Response ID ANON-URZ4-5FJ1-B

Submitted to Fast-track approval applications
Submitted on 2024-05-01 14:47:43

Submitter details

Is this application for section 2a or 2b?

2A

1 Submitter name

Individual or organisation name:
Harmony Energy NZ #5 Limited

2 Contact person

Contact person name:
Pete Grogan

3 What is your job title

Job title:
Company Director

4 What is your contact email address?

Email:
s 9(2)(a)

5 What is your phone number?

Phone number:
s 9(2)(a)

6 What is your postal address?

Postal address:

Harmony Energy New Zealand
Level 10 The Shortland Centre
55 Shortland Street
Auckland 1010

7 Is your address for service different from your postal address?

No

Organisation:

Contact person:

Phone number:

Email address:

Job title:

Please enter your service address:

Section 1: Project location

Site address or location

Add the address or describe the location:

The project is located over the following legal parcels:
• Lot 1 Deposited Plan 69251 comprised in Record of Title WN37C/375, owned by Studleigh Farms Limited
• Lot 2 Deposited Plan 10074 comprised in Record of Title WN37C/376, owned by Studleigh Farms Limited

• Section 2 Deposited Plan 236 comprised in Record of Title WN106/118, owned by Hiwinui Agricultural Limited
• Lot 3 Deposited Plan 551427 comprised in Record of Title 952753, owned by Hiwinui Agricultural Limited
• Section 66 Sbdn O Manchester Block DIST comprised in Record of Title 952753, owned by Hiwinui Agricultural Limited
• Section 1 and Section 14 Sbdn O Manchester Block and Defined on Deposited Plan 236 comprised in Record of Title WN31/16, owned by Hiwinui Agricultural Limited
• Section 64 Sbdn C Manchester DIST comprised in Record of Title WN51/121, owned by Jarrett Farms Limited
• Section 74 Sbdn C Manchester DIST comprised in Record of Title WNA2/1325, owned by Jarrett Farms Limited
• Section 75 Sbdn C Manchester DIST comprised in Record of Title WN600/196, owned by Jarrett Farms Limited
• Lot 2 Deposited Plan 47513 comprised in Record of Title WN14C/382, owned by Jarrett Farms Limited
• Lot 2 Deposited Plan 591066 comprised in Record of Title 1133010, owned by Keith Richard Wedlock and Stephen Colin Dalley
• Lot 3 Deposited Plan 591066 comprised in Record of Title 1133011, owned by Keith Richard Wedlock and Stephen Colin Dalley

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Do you have a current copy of the relevant Record(s) of Title?

Yes

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Records of Title.pdf was uploaded

Who are the registered legal land owner(s)?

Please write your answer here:

Respectively, the landowners are:
• Studleigh Farm Limited
• Hiwinui Agricultural Limited
• Jarrett Farms Limited
• Stephen Colin Dalley
• Keith Richard Wedlock

Detail the nature of the applicant's legal interest (if any) in the land on which the project will occur

Please write your answer here:

The Applicant has binding agreements with the landowners (as noted in caveats to the titles) that provide the Applicant with an option to acquire a 35 -year registered easement over the relevant land. The terms of the easement contain all of the land rights needed to construct and operate the project for 35 years.

The Applicant already has exemption for the binding agreements from the Overseas Investment Office (OIO) "farmland advertising" requirements of the Overseas Investment Act. Additional OIO approval is required before the Application can exercise the option under those agreements. This requirement, and the Applicant's confidence in obtaining all necessary OIO approvals, are further described in Section 2 of this application.

Section 2: Project details

What is the project name?

Please write your answer here:
Bunnythorpe Solar Farm

What is the project summary?

Please write your answer here:

The construction, operation and maintenance of a solar farm, with an installed capacity of up to 400MW DC located in Bunnythorpe, New Zealand. The solar farm will incorporate battery energy storage systems and will provide electricity to the national grid via Transpower's Bunnythorpe substation.

What are the project details?

Please write your answer here:

The proposal is to construct, operate and maintain a solar farm with an installed capacity of approximately 400MW DC in Bunnythorpe, New Zealand, for the purpose of providing electricity to the national grid, via the Bunnythorpe Substation, located to the east of Redmayne Street.

The solar farm will include the necessary infrastructure to facilitate the efficient generation, storage, and distribution of power. The exact infrastructure (specifications, numbers of components etc.) will be confirmed as part of the detailed design, however, the following provides an approximate list.

• The installation of approximately 660,000 solar panels with an installed capacity of approximately 400MW DC. The panels will be mounted on arrays, being a mixture of consecutive full-length arrays (~40m long) and half-length arrays (~20m long). The arrays are supported by mounting structures that are pile driven into the ground. The arrays will be spaced to optimise production. The exact spacing will be confirmed as part of the detailed design but is typically between 2m and 4m.
• Up to 107 power stations (central inverters) measuring approximately 6m (long) x 3m (wide) with a height of approximately 2.5m above ground level mounted on compacted soil and flagstone stone. The power stations convert the direct current (DC) electricity generated by the solar panels into alternating current (AC). They then increase the voltage from low voltage (LV) to medium voltage (MV), making the electricity suitable for distribution to the solar farm substation.
• A DC-coupled Battery Energy Storage System (BESS) is proposed for the solar farm. Each power station will have a battery connected to it giving a combined storage capacity of 833MW hours. The BESS system will enable the power generated by the solar farm to be used when it is most needed.
• DC and AC cable systems: DC cables are connected in series from the solar panels to combiner boxes. From the combiner boxes larger DC cables are trenched from the ends of the rows of panels to the power stations. MV cables are then trenched from the power stations to an on-site substation and power transformer which increase the voltage from MV to High Voltage (HV) and allow the power to be injected into the national grid. HV overhead lines or underground cable systems will be used to complete the connection to the Bunnythorpe Substation, located to the east of Redmayne Street.
• A power transformer will be installed to increase the voltage from 33kV to 220kV. The transformer MVA rating will be determined during the detailed design and could range between 250MVA and 310MVA.
• A fully equipped substation building will be built to house the 33 kV switchgear, all the substation control panels and auxiliary equipment. This substation building will most likely be constructed using a prefabricated building of approximately 90m2.
• An operations and maintenance building of approximately 450m2, located adjacent to the substation building.
• 1-2 spare parts containers, being 6m (long) x 2.4m (wide), and 3m above ground level, housing spare parts.
• Deer-type security fencing with a height of approximately 2.5m around the perimeter of the solar farm and infra-red cameras and satellite dishes mounted on 3m high support piles located around the perimeter of the security fence.
• Water tanks for the primary purpose of firefighting.
• Enabling earthworks will be required. Enabling earthworks will be for track construction, site levelling for structures (if required), and trenching for cabling. Generalised site levelling will be minimal.
• Works within streams – primarily for the installation of culverts.
• Provision for ongoing farming of the land around the solar panels, specifically, sheep grazing.
• The restoration and planting of riparian areas and an area of wetland.
• Landscape mitigation/planting.
• Possible allowance for occasional educational visits to the site from school children/ students and community grounds to learn about solar energy generation.

