Application for a project to be referred to an expert consenting panel

(Pursuant to Section 20 of the COVID-19 Recovery (Fast-track Consenting) Act 2020)

For office use only:

Project name: Te Rere Hau Wind Farm Repowering Project (the Project)
Application number: PJ-0000782
Date received: 16/12/2021

This form must be used by applicants making a request to the responsible Minister(s) for a project to be referred to an expert consenting panel under the COVID-19 Recovery (Fast-track Consenting) Act 2020.

All legislative references relate to the COVID-19 Recovery (Fast-track Consenting) Act 2020 (the Act), unless stated otherwise.

The information requirements for making an application are described in Section 20(3) of the Act. Your application must be made in this approved form and contain all of the required information. If these requirements are not met, the Minister(s) may decline your application due to insufficient information.

Section 20(2)(b) of the Act specifies that the application needs only to provide a general level of detail, sufficient to inform the Minister's decision on the application, as opposed to the level of detail provided to an expert consenting panel deciding applications for resource consents or notices of requirement for designations.

We recommend you discuss your application and the information requirements with the Ministry for the Environment (the Ministry) before the request is lodged. Please contact the Ministry via email: fasttrackconsenting@mfe.govt.nz

The Ministry has also prepared Fast-track guidance to help applicants prepare applications for projects to be referred.

Part I: Applicant

Applicant details

Person or entity making the request: NZ Windfarms Limited (NZ Windfarms or the Applicant)

Contact person: Adam Radich

Job title: General Manager, Operations

s 9(2)(a)

s 9(2)(a)

Postal address:

PO Box 20031, Summerhill, Palmerston North, 4410

376 North Range Road, Tararua Ranges, Palmerston North, 4412

Address for service (if different from above)

Organisation: Aurecon New Zealand Limited

Contact person: Claire Steele

Job title: Manager, Environment and Planning

s 9(2)(a)

s 9(2)(a)

Email address for service: s 9(2)(a)

Postal address:

Level 8, 42-52 Willis Street, Wellington, 5011

Part II: Project location

The application: does not relate to the coastal marine area

If the application relates to the coastal marine area wholly or in part, references to the Minister in this form should be read as the Minister for the Environment and Minister of Conservation.

Site address / location:

A cadastral map and/or aerial imagery to clearly show the project location will help.

The Project Site Is Located In 376 North Range Road, On The Tararua Range, Approximately 11 Kms South East Of Palmerston North., A Site Plan With Aerial Imagery Is Provided In Appendix A., Palmerston North, Manawatu-Wanganui, New Zealand

The Project Site Is Located In 376 North Range Road, On The Tararua Range, approximately 11 Kms South East Of Palmerston North. A Site Plan With Aerial Imagery Is Provided In Appendix A.

Legal description(s):

A current copy of the relevant Record(s) of Title will help.

- Record of Title WN238/220
- Record of Title WN241/185
- Record of Title WN245/277
- Record of Title 458987
- Record of Title WN25B-416
- Record of Title WN36B-480
- Record of Title WN23C-569
- Record of Title WN24C/429
- Record of Title WN242/282

- Record of Title WN46D/248
- Record of Title WN46C/217
- Record of Title 990255
- Record of Title WN897/82

A copy of the Records of Title is provided in Appendix B.

Registered legal land owner(s):

The registered legal landowners are detailed in **Appendix C**.

Detail the nature of the applicant's legal interest (if any) in the land on which the project will occur, including a statement of how that affects the applicant's ability to undertake the work that is required for the project:

NZWL - TRH Limited (NZ Windfarms) is the legal landowner of three of the land parcels that the Project covers and therefore has partial control over the current and future development of this land, subject to securing all necessary resource consent approvals for such development. The existing wind farm has land agreements in place over four other land parcels for existing turbines that are located on those properties. The existing wind rights land agreements extend out until circa 2050. The Project will require an updated agreement with those landowners.
The existing wind rights land agreements extend out until circa 2050. NZ Windfarms has made substantial progress in updating the wind right agreements. The land owner of the parcel where the majority of the Project is proposed (the Mabey property) has signed a new wind options agreement to facilitate the Project. There is also a conditional sale and purchase agreement with s 9(2)(a) and s 9(2)(a) which NZ Windfarms is anticipating will go unconditional in the near future. The only properties which are yet to be confirmed are the s 9(2)(a) and the s 9(2)(a) y. However, these properties relate to the location of one turbine (T29). If for some reason agreement cannot be reached with either party, NZ Windfarms would subsequently proceed with a 29-turbine scheme.
NZ Windfarms will also require up to four new agreements with landowners to cover the remaining turbines or network connection where it crosses their land.
Further detail on the applicant's ability to undertake the work is detailed in **Appendix C**.
In addition, the proposed alternative national grid option (referred to as Option 2 in this referral application) will involve work on two additional land parcels (i.e. the Whitelock and Ernslaw properties).

Part III: Project details

Description

Project name: Te Rere Hau Wind Farm Repowering Project (the Project)

Project summary:

Please provide a brief summary (no more than 2-3 lines) of the proposed project.

The Project is to repower the existing Te Rere Hau wind farm. Although the overall wind farm footprint is to be extended and the blades will be larger, there will be less than one third of the current number of turbines once the repowering is complete. The Project involves a redesign of the wind farm layout, focused on the deconstruction and removal of 97 existing smaller wind turbines and the construction of up to 30 new three-bladed turbines.

Project details:

Please provide details of the proposed project, its purpose, objectives and the activities it involves, noting that Section 20(2)(b) of the Act specifies that the application needs only to provide a general level of detail.

Purpose: The purpose of the Project is to repower Te Rere Hau Wind Farm by installing new turbine technology to enable a more efficient and productive wind farm that will contribute immediate and ongoing economic benefits and

employment to the economy, will contribute towards decarbonisation of the electricity industry, and assist with New Zealand's transition to a low emissions economy.

Objectives:

- To efficiently leverage the natural wind resource and existing infrastructure on-site - significantly increasing the supply of renewable energy from the wind farm to the national grid
- To accelerate the 'start' of work - enabling the early realisation of employment and economic benefits and increasing the certainty of ongoing investment for Palmerston North City, Tararua District and the wider Manawatū area
- To materially reduce noise effects for near neighbours and better integrate the wind farm into the surrounding environment through the repower of the Te Rere Hau wind farm with new turbine technology and enhanced layout design
- To make a substantial contribution to New Zealand's efforts to mitigate climate change and hasten the transition towards a low emissions economy

Activities involved in the Project: The Project includes the following:

- works to decommission and remove the 97 existing two bladed turbines with a hub height of approximately 30m, a rotor diameter of 33m and a total height of approximately 47m
- works to construct and operate up to 30 new three bladed turbines with a hub height of approximately 102m, a rotor diameter of 126m, and a total height of approximately 162m
- works to widen, upgrade, and establish approximately 11kms of internal access tracks including culverts
- external road improvements to facilitate access to the site and haul road
- works to improve, upgrade, and establish new turbine foundations and pads for each turbine
- works to construct and operate associated infrastructure including hardstanding areas, underground electrical and communication cables, substation and grid connection equipment
- works to install and operate underground electrical and communication cables, and overhead cables and pylons
- associated works including earthworks, borrow pits and vegetation removal and site planting/rehabilitation

The Project requires the following micro-siting allowances, defined by the following limits:

- 150m flexibility for turbine movements within the defined area (with a reduced perimeter shown in the Turbine Flexibility zone figure in Appendix A)
- No overhang of blade tip over any external boundary
- Distance to the existing radome (a structure owned by Airways which is located within the existing wind farm) no less than 200m

The reason that flexibility is required is to allow for final design of the layout based on details that will be determined through on-going investigations, such as the wind resource (exact predominant direction and variations over the site), exact turbine size, ground conditions and construction issues, and various constraints, setbacks and mitigation strategies that are subject to ongoing discussions with affected parties in conjunction with independent expert advice.

Refer to **Appendix B** for additional details on the options and consenting history of the site.

Where applicable, describe the staging of the project, including the nature and timing of the staging:

NZ Windfarms is not proposing any formal staging of the Project.

There will be two key activities occurring during construction: the decommissioning of the existing turbines and the construction of the new turbines. These two activities will happen in parallel with each other progressively.

This progressive approach would involve the decommissioning of a tranche of turbines before constructing repower turbines. This has been tested and there is a workable sequence that would allow new turbines to be built whilst keeping parts of the existing wind farm operational. The details of the approach will be developed in the next stage

and would ensure compliance with the existing consent conditions, as well as any imposed under the fast track consent.
Refer to **Appendix D** for a construction programme. A decommissioning / installation process has been assumed in this programme.

Consents / approvals required

Relevant local authorities: Horizons Regional Council, Palmerston North City Council, Tararua District Council

Resource consent(s) / designation required:

Land-use consent, Discharge permit

Relevant zoning, overlays and other features:

Please provide details of the zoning, overlays and other features identified in the relevant plan(s) that relate to the project location.

Legal description(s)	Relevant plan	Zone	Overlays	Other features
Refer Part II: Project Location	Operative Tararua District Plan	Rural Management Area	Tararua Range Landscape Protection Area	N/A
Refer Part II: Project Location	Horizons Regional Plan	N/A	Hill Country Erosion Management Area	Near a likely Schedule F habitat: swamp or marsh wetland (note: this is in reference to a catchment in the northern part of the site, to the east of turbines T01 and T02, as referred to in the Ecological Assessment provided in Appendix H) The One Plan identifies the entire ridge crest and hilltop sequence of the Tararua and Ruahine Ranges' as an Outstanding Natural Landscape (as referred to in the Landscape and Visual Assessment provide in Appendix G)
Refer Part II: Project Location	Operative Palmerston North District Plan	Rural Zone	Rural Residential Overlay (only in regard to network connection options)	N/A

Rule(s) consent is required under and activity status:

Please provide details of all rules consent is required under. Please note that Section 18(3)(a) of the Act details that the project **must not include** an activity that is described as a prohibited activity in the Resource Management Act 1991, regulations made under that Act (including a national environmental standard), or a plan or proposed plan.

