

Section 32 Report – Part 2

Renewable Electricity Generation

prepared for the

Proposed Waikato District Plan

July 2018



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I OVERVIEW AND PURPOSE

This Section 32 evaluation report addresses the Waikato Proposed District Plan (PDP) management of renewable electricity.

This evaluation report pertains only to renewable electricity generation, all other aspects of infrastructure and electricity are evaluated in the Section 32 evaluation report regarding Infrastructure or the National Grid.

This evaluation report should be read in conjunction with Part I Section 32 Report – Introduction to the Evaluation Report, which provides the context and approach for the PDP as a whole.

I.1 Topic Description

Renewable electricity generation makes a crucial contribution to the well-being of New Zealand, its people and the environment, and any reductions in existing renewable electricity generation will compromise the achievement of the Government's renewable electricity target of 90% of electricity from renewable sources by 2025.

Renewable electricity comes from a range of sources:

- Solar
- Wind
- Tidal
- Hydro
- Geothermal
- Biomass
- Wave
- Ocean current

Renewable electricity generation can be at a range from scales – from single solar panels on the roof of a house to the tallest turbines in New Zealand which are the 28 turbines at Te Uku Wind Farm in the Waikato. They stand 130m tall from ground to tip and can each generate 2.3MW. Te Uku generates enough electricity each year for about 30,000 average New Zealand homes.

The development, operation, maintenance and upgrading of new and existing renewable electricity generation activities throughout New Zealand, and the associated benefits of renewable electricity generation, are matters of national significance. The benefits to be derived from the use and development of renewable energy are recognised in Section 7 of the Resource Management Act (RMA) as a matter to have particular regard to.

I.2 Significance of this Topic

This topic is relevant to the entire Waikato District because of the range of scales of renewable electricity generation. Every home in the District could potentially have solar panels, while there are only certain locations that are feasible for the

commercial-scale electricity generation. The location of commercial-scale electricity generation is generally dependent on the location of a particular resource such as sufficient wind, geothermal activity, or a flowing waterbody for hydro-electricity generation.

1.3 Resource Management Issues to be Addressed

There are four main issues associated with renewable electricity generation:

1. The location of renewable electricity generation depends on a particular resource.

Renewable electricity generation need to locate where the resource exists. This may lead to a conflict with other values. For example coastal cliffs may be identified as outstanding natural features, but they may also be the optimal location for consistent wind gusts off the sea. There may be some flexibility with resources such as the wind where there could be a trade-off between optimal generation and outstanding landscape values. However other natural energy resources such as geothermal are highly specific in their location.

2. Enabling renewable electricity generation activities.

The NZ Government has a strategic target that 90 per cent of electricity generated in New Zealand should be derived from renewable energy sources by 2025 (based on delivered electricity in an average hydrological year) providing this does not affect security of supply. There are may different scales of renewable electricity generation and these opportunities must be enabled in order to meet the national target.

3. The need to maintain the efficiency of, and production from, existing renewable electricity generation activities.

Existing renewable electricity generation structures and activities have the potential for reverse sensitivity effects. For example wind turbines can cause flicker and noise from the rotation of the blades, also noise from the nacelle itself. The land uses and activities around the existing renewable electricity generation activities need to be managed so that they can continue generation.

In addition, the generation of electricity must be connected to either a transmission network or a distribution network in order to be able to distribute the electricity.

4. There are adverse environmental effects from renewable electricity generation activities that need to be managed.

Development that increases renewable electricity generation capacity can have environmental effects that span local, regional and national scales, often with adverse effects manifesting locally and positive effects manifesting nationally. In some instances the benefits of renewable electricity generation can compete with matters of national importance as set out in Section 6 of the Act, and with matters to which decision-makers are required to have particular regard under section 7 of the Act. There are often visual effects associated with the structures which may adversely effect landscape and amenity values, on-going noise effects for surrounding property owners/occupiers and often traffic generation effects during construction.

1.4 Current Objectives, Policies, Rules and Methods

Energy producing resources and structures are recognised in the Waikato Section of the Operative District Plan, however these include non-renewable resources as well such as the Huntly Coalfields. There is recognition in the policies that subdivision, use and development must not compromise the on-going and efficient operation of strategically, nationally and regionally important infrastructure including power stations.

There is an objective and two policies which seek to increase the generation and use of renewable energy resources. Activities and structures are largely a discretionary activity as they are not specifically listed.

The matter of renewable electricity generation is not addressed in the Franklin Section of the Operative District Plan in terms of a policy framework. There is a rule in Section 15 (Rule 15.1.2.1) which provides for renewable electricity generation as a permitted activity however:

Generation of less than 1 MVA of output of electricity, not being a prohibited activity, which complies with the development standards and the performance standards of the relevant zone, and is either

- a. *from wind or solar sources; or*

Any other renewable electricity generation activities and structures would be classed as a non-complying activity as they are not specifically listed.

1.5 Information and Analysis

A considerable amount of information has informed the development of the infrastructure and energy provisions in the PDP. While many of these are not specific to renewable electricity generation, they nonetheless are relevant.

1.5.1 Waikato District Council discussion documents

The following sections detail the outcomes of the review of the relevant discussion documents prepared by Council in relation to the early development of the PDP.

As part of the District Plan Review process, Council prepared a discussion document entitled: "Discussion Document - Infrastructure".

This document generally summarises the relevant statutory drivers for the Project, the relevant iwi management plans and the current approaches to infrastructure within the Waikato and Franklin Sections of the Waikato District Plan.

The discussion document identifies gaps between these aforementioned documents and provides (with an appendix) the key Waikato Regional Policy Statement provisions which are relevant and must be considered.

The discussion document also highlights the relevance of the following statutory documents:

- National Environmental Standards for Telecommunication Facilities;
- National Environmental Standard for Electricity Transmission Activities;
- National Policy Statement for Electricity Transmission; and
- National Policy Statement for Renewable Electricity Generation.

1.5.2 Infrastructure Issues/Desired State document

This document/table, which was dated 29 April 2016, set out the following headings and structure:

Topic Specific Desired State/Outcomes:

- The positive and negative effects of the use and operation of infrastructure are recognised and provided for.
- A district where growth is coordinated and infrastructure is efficiently provided and utilised.
- The road network on the Hamilton Urban fringe is managed to ensure it does not compromise the city's future road network.
- Development such as land use and land use intensification including subdivision is well serviced by utilities to avoid adverse effects on the environment.
- Regionally significant industry, infrastructure, primary production and research sites can develop and continue to operate through the provision of supporting infrastructure and resources and the careful consideration of adjacent land uses.
- The road network and land use development are designed and managed to ensure the efficient and effective operation of the Land Transport Network.