Activities involved in the proposal may include:

• Construction or placement of structures
• Driving of support structures for panel arrays
• Works within or in proximity to stream(s) or wetland(s)
• Vegetation removal
• Underground and overhead cabling
• Enabling earthworks and earthworks associated with cabling
• Storage/use of Hazardous Materials
• Restoration work and mitigation/landscape planting
• Land use (renewable electricity generation) not provided for in the District Plan.
• Continued use of pastural farming
• Signage
• Water takes
• Discharge of stormwater
• Works with contaminated land
• Modification/Destruction of archaeological site(s)
• Wildlife permit

Describe the staging of the project, including the nature and timing of the staging

Please write your answer here:

No staging is proposed.

What are the details of the regime under which approval is being sought?

Please write your answer here:

Resource Management Act 1991 – Land Use, Water Take and Discharge Consents

While unlikely to be required, there is a possibility that an Archaeological Authority under the Heritage New Zealand Pouhere Taonga Act 2014 and/or an authority under the Wildlife Act 1953 will be required.

If you seeking approval under the Resource Management Act, who are the relevant local authorities?

Please write your answer here:

Manawatū District Council (Subject site within this Council's boundary).

Horizons Regional Council (Manawatū-Whanganui).

What applications have you already made for approvals on the same or a similar project?

Please write your answer here:

N/A

Is approval required for the project by someone other than the applicant?

No

Please explain your answer here:

There are no designations or resource consents required by other parties. The substation is managed by Transpower under a designation. The requirement for upgrades to the substation will not be known until the completion of the grid study, however, it is anticipated that any upgrade will either fall within the existing designation or require an outline plan/ outline plan waiver. This will be applied for, by Transpower, at a later date and is unlikely to delay the proposal.

For completeness, other approvals required by the Applicant are outlined below.

Overseas Investment Office
Harmony has already obtained an exemption from Overseas Investment Office (OIO) from the "farmland advertising" requirements of the Overseas Investment Act (OIA) in respect of the interests held by Harmony under its option agreement with the relevant landowner(s).

If resource consent is obtained, Harmony will promptly submit applications for OIO consent for the interests in "sensitive" land that will be held by Harmony and any key equity investors in the project who are "overseas persons" for the purposes of the OIA.

Harmony will prepare the applications for OIO consent in parallel with preparation for the expert consenting panel process, so that it is able to submit applications to the OIO as soon as possible after resource consent is obtained. However, a staged approach will be necessary because the benefits of the project (such as generation output) cannot be accurately described to, or assessed by, the OIO until the scale and design of the project is refined through the resource consent process.

The OIO's guideline for maximum processing periods for applications for OIO consent to interests in sensitive land is 100 days, but the OIO has indicated that applications relating to renewable energy projects are prioritised and processing times have materially reduced below the maximum. Harmony is confident that its standing as an experienced and reputable developer and the significant public benefits of the investment mean that it is highly likely that OIO consent will be given.

As such, it is very unlikely that the OIO process would cause delays to financial close, or the construction start date.

Harmony is also aware that under the OIA the responsible Minister has the discretion to "call in" for review an overseas investment in a "strategically important business" if the total electricity generation across multiple projects is more than 250 MW. If Harmony's aggregate interests exceed this threshold, then it would at the same time as submitting applications for interest in "sensitive" land, also voluntarily notify the OIO of investment in a strategically important business. Again, Harmony is confident that its standing as an experienced and reputable developer, and the significant public benefits of the investment mean that it is highly likely that the responsible Minister would decline to exercise the discretion. Even if the investments were "called in" by the Minister, the same factors would weigh strongly in favour of a direction order being issued by the Minister to allow the investment to proceed.

Ministry of Business, Innovation & Employment
With regard to the installation of underground cables or overhead lines within the road reserve, Harmony will apply to the Ministry of Business, Innovation & Employment be approved as an 'electricity operator' under s.24 of the Electricity Act 1992. This will allow it to construct and maintain transmission lines within the road reserve. The application for 'electricity operator' approval can only be made on a project-by-project basis and has previously been granted for Harmony's Tauhei Solar Farm. Accordingly, no easement or licence to occupy is required for transmission lines within the road reserve. However, a Corridor Access Request (for excavation) to Manawatū District Council will be required, along with temporary traffic management as appropriate.

If the approval(s) are granted, when do you anticipate construction activities will begin, and be completed?

Please write your answer here:

The below timeline reflects the learnings that have been acquired through the delivery of the Tauhei Solar Farm, which was approved through the COVID-19 Recovery (Fast-track Consenting) Act. We are happy to answer any questions in relation to this.

See the high-level timeline outlining the key milestones of the project:

1. Transpower Grid Connection Application
• Submitted June 2022
• Accepted December 2022

2. Transpower Investigation:
• Duration: 12 Months
• Start Date: October 2023
• End Date: May 2025
3. Transpower Works Agreement Delivery:
• Duration: 20 months
• Start Date: May 2025
• End Date: November 2026
4. Resource Consent Preparation for Lodgement:
• Duration: 12 Months
• Start Date: May 2024
• End Date: May 2025 (Final approval milestone)
5. Start of construction Preparation Phase:
• Date: May 2025
6. Equity Capital raising:
• Duration: 4 months
• Start Date: May 2025
• End Date: September 2025
7. OIO process:
• Duration: 7 months
• Start Date: September 2025
• End Date: April 2026
8. Design and EPC tender pack development:
• Duration: 12 weeks
• Start Date: May 2025
• End Date: August 2025
9. EPC procurement:
• Duration: 4 months
• Start Date: August 2025
• End Date: November 2025
10. Debt Finance Raising:
• Duration: 5 months
• Start Date: November 2025
• End Date: March 2026
11. Financial Close and Notice To Proceed
• Date: March 2026
12. Project Delivery:
• Duration: Up to 30 months
• Start Date: March 2026
• End Date: August 2028

The outline timeline assumes the Bill will become law by the end of 2024, and consent decisions will be made within four months of applications being submitted.

To prepare for construction, a project must have three crucial components: Land availability, grid connection readiness, and consent certainty.

The land required for the project has already been secured by the Applicant.

The grid connection application for the project was lodged with Transpower in June 2022 and the application is currently in the Investigation phase. The Applicant expects Transpower to issue a Works Agreement in May 2025.

The Applicant therefore expects to be able to prepare for construction of the project from May 2025.
Engineering, procurement and construction (EPC) tender preparation, bid assessment, contract negotiation and contractor appointment will take circa seven months. This timeframe is informed by the Applicant's recent market experience working on the Tauhei Solar Farm.

In parallel with the selection and appointment of an EPC contractor the Applicant will raise equity from a pool of prospective partners it has previously transacted with, and the equity providers (including the Applicant) will prepare and submit an application to the Overseas Investment Office.

Once OIO consent has been granted the Applicant will be in a position to secure off-take contracts for the project and engage with the bank market. The applicant anticipates issuing Notice To Proceed to contractors and lenders in March 2026.

Construction will then take between 24 and 30 months depending on the lead times of equipment and materials.

Again, work packages and associated timeframes outlined above are informed by the Applicants recent market experience working on the Tauhei Solar Farm.

Section 3: Consultation

Who are the persons affected by the project?