Relevant plan / standard	Relevant rule / regulation	Reason for consent	Activity status	Location of proposed activity
Horizons One Plan	Rule 13-6 Specified vegetation clearance*, land disturbance* or cultivation* in a Hill Country Erosion Management Area*	The site is located within a Hill Country Erosion Management Area, and the overall cumulative area of earthworks is estimated to be 15ha – 20ha, and the work to extend the road network will require vegetation removal at the eastern and western-most sections. As an initial assessment of this rule, we note that the proposal is near a potential Schedule F habitat (swamp or marsh wetland) but, with good earthworks practices, the wetland is unlikely to be affected by the construction of the pads or access roads and the preferred layout is not close enough to impact the setback triggers within the rule, which would move the activity status to Discretionary. There will be the need to also discharge stormwater from site (via erosion and sediment controls), including turbine and transformer sites and other construction facilities. The discharge of stormwater from ESCP controls are controlled under the rules in chapter 13, as they include the ancillary discharge of sediment laden water to water or land).	Restricted Discretionary Activity	Site wide

		Consent will therefore be sought to: • undertake construction on Hill Country Highly Erodible Land • clear vegetation on Hill Country Highly Erodible Land • clear vegetation, disturb land and discharge contaminants		
Horizons One Plan	Rule 14-30 Discharges of water or contaminants to land or water not covered by other rules in this Plan or chapter	The proposed works will not comply with the permitted activity standards of Rule 14-21 regarding discharges of cleanfill, specifically the rate of cleanfill material discharge. Consent will therefore be sought to: • discharge from clean fill	Discretionary Activity	Site wide
Palmerston North District Plan	Rule R6.3.7.1 Earthworks that do not comply with the Permitted Activity Performance Standards	The proposed works will not comply with the permitted activity standards of R6.3.6.1. The proposed works will require approximately 15ha - 20 ha of earthworks. As such, the proposed work will exceed the permitted volume of R6.3.6.1 (a)(i). Consent will be sought to undertake earthworks.	Restricted Discretionary Activity	Works on the Western side of the Tararua Range
Palmerston North District Plan	Rule R9.8.6 Land use consent for a wind farm	Consent is required to construct a wind farm.	Discretionary Activity	Works on the Western side of the Tararua Ranges
Tararua District Plan	Rule 5.1.5.3 Land Disturbance and Excavation: Where proposed activities do not meet the standards specified in section 5.1.5.2	The proposed access tracks are exempt from restrictions on volume of land disturbance under (b)(i). However, the volume of land disturbance required for the	Discretionary Activity	Works on the Eastern side of the Tararua Range

		proposed works (other than the construction and upgrade of access tracks) will be greater than 1000m3. As such a discretionary consent will be sought. Consent will be sought to undertake earthworks of more than 200m3 of soil and clean fill material.		
Tararua District Plan	Rule 5.5.3.3(b)(ii) Modification or damage to, or destruction of, or within, any Category B item.	Appendix 3.3 of the TDP includes a list of significant natural features and landscapes which includes 'Skyline of the Tararua Ranges'. The proposal would modify the skyline of the Tararua Ranges, which requires discretionary consent. Consent will be sought to modify a "significant natural feature".	Discretionary Activity	Works on the Eastern side of the Tararua Range
National Environmental Standard for Freshwater	Regulation 71 Placement of a culvert in on or under the bed of a river not otherwise provided for	The consent may be required (subject to specific design requirements and environmental assessments). An initial assessment of the new watercourse culverts indicates compliance with the standards. Early ecological assessment indicates that there are no fish habitat in these areas as in upper reaches, waterways are seasonably dry, and they are not within the mentioned overlays. It is noted that the permitted activity standards for both rules in the One Plan and the NES-FM for culverts require the	Discretionary Activity (only if required)	The road north of Turbine T06 that crosses three small headwater streams and the area adjacent to the Queen Elizabeth II National Trust (QEII) covenant area (e.g. Road C2 – Alternative 1 and Alternative 2)

		structures to provide for fish passage – this requirement is not removed if there is limited fish habitat. If the culverts are not proposed to be fish passable, consents would be required, which is where the assessment would consider the upstream fish habitat and effects on fish passage. Confirmation will be provided as part of the next stage. i.e. through the consenting process. There will be some existing cross culverts that may need to be modified – but this is excluded from requiring consents under the legislation.		
National Environmental Standard for Freshwater	Regulation 45 Construction of specified infrastructure	The consent may be required (subject to specific design requirements and environmental assessments). The One Plan recognises facilities for the generation of more than 1 MW of electricity and its supporting infrastructure where the electricity generated is supplied to the electricity distribution and transmission networks as a physical resource of regional or national importance. Early ecological assessments have provided an early indication of areas that are potential wetlands	Discretionary Activity (only if required)	Site wide

		and which are only wetted gully floors. From this assessment, there is no vegetation clearance within, or within a 10 m setback from a potential natural wetland. There is one area of earthworks within a 10m setback from a potential natural wetland, however, it is anticipated that this can be avoided by realigning the road away from the 10 m setback. In terms of (c), there is no taking, use, or damming of water within or within a 100m setback from a natural wetland. The earthworks would result in temporary division and discharge of water (via erosion and sediment controls) during construction within the 100m setback of a potential natural wetland. All of road D3 is therefore potentially affected, and road D1/D2 where it comes close to the potential wetland extents. No turbines are located within 100m setback from a natural wetland. A more detailed ecological assessment of the potential wetland areas will occur at the next stage and a determination made as to whether the areas meet the definition of a natural wetland. Preliminary advice is that some (if		

		not all) of these areas may fall within an exclusion to that definition.		
Horizons One Plan	Rule 13-7 Vegetation clearance, land disturbance, cultivation or forestry that does not comply with Rules 13-1 to 13-6	The consent may be required (subject to specific design requirements and environmental assessments). The proposal is near a potential Schedule F habitat (swamp or marsh wetland). If the proposed works cannot comply with the standards contained in the Rule 13-6 then discretionary activity consent will be required. Compliance with the standards will need to be assessed.	Discretionary Activity (only if required)	Site wide
Horizons One Plan	Rule 14-19 Discharges^ of stormwater to surface water^ or land not complying with Rule 14-18	The consent may be required (subject to specific design requirements and environmental assessments). This rule is in regard to the ongoing generic stormwater discharge from the site once construction is complete. If the proposed works cannot comply with the standards contained in the Rule 14-18 then discretionary activity consent will be required. Compliance with the standards will need to be assessed.	Restricted Discretionary Activity (only if required)	Site wide
Horizons One Plan	Rule 16-13 Diversions that do not comply with permitted activity and controlled activity rules	The consent may be required (subject to specific design requirements and environmental assessments).	Discretionary Activity (only if required)	The road north of Turbine T06 that crosses three small headwater streams and the area adjacent to the QEII covenant area (e.g. Road C2 – Alternative 1 and Alternative 2)

		If either of the road alternatives are proposed, then stream diversions will be required. Compliance with the standards will need to be assessed. If these standards cannot be achieved, discretionary consent will be sought.		
Horizons One Plan	Rule 17-23 Placement of culvert that does not comply with the permitted activity standards	The consent may be required (subject to specific design requirements and environmental assessments). Compliance with the standards will need to be assessed. If these standards cannot be achieved, discretionary consent will be sought. It is noted that the permitted activity standards for both rules in the One Plan and the NES-FM for culverts require the structures to provide for fish passage – this requirement is not removed if there is limited fish habitat. If the culverts are not proposed to be fish passable, consents would be required, which is where the assessment would consider the upstream fish habitat and effects on fish passage. If the proposed culvert does not comply with the permitted activity standards, consent will be required.	Discretionary Activity (only if required)	The road north of Turbine T06 that crosses three small headwater streams and the area adjacent to the QEII covenant area (e.g. Road C2 – Alternative 1 and Alternative 2)
Palmerston North District Plan	Rule R9.9.3 Wind Farms that do not comply with the Discretionary Activity Performance Standards in R9.8.6	Compliance with the standards will need to be assessed. If these standards cannot be achieved, non-	Non-Complying Activity (only if required - noting that the early assessments show that this rule would not be triggered)	Works on the Western side of the Tararua Range

		complying consent will be sought. As noted above, the key standard to comply with relates to noise. Early noise assessments have shown compliance with NZS 6808:2010 on the Palmerston North side of the proposal.		
Tararua District Plan	Rule 5.4.1 Wind Farms that do not comply with the Noise and Vibration Standards in 5.4.1	Compliance with the standards will need to be assessed. If these standards cannot be achieved, discretionary consent will be sought.	Discretionary Activity (only if required)	Works on the Eastern side of the Tararua Range
Tararua District Plan	Rule 5.3.7.2(b) Land use consent for a wind farm	Consent is required to construct a wind farm.	Discretionary Activity	Works on the Eastern side of the Tararua Range
Tararua District Plan	Rule 5.3.1.4(e)(i) Any activity which is not a permitted or a controlled activity, shall be a discretionary activity.	Proposed widening or works to existing legal roads requires discretionary consent. Consent will be sought to alter access tracks from North Range Road.	Discretionary Activity	Works on the Eastern side of the Tararua Range: widening or works to existing legal roads
Palmerston North District Plan	Rule R.9.9.1 Other Activities within the Rural Zone	The consent may be required, if it is determined that grid connection option 2 is preferred. This rule relates to activities that are not provided for within the rural zone. Transmission lines not proposed by a Network Utility Provider are not provided for, and as such, consent would be required.	Non-complying Activity (only required for the construction of grid connection option 2).	Works on the Western side of the Tararua Range

Resource consent applications already made, or notices of requirement already lodged, on the same or a similar project:

Please provide details of the applications and notices, and any decisions made on them. Schedule 6 clause 28(3) of the COVID-19 Recovery (Fast-track Consenting) Act 2020 details that a person who has lodged an application for a resource consent or a notice of requirement under the Resource Management Act 1991, in relation to a listed project or a referred project, must withdraw that application or notice of requirement before lodging a consent application or notice of requirement with an expert consenting panel under this Act for the same, or substantially the same, activity.

No resource consent applications or notices of requirement have previously been made for the Project.
A resource consent application for a meteorological mast was lodged on the 5/11/21. This is related to the project as the proposed meteorological mast will allow NZ Windfarms to gather valuable meteorological information. It has

been applied for in advance, so that information obtained from the mast, will be able to inform site layout and design during the consenting phase.

Resource consent(s) / Designation required for the project by someone other than the applicant, including details on whether these have been obtained:

NZ Windfarms will be seeking the majority of resource consents associated with the Project.
If Option 1 to uprate the existing transmission line is selected as the preferred option to accommodate the Project, resource consents would be required under the National Environmental Standards for Electricity Transmission Activities (NESETA) to connect into Transpower's network and would be obtained by Transpower. If a new transmission line is required (Option 2), then Transpower may choose to designate this at a later stage, noting that the scope for the necessary resource consents are being applied for now, by NZ Windfarms. NZ Windfarms are currently liaising with Transpower regarding the options and the most appropriate pathway will be confirmed once the preferred option is confirmed. Further information on NZ Windfarms engagement with Transpower is contained within Appendix F (email correspondence from Vanessa Head, dated 3 December 2021).
NZ Windfarms have included consideration of the network grid connections in this referral form for completeness, to demonstrate that the network connections have been considered and feasible options are available. Decisions on options will be made and necessary consents applied for as part of the next application phase, if the Project is referred.