7.1 ISSUE: Development and Operation of Infrastructure

7.2 ISSUE: Coordinating Growth and Infrastructure

7.3 ISSUE: Urban Expansion

7.4 ISSUE: Managing Growth Pressures

7.5 ISSUE: Scattered Development

7.6 ISSUE: Provision of Utilities

7.7 ISSUE: Significant Industry and Primary Production

7.8 ISSUE: Significant Infrastructure

7.9 ISSUE: Land Transport Network

It is, however, noted that the desired state/outcomes, numbering and issue topics listed above appear to have been superseded in subsequent documentation prepared by WDC.

1.5.3 Objectives document

This document assesses the current objectives within the Waikato and Franklin sections to determine if new objectives are required. It is noted the infrastructure desired states and issues identified in this document differ from those listed above:

Infrastructure Desired States:

- Infrastructure is designed, developed, maintained, managed and utilised in a way that support a safe, connected, accessible, sustainable, resilient and integrated built environment and enhances community wellbeing and amenity values.
- Development of the built environment is focused in and around settlement nodes in an integrated manner.

ISSUE: Development and Operation of Infrastructure

- The development and operation of infrastructure has the potential to positively or negatively impact on our ability to sustainably manage natural and physical resources and to provide for community wellbeing

ISSUE: Provision of Utilities Avoids Adverse Effects

- Land uses and land use intensification, including subdivision, can have adverse effects on the environment if wastewater and stormwater disposal, water supply, energy supply and telecommunications are not adequately provided for or managed.

ISSUE: Significant Industry, Infrastructure, Primary Production and Research Sites

- Regionally significant industry and infrastructure, primary production and research sites are important for community wellbeing and provide significant social and economic benefits, yet the continued operation and development of these activities can be constrained by the inefficient access to supporting infrastructure, resources and incompatible adjacent landuse activities.

ISSUE: Operation of the Land Transport Network

- The integrated, safe, responsive and sustainable operation of the land transport network, particularly the road network, can be adversely affected by inappropriate design and construction, and connection between the network and adjoining land, as well as through the adverse effects of land use activities and subdivision.

ISSUE: Design, Construction, Maintenance and Operation

- Design, construction, maintenance and operation of the land transport network can adversely affect the environment through earthworks and structures, increases in sediment and stormwater run-off, and property and community severance.

ISSUE: Urban Expansion

- New roads on the Hamilton urban fringe may compromise the later future construction of an urban standard and density road network.

1.5.4 Designations discussion document

This document provides background on designations and how they are used under the RMA, details on time limits (lapse periods) for designations under the RMA, and outlines the link between the designating of land and the land acquisition processes under the Public Works Act.

The document provides the lists of the existing requiring authorities which have designations within both the Waikato and Franklin Sections of the Waikato District Plan. It is noted the names of two requiring authorities will require updating: Waikato Regional Council and KiwiRail Holdings Limited (currently listed as Environment Waikato and The New Zealand Railways Corporation respectively).

The document also outlines the engagement Council have already had with the requiring authorities with regards to whether the existing designations within both the Waikato and Franklin Sections of the Waikato District Plan need to be rolled over. This section of the document notes that requiring authorities from the Franklin Section (Counties Power, Spark NZ Ltd., Chorus NZ Ltd., Auckland Council and Watercare Services Ltd.) will need to be added to the existing list of requiring authorities within Chapter 30 of the Waikato Section as part of the District Plan Review process.

1.5.5 Issues and Options Report

MWH (now Stantec) prepared this report on behalf of Waikato District Council in November 2016. This report is attached as Appendix 2.

The Issues and Options Report was prepared to inform the future drafting of transport, utility and energy provisions for the PDP and the associated preparation of Section 32 evaluation reports. The purpose was to:

- Provide a comprehensive summary of the baseline situation;
- Help clearly define any key issues;
- Identify and assess the benefits and disadvantages of various options to address key issues;
- Determine whether any new issue statements need to be added; and
- Provide a critical comparison of the options.

1.6 Consultation Undertaken

Council have been collating feedback from a range of stakeholders to inform the District Plan Review process since 2015. This feedback has been captured within a spreadsheet entitled the District Plan Issues Register and includes a tab for Infrastructure. There were no issues raised specific to renewable electricity generation.

Development of the Infrastructure and Energy provisions were informed by two stakeholder groups:

1. infrastructure providers and surveyors; and
2. an internal Council group of planners and engineers.

Two workshops were held with both groups to initially identify issues with the Operative Waikato District Plan, then subsequent workshops to look at the proposed provisions in more detail and provide feedback. The feedback is summarised in Table I below, with a particular focus on feedback associate with electricity generation and distribution.

Table I: Summary of feedback from the infrastructure workshops

Date	Group	Subject Matter	Feedback
11 July 2016	Workshop with infrastructure providers and surveyors McCracken Surveys; Counties Power; Blue Wallace Surveyors; NZ Transport Agency; Watercare Services; Auckland Transport; Waipa Networks; Hamilton City Council; Spark; Vodafone; and BCD Group Ltd.	What is working well with the Operative District Plan, and areas where the structure or rules could be improved	No feedback was specifically related to renewable energy generation, relevant comments that may apply include: <ul style="list-style-type: none"> • Try not to be overly prescriptive on utility dimensions as there are industry standards; • Support for a stand-alone chapter for transport and utilities; • District Plan needs to anticipate future land uses; • Remove the exclusion of lightning rods as part of the height requirements; • The need to futureproof and enable constant changes to best-practice due to technological advances; • Alignment with Hamilton City Council Plan rules, particularly at the boundary.
14 July 2016	Council engineers and planners from consents, compliance and monitoring and policy	What is working well with the Operative District Plan, and areas where the structure or rules could be improved	No feedback was specifically related to renewable energy generation, relevant comments that may apply include: <ul style="list-style-type: none"> • The district plan should be clear and easy to use; • Support the approach of rules by zone; • The structure of the Waikato Section is good – tables of activity, what is permitted etc.; • Keep cross-referencing minimal; • Earthworks provisions need to link to the Regional Plan; • Activity statuses need to reflect importance/focus of objectives and policies; and District Plan outcomes need to be direct and quantitative.