Please write your answer here:

Local Authorities
The relevant local authorities are:
• Manawatū District Council
• Palmerston North City Council
• Horizons Regional Council (Manawatū-Whanganui)

Iwi Authorities
The relevant iwi authorities are:
• Rangitāne o Manawatū Claims Settlement Act 2016
• Ngāti Raukawa ki te Tonga

There are no Customary marine title groups, applicants under the Marine and Coastal (tukutai Moana) Act, Ngā Hapū o Ngāit Porou affected by this proposal. There is also no land to be acquired under the Public Works Act 2011.

Detail all consultation undertaken with the persons referred to above. Include a statement explaining how engagement has informed the project.

Please write your answer here:

Local Authorities

The local authorities associated with this proposal are Manawatū District Council and the Horizons Regional Council (Note that the relevant substation is within the ambit of Palmerston North District Council). Harmony intends to work closely with both Councils to ensure they are informed of the project and that where possible, conditions are agreed and incorporated in any consent.

Iwi Authorities

Harmony is committed to working alongside iwi from conceptualisation until end-of-life of the project.
Harmony will take a partnership and relationship focused approach to developing and maintaining relationships with iwi. This will include, at a minimum, initial introductory meetings, site walkovers, iwi input into constraints mapping and restoration plans, the sharing of plans and technical information, and development of conditions.

Adjoining Neighbours

Harmony will undertake consultation with adjoining property owners, including (but not necessarily limited to):
• Mailing a consultation pack including details of the project, plans, details of mitigation planting and contact information.
• Follow up, where details are available, via phone call or email.
• Where requested, face to face or virtual meetings/phone calls with adjoining owners/occupiers.

On other projects, Harmony has made changes to placement and nature of mitigation planting and added conditions in response to feedback from adjoining property owners/occupiers.

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Describe any processes already undertaken under the Public Works Act 1981 in relation to the land or any part of the land on which the project will occur:

Please write your answer here:

N/A

Section 4: Iwi authorities and Treaty settlements

What treaty settlements apply to the geographical location of the project?

Please write your answer here:

The following Treaty settlements apply to the geographical location of the project in Bunnythorpe due to each Iwi's rohe extending over the subject site:

• Rangitāne o Manawatū Claims Settlement Act 2016
• The rohe of Ngāti Raukawa ki te Tonga also extends over the site, but there is no Treaty settlement between this Iwi and the Crown. However, Harmony is still committed to involving Ngāti Raukawa ki te Tonga throughout the project's construction and lifetime.

The Rangitāne o Manawatu Treaty Settlement is the outcome of an agreement between Rangitāne o Manawatu and the Crown. The parties signed a Deed of Settlement on 14 November 2015 and the Rangitāne o Manawatū Claims Settlement Act came into force on 13 December 2016.

Rangitāne o Manawatū Claims Settlement Act 2016

The Rangitāne o Manawatu Treaty Settlement includes; an agreed historical account, a Crown acknowledgement and apology, and varying levels of cultural, financial and commercial redress.

Key principles and provisions of this Settlement, including any ongoing processes, include:
• The promotion of relationships between Rangitāne o Manawatū and Crown agencies, local authorities, non-governmental organisations and specified entities;
• Deeds of recognition obliging the Crown to consult with Rangitāne o Manawatū on specified matters and Ministers to have regard to Rangitāne o Manawatu's views in decision-making;
• The protection and enhancement of the conservation values associated with the places and sites owned by the Crown within Rangitāne o Manawatū area of interest.
• The formation of a Rangitāne o Manawatū advisory board to provide advice to the Horizons Regional Council. This advisory board's advice in relation freshwater management issues must be given regard to;
• The vesting of 11 Crown-owned sites in Rangitāne o Manawatu;
• Statutory acknowledgements over 12 areas;
• Deeds of recognition obliging the Crown to consult with Rangitāne o Manawatū on matters relating to the Manawatū River and its tributaries, and for Ministers to have regard to Rangitāne o Manawatū's views in decision-making.; and
• The implementation of two overlay classifications. Neither of which are over, nor within the general area of, the subject site.

There are no vested sites, statutory acknowledgement areas, or overlays relevant to the subject site. Further, no private land is directly affected under the Rangitāne o Manawatū Settlement Act. The deed of recognition over the Manawatū River is of potential relevance as the Manganoe Stream, which flows through and around the subject site, eventually flows into the recognised river. Though it is not one of its main tributaries.

Are there any Ngā Rohe Moana o Ngā Hapū o Ngāti Porou Act 2019 principles or provisions that are relevant to the project?

No

If yes, what are they?:

Are there any identified parcels of Māori land within the project area, marae, and identified wāhi tapu?

No

If yes, what are they?:

Is the project proposed on any land returned under a Treaty settlement or any identified Māori land described in the ineligibility criteria?

No

Has the applicant has secured the relevant landowners' consent?

Yes

Is the project proposed in any customary marine title area, protected customary rights area, or aquaculture settlement area declared under s 12 of the Māori Commercial Aquaculture Claims Settlement Act 2004 or identified within an individual iwi settlement?

No

If yes, what are they?:

Has there been an assessment of any effects of the activity on the exercise of a protected customary right?

No

If yes, please explain:

There are no customary rights relevant to the subject land.

Upload your assessment if necessary:
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Section 5: Adverse effects

What are the anticipated and known adverse effects of the project on the environment?

Please describe:

Adverse effects associated with the proposal can be generally grouped as follows:

• Glint and Glare Effects
• Landscape and Rural Character Effects

• Ecological Effects
• Cultural Effects
• Archaeological Effects
• Acoustic Effects
• Construction Effects
• Operational Traffic Effects
• Effects on Highly Productive Land
• Hazardous Substances Effects

These matters are addressed in turn in the following paragraphs.

Glint and Glare Effects
A full glint and glare assessment will be completed for the proposal and will consider effects on adjoining properties, road users and aviation activities. Given there is currently no local guidance as to standards for glare, the assessment will rely on the New South Wales Large Scale Solar Energy Guidelines (2022) for residential glare assessment and the Forge Solar SGHAT software tool for consideration of road and rail glare.

For residential glare the scale of effect is determined by the theoretical possibility for how many minutes of glare will be experienced per day, with moderate to high impacts requiring mitigation. Where considered necessary, screen planting will ensure that any risk of glare is avoided in the long term, with temporary measures – such as shade cloth used to avoid any temporary risks of glare as required.

In regard to road and aviation, with the absence of any guidelines, any incidence of yellow glare will be considered unacceptable. Road glare can be avoided through the same means as residential glare (i.e., planting and temporary barriers), whereas mitigation for aviation glare is likely to be avoided through changes in placing or angle of panels – including through the use of a single access tracking system for all or parts of the farm as necessary.

Therefore, glint and glare can be effective avoided or mitigated as required to avoid any adverse effects that are more than minor.

Landscape and Rural Character Effects
A design led approach to project design and development will be undertaken, enabling a place responsive approach to integrating the development into the environment. This will include (but is not limited to):

• Consideration of topography and natural screening
• Consideration of local planting patterns and fauna
• Consideration of existing land modifications and surrounding land uses
• The visual catchment and key views to the site

In this instance the site is rural and is located in proximity to rural and rural residential land uses, the Bunythorpe substation and the small township of Bunnythorpe.

Overall, the landscape design has, and will continue to be, developed so as to respond to the existing environment and provide a high level of character and amenity for adjoining neighbours and the wider receiving environment. Specifically, it is anticipated that the project will utilise and enhance (as appropriate) natural topography and areas of planting to break up and compartmentalise views through the site along with varying setbacks in response to the sensitivity of adjoining land uses.