Other legal authorisations (other than contractual) required to begin the project (eg, authorities under the Heritage New Zealand Pouhere Taonga Act 2014 or concessions under the Conservation Act 1987), including details on whether these have been obtained:

No authorities under the Heritage New Zealand Pouhere Taonga Act 2014 or concessions under the Conservation Act 1987 have been identified as being required for the Project.
Building consents under the Building Act 2004 may be required for ancillary structures (such as new substations) following the granting of resource consents. Wind turbines do not need building consent provided they are designed by a chartered professional engineer and peer reviewed.
There is an internal notification process for proposals to construct or alter a structure – Civil Aviation Rules Part 77. This notification form is to be submitted to the Civil Aviation Authority at least 90 days before the proposed commencement date of construction.
There is potential for other legal authorities under the Wildlife Act 1953 to be required, dependent on the full ecological assessment that will be prepared in support of the next stage (i.e., post referral and prior to lodgement with the EPA).
Over-dimension permits will be required to transport equipment from the port of arrival to the wind farm from Waka Kotahi NZ Transport Agency.

Construction readiness

If the resource consent(s) are granted, and/or notice of requirement is confirmed, detail when you anticipate construction activities will begin, and be completed:

Please provide a high-level timeline outlining key milestones, e.g. detailed design, procurement, funding, site works commencement and completion.

The Project will be ready for construction following the grant and commencement of consents (pre-construction planning and site preparation activities). NZ Windfarms has sufficient funding to resource all aspects of the referral, consenting, pre-construction and site preparation phases. Work is already underway on the technical assessments required to inform the resource consent applications, with all consultants commissioned.
NZ Windfarms is undertaking a capital raising process to ensure that it has sufficient funds to enable the project to commence promptly once consents have been granted. This process is set out in **Appendix J**. This describes NZ Windfarms track record in terms of capital raising and details the likely approach and expected timeframe to raise and secure the funding in order to get the substantive / major physical works part of the Project's construction underway.

In terms of the Project timeline, detailed design will occur partially in parallel with the processing of the resource consent application.
The planning and construction phase is expected to occur from October 2021 through to February 2025, a period of 41 months or 3.4 years. The early months consist of planning and procurement, with construction expected to begin in late 2022 once consents have been granted.
As shown by the indicative construction programme, by July 2024, the decommissioning of all turbines would be almost finished, with only six additional months before construction could be completed.
Refer to **Appendix D** for a construction programme.

Part IV: Consultation

Government ministries and departments

Detail all consultation undertaken with relevant government ministries and departments:

To date NZ Windfarms has carried out pre-application discussions with the Ministry for the Environment (MfE) fast track application team.
NZ Windfarms has provided MfE with pre-application information including project background and scope, the consents and approvals required, potential to meet the purpose of the COVID-19 Recovery (Fast Track Consenting) Act 2020 (employment, timing and investment certainty, sustainable management, public benefit), and location information.
NZ Windfarms met with the MfE on 12/10/21 (Jess Hollis and Max Gander-Cooper) to further outline their programme, intention and timeline, and to gather advice on the process and application contents. During this meeting there was general agreement from MfE that the Project is worthy of consideration under the legislation – acknowledging that the decision would be left to the Minister and dependent on the information presented in the referral form. Representatives of NZ Windfarm's planning advisors (Aurecon) also met with Jess Hollis on 11 November 2021 to discuss the Project and the draft application process.
NZ Windfarms submitted a draft application to MfE for pre-lodgement feedback and has incorporated responses to MfE's feedback in this application.
NZ Windfarms has sought to engage with Department of Conservation (DOC). DOC responded to NZ Windfarms request to engage via return email on 17 November 2021 requesting further detail on the proposal before confirming their potential scope of interest. NZ Windfarms will continue engaging with DOC over the coming weeks.

Local authorities

Detail all consultation undertaken with relevant local authorities:

NZ Windfarms (and its representatives) have had numerous meetings and email interactions with the relevant regional and local authorities: Horizons Regional Council, Tararua District Council, and Palmerston North City Council. Workshops were held with senior staff from all local authorities to introduce the Project, discuss relevant aspects of the proposed repower, and to broadly agree on the nature of the ongoing relationship and management of the process between parties (irrespective of the pathway taken). Information was sent to all local authorities to distribute to Elected Members and call centres, should they receive questions. Selected Elected Members were invited to the community dinner for near neighbours of the wind farm. High-level environmental effects summaries and an indication of required consents was provided to each local authority in early November. All three local authorities are supportive of the project in principle and wish to build an ongoing collaborative relationship. It is anticipated that a more formal ongoing consenting and compliance structure will be confirmed with the three authorities in late November. For detail on each local authorities' engagement, please refer to **Appendix E**.

Other persons/parties

Detail all other persons or parties you consider are likely to be affected by the project:

Persons/parties that may potentially be affected by the Project are listed below.
a. Landowners

- s 9(2)(a)
- s 9(2)(a)
- s 9(2)(a)
- s 9(2)(a)
- s 9(2)(a)
- s 9(2)(a)
- s 9(2)(a)
- s 9(2)(a)

b. Immediate neighbours
c. Neighbours within 3km radius
d. Mana whenua/Iwi.
e. Waka Kotahi NZ Transport Agency (Waka Kotahi)
f. Airways
g. Civil Aviation Authority
h. Transpower
i. Mercury Energy Limited (Mercury)
j. DOC
k. Utilities
l. Queen Elizabeth II National Trust (QEII)

Detail all consultation undertaken with the above persons or parties:

Engagement is ongoing and will be continued as the Project progresses.
Landowners: NZ Windfarms is carrying out ongoing engagement with all potentially directly affected landowners to discuss either a wind turbine or possible network connection on their land. All landowners have been supportive in principle, and discussions have focussed on their specific needs and/or situation. Engagement is ongoing. The land parcels affected are identified earlier in Part II.
Immediate neighbours: NZ Windfarms identified 44 near neighbours most affected by the existing Te Rere Hau wind farm and any potential repowering project, using information from the previous conditions review (s. 128 process (discussed in section Part III, Project Details, Consenting history and Track Record section). NZ Windfarms wrote a letter to these parties, outlining the Project and the intention to apply to repower through the Fast Track Consenting application process, extending an invitation to a community dinner. NZ Windfarms hosted the community dinner on 18/10/21, and representatives from 22 households attended. NZ Windfarms presented the Project, highlighting all potential effects including visual considerations, and a reduction in noise impact. A 30-minute Q&A was held. NZ Windfarms also gathered feedback forms and reconnected with neighbours who provided email addresses post dinner. A few neighbours raised concerns or asked for more information, which have been followed up on, and engagement continues with several parties. The surrounding neighbours are generally positive as the Project is expected to reduce noise effects.
Neighbours within 3km radius: The Applicant carried out a letter drop on 22/10/21 to a further 68 neighbours within a 3km radius of the wind farm, to share information about the Project and the intention to apply for repower consent through the Fast Track Consenting application process. No feedback has been received from the letter drop to date.
Mana whenua/Iwi: See Part V for iwi engagement summary.
Waka Kotahi NZ Transport Agency: NZ Windfarms met with Waka Kotahi to discuss transportation requirements and considerations as they relate to the transportation network and the construction phase of the Project. NZ Windfarms is taking advice from Waka Kotahi on transport related matters and will continue this engagement to determine the best approach to the transport route for the turbines from the arrival port.
Airways: NZ Windfarms has been engaging with Airways since August 2021 to discuss the Project, acceptable build heights and the location of new turbines sites. Whilst there are no set approvals required, NZ Windfarms understands that the entire repower layout will require a detailed assessment of the effects of the turbines on radar. Airways have built a computer model to assess the potential obstruction caused by the repower turbines to their radar operation. An update on the progress of this work and preliminary findings was provided by Airways at a meeting on 26 November 2021. Based on the preliminary

assessment, Airways have confirmed that their obstruction modelling has not identified any issues with the proposed layout and height of the repowered turbines, although T19 and T20 have been identified as being two turbines that will be subject to some further analysis due to the proximity of the radome (with T19 being 212m from the radome and T20 being about 290m). However, as Airways proposes to decommission the radar in early 2025, and due to NZ Windfarms proposal to micro-site turbines, it is not anticipated that this proximity will cause an issue. To that end, timelines have been discussed and there is general alignment with the proposed build of the turbines and decommissioning of the radar giving NZ Windfarms confidence that any potential issues can be managed. There will be ongoing discussions between NZ Windfarms and Airways to confirm the approach.

Civil Aviation Authority: NZ Windfarms contacted the Civil Aviation Authority to invite their input into the repower project. NZ Windfarms has been advised to complete the required notification form 90 days prior to construction starting of a new aviation hazard, outlining the details of the hazard so this information can be shared with pilots.

Transpower: NZ Windfarms has met with Transpower to discuss grid connection options and has had ongoing correspondence. Transpower has provided advice on connection options, outlining the need for new land easements and resource consents. Transpower could progress the development, consenting and construction of the grid connection, or NZ Windfarms may progress this (subject to meeting Transpower's requirements / standards). For this reason, the potential grid connection options have been included in the scope of the Project, including the necessary resource consents. A summary of ongoing discussions held between NZ Windfarms and Transpower is contained within Appendix F (refer to email correspondence from Vanessa Head, dated 3 December 2021). Ongoing engagement will be carried out to continue exploring options and to discuss consenting requirements

Mercury: NZ Windfarms has met with Mercury to discuss connection options using the existing connection for Tararua Wind Farm. The existing wind farm connects through Mercury's T3 and there have been discussions about extending this arrangement and increasing capacity. Mercury have indicated that they are happy to work with NZ Windfarms provided that their ability to repower the Tararua Wind Farm is not compromised. Additional discussions have progressed by email and Mercury has independently connected with Transpower to discuss the variable line rating option for the existing spur. Further discussions are planned to explore this option.

DOC: DOC responded to NZ Windfarms request to engage via return email on 17 November 2021 requesting further detail on the proposal before confirming their potential scope of interest. DOC are interested in the proposed layout, earthworks and an understanding of potential environmental effects including ecological aspects and noise. NZ Windfarms will continue engaging with DOC over the coming weeks.

Utilities: NZ Windfarms is gathering information on utilities with radio transmitter licences in the area and intends to engage with utility providers once that is complete.

QEII: NZ Windfarms is carrying out discussions with John Williamson from QEII regarding track widening/vegetation removal/trimming. This sits alongside work the Applicant is carrying out to investigate an alternative road alignment option. This includes a process of surveying the land and attempting to minimise the amount of vegetation clearance that would be needed.

Please see **Appendix F** for a table summarising the consultation undertaken in more detail.

Part V: Iwi authorities and Treaty settlements

For help with identifying relevant iwi authorities, you may wish to refer to Te Kāhui Māngai – Directory of Iwi and Māori Organisations.

