhancement Plan

## Appendix Q. Mana Whenua Consultation

## Appendix R. Acoustic Memo

## Appendix S. Glint and Glare Study

## Appendix T. Bird Strike Memo

## Appendix U. List of Submitters

## Appendix V. Council Comments

## Appendix W. Fire Risk Assessment

## Appendix X. Department of Conservation Engagement

## Appendix Y. Dust Management Plan

## Appendix Z. Flood Assessment