While the proposal will result in a departure from traditional rural character, this will be mitigated through the ongoing farming of the site and the careful design of landscape planting. Accordingly, any residual effects are not expected to be more than minor.

Ecological Effects
The subject site is primarily maintained for productive farming; however, the key ecological features of the site include:

• Small gully systems, some with exotic vegetation
• Modified and artificial watercourses
• Singular/shade and shelterbelt exotic trees and hedgerows dispersed through the site
• Low lying areas, potentially containing intermittent streams and wetlands

A full site survey will be undertaken to assess ecological features.

Works directly associated with the proposal (i.e., the installation of infrastructure and tracking) will occur predominantly on areas of exotic pasture. It is anticipated that some form of ecological restoration work, in the form of riparian planting and/or wetland enhancement will occur adjacent to waterways an/or in low lying areas of the site.

Overall, it is considered that any adverse effects on ecological values will be low, and the proposed restoration will result in a net positive effect.

Cultural Effects
The project will be designed in partnership with iwi to ensure that cultural values and aspirations are reflected in the final design. Harmony will work with iwi on the development of all aspects of the proposal, including conditions of consent. As such, it is anticipated that cultural effects will be neutral – positive.

Archaeological Effects
There are no known archaeological sites associated with the subject site, nonetheless a full archaeological assessment will be commissioned. In the

unlikely event archaeological sites are identified as part of this process, these will either be protected, or if appropriate due to the nature and scale of the site, and supported by iwi, modified or destroyed. Accidental discovery protocol will form a condition of consent.

Any archaeological effects are anticipated to be less than minor.

Acoustic Effects

Noise from the solar farm can be broken down into two categories; construction noise and operational noise. Construction noise is addressed in the following section. Operational noise will be limited to an electrical hum from the power stations, transformers and BESS as the panels themselves do not produce any noise. Maintenance and monitoring work will generally be carried out by one-two workers in a van (or similar), meaning that noise arising from maintenance will be very minimal. The noise-producing components of the solar farm are disbursed throughout the site but are generally located away from boundaries. Accordingly, it is anticipated that the operational noise associated with the proposal will be compliant with relevant noise standards.

Construction Effects

Construction Traffic

Construction involves the transport of the mounting piles, panels and ancillary infrastructure to the site in heavy vehicles. Such heavy vehicles are similar in size to that of dairy tankers and materials will be delivered to site incrementally (i.e. one to two truckloads at a time over a period of approximately 15-18 months). Likewise, some machinery (e.g. piling press) will delivered to site but will remain there for the duration of works. All construction traffic will be managed through a Construction Traffic Management Plan (CTMP) and it is anticipated that all construction traffic effects can be appropriately managed so as not to be significant. The establishment of the facility will take approximately 15-18 months. It is anticipated that construction staff will commute to the site via car or other light vehicle from the larger population centres including Wellington, Palmerston North or Whanganui. Construction staff might also stay in nearby towns (e.g., Fielding or Levin), where accommodation is available. The Applicant also seeks to ensure as many contractors as possible are based locally.

Construction Noise and Vibration

During construction, posts are driven into the ground using a hydraulic piling press. Once the piles are in situ, the solar panels are screwed in place. Ancillary infrastructure will either be constructed on site or prefabricated and transported to the site. Cabling will then be installed, with trenching required. It is anticipated that noise and vibration associated with all construction activities will comply with the relevant District Plan and New Zealand construction noise standards. Further, a condition of consent requiring a construction management plan will be proposed to ensure all construction effects are appropriately managed.

Earthworks Effects

Earthworks are limited to those required for trenching and levelling of building platforms, there is no generalised levelling of the site required as mounting structures can be adapted to address undulations in terrain. All earthworks will be subject to erosion and sediment control measures, including the use of silt fences as appropriate, the minimisation of exposed soil and progressive rehabilitation to ensure there is not run-off to waterways or beyond the boundary of the site.

Dust

Dust will be managed during construction, through a combination of progressive stripping and rehabilitation to minimise exposed soil, the use of water carts or other temporary stabilisation and responding to adverse weather conditions (e.g., high wind) in an appropriate manner. These measures will be set out in the Construction Management Plan.

Operational Effects

The operational effects of the proposed solar farm are very limited. Equipment will primarily be monitored remotely, and a technician will visit the site approximately once a month to carry out a physical check of the infrastructure. In the initial stages, additional visits to the site will be required for plant maintenance, including weed control, but restoration areas will be designed so that they become self-sustaining. Additional traffic will also be generated for ongoing pest/weed control and planting maintenance unless this is carried out by or on behalf of the landowner.

The proposal includes provision for an occasional bus load of school children or a community group to visit the site and undertake an educational tour of the facility. Any potential for adverse effects associated with the educational visits will be minimal given the expected frequency of visits and the distance to the adjacent dwellings. The visits can be managed to ensure that any potential for adverse effects are avoided or mitigated through conditions of consent limiting the occurrence and timing of visits. Overall, it is highly unlikely that an average of more than 10 vehicle movements a week will be generated as a result of the solar farm (not including normal farming movements). These movements will be readily absorbed into the surrounding roading network without giving rise to adverse effects.

The occasional educational visits may result in a low level of noise; however, this is also anticipated to be well below permitted levels and unlikely to result in any adverse effects. It is anticipated that conditions of consent will be used to require all noise to comply with the District Plan standards.

Overall, it is considered that any potential for adverse amenity effects from the operation of the solar farm will be avoided, remedied or mitigated through requirements for industry best operational practices, with there being no significant adverse effects associated with the operation of the solar farm.

Effects on Highly Productive Land

The solar panel mounting structures will be pile driven or screwed into the ground, leaving the pasture underneath in place. Pasture is naturally retained as water runs off the panels and drains into the soil, and sunlight reaching ground level remains available due to the separation of the panels. This ensures that while the solar panels are in-situ, the site can continue to be utilised for pastoral farming, more specifically, the grazing of sheep. The landowner (or a lessee) will continue to farm the land for this purpose. At the end of life of the solar panels, the panels can either be unscrewed and replaced, with the piles remaining in-situ, or the piles can be removed, and the land can be returned solely to farming activities. As such, any adverse

effects on the productive potential of the land are considered to be negligible.

Hazardous Substances Effects
The proposal will contain hazardous substances associated with the Battery Energy Storage Systems (BESS) on the site. The BESS infrastructure enables the solar power that is generated to be stored in batteries and released when it is required, resulting in more efficient use. The battery banks themselves will contain lithium-ion batteries.

There will be a Battery Safety Storage Management Plan (BSSMP) which will outline how safety and incidents will be managed on the site. The BSSMP will also set out key emergency response procedures relating to the BESS infrastructure and any hazardous substance incidents.

The main power transformer and the power stations contain oil, however, the design and management of the infrastructure on the site will avoid and satisfactorily manage any potential adverse effects caused by the storage and use of oil. This includes bunds, secondary containment, and the batteries being sealed in container units.

As such, any adverse effects from hazardous substances are considered to be appropriately managed.

Conclusion
It is considered that all effects of the proposal can be avoided, remedied or mitigated to an appropriate level.