Iwi authorities and Treaty settlement entities

Detail all consultation undertaken with Iwi authorities whose area of interest includes the area in which the project will occur:

Iwi authority	Consultation undertaken
Iwi Authority under RMA: Tanenuiarangi Manawatū Incorporated (Rangitāne o Manawatū) One of three iwi authorities who	The Applicant reached out via email with a project overview and invitation to engage and hold a hui on site (30/9/21). Rangitāne o Manawatū responded positively to this invitation and met with NZ Windfarms on site on 6 October

has interests/authority in the area where the Project would be carried out.	2021. Rangitāne o Manawatū are generally supportive of the Project. The next steps agreed between the Applicant and Rangitāne o Manawatū are outlined below • Review the original Memorandum of Understanding. • Participate in the Induction process for onsite contractors (highlighting what they should be looking for regarding taonga and artefacts) • Complete a Cultural Impact Assessment (CIA) (that would include stories of historical significance as mentioned above) • Further discussion on contributions towards resourcing the Iwi Environmental team (field logistics, professional & skill development). • Share the technical environmental summaries developed for the referral application for information to inform CIA requirements. Most recently, NZ Windfarms has supplied all technical environmental information developed for this referral application and requested that Rangitāne o Manawatū confirm the need for a CIA or otherwise (email correspondence dated 26/11/21).
Iwi Authority under RMA: Rangitāne o Tāmaki Nui a Rua One of three iwi authorities who has interests/authority in the area where the Project would be carried out	The Applicant reached out via email with a project overview and invitation to engage and hold a hui on site (30/9). Rangitāne o Tāmaki Nui a Rua responded positively to this invitation and met with NZ Windfarms on site on 13 October. Rangitāne o Tāmaki Nui a Rua are generally supportive of the Project. The next steps agreed between the Applicant and Rangitāne o Tāmaki Nui a Rua are outlined below. • Ongoing engagement to determine partnership direction. • Share the technical environmental summaries developed for the referral application for information to inform CIA requirements. Most recently, NZ Windfarms has supplied all technical environmental information developed for this referral application and requested that Rangitāne o Tāmaki Nui a Rua confirm the need for a CIA or otherwise (email correspondence dated 26/11/21).
Te Rūnanga o Raukawa Incorporated (Ngāti Raukawa ki te Tonga) One of three iwi authorities who has interests/authority in the area where the Project would be carried out.	NZ Windfarms has made multiple attempts to engage with this iwi, with no response received to date. Attempts to engage with Ngāti Raukawa ki te Tonga are ongoing. Most recently, NZ Windfarms has supplied all technical environmental information developed for this referral application and requested that Ngāti Raukawa ki te Tonga confirm the need for a CIA or otherwise (email correspondence dated 26/11/21).
Te Taiwhenua o Tāmaki-nui-a-Rua Trust (Ngāti Kahungunu ki Tāmaki nui-a-Rua) While this iwi doesn't appear from Te Kāhui Māngai to have interest within the boundaries of the Project footprint, the Applicant acted on advice from TDC to engage with this iwi	NZ Windfarms reached out via email with a project overview and invitation to engage and hold a hui on site (8/10). Rangitāne o Tāmaki nui-a-Rua responded positively to this invitation and met with NZ Windfarms on site on 14 October. The next steps agreed between NZ Windfarms and Ngāti Kahungunu ki Tāmaki nui-a-Rua are outlined below. • Project has iwi support as it responds to climate change direction, responding directly to values iwi holds close. • Ongoing engagement to determine partnership direction as underpinning principle. • The Applicant will make contact when technical reporting is complete to further discuss opportunities to carry out cultural impact assessment. Most recently, NZ Windfarms has supplied all technical environmental information developed for this referral application and requested that Ngāti Kahungunu ki

	Tāmaki nui-a-Rua confirm the need for a CIA or otherwise (email correspondence dated 26/11/21).
Te Rūnanga o Toa Rangatira Inc (Ngāti Toa Rangatira) While this iwi doesn't appear from Te Kāhui Māngai to have interests in the boundaries of the Project footprint, the Applicant acted on advice from the MfE to engage with this iwi.	The Applicant has made multiple attempts to engage with this iwi, with no response.

Detail all consultation undertaken with Treaty settlement entities whose area of interest includes the area in which the project will occur:

Treaty settlement entity	Consultation undertaken
Rangitāne o Manawatū Settlement Trust One of three iwi authorities who has interests/authority in the area where the Project would be carried out.	Engagement undertaken with Rangitāne is set out above.

Treaty settlements

Treaty settlements that apply to the geographical location of the project, and a summary of the relevant principles and provisions in those settlements, including any statutory acknowledgement areas:

Section 18(3)(b) of the Act details that the project **must not include** an activity that will occur on land returned under a Treaty settlement where that activity has not been agreed to in writing by the relevant land owner.

In terms of the Treaty of Waitangi/Te Tiriti o Waitangi, it is recognised that the following Treaty settlements provide important context to the Project:

- Rangitāne o Manawatū Claims Settlement Act 2016;
- Rangitāne o Wairarapa and Rangitāne Tamaki nui-ā-Rua Claims Settlement Act 2016
- the initialled Deed of Settlement between the Crown and Ngāti Kahungunu ki Wairarapa Tāmaki Nui-ā-Rua 2020.

Rangitāne o Manawatū Claims Settlement Act 2016

The Crown and Rangitāne o Manawatū signed a Deed of Settlement on 14 November 2015. The Rangitāne o Manawatū Deed of Settlement settled all historical claims of Rangitāne o Manawatū resulting from acts or omissions by the Crown and is made up of a package that includes:

- an agreed historical account, acknowledgements and apology
- cultural redress
- financial and commercial redress.

The Rangitāne o Manawatū Claims Settlement Act 2016 includes statutory acknowledgements and accompanying statements of association in respect of the Manawatū River and tributaries within the area of interest. The area of interest recognised in the Deed of Settlement includes the area in which the Project is located.

No private land was transferred under the Rangitāne o Manawatū Deed of Settlement.

Rangitāne Tū Mai Rā (Wairarapa Tamaki nui-ā-Rua) Claims Settlement Act 2017

The Crown and Rangitāne o Wairarapa and Rangitāne Tamaki nui-ā-Rua signed a Deed of Settlement on 6 August 2016. The Rangitāne Deed of Settlement is the final settlement of all historical Treaty of Waitangi claims of Rangitāne resulting from acts or omissions by the Crown, and is made up of a package that includes:

- an agreed historical account, Crown acknowledgments and apology
- cultural redress
- financial and commercial redress.

The Settlement includes statutory acknowledgments in respect of the Manawatū River and tributaries within the area of interest.

The area of interest recognised in the Deed of Settlement excludes but is in proximity to the area in which the Project is located.

No private land was involved in the Rangitāne Tū Mai Rā Deed of Settlement.

Deed of Settlement between the Crown and Ngāti Kahungunu ki Wairarapa Tāmaki Nui-ā-Rua 2020
The Ngāti Kahungunu ki Wairarapa Tāmaki nui-a-Rua Deed of Settlement is the final settlement of all historical Treaty claims of Ngāti Kahungunu ki Wairarapa Tāmaki nui-a-Rua resulting from acts or omissions by the Crown prior to 21 September 1992, and includes:

- an agreed historical account, Crown acknowledgements and apology
- cultural redress
- statutory acknowledgements
- financial and commercial redress.

The area of interest recognised in the Deed of Settlement excludes but is in proximity to the area in which the Project is located.
No private land was involved in the Ngāti Kahungunu ki Wairarapa Tāmaki nui-a-Rua Deed of Settlement.

Part VI: Marine and Coastal Area (Takutai Moana) Act 2011

Customary marine title areas

Customary marine title areas under the Marine and Coastal Area (Takutai Moana) Act 2011 that apply to the location of the project:

Section 18(3)(c) of the Act details that the project **must not include** an activity that will occur in a customary marine title area where that activity has not been agreed to in writing by the holder of the relevant customary marine title order.

The Project is not located in the coastal marine area and accordingly there are no relevant customary marine title considerations.

Protected customary rights areas

Protected customary rights areas under the Marine and Coastal Area (Takutai Moana) Act 2011 that apply to the location of the project:

Section 18(3)(d) of the Act details that the project **must not include** an activity that will occur in a protected customary rights area and have a more than minor adverse effect on the exercise of the protected customary right, where that activity has not been agreed to in writing by the holder of the relevant protected customary rights recognition order.

The Project will not occur in the coastal marine area and accordingly there are no relevant protected customary right considerations.

Part VII: Adverse effects

Description of the anticipated and known adverse effects of the project on the environment, including greenhouse gas emissions:

In considering whether a project will help to achieve the purpose of the Act, the Minister may have regard to, under Section 19(e) of the Act, whether there is potential for the project to have significant adverse environmental effects. Please provide details on both the nature and scale of the anticipated and known adverse effects, noting that Section 20(2)(b) of the Act specifies that the application need only provide a general level of detail.

A number of technical environmental assessments have been commissioned by NZ Windfarms to inform the referral application including how the Project meets those relevant matters which are important to achieve the purpose of the Act and to confirm whether there is the potential for the Project to have significant adverse effects, including greenhouse emissions. These technical assessments include:

- Economics
- Landscape and visual

- Ecology
- Erosion and sediment control
- Noise
- Transport
- Archaeology
- CIA.

The CIA has not been commissioned yet as NZ Windfarms are currently working with iwi to determine the scope and extent of any required CIAs.

The following presents a general description of the anticipated and known effects of the Project on people and the environment, in sufficient detail to inform the Minister's decision on this application for referral.

Economics

The economic benefits are the employment and regional GDP contributions to the local economy directly as a result of the Project's expenditure activity during the two key Project phases: construction and ongoing operation. NZ Windfarms has engaged Jason Leung-Wai from MartinJenkins to complete an economic assessment of the Project. The full report is included in **Appendix E**.

The key findings are as follows:

• Total cost of the Project is estimated at s 9(2)(b)(ii) .

• Of this, s 9(2)(b)(ii) will be spent in New Zealand s 9(2)(b)(ii) in the first year, s 9(2)(b)(ii) in the second year, and s 9(2)(b)(ii) in the third year) with about s 9(2)(b)(ii) spent directly in the local area (about s 9(2)(b)(ii) is spent in the first year, s 9(2)(b)(ii) in the second year and s 9(2)(b)(ii) in the third year).

• During the construction period, the Project will support (including direct, indirect and induced) 450 full-time employees (FTEs). The s 9(2)(b)(ii) spent in the local area will directly lead to 193 jobs over the three-year period (15 in the first year to 93 in the third) and contribute s 9(2)(b)(ii) to the local area GDP. Nationally, the s 9(2)(b)(ii) spent in New Zealand will directly lead to 197 jobs over three years and contribute s 9(2)(b)(ii) to New Zealand's GDP.