18 November 2016	Counties Power WEL Networks BCD (for WEL Networks)	Electricity networks	<p>No feedback was specifically related to renewable energy generation although WEL Networks do generate electricity. Relevant comments that may apply include:</p> <ul style="list-style-type: none"> • Height of structures in the Rural and Coastal zones • Need to be able to maintain and upgrade as required • Noted new overhead lines are not provided for as a permitted activity (PA) within the Waikato Section of the District Plan. • Deep electrical lines creates operational issues and also makes it harder to identify any faults. • Dedicated lots within subdivision for their infrastructure, as it is easier to utilise this space (if any further works are required) than seek approval to do it on private properties. • Questioned why Waikato Section does not allow for lines greater than 110kV as a permitted activity . • Clarification as to whether the type of structure (i.e. pole) could be clarified within the rules. • Clarification of the 10m² permitted activity standard for above ground structures was for individual structures or a cumulative total if one or more structures was being installed. • The need the ability to extend existing overhead lines/facilities, including the pole structures • Upgrading rules need to allow for increase in voltage/ratings, as in some areas to cater for growth an increase is required. This can often be increased without the need for any noticeable physical changes to the facilities/poles (e.g. 12kV to 22kV). • Maintenance and upgrading rules need to allow for increases and be flexible as it is difficult to anticipate the level of demand. • Need to increase clearance heights for existing lines (if new land uses occur in the vicinity) given the requirements of the New Zealand Electrical Codes of Practice (NZECP). • Increased cost (significant difference) of undergrounding lines in Country Living areas for example has to
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			<p>ultimately be passed onto the landowners.</p> <ul style="list-style-type: none"> • Rules for maintenance and upgrading should have provision for associated vegetation management (trimming/removal) and earthworks. • Rules for utilities need to allow for associated earthworks that are not necessarily just a trench (i.e. launch pits for trenchless machinery).
14 July 2017	Council engineers and planners from consents, compliance and monitoring and policy	Review of the draft Infrastructure and Energy provisions	<p>Comments include:</p> <ul style="list-style-type: none"> • The definitions of infrastructure versus regionally significant infrastructure • Management of minor upgrading • Temporary infrastructure • The relationship of the New Zealand Electrical Code of Practice with the district plan • Overhead distribution lines and support structures • Enabling new way of generating renewable electricity
21 July 2017	<p>Workshop with infrastructure providers and surveyors</p> <p>Madsen Lawrie Birch Surveyors McCracken Surveys; Counties Power; Blue Wallace Surveyors; NZ Transport Agency; Watercare Services; Auckland Transport; Waipa Networks; Hamilton City Council; Spark; Vodafone; Ultrafast Broadband BCD Group Ltd</p>	Review of the draft Infrastructure and Energy provisions	<p>The participants of the workshop identified the following as being key matters in respect to Infrastructure and Energy provisions:</p> <ul style="list-style-type: none"> • Ensure consideration of scheduled areas, trees, heritage items, Maaori sites of significance. • Support the single chapter. • Support alignment with neighbouring DPs. • Need row heading on the top of each page of the table. • Support identification of whole network, i.e. Regionally Significant Infrastructure + others. • Tables work well. • Minor structures – need to cover minor utility structures for electricity cabinets for link pillars. • Like temporary infrastructure provisions, but questioned what happens if it is longer than 12 months. • Earthworks limits not workable for trenching, digging holes, near waterways. • Solar panels in outstanding natural landscapes on roofs or existing structures big paddocks of panels not ok. • Drilling included in trenching? • Would prefer permitted drilling and

			trenching for network utilities <ul style="list-style-type: none"> • Concern with layers e.g. Archaeological Alert Layers going into road reserves. • Need to specify which chapters will still apply for N/U, e.g. historic heritage, natural environment etc
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A draft district plan was published in November 2017 for the purposes of receiving early feedback. The feedback received on the renewable electricity generation provisions is summarised in Table 2.

Table 2: Feedback on the draft Proposed District Plan

Provision / Issue	Feedback
Policy I in Infrastructure and Energy Policy chapter	Clause (b) in Policy I - suggest improvement to this clause or introduce a new clause that refers to 'locational constraints related to the need to access suitable resources or sites' or similar wording.
No provision for setbacks between noise sensitive activities (e.g.: dwellings) and lawfully established large scale wind farms.	Requests that rules be provided (in Rural Zone?) to require setbacks for noise sensitive activities so that noise at these receiver locations does not exceed 40dBA.
Objective 'Infrastructure is provided in a manner that takes into account the qualities and characteristics of surrounding environments and community wellbeing' and Policy I.	Supports this objective and Policy I.
Definition of 'minor upgrading of existing infrastructure'. Performance standards relating to realignment.	Supports this definition. Requests amendment of performance standards to explicitly provide for repositioning of individual turbines provided that - re-positioning is within 100m of existing turbine, there is no net increase in number of wind turbines, re-positioned turbine/s is to comply with NZS6808:2010.
Height limit	Considers that height limit (13 metres) is too restrictive and should be increase to allow for investigative meteorological measurement masts up to 80 metres, except within roads. Reference to Rangitikei and Ruapehu DP.
Provisions for earthworks ancillary to infrastructure	Supports the performance standard but seeks clarification that this overrides the earthworks provision in the Rural Zone. Notes that infrastructure standard sets no limits on annual volume or area.
Provision for Operational Meteorological Measurement Masts	Proposed height limit of 12 metres is too restrictive. Masts may need to match turbine height of 80 metres. As above, reference to Rangitikei and Ruapehu DP.

Policy 3 - undergrounding of network utilities.	Notes that no definition in Draft DP for 'network utility infrastructure' (that links with RMA definition of 'network utility'). Because there are no circumstances in which wind turbines could be placed underground, request for explicit exemption from Policy 3.
Provisions re: 'Under-Utilisation of Renewable Electricity Resources'	Supports the objective and associated Policies 1, 2 and 3 and they are consistent with section 7(j) of the RMA and give effect to the NPS- REG.
Introduction text	the introduction (3.1) does not recognise the role of electricity generation
Enabling renewable electricity generation	<p>Suggested amendments to number of turbines, increase height in solar panels on roofs and add new performance standard for new generation devices not attached to a building (consistent with accessory building for the zone)</p> <p>Request small scale electricity generation be permitted in road – otherwise lost opportunity for alternative supply to lights and bus stop information (e.g. solar panels)</p> <p>General support for this policy framework and rules that provide for the conveyance of electricity from a generation site.</p>

1.7 Iwi Authority Consultation and Advice

1.7.1 Consultation

Clause 3 of Schedule 1 of the RMA sets out the requirements for local authorities to consult with tangata whenua through and iwi authorities. Clause 3 also requires Local Authorities to consult with any person, group or ministry that may be affected by changes made to the District Plan.

Council used the following methods to create an Iwi Reference Group.

- Joint Management Agreement
- Tai Tumu Tai Pari Tai Ao (Waikato Tainui Environmental Plan)
- Partnerships
- Collaboration

The purpose of the Iwi Reference Group was to provide Council with a single forum to socialise the proposed changes to the Operative District Plan.

The Iwi Reference group was made up of all iwi and hapuu within the district that council currently consults with via the Resource Consent Process.

Engagement and consultation with the Iwi Reference group took place between December 2014 and December 2017. (See Part 1 Section 32 Report – Introduction to the Evaluation Report)

1.7.2 Advice

Clause 4A of Schedule 1 of the RMA sets out the requirements for local authorities to consult with iwi authorities before notifying a proposed plan. Clause 4A(1)(b) requires Council to have particular regard to any advice received on a draft proposed policy statement or plan from those iwi authorities.