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Section 6: National policy statements and national environmental standards

What is the general assessment of the project in relation to any relevant national policy statement (including the New Zealand Coastal Policy Statement) and national environmental standard?

Please write your answer here:

National Policy Statement for Renewable Electricity Generation
The National Policy Statement for Renewable Electricity Generation 2011 recognises the national significance of renewable electricity generation activities and provides for the development, operation, maintenance and upgrading of new and existing renewable electricity generation activities, such that the proportion of New Zealand's electricity generated from renewable energy sources increases to a level that meets or exceeds the New Zealand Government's national target for renewable electricity generation.

Through a process of site investigation in various areas of the country, Harmony Energy found that the Bunnythorpe site is an ideal site for solar electricity generation due to its proximity to Palmerston North, the a nearby grid connection, its accommodating topography and annual irradiance (the amount of light energy received). The proposal will result in very low levels of adverse effects, all of which can be adequately managed. As such the proposal is considered to be consistent with the objectives of the National Policy Statement for Renewable Electricity Generation 2011.

National Policy Statement for Highly Productive Land (NPS: HPL)
The site is predominately LUC 1 and 2 and is therefore classified as highly productive land. The proposal is therefore subject to consideration of the requirements of the NPS: HPL.

Clause 3.9(2) addresses the appropriate use of development of productive land and subsection (j)(i) provides a pathway for the maintenance, operation, upgrade, or expansion of specified infrastructure, on the basis that clause 3.9(3) is satisfied. It is understood that 'new' specified infrastructure is also captured by clause 3.9(2)(j)(i) on the basis of interpretation principles.

In this case, the proposed solar farm is considered to be renewable energy generation under the Horizons 'One Plan' and constitutes 'infrastructure that delivers a service operated by a lifeline utility' (as defined in the Civil Defence Emergency Act 2002).

Regarding the consideration of operational or functional need, it is noted that solar farms are most practicably constructed in locations where:
a) The topography is flat to gently sloping; and
b) There is existing infrastructure (substations and/or high voltage lines) in close proximity where a connection to the national grid is able to be provided; and
c) Where there is the appropriate number of daylight hours in an average year; and
d) Soil is appropriate for the driving of piles/ natural hazards are not incompatible with the activity; and
e) Where there is a suitably sized land parcel(s) to accommodate the extent of infrastructure required; and
f) Where the generator is able to obtain an agreement with a landowner or purchase the required land.

These factors have significantly impacted on site selection for this project and contribute to both functional and operational need for the project to locate as proposed.

The NPS-HPL (clause 3.9(j)) only requires that there is either "functional or operational need" (not both) for the specified infrastructure to locate in a particular environment. Nonetheless, there is inevitably some cross over between functional and operational need and the following assessment, while focused on operation need, also addresses some matters (such as potential alternative locations) associated with functional need.

In this instance, the site is located in proximity to the Bunnythorpe substation, through which a connection to the national grid is available. The need for renewable energy generation to locate in proximity to existing infrastructure and connect to the grid is recognised by the NPS-REG (Policy C1) as a

practical constraint that decision makers must have particular regard to. While it may technically be possible to locate a generation activity some distance from existing infrastructure and install a new transmission line, this would add significant additional costs to the project and result in energy losses that increase with distance. The NPS-REG recognises that that this is not a practical approach. As such, there is clearly an operational need to locate the project near to existing infrastructure. Harmony Energy engaged extensively with landowners around the Bunnythorpe substation and the landowners that have agreed to the solar farm were the only landowners within an economically viable distance of the Bunnythorpe substation to agree to the project.

As noted above, solar is most practicably located on flat to gently sloping land to ensure maximum output. The surrounding land comprises a mixture of LUC1-3 land soils, interspersed with other soil types where there are gullies or other significant landscape features. This means larger farming blocks (potentially suitable for solar development) generally contain a mixture soil types. Therefore, high quality soils are not able to be readily avoided in this instance. A full alternatives assessment has not been undertaken (because doing so would be impractical), however, even in the event a site that did not contain any highly productive soils was located within reasonable proximity to the sub-station, a number of other factors, including the willingness of the landowner to enter into an agreement or other land features may render it unsuitable for other reasons.

Therefore, it is considered that there is an operational need for the proposal to be located within the environment (being an environment that is partially comprised of HPL).

In terms of clause 3.9(3) and as assessed previously, the solar panels will be pile driven into the ground allowing sufficient space underneath and around the panels to allow the site to continue to be effectively used for sheep farming, this dual use approach is known as agri-voltaics. Agri-voltaics provides benefits for livestock, particularly shade during summer and shelter from inclement weather during the winter. Likewise, the grazing of sheep ensures vegetation beneath the panels is maintained so as to avoid the need for mowing. At the end of life of the solar panels (approximately 35 years), the panels and associated infrastructure can be easily removed from the site to allow the land to be returned solely to productive use. Alternatively, if there was an ongoing energy need, the solar farm could be repowered to accommodate it.

As such, it is considered that any loss of land productivity has been minimised and could be fully reinstated if required.

It is also noted that some productive land will be retired for the purposes of ecological restoration (wetland and riparian areas), which is consistent with the direction provided in clause 3.9(2)(e).

Lastly, there are no reverse sensitivity effects arising from solar farming within the rural zone. As previously noted, sheep and solar farming are complementary, and productive rural activities on adjoining properties will not impact on the solar farm.

The proposal is not therefore contrary to the NPS-HPL.

National Policy Statement on Freshwater Management (NPS:FM)
The National Policy Statement for Freshwater Management 2020 (NPSFM) sets a national policy framework for managing freshwater quality and quantity. It seeks to prioritise the well-being of water bodies and freshwater systems, health and needs of people, and the well-being of communities now and in the future. The policies, relevant to this proposal, seek to ensure there is no further loss of extent of natural inland wetlands, their values are protected, and their restoration is promoted, habitats of indigenous freshwater species and freshwater values are improved.

In the event some of the proposed solar panels and associated installation works are undertaken in proximity natural inland wetlands, the panels will be mounted on piles that will result in minimal damming and diversion of water flows and which will be pile driven or screwed with minimal earthworks required. Any temporary effects associated with required earthworks, predominantly trenching for cabling, can be suitably managed through appropriate erosion and sediment control measures. In addition, it is anticipated that the proposal will include some restoration and/or enhancement planting in riparian and/or wetland areas, which will provide additional habitats for indigenous species and will improve freshwater values of the surrounding catchment. For these reasons, the proposal will not be inconsistent with the NPS:FM.

National Environmental Standards for Assessing and Managing Contaminants in Soil to Protect Human Health (NES:CS) and National Environmental Standards for Freshwater (NES:F)
The relevant provisions of these statutory documents have been considered as part of this proposal and, with regard to the conclusions reached in the adverse effects sections, it is considered that any adverse effects relating to human health and freshwater can be suitably managed to the extent they will not be significant. As such, the proposal is considered to be consistent with these statutory documents.

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Section 7: Eligibility

Will access to the fast-track process enable the project to be processed in a more timely and cost-efficient way than under normal processes?