• Including indirect and inducted expenditure, the construction phase will support a further 410 jobs, bringing the total impact on jobs to 606. Similarly, this would result in an additional s 9(2)(b)(ii) in GDP, bringing the total impact on GDP to s 9(2)(b)(ii)

• Once repowered, Te Rere Hau wind farm is expected to cost about s 9(2)(b)(ii) to operate annually: s 9(2)(b)(ii) more than the current annual operating costs (about s 9(2)(b)(ii) will be spent in New Zealand, with about s 9(2)(b)(ii) s 9(2)(b)(ii) spent directly in the local area).

• Operationally, the repowered Te Rere Hau will support 67 FTEs in the local area. Directly, the s 9(2)(b)(ii) spent in the study area will lead to 40 jobs each year and contribute s 9(2)(b)(ii) to the local area GDP.

Further to the above, the Project will realise wider economic benefits, namely:

• Repowering Te Rere Hau wind farm will significantly increase output from the Manawatū region, further strengthening the region's position in the renewable energy industry.

• Rentals from the wind farm improve the economics for the sheep and beef farms, providing them with a new stable income stream and improved site access.

• The Project will result in significant productivity improvements for the Te Rere Hau wind farm.

• The Project supports the government policies around climate change and transition to lower emissions.

Overall, the Project is expected to make a positive economic contribution to New Zealand and meet the purpose of the Act in that regard, bringing forward investment which will in turn support the local economy and provide for employment opportunities.

Landscape and Visual Effects

A landscape and visual assessment has been undertaken by Stephen Brown (Brown NZ Ltd) to inform the summary of potential effects. This assessment includes a series of visual simulations from a range of representative viewpoints on both sides of the Tararua Ranges and from nearby properties.

The assessment highlights that the existing landscape is a mixture of open pasture and various vegetation. The Project is located within a sequence of existing wind farms, with the property itself containing several farm tracks, sheds, fencing and other buildings. The site remains a highly developed and modified environment.

The One Plan identifies the entire ridge crest and hilltop sequence of the Tararua and Ruahine Ranges' as an Outstanding Natural Landscape. However, the landscape and visual assessment acknowledges that it is far from

wholly natural or pristine. It is better described as a working landscape of which the series of wind farms on its upper slopes and main spine is a distinctive and highly influential feature.

The assessment notes that the existing operation and turbine layout of Te Rere Hau appears to have a 'busy' visual character when operating due to the number and speed of the existing two-bladed turbines. Consequently, while the proposed turbines are more visually prominent, they have more aesthetic appeal than the current turbines and there will be fewer of them. The proposed turbines (which are taller three-bladed turbines) will create a stronger sense of integration with other nearby wind farms.

For most viewpoints assessed, there will be a low to low-moderate level of effect for the reasons set out above. However, for two viewpoints (5 & 6), due to the location of proposed turbine (T04) and the number of surrounding visible proposed turbines, there is a slightly higher level of effect (with viewpoint 5 being classed as moderate landscape and amenity effects. Despite this, the assessment confirms that the nature, scale and cohesion of the proposed turbines will limit the ratings for those residential viewing catchments.

Overall, due to the highly modified and developed environment the Project is deemed to have a low level of effect on the visual, natural and scenic characteristics of the skyline. It is considered that there will be no effect in relation to the skyline's aesthetic cohesion and continuity and the skylines prominence and visual contrast with the region's plains would be unaffected by the Project.

In terms of effects on individual viewpoints, there is a point or threshold that is reached – notably around Ridgeview Road and, to a lesser extent, Harrisons Hill Road – where the larger scale of proposed turbine T04, combined with a greater number of visible machines overall and their visible rotation would result in a jump to a marginally higher level of effect. However, the presence of the existing wind farm, together with intervening forestry and landforms, helps to limit the scale of effects in relation to nearby residents.

Overall, the Project will not result in adverse landscape and visual effects that are significant. The landscape and visual assessment summary is included in **Appendix G**.

Ecological Effects

An ecological assessment has been prepared by Wildland Consultants, to assess any potential effects of the Project on ecological values. This assessment is based on both desktop research and a site visit. The ecological assessment summary is included in **Appendix H**. The Project is within the Manawatū South Ecological District, which is considered a predominately Category 3 land environment, with 20-30% indigenous cover remaining. The Project is predominately within pasture grassland on a working farm, with areas of horopito scrub in gullies and on slopes, wetlands in lower lying areas, and a QEII -covenanted block of tawa, mahoe horopito-porokaiwhiri forest in the north-east section.

The following aspects of ecology have been considered and assessed:

• Terrestrial: The majority of proposed turbines will be located along existing roads, which are predominately surrounded by pasture or bare earth and rock. The proposed widening of the road corridor through the QEII block will potentially require some vegetation trimming or removal. The habitat has not been identified within the One Plan as a Rare, Threatened or At-risk habitat. Survey work and a management plan will be required to address potential effects and provide appropriate mitigation if this option is progressed.

• Wetlands: The proposed turbine layout has avoided the placement of turbine sites within existing natural wetlands. Three new turbine pads (T01, T02, and T06) are to be located upslope of the wetland but, subject to good earthworks practices, the wetland is unlikely to be affected by the construction of the pads or access roads. As such, wetlands should not be affected. There are no wetlands within 100 metres of proposed works but there are grazed pasture seepages adjacent to the proposed road network, i.e. within 10 metres.

• Avifauna: The most abundant bird species found on site are introduced species along with several non-migratory indigenous bird species. It is not considered that the Project is within the flight path of any important migratory shorebird or wetland bird species. There is some risk to birds of prey and species that are strong-fliers and known to cross open habitat between forest patches. Overall, potential effects on avifauna will be limited primarily to a suite of common exotic or indigenous passerines that utilise the largely pastoral landscape. Monitoring of the operational effects on the wind farm is advisable.

• Bats: International evidence suggests that bats are attracted to wind turbines, which leads to injury or death. There are no records of long-tailed bats or central lesser short-tailed bats in the Department of Conservation bat distribution database within 19km of the Project site. There have also been numerous surveys within 19km of the site that have failed to detect bats. As such, it is unlikely that bats use the Project site for roosting or foragings. No monitoring is therefore recommended.

• Herpetofauna: Six indigenous lizard species have been found to occur within a 10km radius of the site and may occur on site. A further species occurs widely within the Manawatū Gorge South Ecological District. All species are protected under the Wildlife Act 1953, and it is an offense to disturb or destroy lizards without a wildlife permit from DoC. A survey and management plan will be provided to mitigate any potential effects.
• Terrestrial Invertebrates: Terrestrial invertebrates include spiders, seed bugs, outhouse flies and the endemic tiger beetle. Indigenous invertebrates species are likely to be found within the indigenous forests and scrub in gullies. The Project is largely occurring within grazed pasture, which is not considered to be important habitat for indigenous invertebrates. As per the recommendations associated with Herpetofauna above, works within the indigenous forest, scrub in gullies and other appropriate habitats will require further assessment, including surveys and a management plan.
• Aquatic: Construction of the turbine pads will not directly affect any waterways. However, widening of existing road networks will required extensions of the existing culverts. As such, temporary stream disturbance and small-scale loss of stream habitat is likely to occur. While further assessment is required pursuant to the NES-FW in regards to fish passage, it is considered that the existing small gullies are unlikely to contain substantial amounts of fish habitat.
The preferred network option will require trenching to lay new underground cabling along the same alignment as the current lines which follow the established road through pasture grassland and pine plantation. The alternative option involves a new connection consisting of four kilometres of single overhead circuit poles from the Bunnythorpe-Linton double circuit line up the western slopes to a new on-site substation between proposed turbines T15 and T16. This alignment option requires no trenching or earthworks, and each proposed single pole is to be located in pasture grassland or pine plantation and adverse effects are unlikely.
Overall, all potential adverse effects set out above are considered to be of low level of effect and can be managed appropriately through the implementation of an Environmental Management Plan that outlines best-practice construction methods and mitigation.

Erosion and Sediment Control (Discharge Management)

An erosion and sediment control report has been prepared by Southern Skies to support this referral application.Potential adverse effects include sedimentation and dust arising from earthworks, as well as effects arising from the use of concrete and the laydown/compound area. The earthworks and other construction activities anticipated to be necessary for the Project are standard activities and are not of a type or scale that would necessitate bespoke or high-risk management options. The earthworks, as currently anticipated, are of a scale and nature that can be appropriately managed using current best practice ESC techniques, as detailed in Auckland Council Guideline Document 2016/005 Erosion and Sediment Control Guideline for Land Disturbing Activities in the Auckland Region (GD05).
It is anticipated that a high level of environmental compliance can be achieved, and that any effects on downstream receiving environments can be limited such that they are minor or negligible. The highest risk effects, such as associated with concrete batching and use, can be avoided.

Noise Effects

The Applicant has engaged Marshall Day Acoustics (Miklin Halstead) to undertake noise assessments associated with the Project and to support this referral application.
The repowering of Te Rere Hau with Siemens or Vestas turbines provides mostly positive noise effects.
The noise assessment concluded that:
• The new turbines would significantly improve the character of noise emission from the site, relative to current noise emissions. Although audible at some locations, this noise would more easily blend in with the environment.
• The noise levels received at almost all dwellings would be significantly reduced. Most notably the dwellings at Ridgeview Road and Harrison Hill Road are calculated to receive a reduction of 6 – 8 decibels.
• The noise contribution to the dwellings which also receive noise from the Turitea wind farm would be reduced. This may allow an increase to the production efficiency of Turitea Wind Farm, which may be able to reduce curtailments designed to accommodate cumulative compliance with existing Te Rere Hau noise output.
• At one property (81 North Range Road) the change in noise level due to the repowering would be neutral. However, this property would still benefit from the improvement in noise character brought by the newer turbines.
• Construction noise would be produced for a limited period of time. It is unlikely this would have significant effects on properties south of the Pahiatua-Aokautere Road, but may have significant, but manageable, effects at 81 North Range Road. New Zealand Standard NZS 6803:1999 provides guidance for methods to manage these noise effects.

Overall, it is considered that the Project will give rise to significantly positive effects at nearly all noise sensitive locations. Construction noise would be a temporary adverse noise effect at one property, which would require appropriate management.

The noise assessment summary is included in **Appendix I**.

Transport Effects

The Project's Transport specialist (Ann Fosberry, Aurecon) has undertaken an initial review of the transportation effects and will be preparing a comprehensive Integrated Transport Assessment to support the resource consent application. The transport effects relate to the impact of additional loads and traffic on the road network to undertake the Project, and have included consideration of the full construction and decommissioning.

Transport effects will be temporary and associated with the construction periods when there are additional loads on the network. In particular, due to the size of the turbine blades, transport effects will be more than minor when these are in transit. However, these effects are proposed to be mitigated through:

- An overweight / over dimension permitting system and the use of pilot vehicles and appropriate trained piloting staff to guide the loads
- Widening / road improvements that need to be implemented for turbine transport
- Spreading blade transport over 9 to 10 weeks and only moving them at night.

Additionally, it should be noted that the impacts are over a fixed time period and will therefore end once construction of the Project is complete. Further, similar loads and traffic volumes have been generated by other developments in the region.