Council held discussions with the relevant Iwi and Hapuu and through Te Kahui Mangai website:

Iwi authorities within Waikato District:

- Waikato Tainui
- Ngaati Tamaoho

Iwi for the purpose of RMA list on Te Kahui Mangai

- Tainui o Tainui

Iwi that have relationship from other districts

- Hauraki
- Ngaati Maniapoto
- Ngaati Paoa - Hauraki

The above Iwi groups were consulted with and a summary of their comments issues and Council's consideration are listed in Part 1 Section 32 Report – Introduction to the Evaluation Report.

1.8 Decision-making

While the topic of renewable electricity generation was not taken to any council meetings for a formal resolution, it was discussed at the workshops with Councillors in the context of the Infrastructure and Energy chapter. The following table outlines the dates of those workshops and the content.

Table 3 Summary of decision-making processes

Meeting / Feedback	Document	Decision/direction
23 August 2016 Presentation to Councillors	<ul style="list-style-type: none"> • The Infrastructure chapter will include what was previously the utilities and land transport network provisions; • The Infrastructure provisions are required to address a number of higher order planning documents; • New provisions relating to 'Essential Infrastructure' are proposed as well as amendments to the existing infrastructure objectives; • The Significant Industry, Infrastructure, Primary Production and Research Sites issue requires further refining; • A new issue and objective relating to Reverse Sensitivity of Land Use with Regionally Significant Infrastructure is proposed; • The existing Urban Expansion issue and objective within the Waikato Section is no longer required specifically for the Infrastructure chapter; and • The existing objectives contained within in Appendix B of the Waikato Section are either covered by the other objectives or they can be developed as policies. 	<p>Support for the stand alone Infrastructure chapter</p> <p>An understanding of the directives of the RPS and NPS-REG.</p>
7 August 2017 Presentation to Councillors	<ul style="list-style-type: none"> • Update on progress • Feedback from the stakeholder workshops • Findings from the Issues and Options Report • Principles to guide development of the chapter • Statutory considerations including the RPS, NPS, NES, NZCPS • Broad approach of objectives • The draft issues, objectives and policies • Draft definitions 	
15 August 2017 Presentation to the Councillors	<ul style="list-style-type: none"> • Structure of the rules • Organisation of chapter by the type of infrastructure • Approach to the chapter 	

	<ul style="list-style-type: none"> • General themes • Rules associated with general infrastructure • Rules associated with National Grid • Electricity distribution • Electricity generation • Small-scale renewable electricity • Wastewater, water supply and stormwater • Infrastructure standards • Development standards • Telecommunications • Transportation • Parking and access • Liquid fuels and gas • Meteorological • Matters that were still being worked on 	
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1.9 Reference to Other Relevant Evaluations

This Section 32 topic report should be read in conjunction with the Section 32 evaluations for Infrastructure. The following Section 32 evaluation reports are also relevant with regards to Identified Areas:

- Tangata whenua;
- Historic Heritage;
- Biodiversity; and
- Landscapes and natural character.

2 ISSUES, OBJECTIVES, POLICIES AND RULES

2.1 Higher Level Planning Documents and Legislation

Under section 75(3) of the RMA, a district plan must give effect to the following:

- (a) any national policy statement; and
- (b) any New Zealand coastal policy statement; and
- (c) any regional policy statement.

In respect to infrastructure provisions, these statutory documents are discussed in terms of their relevance to the Project.

2.2 National Policy Statement for Renewable Electricity Generation

The National Policy Statement for Renewable Electricity Generation (NPS-REG) sets out objectives and policies for local authorities to address renewable electricity generation in RMA planning documents, including district plans.

The NPS-REG, which took effect on 13 May 2011, recognises the importance of renewable energy. It promotes a more consistent approach to balancing the competing values associated with the development of New Zealand's renewable energy resources when councils make decisions on resource consent applications.

Given the infrastructure chapter will include energy matters including the generation of electricity, the NPS-REG is relevant to this Project. The table below forms the recommendations for the Proposed District Plan based on the requirements of the NPS-REG.

Table 4: Relevant NPS-REG provisions to the Waikato District Plan

NPSREG Objective and Policies	Recommended response of the District Plan
<p><i>Objective</i> <i>To recognise the national significance of renewable electricity generation activities by providing for the development, operation, maintenance and upgrading of new and existing renewable electricity generation activities, such that the proportion of New Zealand's electricity generated from renewable energy sources increases to a level that meets or exceeds the New Zealand Government's national target for renewable electricity generation.</i></p>	<p>The NPS-REG requires local authorities to provide specific recognition and provision for renewable electricity generation activities in their district plan.</p> <p>An objective could be included in the PDP which flows through into policies and assessment criteria (for appropriate activities) that aligns with the NPS-REG objective.</p>
<p><i>Policy A</i> <i>Decision-makers shall recognise and provide for the national significance of renewable electricity generation activities, including the national, regional and local benefits relevant to renewable electricity generation activities. These benefits include, but are not limited to:</i></p> <ul style="list-style-type: none"> <i>a) maintaining or increasing electricity generation capacity while avoiding, reducing or displacing greenhouse gas emissions;</i> <i>b) maintaining or increasing security of electricity supply at local, regional and national levels by diversifying the type and/or location of electricity generation;</i> <i>c) using renewable natural resources rather than finite resources;</i> <i>d) the reversibility of the adverse effects</i> 	<p>NPSREG Policy A requires Councils to recognise and provide for the national significance of renewable electricity generation activities, including the national, regional and local benefits relevant to renewable electricity generation activities.</p> <p>Consider inclusion of a similar policy to NPS-REG Policy A in the PDP to recognise the benefits of renewable electricity generation activities. This will enable the District Plan to give effect to the NPS-REG.</p> <p>It is recommended that this policy cascade through into rules that enable renewable electricity generation activity in appropriate areas at an appropriate scale.</p>