Yes

Please explain your answer here:

The proposal represents a large solar farm project in the current New Zealand context. For this reason, there is the potential for the doubling of timeframes due to the scale and complexity of the project. There is also the potential for public notification of the proposal under ‘special circumstances’, which would result in delays to the project. In addition, given the relative ‘newness’ of large-scale solar technology in New Zealand there is a risk that a lack of expertise and experience both within local government and the community could result in unnecessary delays through the traditional consenting pathways. Under a traditional consenting process, the requirement for doubling of timeframes, public notification and a hearing could result in a

processing time of some 200 days (excluding any delays due to further information requests). This time could be at least doubled in the event of an appeal.

Consequently, it is considered likely that the project will progress faster under the Fast Track process than the traditional RMA consenting pathway.

Though Harmony Energy was a strong supporter of the COVID-19 Recovery (Fast-track Consenting) Act in theory. In practice, the referral process slowed down applications considerably. Listing the project in schedule 2A of the Fast Track Approvals Bill/Act will avoid the need for a referral application and provide the applicant with the time certainty necessary to continue investing in the development of the project, such that by the time a panel is appointed a full array of technical reports, associated assessment and draft conditions will be available.

What is the impact referring this project will have on the efficient operation of the fast-track process?

Please write your answer here:

Harmony Energy is very familiar with the fast-track consenting process and has a proven track record in providing robust, complete applications that address all relevant environmental, cultural, and operational matters. The application will be prepared by suitably qualified and experienced experts. Harmony Energy secured resource consent to build the Tauhei Solar Farm via the COVID-19 Recovery (Fast-track Consenting) Act 2020, and the project will be constructed during 2024 and 2025.

In addition to Tauhei Solar Farm the company has solar farm projects in Masterton, Marton and Opunake which have been accepted for referral under the COVID-19 Recovery (Fast-track Consenting) Act and which are awaiting the appointment of Expert Consenting Committees.

The Applicant has already invested heavily in the project.

The land required for the project has already been secured.

The grid connection application for the project was lodged with Transpower in June 2022 and the application is currently in the Investigation phase.

The Applicant is already in the process of preparing the full array of technical reports it anticipates will be necessary for the project to obtain resource consent.

Assuming the Bill becomes law by the end of 2024, and consent decisions are made within four months of applications being submitted, the Applicant will be able to focus on procurement and construction from May 2025.

Due to recent market experience the Applicant has acquired working on the Tauhei Solar Farm, it is already very familiar with the processes of appointing a contractor, obtaining OIO consent, securing off-take contracts for the power produced by the project and selecting senior lenders.

Has the project been identified as a priority project in a:

Central government plan or strategy

Please explain your answer here:

National Policy Statement for Renewable Energy Generation
The National Policy Statement for Renewable Electricity Generation 2011 recognises the national significance of renewable electricity generation activities and provides for the development, operation, maintenance and upgrading of new and existing renewable electricity generation activities, such that the proportion of New Zealand's electricity generated from renewable energy sources increases to a level that meets or exceeds the New Zealand Government's national target for renewable electricity generation.

Rautaki Hanganga o Aotearoa, the New Zealand Infrastructure Strategy and The Infrastructure Action Plan
The Rautaki Hanganga o Aotearoa, the New Zealand Infrastructure Strategy (Strategy) sets out actions New Zealand needs to take to ensure the infrastructure system meet the challenges of a growing population and environmental factors, such as climate change, over the next 30 years.

The Infrastructure Action Plan, May 2023, sets out a work programme in response to identified challenges and opportunities in the Strategy around the provision of efficient, equitable, resilient and sustainable infrastructure system.

The strategy recognises that electricity generation capacity needs to increase by 170% and that a major energy transition is required to meet net-zero carbon emissions targets (p. 9) and to enable well-functioning cities and energy reliant industry. While the action plan includes an Action (11.2.1) to accelerate development of new renewable electricity generation across the economy.

Will the project deliver regionally or nationally significant infrastructure?

Regional significant infrastructure

Please explain your answer here:

The NPS-REG recognises the need to develop, operate, maintain and upgrade renewable electricity generation as a matter of National Importance. The project will have an installed capacity of approximately 400MW) and will include BESS infrastructure, ensuring that energy is able to be released at peak demand times.

The project will significantly contribute to the supply and resilience of electricity within the national grid and reduce reliance on fossil fuels. The site is located in proximity to Palmerston North, Whanganui, and Wellington, being areas of high economic activity, where demand for electricity is high and increasing. The level of generation is sufficient to power the annual requirements of over 70,000 New Zealand households.

The project will also assist in the diversification of New Zealand's energy mix, the project reduces reliance on hydroelectric power generation, which is susceptible to fluctuations in rainfall and water availability. This diversification enhances New Zealand's energy security and ensures a more stable and resilient power supply. An increase in resilience and supply in the network will also encourage the country's electrification, reducing reliance on fossil fuels and in turn the adverse climate effects associated with burning coal and gas. The benefits of reducing reliance on fossil fuels is well understood and further information is provided in the responses to the questions below.

In addition to providing the national benefits referred to above, it is noted that the proposal involves the generation of renewable electricity that will be fed into the national grid, and this is promoted as being a focus area within the Energy and Infrastructure chapter of the Horizons 'One Plan'.

Accordingly, because the proposal provides for significant renewable electricity generation, it provides both national and regional benefits.

Will the project:

contribute to a well-functioning urban environment

Please explain your answer here:

The Bunnythorpe Solar Farm project will contribute to a well-functioning urban environment by providing a new secure energy supply within proximity to some of New Zealand's prospective growth centres. This will benefit local and national urban environments as follows:

At the local level, the project will fortify electricity security through the establishment of a dependable source of clean energy. This augmented generation capacity will spur local electricity demand by incentivising and supporting the transition of large fossil fuel users to electricity, aligning with sustainability objectives. Additionally, the solar farm will act as a driver for local economic advancement, generating employment opportunities throughout both its construction and operational stages. It will also attract investment and ancillary businesses to the area, thereby further amplifying economic activity and fostering prosperity.

At the national level, the solar farm's contribution to the energy landscape will help mitigate the hydrology risk faced by the North Island during dry weather years. By diversifying New Zealand's energy mix, the project reduces reliance on hydroelectric power generation, which is susceptible to fluctuations in rainfall and water availability. This diversification enhances energy security at the national level and ensures a more stable and resilient power supply for urban centres across the country.

Solar generation complements hydroelectric generation by generating during daylight hours, allowing hydro generation to be stored during the middle of the day and used to support in morning and evening peak demand periods.

Overall, the proposal for the Bunnythorpe Solar Farm project presents both direct and indirect benefits for the wellbeing and functioning of urban environments, locally and nationally. Through the provision of secure energy supply, by supporting for economic growth, and by mitigating hydrology risks, this initiative contributes to fostering sustainable urban development and national energy resilience.

Will the project deliver significant economic benefits?

Yes

Please explain your answer here:

The proposed Bunnythorpe Solar Farm project is forecast to cost s 9(2)(b)(ii) to construct and will yield substantial economic advantages for the region and the nation. The project is expected to generate over 1,020 jobs during the construction phase, and 21 full time operations and maintenance jobs during the operational phase of the project.

With an installed capacity of around 400MW DC, the primary objective of this solar farm is to supply clean and sustainable electricity to the national grid via the Bunnythorpe substation. This renewable electricity generation is forecast to be sufficient to power the annual requirements of over 70,000 New Zealand households.