Operationally, the Project will have minimal effect on the transport network. There will be utility vehicles and the occasional small truck, approximately 3-4 trips per day. It is also noted that a new road (Te Ahu a Turangi: Manawatū Tararua Highway) immediately to the north of the gorge is under construction and is due for completion at the end of 2024.

Archaeological Effects

The Project's archaeologist (Andy Dodd, Subsurface Ltd) has undertaken a desktop review and a site visit to inform his summary of the potential effects in support of the referral application. The Project site has been previously surveyed for archaeological features during the previous resource consent processes for the Tararua eastern extension (Phillips, 2009). However, as the Project extends beyond the existing wind farm land, a further assessment was commissioned. The assessment has confirmed that there are no recorded archaeological features within the Project site, and no surface indicators of archaeological sites were observed during the site visit. The two proposed alignments for the two network connection options were reviewed in GIS and likewise, neither of these alignments affect any recorded archaeological sites. The closest recorded site is approximately 400 metres from the nearest new turbine site in the Project and will not be affected. The assessment supports the accidental discovery protocols outlined in the previous archaeological assessment for the existing wind farm (Phillips 2009) and recognised in the existing resource consent and considers this an appropriate approach in the circumstances given the possibility of encountering archaeological remains during construction. The overall likelihood of encountering archaeological deposits is considered low.

Part VIII: National policy statements and national environmental standards

General assessment of the project in relation to any relevant national policy statement (including the New Zealand Coastal Policy Statement) and national environmental standard:

The National Policy Statement for Renewable Energy Generation (NPSREG) was formally gazetted in April 2011. It seeks to enable the sustainable management of renewable electricity generation under the RMA and to provide for the development and operation of new and existing renewable electricity generation activities in order to meet the national target for renewable electricity generation.

It recognises that New Zealand's energy demand will continue to grow and that there are two major challenges, "*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*."

The NPSREG acknowledges that renewable energy generation developments can have effects at many scales, with a risk of adverse local effects but positive national effects, and that the benefits can also compete with matters of national importance (Section 6 RMA) and matters to which decisionmakers are required to have particular regard (Section 7). Natural resources from which renewal electricity is generated may coincide with areas or features with significant natural or cultural values, and there may also be effects on the relationship of iwi and hapū with taonga and on their role as kaitiaki. The NPSREG seeks to provide consistency in addressing competing values associated with renewable energy development and provide greater certainty to anyone involved.

The Project is consistent with the direction in the NPSREG as it provides for renewable electricity generation, which will be fed into the National Grid. The Project will provide an important contribution to meeting the New Zealand Government's national target for the generation of electricity from renewable resources. It is considered that all reasonably anticipated adverse environmental effects are able to appropriately avoided, remedied or mitigated for this proposal.

National Policy Statement on Electricity Transmission 2008

The National Policy Statement on Electricity Transmission (NPSET) came into force on 10 April 2008. The NPSET was developed to acknowledge the national significance of the national grid and guide the balanced consideration of the national benefits and the local effects of electricity transmission.

The objective of the NPSET is to:

To recognise the national significance of the electricity transmission network by facilitating the operation, maintenance and upgrade of the existing transmission network and the establishment of new transmission resources to meet the needs of present and future generations, while:

- *managing the adverse environmental effects of the network; and*
- *managing the adverse effects of other activities on the network.*

Policy 1 directs decision makers to recognise and provide for the national, regional and local benefits of sustainable, secure and efficient electricity transmission, including the facilitation, use and development of new electricity generation including the benefits associated with renewable generation which assists in the management of the effects of climate change. Policy 2 directs decision makers to recognise and provide for the effective operation, upgrading and development of the electricity transmission network.

Further policies direct the management of adverse environmental effects, including consideration of the imposition of constraints on the technical and operational requirements of the network (Policy 3), how adverse effects have been avoided, remedied or mitigated by route, site and method selection (Policy 4) and upgrades used to reduce existing adverse effects of transmission, particular on sensitive activities (Policy 6). Further, Policy 8 seeks the avoidance of adverse effects on outstanding natural landscapes and areas of high natural character, while Policy 10 directs the reasonable management activities to avoid reserve sensitivity, and ensure that the operation, upgrading and development of the electricity transmission network is not compromised.

It is considered that the Project is consistent with the relevant policy direction of the NPSET, as set out above. The Project will provide significant national, regional and local benefits, including the provision of renewable electricity generation assisting in the management of climate change. As such, the Project will establish a renewable resource that will meet the needs of the current and future generations.

As discussed in Part VII above, it is considered that all reasonably anticipated adverse environmental effects are appropriately avoided, remedied or mitigated for the Project. Furthermore, the Project will likely reduce existing adverse noise effects on most nearby receivers associated with the current operation of Te Rere Hau Windfarm. Consequently, it is considered that the Project is consistent with the policy direction of NPSET. It is also noted that Transpower's assets are afforded the recognition provided by the NPSET.

National Policy Statement for Freshwater Management 2020

The National Policy Statement for Freshwater Management 2020 (NPS-FM) sets out the objectives and policies for freshwater management under the RMA. It came into effect on 3 September 2020 and replaced the National Policy Statement for Freshwater Management 2014 (amended 2017).

The central concept of the NPS-FM is Te Mana o te Wai. Te Mana o te Wai is a concept that refers to the fundamental importance of water and recognises that protecting the health of freshwater protects the health and well-being of the wider environment. It protects the mauri of the wai. Te Mana o te Wai is about restoring and preserving the balance between the water, the wider environment, and the community. Te Mana o te Wai is relevant to all freshwater management and not just to the specific aspects of freshwater management referred to in the NPS-FM.

Policies 2.2(1) and (2) require the involvement of iwi and hapū to ensure tangata whenua values are identified and reflected in the management of, and decision making regarding, freshwater. In this regard, engagement with local iwi has been undertaken, and will continue to be undertaken through the Project development, is detailed in Part V above.

As discussed in the assessment in Part VI above, there is a possibility that some culverts will be required. However, if required these temporary disturbance activities can be undertaken in accordance with best practise methodologies, ensuring that any adverse effects are temporary in nature and less than minor. Overall, the works will have no effect on the ability of the watercourses to provide for the life supporting capacity of freshwater species. Therefore, the proposed culvert and ancillary bed disturbance activities will be consistent with the outcomes directed by Objective 2.1(1) and Policies 2.2(2) and (9) of the NPS-FW.

In summary, the proposed works will be complementary to the strategic national direction for the management of freshwater under the NPS-FW.

National Environmental Standards for Freshwater 2020

The National Environmental Standards for Freshwater 2020 (NES-FW) came into effect on 3 September 2020 and contains, amongst several other matters, a series of regulations to manage the potential effects of new culverts on the passage of fish. The NES-FW aims to ensure that the relevant regional council, in this instance Horizons, obtains relevant information on the design and performance of structures in relation to the passage of fish.

As mentioned in Part III above, the Project may require consent pursuant to the NES-FW. The consenting rules in the NES-FW are only anticipated to be triggered if the alternative road layouts need to be used. If this is the case, the Project will seek consent and to include appropriate requirements for the works.

National Environmental Standard for Electricity Transmission Activities Regulations 2009

The NESETA came into effect on 14 January 2010. It aims to provide national consistent planning requirements for activities (operation, maintenance and upgrade) on existing high voltage electricity transmission lines. The NESETA identifies permitted activities and consent requirements to ensure those activities do not have a significant adverse effect on the environment.

Transpower's assets are afforded the recognition provided by the NESETA. As noted earlier, resource consents are likely required under the NESETA to connect into Transpower's network and to uprate the existing transmission line. If a new transmission line is required, then Transpower may choose to designate this. NZ Windfarms is currently liaising with Transpower regarding this. Any resource consents required under the NESETA and/or designations will be obtained by Transpower once agreement is reached on options. NZ Windfarms does not consider that the need for further consents / designations will impact on the construction and operational timeframe.

Part IX: Purpose of the Act

Your application must be supported by an explanation how the project will help achieve the purpose of the Act, that is to "urgently promote employment to support New Zealand's recovery from the economic and social impacts of COVID-19 and to support the certainty of ongoing investment across New Zealand, while continuing to promote the sustainable management of natural and physical resources".

In considering whether the project will help to achieve the purpose of the Act, the Minister may have regard to the specific matters referred to below, and any other matter that the Minister considers relevant.

Project's economic benefits and costs for people or industries affected by COVID-19:

MartinJenkins consider that the Project is expected to result in a considerable level of expenditure in the local area economy during construction and once operating. As noted above:

- Construction is expected to occur over three years and is estimated to cost s 9(2)(b)(ii) Of this, about s 9(2)(b)(ii) s 9(2)(b)(ii) is expected to be spent in New Zealand, with about s 9(2)(b)(ii) spent directly in the local area.
- Te Rere Hau wind farm is expected to cost about s 9(2)(b)(ii) to operate annually. This is s 9(2)(b)(ii) more that the current annual operating costs. Of that s 9(2)(b)(ii) , about s 9(2)(b)(ii) will be spent in New Zealand, with about s 9(2)(b)(ii) spent directly in the local area.
- This new expenditure will create employment and contribute to GDP in the local area. Including direct, indirect, and induced impacts, the Project is expected to employ 450 FTEs during construction (over three years), contributing

about s 9(2)(b)(ii) to local area GDP. Once operating, the Project will contribute an additional 67 FTE jobs and contribute about s 9(2)(b)(ii) to the local area economy each year.

• At a national level, the Project is expected to employ 606 FTEs during the construction phase, contributing about s 9(2)(b)(ii) to New Zealand GDP. Once operating the Project will sustain an additional 83 FTE jobs and contribute about s 9(2)(b)(ii) to the New Zealand economy each year.

Whilst there are some proposed turbines located on agricultural land, there is very little opportunity cost of lost agricultural efficiency as the turbines take up such a small percentage of the farmland and the rentals from the wind farm improve the economics for the sheep and beef farms.

Construction expenditure for the local area and New Zealand is allocated to the industry where it is spent. In this case, the direct or primary activity occurs in two industry sectors. The primary industry is heavy and civil engineering construction; and the secondary industry is scientific, architectural, and engineering. Jobs in these two industries are generally high-value jobs. Indirect activity will occur across a broader number of industries that provide services to those direct industries. The key industries will be primary or manufacturing industries. Induced activity, which is the expenditure from employees spending wages and owners spending profits, will largely be in industries that service households such as food and beverage, utilities, residential property operations, banking, and finance.

The full Economics Assessment is provided in **Appendix E**.

Project's effects on the social and cultural wellbeing of current and future generations:

The importance of the wind energy industry to Palmerston North City, Tararua District, and Manawatū District is reflected in the Horizons One Plan and the respective district plans for both PNCC and TDC.