<p>on the environment of some renewable electricity generation technologies; e) avoiding reliance on imported fuels for the purposes of generating electricity.</p>	
<p>POLICY B Decision-makers shall have particular regard to the following matters: a) maintenance of the generation output of existing renewable electricity generation activities can require protection of the assets, operational capacity and continued availability of the renewable energy resource; and b) even minor reductions in the generation output of existing renewable electricity generation activities can cumulatively have significant adverse effects on national, regional and local renewable electricity generation output; and c) meeting or exceeding the New Zealand Government's national target for the generation of electricity from renewable resources will require the significant development of renewable electricity generation activities.</p>	<p>This policy requires decision-makers to have particular regard several matters.</p> <p>Suggest including the following into the PDP:</p> <ul style="list-style-type: none"> • Development of a policy that supports the operation, maintenance and upgrading of these activities; and • Development of a reverse sensitivity policy that supports the protection of renewable electricity generation activities and seeks to ensure their effective output/operation. • It is recommended that this policy cascade through into rules that enable development, operation, maintenance, and upgrading of: <ul style="list-style-type: none"> ○ new and existing renewable electricity generation activities using solar, biomass, tidal, wave, hydro-electricity, wind, geothermal and ocean current energy resources. ○ small and community-scale distributed renewable electricity generation from any renewable energy source • This could also flow through into matters of control or discretion. • Policy to avoid reverse sensitivity effects on renewable electricity generation activities. • Rules may be required in a similar approach to protecting the transmission electricity lines from reverse sensitivity. The focus will be on protecting significant existing renewable electricity generation activities. <p>Policy C1: The NPSREG policy requires decision-makers to have particular regard to various matters.</p> <p>Policy C2: The NPSREG requires regard be given to offsetting measures or environmental compensation including measures or compensation which benefit the local</p>
<p>POLICY E1 Regional policy statements and regional and district plans shall include objectives, policies and methods (including rules within plans) to provide for the development, operation, maintenance, and upgrading of new and existing renewable electricity generation activities using solar, biomass, tidal, wave and ocean current energy resources to the extent applicable to the region or district.</p>	
<p>POLICY E2 Regional policy statements and regional and district plans shall include objectives, policies, and methods (including rules within plans) to provide for the development, operation, maintenance, and upgrading of new and existing hydro-electricity generation activities to the extent applicable to the region or district.</p>	
<p>POLICY E3 Regional policy statements and regional and district plans shall include objectives, policies, and methods (including rules within plans) to provide for the development, operation, maintenance and upgrading of new and existing wind energy generation activities to the extent applicable to the region or district.</p>	

<p>POLICY E4 Regional policy statements and regional and district plans shall include objectives, policies, and methods (including rules within plans) to provide for the development, operation, maintenance, and upgrading of new and existing electricity generation activities using geothermal resources to the extent applicable to the region or district.</p>	<p>environment and community affected by renewable electricity generation activities.</p> <p>NPSREG Policy D: The NPSREG requires Councils to manage activities to avoid reverse sensitivity effects on consented and on existing renewable electricity generation activities.</p> <p>NPSREG Policies E1, E2, E3, E4, F: The NPSREG policies require district plans to provide for the development, operation, maintenance, and upgrading of new and existing renewable electricity generation activities renewable sources such as solar, biomass, tidal, wave, ocean current, hydro-electricity, wind and geothermal resources. The NPSREG also requires district plans to provide for small and community-scale distributed renewable electricity generation.</p>
<p>POLICY F As part of giving effect to Policies E1 to E4, regional policy statements and regional and district plans shall include objectives, policies, and methods (including rules within plans) to provide for the development, operation, maintenance and upgrading of small and community-scale distributed renewable electricity generation from any renewable energy source to the extent applicable to the region or district.</p>	
<p>POLICY D Decision-makers shall, to the extent reasonably possible, manage activities to avoid reverse sensitivity effects on consented and on existing renewable electricity generation activities.</p>	
<p>POLICY G Regional policy statements and regional and district plans shall include objectives, policies, and methods (including rules within plans) to provide for activities associated with the investigation, identification and assessment of potential sites and energy sources for renewable electricity generation by existing and prospective generators.</p>	<p>The NPSREG requires district plans to provide for activities associated with the investigation, identification and assessment of potential sites and energy sources for renewable electricity generation by existing and prospective generators.</p> <p>The following change to the District Plan is recommended:</p> <ul style="list-style-type: none"> • Development of a policy that supports these activities. • Rules that enable investigation, identification and assessment of potential sites and energy sources

2.3 New Zealand Coastal Policy Statement

The purpose of the New Zealand Coastal Policy Statement (NZCPS) is to state objectives and policies in order to achieve the purpose of the RMA in relation to the coastal environment of New Zealand. The NZCPS 2010 took effect on 3 December 2010.

The NZCPS has relevance to Renewable Electricity Generation; recognising the provision of infrastructure and energy generation within the coastal environment

(wind, tidal, wave and ocean current energy) is important to the social, economic and cultural well-being of people and communities, and addresses issues such as the risk to existing infrastructure from coastal erosion and coastal hazards.

The provisions of the NZCPS which are considered to be applicable are outlined below. The identification of the extent of the coastal environment (as required by Policy 1 of the NZCPS) will be critical for application of the NZCPS. Indeed, Objective 1(2)(i) recognises that the coastal environment contains physical resources and built facilities, including infrastructure, that have modified the coastal environment.

While all of the NZCPS policies referring to activities or use and development are relevant to infrastructure, the following are specific to renewable electricity generation.

Table 5: NZCPS provisions relevant to renewable electricity generation

Objective and Policies	NZCPS Description
Objective 6	<p><i>To enable people and communities to provide for their social, economic, and cultural wellbeing and their health and safety, through subdivision, use, and development, recognising that:</i></p> <ul style="list-style-type: none"> • <i>the coastal environment contains renewable energy resources of significant value;</i>
Policy 6 Activities in the coastal environment	<p><i>(1) In relation to the coastal environment:</i></p> <p><i>(a) recognise that the provision of infrastructure, the supply and transport of energy including the generation and transmission of electricity, and the extraction of minerals are activities important to the social, economic and cultural well-being of people and communities;</i></p> <p><i>(g) take into account the potential of renewable resources in the coastal environment, such as energy from wind, waves, currents and tides, to meet the reasonably foreseeable needs of future generations;</i></p>
Policy 6 Activities in the coastal environment	<p><i>(2) Additionally, in relation to the coastal marine area:</i></p> <p><i>(a) recognise potential contributions to the social, economic and cultural wellbeing of people and communities from use and development of the coastal marine area, including the potential for renewable marine energy to contribute to meeting the energy needs of future generations:</i></p>

The King Salmon Supreme Court decision (2014) has had wide ranging consequences and has changed the way policies are interpreted. This decision has set a precedent that applying an overall judgment is not appropriate when giving effect to provisions in higher order planning documents and prescriptive policies are likely to be awarded more weight than flexible ones (e.g. highly directive verbs such as avoid, protect etc.). The decision has indicated that the use of the word “avoid” adverse effects is an absolute for the matters listed. This is of particular relevance to policies which require adverse effects to be avoided (Policies 5, 11, 13 and 15). What this means for Renewable Electricity Generation is that infrastructure activities in the following areas in the coastal environment will need to be managed differently from the rest of the district:

- land or waters in the coastal environment held or managed under the Conservation Act 1987 and any Act listed in the 1st Schedule to that Act; or other Acts for conservation or protection purposes (Policy 5);
- areas of outstanding natural character (Policy 13(1)(a));
- outstanding natural features and outstanding natural landscapes in the coastal environment (Policy 15(a)).

2.4 Waikato Regional Policy Statement

The Operative Waikato Regional Policy Statement (RPS) provides an overview of the resource management issues in the Waikato region, and the ways in which integrated management of the region's natural and physical resources will be achieved.