The project will encompass the deployment of state-of-the-art infrastructure to ensure efficient generation, storage, and distribution of power.

Incorporating a three-hour DC-coupled Battery Energy Storage System (BESS), the solar farm aims to provide dispatch control over intermittent power generation, thereby enhancing grid stability and reliability. This BESS will offer a storage capacity of 883MW hours, enabling efficient utilisation of generated energy.

Unlike thermal generation (coal or gas), solar generation does not have to pay for input fuels. The Infrastructure Commission, has noted that developing New Zealand's low-emission resources can improve wages and living standards:

"The empirical evidence suggests that low energy prices, presumably due to an abundance of low-cost energy, drives economic prosperity in the short run, which can presumably lift income per capita."

[New Zealand Infrastructure Commission Te Waihanga: Technical Paper – Leveraging our energy resources to reduce global emissions and increase our living standards, page 4 (tewaihanga.govt.nz)].

The construction phase of the project will generate significant economic activity and create hundreds of jobs. Engineering professionals will play a crucial role in the design and planning of the solar farm, ensuring optimal layout and efficiency. Skilled labourers will be required for the installation of solar panels, infrastructure construction, and assembly of support structures. Additionally, support staff will be essential for managing logistics, coordinating activities, and handling administrative tasks to facilitate smooth operations and project management. The job opportunities will stimulate the local economy and support surrounding communities.

Following the completion of construction, ongoing maintenance and operations requirements at the solar farm will sustain long-term local employment. Maintenance technicians will be tasked with inspecting equipment, conducting repairs, and ensuring the continued optimal functionality. Operations personnel will oversee daily activities, monitor energy production, and manage grid connections to maximise efficiency. Administrative staff will continue to play a crucial role in managing operations, performing asset management activities, and liaising with regulatory authorities. Sustained employment during the operational phase will contribute to the stability of the local workforce and provide ongoing economic benefits to the region.

Procurement of materials and services from local and overseas suppliers and contractors will stimulate economic activity in the region, fostering growth in related industries. Additionally, tax revenues from the project during both construction and when it is revenue generating will help fund public services and infrastructure. By deploying advanced solar technology and energy storage systems, the project will position New Zealand as a leader in renewable energy innovation, attracting investment and fostering research and development in the sector.

Critically, the solar farm's displacement of fossil fuel-based electricity generation will contribute to reducing carbon emissions and mitigating climate change, thereby avoiding associated environmental and societal costs.

Will the project support primary industries, including aquaculture?

Yes

Please explain your answer here:

The Bunnythorpe Solar Farm project will support New Zealand’s energy sector by helping balance New Zealand’s energy mix. Specifically, it will help reduce the reliance of the North Island’s economy on imported coal and South Island hydrology (particularly dry weather years which are increasingly common). The project will also support the farming sector by allowing for the ongoing grazing of stock (sheep) on the land below the solar panels.

Will the project support development of natural resources, including minerals and petroleum?

No

Please explain your answer here:

Will the project support climate change mitigation, including the reduction or removal of greenhouse gas emissions?

Yes

Please explain your answer here:

New Zealand must confront two major energy challenges as it meets growing energy demand. The first is to respond to the risks of climate change by reducing greenhouse gas emissions caused by the production and use of energy. The second is to deliver clean, secure, affordable energy while treating the environment responsibly. Solar farming has the lowest emissions of CO_2 per kilowatt of energy generated, with only 6 grams of CO_2 produced per kilowatt of energy. By comparison, onshore wind produces 10 grams, hydro power 97 grams, and coal 109 grams (Arvesen, Humpenoder, Pepp, et.al., 2017).

Further, the components used in the manufacture of solar energy (e.g., steel, glass, copper, cobalt) can all be recycled at the end of life. As such, an increase in solar energy infrastructure and resulting decrease in reliance on coal or new hydro will directly result in the lowering of New Zealand’s carbon emissions relative to kilowatts of energy produced. The proposed solar farm will address this second challenge by contributing to central government strategic target that 90 per cent of electricity generated in New Zealand should be derived from renewable energy sources by 2025 and 100 per cent by 2030.

Will the project support adaptation, resilience, and recovery from natural hazards?

Yes

Please explain your answer here:

New Zealand's current electricity mix primarily relies on hydroelectric power, supplemented by thermal (coal and gas) and wind energy sources. The addition of solar power to the national electricity mix will enhance resilience and adaptation to natural hazards and support recovery efforts in the aftermath of such events. Solar power complements hydroelectricity by providing a reliable energy source during periods of low rainfall or drought, and by mitigating the impact of disruptions to hydrological generation. Additionally, solar energy helps to smooth out wind energy volatility, contributing to grid stability and reliability.

Solar farms exhibit resilience to climate effects, offering a dependable energy source that is less susceptible to weather volatility compared to other renewable energy sources. Annual solar irradiation, measured at any point on the Earth's surface, is predictable within a variance of 2%-3%, providing consistency in energy generation. Furthermore, the strategic location of solar farms away from high-risk areas such as coastal regions minimises

exposure to extreme weather events, enhancing resilience to climate-related hazards.

The design and construction of solar farms further contribute to resilience against natural hazards. With solar panels elevated approximately 800mm-1m above the ground and all supporting infrastructure mounted on natural soil, solar farms are inherently resilient to flood impacts. This elevation and sturdy construction ensure continued operation even in the event of flooding, facilitating rapid recovery and minimising downtime in the aftermath of natural disasters. By strengthening resilience and adaptation to natural hazards, the integration of solar power into the national electricity mix strengthens New Zealand's energy infrastructure and contributes to sustainable development goals.

Additionally, solar farms are not permanent structures and can be dismantled with ease, leaving minimal impact on the land. At the end of their operational life, a solar farm offers flexibility for future land use. The site can either be repowered with updated solar technology or restored to its original state, allowing the land to resume its previous use. This versatility ensures that solar farms can adapt to changing energy needs and environmental considerations over time, contributing to sustainable land management practices.

Will the project address significant environmental issues?

Yes

Please explain your answer here:

Increasing New Zealand’s supply of renewable energy is necessary to both meet growing demand for electricity and to reduce greenhouse gas emissions.

The risks to the environment from climate change caused by carbon emissions are accepted and understood in multiple policy statements such as the NPS:REG and legislation such as the Climate Change Response (Zero Carbon) Amendment Act. In a 2021 report to the Government, the Climate Change Commission stated (in Ināia tonu nei: a low emissions future for Aotearoa, Climate Change Commission, 31 May 2021), that:
1. Energy is a necessity in the modern world, as a critical input into every good and service. In 2019, energy use in Aotearoa resulted in 34 mega tonnes of carbon dioxide emissions, with 30% of total energy consumption renewable and the remaining 70% from oil, fossil gas and coal. This energy is used across the economy in transport, electricity, for heating and by industry.
2. To meet the 2050 target of net zero long-lived gases Aotearoa needs to transition away from fossil fuels. Instead, the country will need to rely more heavily on renewable electricity.
3. We anticipate a steep increase in demand for electricity as the number of electric vehicles (EVs) on the country’s roads grows, and industrial demand electrifies. The industry will need to rapidly build more renewable generation to meet this need.
4. Enabling a fast-paced and sustained build of low-emissions electricity generation and infrastructure by ensuring resource management processes, other national and local government instruments, and settings for transmission and distribution investment decisions are aligned to the required pace for build.