The Horizons One Plan notes the potential for the development of renewable energy facilities given the areas with high wind speed and it recognises facilities for the generation of more than 1 MW of electricity (and supporting infrastructure) where the electricity generated is supplied to the electricity distribution and transmission networks, as a physical resource of regional or national importance. The Project would be consistent with Objective 3-2 of the Horizons One Plan which is "an improvement in the efficiency of the end use of energy and an increase in the use of renewable energy resources within the Region".

The PNDP also recognises the benefits of a well-designed repowering of a wind farm , and the TDP notes that the Tararua District is recognised as having a high-quality wind resource and there is the potential for more wind farms to be developed. It is also noted that this application has the potential to be the first wind farm repower consent application in New Zealand, allowing new more advanced technology to be employed.

In terms of the Project's effects on the social wellbeing of current and future generations, it is anticipated that the reduction in noise effects and enhanced visual uniformity with the neighbouring wind farms operating three-bladed wind turbines to the north and south will assist in improving the wellbeing of the residents living near the project area. The landowners that have a proposed turbine or network connection on their property will also benefit from additional revenue. From a district-wide point of view, the Project's key effects on social wellbeing relate to the employment opportunities and the benefits to the economy from the spending that will occur directly and indirectly as a result of the Project. The Project is therefore anticipated to have the following effects on the local area's social and cultural wellbeing :• Physical and mental health: Generating increased and more diversified employment opportunities. People with higher disposable incomes are able to improve their living standards and pay for health and wellbeing services.• Community and society: With a larger and economically active community, people increase their participation in events. There are generally more resources, services and fundraising abilities in communities with higher employment.• Economic activity: Increased opportunities and spending during the construction phase, increased resilience for Te Rere Hau wind farm thereafter and ongoing work associated with the maintenance of the turbines. Aided by a boost to the local economy as a result of construction activity.• Education: Potential for training opportunities targeted at young people during the design and construction phases. Potential to showcase different career opportunities for students. Opportunities for local business training and development. This is an aspect that has been discussed with local authorities and iwi.

In regard to the Project's effects of the cultural wellbeing of current and future generations, NZ Windfarms are committed to engaging with the iwi referred to in Part V. The initial discussions held have been positive and engagement will be ongoing. The prospective turbines have a design life of 20/25 years, however the highest and best use of the project area is the continuation of wind electricity generation combined with sheep and beef farming.

Therefore, the project, the Company, and the ability to sustainably generate electricity will continue for many generations into the future.
NZ Windfarms are aware of the issues that are important to the iwi and will continue to look for potential opportunities for the Project to improve cultural wellbeing. It is recognised that Ngāti Kahungunu ki Tāmaki nui-a-Rua in particular noted that they are very interested in the response to climate change. As recognised in Part V, the initial environmental assessments will be provided to iwi for their comment and move to arrangements regarding the preparation of a CIA. NZ Windfarms will also include diversity targets in the EPC (Engineering, procurement, construction) process.

Whether the project would be likely to progress faster by using the processes provided by the Act than would otherwise be the case:

The Project would be likely to progress significantly faster using the Fast Track Act than under the standard processes. This is because consented wind farms to date have taken a minimum of 12 to 24 months to consent (excluding subsequent appeal processes) utilising the standard RMA process. This contrasts with an estimated 6-month period for consenting under the Fast Track Act (which also limits appeals). In addition, the Fast-Track consent process through the panel, has typically implemented shorter time frames to give effect to consents, to accelerate economic benefits, which adds urgency to the entire project. This urgency to deliver immediate economic benefits is not present under the standard process.
An expedited process is appropriate for this project, given:• Te Rere Hau wind farm is an existing operation which has already been through three standard RMA publicly notified consenting processes - when the wind farm was first established in 2005, when consent was sought to extend it in 2010, and when the conditions of consent were reviewed in 2018 • the Project involves repowering the existing Te Rere Hau wind farm (with an extension that is 'greenfield') - as opposed to the consenting of an entirely new wind farm on a 'greenfield' site• the Project will result in a material reduction of noise effects for near neighbours and improved visual uniformity with surrounding wind farms• NZ Windfarms already has existing relationships with key stakeholders and near neighbours and an existing community liaison group is in place• It would enable the earlier realisation of the significant benefits associated with the Project including increased local employment, substantial flow on economic benefits and increased investment certainty for the local economy, as well as a significant increase in the amount of renewable energy generated.

Whether the project may result in a 'public benefit':

Examples of a public benefit as included in Section 19(d) of the Act are included below as prompts only.

Employment/job creation:

Construction Phase
Locally, the Project will support 450 FTEs (including direct, indirect and induced) over the three-year construction phase. The s 9(2)(b)(ii) spent in the local area will directly lead to 193 jobs over the three-year period (15 in the first year, 85 in the second and 93 in the third) and contribute s 9(2)(b)(ii) to the local area GDP. The indirect and induced spend would lead to 256 FTEs over the three-year period (18 FTEs in the first year, 111 in the second and 127 in the third).
Nationally, the Project will support 606 FTEs (including direct, indirect and induced) over the three years. The s 9(2)(b)(ii) s 9(2)(b)(ii) spent in New Zealand will directly lead to 197 jobs over three years and contribute s 9(2)(b)(ii) to New Zealand's GDP. Including indirect and inducted expenditure will support a further 410 jobs. Similarly, this would result in an additional s 9(2)(b)(ii) in GDP, bringing the total impact on GDP to s 9(2)(b)(ii) .
Operational Phase
Locally, once operational, the repowered Te Rere Hau will support 67 FTEs (including direct, indirect and induced) each year. The s 9(2)(b)(ii) spent in the local area will directly lead to 40 jobs each year and contribute s 9(2)(b)(ii) to the local area GDP. Indirect and inducted expenditure supports a further 27 jobs.
Nationally, once operational, the repowered Te Rere Hau will support 83 FTEs (including direct, indirect and induced) each year. The s 9(2)(b)(ii) spent in New Zealand will directly lead to 38 jobs each year and contribute s 9(2)(b)(ii) to New Zealand's GDP. Indirect and inducted expenditure supports a further 44 jobs.

Approving the project to use the Fast Track Consenting process would bring the Project timeframe forward and provide the resultant job creation earlier than otherwise anticipated, providing vital economic stimulus needed to assist in the COVID-19 recovery. Further information is contained within **Appendix E**

Housing supply:

N/A

Contributing to well-functioning urban environments:

N/A

Providing infrastructure to improve economic, employment, and environmental outcomes, and increase productivity:

The Project involves the provision of infrastructure that will improve economic, employment and environmental outcomes. The Project will result in significant productivity improvements for Te Rere Hau Windfarm. The repowering will see a threefold increase in renewable electricity generated from the same wind resource and site dimensions. The associated infrastructure upgrades, relating to the road improvements and new network connections, with the possibility to provide improvements not only to the Applicant but to adjoining windfarm operators.
Economic and employment benefits of the Project have been detailed in the previous sections. The Project provides additional renewable electricity supporting a transition towards renewable generation will improve environmental outcomes for all New Zealanders.

Improving environmental outcomes for coastal or freshwater quality, air quality, or indigenous biodiversity:

The Project is within the central North Island atop the Tararua range, and as such the Project will not impact coastal quality.
As discussed above, the Project does not present any significant adverse environmental effects in terms of freshwater quality, air quality or indigenous biodiversity and effects on such values are expected to be low. The construction methodology and associated management practises will appropriately manage impacts on freshwater quality, air quality and indigenous biodiversity.

Minimising waste:

NZ Windfarms has investigated ways to minimise waste through the design of the Project, in addition to during construction and operation.
The earthworks methodology is adapted to the site topography, which requires some engineered fills to access sites, though an earthworks balance is not sought from cut to engineered fill in order to manage the construction programme and costs. Excess cut will be reused on site in engineered fills, landscaped in selected disposal areas, and some material is expected to include weathered greywacke suitable for crushing and use in construction of internal roads. Internal borrow pits are expected to be suitable for gravel for internal roads such that import of roading material and truck movements on public roads is minimised.
A Life Cycle Inventory representative of the new turbines was taken from the analysis conducted by Schreiber, Marx & Zapp (2019) and includes representative material recovery and recycling rates. 86% of the total turbine mass is able to be recycled, with the majority of this being steel componentry including the tower and nacelle assembly. The remaining materials are primarily fibreglass (6% of total mass) and polymers (HDPE, PVC and PP, 3.5% of total mass). There are other components that make up the remaining 4.5%.
Given the projected increase in fibre composite waste from wind farms over the coming decades, there is considerable research underway in the field of fibre recovery. Current mechanical recycling techniques do not enable fibre reuse directly; the next life cycle is limited to applications such as concrete reinforcing and is considered 'downcycling'. Thermal decomposition techniques such as pyrolysis and fluidised bed thermal recycling are able to recover fibres for direct reuse, however glass fibres lose their tensile strength in most current recovery processes, with some studies showing up to a 50% loss. Additionally, the reclaimed fibres can turn 'fluffy' and require additional virgin content to achieve similar mechanical properties in remanufactured composites.

Novel recycling techniques incorporating chemical recycling, thermoplastic resins or solvolysis recovery are also in development, and may be viable options for the EoL of blade waste for the Te Rere Hau Repowering project. NZ Windfarms are in the process of investigation options to maximise reuse/recycling of the decommissioned turbines and attempt to avoid the worst-case-scenario of landfill disposal. The expected life of the new turbines is 20 years, therefore, by the time the new turbines need replacing there may be proven recycling solutions given the work currently underway and the pace of advancements in technology.
For comparison, the existing turbines have 92.5% of the total turbine mass as recyclable metals, 2.5% timber in the blades, and 5% fibreglass between the blades and nacelle cladding.
In addition, contractors will minimise waste during construction, recycling material where possible.
The reuse of the existing turbines is also being explored. For example, the turbines could be sold to developing countries which are currently reliant on diesel generators.