To provide for increasing energy demands, there is a greater need to manage impacts on existing renewable electricity generation activities and promote new electricity generations from energy sources such as geothermal, wind, hydro, tides, wave energy and possibly biofuels. Development of renewable energy resources results in a range of local and national benefits including those associated with increased security of supply and reduced greenhouse emissions.

The development of new energy sources and related infrastructure poses potential for greater effects on resources such as water bodies, landscapes and biodiversity. It will also mean greater potential for conflicts with existing land and water uses. These matters need to be carefully managed into the future, to ensure that appropriate environmental outcomes are maintained while meeting renewable energy generation needs.

The provisions of the RPS, which are considered to be applicable to renewable electricity generation, are outlined below. The RPS highlights providing for energy demand and managing the built environment as key issues for the Waikato Region.

A large number of the issues, objectives and policies of the RPS are relevant to the management of infrastructure to some degree, but the most relevant are discussed below.

Table 6: RPA provisions most relevant to renewable electricity generation

RPS Objectives and Policies	Relevance / Main Message
<u>3 Objectives</u> 3.5 Energy	<i>Energy use is managed, and electricity generation and transmission is operated, maintained, developed and upgraded, in a way that:</i> <i>d) recognises and provides for the national significance of electricity transmission and renewable electricity generation activities;</i> <i>e) recognises and provides for the national, regional and local benefits of electricity transmission and renewable electricity generation;</i>
<u>3 Objectives</u> 3.12 Built	<i>Development of the built environment (including transport and other infrastructure) and associated land use occurs in an integrated,</i>

environment	<p>sustainable and planned manner which enables positive environmental, social, cultural and economic outcomes, including by:</p> <p>i) providing for the development, operation, maintenance and upgrading of new and existing electricity transmission and renewable electricity generation activities including small and community scale generation;</p>
<p><u>4 Integrated management</u> Policy 4.1 Integrated approach</p>	<p>4.1.7 Managing the coastal environment Local authorities should: recognise the special context of the coastal environment, including the recognition that it has particular values and issues that are of regional and national significance and that impact on the wellbeing of the Waikato region, including: viii) its potential for renewable energy generation;</p>
<p><u>6 Built environment</u> Policy 6.1 Planned and co-ordinated subdivision, use and development</p>	<p>6.1.8 Information to support new urban development and subdivision District plan zoning for new urban development (and redevelopment where applicable), and subdivision and consent decisions for urban development, shall be supported by information which identifies, as appropriate to the scale and potential effects of development, the following:</p> <p>m) the location of existing and planned renewable energy generation and consider how these areas and existing and planned urban development will be managed in relation to one another;</p>
<p><u>6 Built environment</u> Policy 6.5 Energy demand management</p>	<p>6.5.1 District plan provisions District plans should: b) encourage the use of on-site and community-based renewable energy technologies.</p> <p>The methods encourage local authorities to reduce energy demand through managing the built environment and transport systems, through sustainable waste management and through promoting efficient use of energy generally. Local authorities are also encouraged to promote local renewable energy technologies which can reduce our dependence on oil-based energy and reduce the need for new energy developments.</p>
<p><u>6 Built environment</u> Policy 6.6 Significant infrastructure and energy resources</p>	<p>Management of the built environment ensures particular regard is given to:</p> <p>b) the benefits that can be gained from the development and use of regionally significant infrastructure and energy resources, recognising and providing for the particular benefits of renewable electricity generation, electricity transmission, and municipal water supply; and c) the locational and technical practicalities associated with renewable electricity generation and the technical and operational requirements of the electricity transmission network.</p>
<p><u>6 Built environment</u> Policy 6.6 Significant infrastructure and energy resources</p>	<p>6.6.1 Plan provisions Regional and district plans shall include provisions that give effect to Policy 6.6, and in particular, that management of the built environment:</p> <p>e) provides for renewable energy by having particular regard to: i) the increasing requirement for electricity generation from renewable sources such as geothermal, fresh water, wind, solar, biomass and marine, and the need to maintain generation from existing renewable</p>

	<p>electricity generation activities;</p> <p>ii) the need for electricity generation to locate where energy sources exist, and transmission infrastructure to connect these generation sites to the national grid or local distribution network;</p> <p>iii) the logistical or technical practicalities associated with developing, upgrading, operating or maintaining renewable electricity generation, or electricity transmission activities;</p> <p>iv) any residual environmental effects of renewable electricity generation activities which cannot be avoided, remedied or mitigated can be offset or compensated to benefit the affected community or the region; and</p> <p>v) the benefits of renewable electricity generation activities including maintaining or increasing security of electricity supply.</p> <p>g) considers how existing and planned renewable electricity generation activities and existing and planned urban development will be managed in relation to one another.</p>
<p><u>6 Built environment</u> Policy 6.6 Significant infrastructure and energy resources</p>	<p>6.6.6 Resilience of regionally significant infrastructure</p> <p>There is an increasing need for renewable energy, and renewable energy developments such as hydro-electric dams can be regionally significant. The potential for development of renewable energy resources can be reduced due to development of the built environment. The methods ensure this is recognised in district and regional plans. Decisions about the future location of some developments (such as rural residential development) should take into account the potential for locations to be used for future renewable energy developments.</p>
<p><u>6A Development principles</u> General development principles</p>	<p>New development should:</p> <p>n) adopt sustainable design technologies, such as the incorporation of energy efficient (including passive solar) design, low-energy street lighting, rain gardens, renewable energy technologies, rainwater harvesting and grey water recycling techniques where appropriate;</p>
<p><u>7 Coastal marine area</u> Policy 7.1 Interests in the coastal marine area</p>	<p>7.1.1 Allocation of space within the coastal marine area</p> <p>The regional coastal plan shall establish criteria to determine the appropriateness of different activities within the coastal marine area and where necessary identify areas that are appropriate for different purposes or activities including areas to be protected from development. Particular regard will be had to:</p> <p>b) opportunities for electricity generation from renewable sources;</p>
<p><u>8 Fresh water bodies</u> Policy 8.1 Approach to identifying fresh water body values and managing fresh water bodies</p>	<p>Waikato Regional Council will facilitate a process that will involve regional communities, to identify values and establish subsequent fresh water objectives, limits and targets for fresh water bodies. The value setting process will:</p> <p>d) recognise that where a freshwater body is currently used for the purposes of renewable electricity generation or domestic or municipal supply, those uses are recognised as being values associated with that water body.</p>
<p><u>8 Fresh water bodies</u> Policy 8.4 Catchment-based intervention</p>	<p>Identify catchments, including Waikato River and Lake Taupō, that require specific intervention to address the adverse effects of activities and land use changes. In identifying catchments that require intervention, and in undertaking that intervention the following will be considered:</p> <p>e) existence and ongoing operation of significant renewable electricity generation activities;</p>
<p><u>8 Fresh water bodies</u> Policy 8.6 Allocating</p>	<p>Manage the increasing demand and competition for water through the setting of allocation limits, efficient allocation within those limits, and</p>