In addition to providing renewable energy, mitigation and landscape amenity planting can also provide ecological benefits, such as providing habitat and food sources for native birds and herpetofauna.

Lastly, adverse effects associated with the project are able to be readily avoided, remedied or mitigated as will be outlined in the effects assessment.

Is the project consistent with local or regional planning documents, including spatial strategies?

Yes

Please explain your answer here:

Horizons Regional Council: One Plan
For ease of reference, the Horizons Regional Policy Statement is in Part 2, and the Horizons Regional Plan is in Part 3 of the ‘One Plan’.

As the proposal involves the generation of electricity that will be fed into the national grid, it is currently considered ‘Infrastructure’ as defined in the operative Horizons One Plan (definition mirrored in the Manawatū District Plan). We note that the lack of an express definition for ‘Significant Infrastructure’ within either plan, but that ‘Critical Infrastructure’ is defined as Infrastructure necessary to provide services which, if interrupted, would have a serious effect on the people within the Region or a wider population, and which would require immediate reinstatement. It is anticipated that the project will be defined as critical infrastructure once operational.

The Horizons Regional Policy Statement (HRP in Part 2) Chapter 7, Energy, Infrastructure and Transport (EIT), sets out several objectives and policies which seek to promote the benefits of the use and development of renewable energy resources including; contributing to reduction in greenhouse gases, reduced dependency on imported energy sources, reduced exposure to fossil fuel price volatility, and security of supply for current and future generations (EIT-P4). This policy also states that Regional and Territorial Authorities must have regard to the benefits (as listed above), as well as:

b. the Region’s potential for the use and development of renewable energy resources;
c. the need for renewable energy activities to locate where the renewable energy resource is located;
d. the benefits of enabling the increased generation capacity and efficiency of existing renewable electricity generation facilities; and
e. the logistical or technical practicalities associated with developing, upgrading, operating or maintaining an established renewable electricity generation activity.

The increasing demand for energy and the need for new energy projects and associated infrastructure is also recognized in EIT-I2. Given the proposal provides for significant renewable electricity generation, it is considered to be consistent with the above objectives and policies.

Chapter 5, Land and Freshwater (LF), seeks to encourage and support sustainable land management (LF-LAND-P1) by safeguarding the productive

capability of soil (LF-LAND-M4), monitoring soil health in productive areas (LF-LAND-M3), and through the management of riparian areas and wetlands, to maintain or enhance water quality, biodiversity, and cultural effects (LF-FW-M16). As previously noted, it is anticipated that the project will provide for ecological restoration alongside the provision of green energy. Accordingly, the proposal is considered to be consistent with these objectives and policies.

Chapter 9, Historical and Cultural Values (HCV), defines 'Historic Heritage' as including historic sites, structures, places and areas, archaeological sites, sites of significance to Māori, including wāhi tapu, and surroundings associated with the natural and physical resources. Objective HCV-O1 is to protect historic heritage from activities that would significantly reduce heritage qualities. This objective of protection is integrated throughout the One Plan, including (but not limited to) within those policies pertaining to freshwater, biodiversity and land management. Harmony is committed to the development of projects that respond to cultural values, including through the enhancement of biodiversity and has pro-actively engaged with all iwi authorities. Accordingly, it is considered that the project will be consistent with the direction provided.

The Horizons Regional Plan (HRP in Part 3) gives effect to the direction set by the RPS in Part 2, including the identification of issues and associated objectives, policies and implementation methods.
Part 3: 15 RP–LF addresses matters relating to land and freshwater and generally seeks to avoid any loss of values associated with freshwater, including wetlands, in accordance with the requirements of the NPS-FM. As aforementioned, it is anticipated that the proposal will provide for ecological restoration and/or enhancement of riparian areas and/or wetlands. Moreover, erosion and sediment control measures will be in place during any earthworks, ensuring that there is no adverse effect on water quality.

This chapter also addresses matters relating to the discharge of contaminants onto or into land and seeks to manage these discharges to avoid adverse effects on human health, water quality, aquatic ecosystems and on the relationship that tangata whenua as kaitiaki have with their identified taonga such as ancestral lands, water and wāhi tapu. In this instance, it is anticipated that no work will be required in any areas of potential contamination and if the event of any unexpected discovery of contaminants, procedure will be covered by conditions of consent. Further, no chemicals are used in the operation of the solar farm (e.g., for washing of panels) Accordingly, no discharge of contaminants is anticipated.

Overall, it is considered that the proposal is consistent with the direction, objectives, and policies of the One Plan.

Manawatū District Plan
Part 2 Section 9.2 of the District Plan which pertains to Energy, Water Use and Air Quality contains objective EWA 1) is to promote sustainability of energy and water use through more efficient use, conservation and a higher degree of local self-sufficiency, as well as a move toward renewable energy sources. The proposal seeks to achieve this objective by being a sustainable means of renewable electricity generation set within the local landscape.

Chapter 3A.3 Objective 1 is to ensure that network utility infrastructure of national and regional importance (as described in the Horizons Regional One Plan), including the national grid, is able to operate upgrade and develop efficiently and effectively while managing any adverse effects on the environment having regard to the locational, technical and operational constraints of the infrastructure. Moreover, the objective also states that all other network utilities are designed, located, constructed, operated, upgraded and maintained in a manner that ensures the efficient use of natural and physical resources while recognising the environment they are located in.

The proposal aligns with both tiers of the direction outlined above by providing for significant renewable energy generation to the national grid in a manner that avoids, remedies and/or mitigates all significant adverse effects. This includes effects on waterways, land productivity, biodiversity, the rural landscape, and cultural effects. In addition, it is anticipated that the proposal will provide for ecological restoration through riparian planting and the restoration of wetland habitat.

Overall, the proposal is considered to be consistent with the objectives and policies of the Manawatū District Plan.

Anything else?

Please write your answer here:

Please note that the Palmerston North City Council authority only encompasses the substation and immediate surrounds. For this reason, this District Plan has not been assessed in relation to the Bunnythorpe Solar Farm activity itself.

Does the project includes an activity which would make it ineligible?

No

If yes, please explain:

Section 8: Climate change and natural hazards

Will the project be affected by climate change and natural hazards?

No

If yes, please explain:

The site will be subject to flood modelling (taking into account climate change) and all infrastructure will be located above anticipated flood modelling. It is noted that the panels themselves are located approximately 800mm-1m from the ground, therefore it is primarily the ancillary infrastructure which requires consideration in regard to flood modelling. That infrastructure (e.g. BESS, power stations) are located on piles and therefore can readily be raised, if necessary, to reduce any risk of inundation.

Section 9: Track record

Please add a summary of all compliance and/or enforcement actions taken against the applicant by any entity with enforcement powers under the Acts referred to in the Bill, and the outcome of those actions.

Please write your answer here:

The Applicant (and its associated group companies) has never been the subject of compliance or enforcement action under any of the Acts referred to in the Bill.

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Declaration

Do you acknowledge your submission will be published on environment.govt.nz if required

Yes

By typing your name in the field below you are electronically signing this application form and certifying the information given in this application is true and correct.

Please write your name here:
Pete Grogan

Important notes