Contributing to New Zealand's efforts to mitigate climate change and transition more quickly to a low-emissions economy (in terms of reducing New Zealand's net emissions of greenhouse gases):

Cabinet agreed a framework for the whole of government, which will drive climate change policy towards low greenhouse gas emissions and climate resilience in New Zealand. The framework supports New Zealand's commitments under the Paris Agreement, including reducing emissions by 30% below 2005 gross emissions (or 11% below 1990 emissions) for the period 2021 to 2030. The programme includes emissions budgets, an Emissions Reduction Plan, an Emissions Trading Scheme (and the International Carbon Markets Project), reducing emissions from agriculture, offsetting emissions through forestry, adapting to the impacts of climate change, and investing in climate change action.
As part of the fast-track consenting process, a high-level whole-of-life carbon footprint has been conducted for the Project (Liz Root and Nathan Palairet, Aurecon). This gives confidence that the Project contributes to New Zealand's transition towards a low-emissions economy and to mitigate climate change.
One key part of this transition is the rapid electrification of processes and activities currently powered by fossil fuels. If New Zealand is to meet its emissions targets of a 50% reduction by 2030 and net zero by 2050, significant new electricity supply must be brought online. Wind generation will be the backbone of this new generation capacity. Larger wind farms (50 to 150 MW), in addition to smaller solar and wind farms will make up the new generation build.
The high-level carbon calculation considered turbine manufacture, construction impacts, maintenance, end-of-life, and the power generated by the repowered wind farm. It showed that the whilst the upfront emissions are significant, after only three years the cumulative emissions per-kWh are considerably lower than the NZ Grid. This normalised figure only reduces further over time, even as the grid itself decarbonises. Additionally, reductions in construction impacts can be achieved through careful specification of lower-embodied carbon materials within the foundation design.
The key benefits of the Project relating to emissions include:• The Project will enable the further electrification of sectors and activities that are currently dependent on fossil resource combustion. • MBIE and Roaring40s Power estimate that New Zealand will require an additional 17-35% of generation capacity by 2035. The additional 380 GWh of generation per year provided by the Project over and above the existing Te Rere Hau Wind farm will contribute between 3-5% of this additional capacity.• The increase in energy supply from the Project is expected to be enough to power 1,700 electric cars, or enable 5 mid-sized dairy factories to transition away from coal boilers. Estimates for each of these activities equate to 7,200 tCO2e and 23,000 tCO2e saved per year respectively, using grid average figures . • Given the location of the Project in the Tararua Range, it is especially valuable for NZ's decarbonisation goals. This location means that the estimated capacity factor of 45% is higher than long-run national average of 40% .• The high capacity factor means that if these same turbines were to be installed elsewhere, their embodied carbon would be amortised over a lower total generation figure, resulting in higher emissions per kWh delivered to the grid. The higher capacity factor also indicates a more stable generation profile.• The analysis shows that the most emissions-intensive activity associated with the enabling works (i.e. excluding the turbines and foundations) is the building of new access roads and hardstand areas over grassland area. As the Project is reusing existing significant amounts of roading infrastructure for blade transport, this figure is significantly reduced as compared to a greenfield site, further highlighting the benefits of the Project.

Promoting the protection of historic heritage:

As discussed above, there are no recorded archaeological features within the Project site, and no surface indicators of archaeological sites were observed during the site visit. Furthermore, the nearest recorded site is an adze 'findspot' which is approximately 400 metres from the nearest new turbine site in the proposal and will not be affected. Accidental discovery protocols will be followed, which is considered to be an appropriate approach in the circumstances given the low likelihood of encountering archaeological remains during construction.

Strengthening environmental, economic, and social resilience, in terms of managing the risks from natural hazards and the effects of climate change:

If New Zealand is to decarbonise to meet the emissions targets of a 50% reduction by 2030 and net-zero by 2050, significant new electricity supply must be brought online. Wind generation will be the backbone of this new generation capacity.
The Project will increase renewable energy generation. By diversifying electricity production through significantly adding to the existing renewables contributions to the region and country, energy resilience is improved; wind generation can fill gaps in generation when hydro lakes are low, or the sun does not shine.
Potential associated effects of climate change and the reducing supply of fossil fuels may see more stringent policies and pricing for petrol and diesel, with potential shortages or with supplies being uneconomic.
Therefore, additional wind generated electricity through projects such as this will help provide additional supply to the National Grid. As recognised in the Economics Assessment (Appendix E), about 6.5% of renewable electricity in New Zealand is from windfarms, but MBIE suggest that wind would account from between 20% and 55% of new renewable generation.
f New Zealand is to decarbonise to meet the emissions targets of a 50% reduction by 2030 and net-zero by 2050, significant new electricity supply must be brought online. Wind generation will be the backbone of this new generation capacity.
The Project will increase renewable energy generation. By diversifying electricity production through significantly adding to the existing renewables contributions to the region and country, energy resilience is improved; wind generation can fill gaps in generation when hydro lakes are low, or the sun does not shine.
Potential associated effects of climate change and the reducing supply of fossil fuels may see more stringent policies and pricing for petrol and diesel, with potential shortages or with supplies being uneconomic.
Therefore, additional wind generated electricity through projects such as this will help provide additional supply to the National Grid. As recognised in the Economics Assessment (**Appendix E**), about 6.5% of renewable electricity in New Zealand is from wind farms, but MBIE suggest that wind would account for between 20% and 55% of new renewable generation.
The additional 380 GWh of generation per year provided by the Project over and above the existing Te Rere Hau wind farm will contribute between 3-5% of the additional capacity that New Zealand requires to get to 17-35% by 2035.
The Horizons One Plan states that the Region can expect the following effects relating to climate change:• A 30-50cm rise in sea level in the next 100 years• An increase of up to 3 degrees in temperature in the next 70-100 years• More rainfall in the western part of the Region and less in the east• More westerly winds• An increase in more extreme weather events – floods, droughts, and high winds.
A discussion on the potential for the Project to be affected by climate change and natural hazards is provided in Part X.

Other public benefit:

The key public benefits arising from the Project relate to landscape, noise, provision of renewables, and socio-economic effects as described above.

Whether there is potential for the project to have significant adverse environmental effects:

Overall, the effects relating to the Project are deemed to be at levels that are appropriate and acceptable in the context of the receiving environment. None of the expert environmental assessments undertaken for the Project conclude that the proposed activities will result in significant adverse environmental effects. The actual or potential

adverse effects on the surrounding environment will be minor or less than minor. The reasons for this assessment have been provided earlier in this application form under Part VII.

Part X: Climate change and natural hazards

Description of whether and how the project would be affected by climate change and natural hazards:

One implication of climate change is an increase in the prevalence of high wind events. While this increase in prevalence of high wind event can result in an increase in associated natural hazards, one benefit the Project will deliver is the ability for the upgraded technology to better handle these events (with the turbines able to operate up to wind speeds of 108km/hr before cutting out). This will ultimately lead to a more efficient and sustainable wind farm operation, which will be beneficial. This needs to be seen in the context of the broader Project Objectives, in particular the leveraging of the Tararua wind resource and towards making a contribution to New Zealand's efforts to mitigate climate change.

The Project site is not located in an area identified as being prone to natural hazards. The location of the turbine sites and access roads has been designed to minimise the number of culverts required to cross the seepage zones of the site. Minor culverts may be required across ephemeral streams and cross culverts will be installed at regular intervals to manage roadside drainage and runoff. There is the potential for longer culverts to be required as part of either of the road alternatives, however, these will be designed to provide sufficient flow capacity for storm events.

As stated earlier, Southern Skies are advising the Applicant in regard to erosion and sediment control and have confirmed that any effects on downstream receiving environments can be limited such that they are minor or negligible. Although the effects of climate change will increase the frequency of storm events, it is considered that the design of culverts will ensure sufficient flow capacity.

It is not considered that the Project would be affected by climate change, beyond the additional consideration given to accommodating larger rainfall events when designing culverts.

Part XI: Track record

A summary of all compliance and/or enforcement actions taken against the applicant by a local authority under the Resource Management Act 1991, and the outcome of those actions:

Local authority	Compliance/Enforcement Action and Outcome
Palmerston North City Council	In October 2010, PNCC applied to the Environment Court for nine declarations in relation to noise. To assist in resolving the issues, NZ Windfarms agreed to undertake further compliance monitoring and worked with PNCC to refine the issues requiring determination by the Court. Following a number of hearings and appeals, two declarations were subsequently confirmed: that PNCC was entitled to conduct a review of the noise conditions of consent and that the noise of the Windflow 500 turbines had special audible characteristics. NZ Windfarms then agreed a review process with PNCC which enabled active participation of the local community. NZ Windfarms worked with PNCC and community throughout that process to develop a set of improved noise conditions and an operating regime which tangibly reduced noise effects for the windfarm's neighbours. The conditions included new noise and operating limits, additional monitoring, an improved complaints management process, and a community liaison group to provide a forum for NZ Windfarms and its neighbours to discuss any issues or developments proposed for the site. Since the new conditions took effect very few complaints have been received (none in the last six months) and NZ Windfarms has successfully maintained constructive relationships with PNCC and its local community. The repowering project represents an important next step with turbine technology having significantly advanced since 2005. New models have been

	globally tested, are proven to be free of audible tones and offer a significant reduction in sound power level output. The level of information available about noise emissions has also increased exponentially over this period, resulting in a greater level of certainty around both the level and type of noise emissions. The repowering project will therefore enable NZ Windfarms to further reduce its off-site noise emissions and remove the noise effects which were of most concern to its neighbours.

Part XII: Declaration

I acknowledge that a summary of this application will be made publicly available on the Ministry for the Environment website and that the full application will be released if requested.

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.

Claire Steele — 16/12/2021

Signature of person or entity making the request — **Date**

Important notes:

- Please note that this application form, including your name and contact details and all supporting documents, submitted to the Minister for the Environment and/or Minister of Conservation and the Ministry for the Environment, will be publicly released. Please clearly highlight any content on this application form and in supporting documents that is commercially or otherwise sensitive in nature, and to which you specifically object to the release.
- Please ensure all sections, where relevant, of the application form are completed as failure to provide the required details may result in your application being declined.
- Further information may be requested at any time before a decision is made on the application.
- Please note that if the Minister for the Environment and/or Minister of Conservation accepts your application for referral to an expert consenting panel, you will then need to lodge a consent application and/or notice of requirement for a designation (or to alter a designation) in the approved form with the Environmental Protection Authority. The application will need to contain the information set out in Schedule 6, clauses 9-13 of the Act.
- Information presented to the Minister for the Environment and/or Minister of Conservation and shared with other Ministers, local authorities and the Environmental Protection Authority under the Act (including officials at government departments and agencies) is subject to disclosure under the Official Information Act 1982 (OIA) or the Local Government Official Information and Meetings Act 1987 (LGOIMA). Certain information may be withheld in accordance with the grounds for withholding information under the OIA and LGOIMA although the grounds for withholding must always be balanced against considerations of public interest that may justify release. Although the Ministry for the Environment does not give any guarantees as to whether information can be withheld under the OIA, it may be helpful to discuss OIA issues with the Ministry for the Environment in advance if information provided with an application is commercially sensitive or release would, for instance, disclose a trade secret or other confidential information. Further information on the OIA and LGOIMA is available at www.ombudsman.parliament.nz.

Checklist

Where relevant to your application, please provide a copy of the following information.

Yes	Correspondence from the registered legal land owner(s)
Yes	Correspondence from persons or parties you consider are likely to be affected by the project
Yes	Written agreement from the relevant landowner where the project includes an activity that will occur on land returned under a Treaty settlement.
Yes	Written agreement from the holder of the relevant customary marine title order where the project includes an activity that will occur in a customary marine title area.
Yes	Written agreement from the holder of the relevant protected customary marine rights recognition order where the project includes an activity that will occur in a protected customary rights area.