fresh water	<p><i>other regional plan mechanisms which achieve identified freshwater objectives and:</i></p> <p><i>d) avoid any reduction in the generation of electricity from renewable electricity generation activities, including the Waikato Hydro Scheme;</i></p>
<p><u>12 Landscape (including seascape), natural character and amenity</u> Policy 12.2 Preserve natural character</p>	<p>12.2.1 District and regional plans</p> <p><i>Regional and district plans shall:</i></p> <p><i>c) ensure activities are appropriate with respect to the level of natural character, including particularly those activities that:</i></p> <p><i>viii) the need to locate renewable electricity generation activities where the renewable energy resource is available; and</i></p> <p><i>ix) the logistical or technical practicalities associated with developing, upgrading, operating or maintaining the renewable electricity generation activity.</i></p>
<p><u>15 Monitoring and evaluation</u> 15.4 Environmental results anticipated</p>	<p>15.4.3 Built environment</p> <p><i>za) Increased supply of renewable energy contributes towards improved security of supply.</i></p> <p><i>zb) There is a decreased dependence on energy from non-renewable sources and increase in the use of renewable energy sources.</i></p>

The main focus of the RPS in relation to renewable electricity generation is:

- To recognise opportunities for new renewable electricity generation structures;
- Protect existing renewable electricity generation structures;
- Ensure subdivision and development does not compromise existing renewable electricity generation activities; and
- Increase the use of renewable electricity generation and decreased dependence of non-renewable energy sources as there are substantial benefits.

2.5 Vision and Strategy

As set out in Section 2 of the RPS, the Waikato-Tainui Raupatu Claims (Waikato River) Settlement Act 2010 (the Settlement Act) gives effect to the Deed of Settlement signed by the Crown and Waikato-Tainui on the 17 December 2009. The Settlement Act has an overarching purpose to restore and protect the health and wellbeing of the Waikato River for future generations. Section 9(2) of the Settlement Act confirms that the vision and strategy for Waikato River (Te Ture Whaimana o Te Awa o Waikato) applies to the Waikato River and activities within its catchment affecting the Waikato River.

Waikato-Tainui is supportive of, and would like an increased focus on renewable electricity generation. The Vision and Strategy, within The Waikato-Tainui Environmental Plan, expresses concern about the development of renewable electricity generation activities through infrastructure (Section 26) and Electricity Generation (Section 27). Waikato-Tainui generally do not support any form of energy generation unless it is sustainable and renewable, or any form of energy generation that has adverse social, cultural, spiritual, or environmental effects that

cannot be managed to meet the requirements of this Plan. The following table outlines the relevant section in the Waikato-Tainui Environmental Plan.

Table 7: Summary of provisions in the Waikato-Tainui Environmental Plan relevant to renewable electricity generation

Objective – Waikato-Tainui engagement	<i>26.3.1 Infrastructure development, upgrade, and maintenance within the Waikato-Tainui rohe occurs in partnership with Waikato-Tainui.</i>
Policy – Waikato-Tainui engagement	<p><i>26.3.1.1 To ensure that infrastructure development, upgrade and maintenance within the Waikato-Tainui rohe occurs in partnership with Waikato-Tainui.</i></p> <p><i>Methods</i></p> <p><i>(a) New infrastructure shall be developed in consultation with Waikato-Tainui to ensure infrastructural development is in alignment with this Plan and any relevant Joint Management Agreements (JMA’s) in order to manage adverse environmental, cultural, spiritual, and social effects. As a minimum, the consultation and engagement process outlined in Chapter 6, ‘Te koorero tahi me Waikato-Tainui – consultation and engagement with Waikato-Tainui’, shall apply.</i></p> <p><i>(b) In the development of new infrastructure, upgrading or maintenance of old infrastructure, Waikato-Tainui are engaged at the very early stages of scoping and that Waikato-Tainui remain engaged during the process.</i></p>
Objective – infrastructure development, upgrade, and maintenance	<i>26.3.2 Infrastructure development, upgrade, and maintenance manages economic, social, cultural, spiritual, and environmental effects.</i>
Policy – infrastructure development, upgrade and maintenance	<p><i>26.3.2.1 To ensure that infrastructure development, upgrade, and maintenance manages economic, social, cultural, spiritual, and environmental effects.</i></p> <p><i>Methods</i></p> <p><i>(a) Infrastructure development shall avoid land in Maaori ownership except with the agreement of the Maaori owners.</i></p> <p><i>(b) New infrastructure development shall take into account the enhancement principles contained in Chapter 7 “Te Whakapakari i Te Taiao - Towards environmental enhancement”. As a minimum all existing infrastructure shall be managed to sustain the ability of the environment to provide for future generations.</i></p> <p><i>(c) Ensure that, in the development of new infrastructure, best practice approaches and appropriate environmentally sustainable and enhancing technologies are applied to ensure, as far as practicable, any adverse impacts on the environment or cultural and/or spiritual resources are avoided.</i></p> <p><i>(d) Infrastructure development and management shall be planned to manage adverse effects on water bodies, stormwater, water supply and wastewater systems.</i></p> <p><i>(e) The cumulative effect of infrastructure provision shall be considered as well as the effect of a single piece of infrastructure.</i></p> <p><i>(f) When assessing infrastructure needs or making decisions on designations or consents regarding infrastructure, the adverse effects</i></p>

	<p>should be managed so as to achieve the objectives in this Plan. In particular adverse effects should be avoided on:</p> <ul style="list-style-type: none"> i. Land held in Maori title or in the ownership of Waikato-Tainui; ii. Waahi tapu and other sites of significance to Waikato-Tainui; iii. Oceans, rivers, lakes, and wetlands that would hinder achieving the objectives and policies contained in the water management, fisheries and cultural chapters of the Plan; iv. Areas of significant indigenous vegetation or habitats of taonga species; v. Customary activities or fisheries; vi. Natural hazards; and vii. Culturally and/or spiritually significant landscapes and view shafts. <p>(g) In the event that adverse effects cannot be avoided, discussions shall be held with Waikato-Tainui to agree if the effects can be managed.</p> <p>(h) Any local adverse effects of infrastructure that cannot be avoided, remedied, or minimised should be discussed with Waikato-Tainui to discuss whether the effect can be mitigated and compensated near the locality where the adverse effects occur, or elsewhere as agreed with Waikato-Tainui.</p>
Objective - electricity generation and transmission	27.3.1 In partnership with Waikato-Tainui, existing and new electricity generation activities, and the structures and operations to transmit electricity to end users, effectively manages adverse social, cultural, spiritual, environmental, and economic effects.
Policy – electricity generation and transmission	<p>27.3.1.1 In partnership with Waikato-Tainui, to ensure that existing and new electricity generation activities, and the structures and operations to transmit electricity to end users effectively manages adverse social, cultural, spiritual, environmental, and economic effects.</p> <p><i>Methods</i></p> <p>(a) Electricity generation and transmission activities are developed or operated in a manner consistent with the parts of this Plan that are relevant to the proposed or existing electricity generation or transmission activity.</p> <p>(c) Efficient conservation and use of electricity ensures electricity wastage or leakage from electricity generation or transmission is minimised.</p> <p>(f) In designing new transmission lines, upgrading, or replacing transmission lines, alternatives to overhead lines, such as undergrounding, will be the preferred option provided there are no adverse effects on cultural or spiritual sites.</p> <p>(g) Large transmission structures shall not be located in close proximity to marae, culturally or spiritually sensitive sites, or in the river and its environs (such as banks, floodplains, estuaries, or bed).</p> <p>(h) Other than as required for safety purposes, electricity transmission lines and supporting infrastructures blend in with the surrounding environment (such as by control of colour, use of vegetation cover, undergrounding infrastructure, minimising visual profile, and minimising size).</p>
Objective – alternative electricity generation sources	<p>27.3.2 Alternative sustainable forms of electricity generation are developed, provided any adverse effects on the environment, particularly on the Waikato River or culturally and/or spiritually sensitive sites, are managed.</p> <p><i>Note: Due to the adverse environmental, social, spiritual, and cultural</i></p>

	<i>effects of such structures, Waikato-Tainui does not consider containment hydro dams, such as Karaapiro and Arapuni Dams, an alternative sustainable form of electricity generation.</i>
<i>Policy – alternative electricity generation sources</i>	<p><i>27.3.2.1 Ensure that preference is given to the development of sustainable forms of electricity generation, provided any adverse effects on the environment, particularly on the Waikato River or culturally and/or spiritually sensitive sites, are managed.</i></p> <p><i>Methods</i> <i>The following methods are subject to any adverse effects on the environment being managed to a level suitable to Waikato-Tainui.</i></p> <p><i>(a) Generally encourage the development and use of sustainable alternative forms of energy generation.</i></p> <p><i>(b) Encourage the development and use of small domestic-scale renewable energy production for domestic, community facilities, papakaainga, and marae use.</i></p> <p><i>(c) Encourage the beneficial re-use of waste and other by-products for electricity generation.</i></p>
<i>Objective – local cost, local benefit</i>	<i>27.3.3 Electricity generation and transmission activities demonstrate a direct community benefit for the communities near their activities.</i>
<i>Policy – local cost, local benefit</i>	<p><i>27.3.3.1 To ensure that electricity generation and transmission activities demonstrate a direct community benefit for the communities near their activities.</i></p> <p><i>Methods</i></p> <p><i>(a) Existing or impending electricity generation and transmission operators work with Waikato-Tainui to determine what initiatives could demonstrate a direct community benefit.</i></p> <p><i>(b) Electricity generation and transmission activities are able to demonstrate a direct community economic, social, spiritual, and/or cultural benefit.</i></p> <p><i>(c) This direct community benefit extends beyond providing direct employment for the community including partnering with the community to develop other economic opportunities in the event of a decline in electricity and transmission activities.</i></p>

2.6 Maniapoto Environmental Management Plan

The Maniapoto Environmental Management Plan was prepared by Maniapoto Māori Trust Board on behalf of the people of Maniapoto and is a high level direction setting document and describes issues, objectives, policies and actions to protect, restore and enhance the relationship of Maniapoto with the environment including their economic, social, cultural and spiritual relationships.

Research for clean, renewable energy generation developments, include hydro, geothermal, solar, wind and wave power, is promoted although any activities are subject to the management of effects and protecting and enhancing the mauri of the environment and Maniapoto values.

The objectives and policies most relevant to electricity generation are outlined below.

Table 8: Summary of provisions in the Maniapoto Environmental Management Plan relevant to renewable electricity generation

22.3.2 Objective: Energy generation and transmission	<i>To ensure electricity generation, transmission and distribution benefits Maniapoto and protects the mauri of the environment.</i>
22.3.2.1 Policy	<p><i>Electricity generation, transmission and distribution within Maniapoto rohe does not result in negative effects on the mauri of the environment</i></p> <p><i>Actions</i></p> <p><i>(a) Promote the use of renewable energy and energy saving measures in residential, commercial, industrial and other developments, in a manner consistent with Maniapoto values and interests.</i></p> <p><i>(b) Protect the biodiversity of indigenous fish species in all waterways by ensuring unhindered fish passage in the design and construction of in-stream structures (including retrofitting existing structures).</i></p> <p><i>(c) Ensure impacts of electricity generation infrastructure on indigenous biodiversity is avoided and, where this is not able to be avoided, impacts are appropriately mitigated, monitored and reported through consenting processes.</i></p> <p><i>(d) Ensure energy generation and infrastructure is appropriately separated from human sites of occupation/habitation.</i></p> <p><i>(e) Maintain and protect the natural functioning of ecosystems where energy infrastructure and systems are located, particularly those ecosystems that Maniapoto rely on for cultural and spiritual sustenance.</i></p> <p><i>(f) Ensure energy generation and transmission infrastructure is developed in a manner otherwise consistent with this Plan.</i></p>
22.3.3 Objective: Energy generation and transmission	<i>Maniapoto has access to reliable, sustainable and efficient energy sources.</i>
22.3.3.1 Policy	<p><i>To ensure Maniapoto has access to reliable, sustainable and efficient energy sources.</i></p> <p><i>Actions</i></p> <p><i>(a) Encourage the need for sustainable financing of infrastructure.</i></p> <p><i>(b) Support Maniapoto marae, kura, kōhanga and wānanga to develop and access reliable, sustainable and efficient energy sources.</i></p> <p><i>(c) Encourage and support increased research and investment in new energy technologies, including the potential or feasibility of new forms of electricity generation within the rohe.</i></p> <p><i>(d) Avoid new electricity generation facilities in the rohe that use non-renewable resources.</i></p>

2.7 Issues

The evaluation of objectives and provisions in the following sections relate to the resource management issues stated below:

Issue statement	The location of renewable electricity generation depends on a particular resource
Renewable electricity generation need to locate where the resource exists. This may lead to a conflict with other values. For example coastal cliffs may be identified as outstanding natural features, but they may also be the optimal location for consistent wind gusts off the sea. There may be some flexibility with resources such as the wind where there could be a trade-off between optimal generation and outstanding landscape values. However other natural energy resources such as geothermal are highly specific in their location.	
Issue statement	Enabling renewable electricity generation activities
<p>New Zealand has traditionally used a combination of renewable and non-renewable resources to generate electricity. Traditional, non-renewable methods of electricity production can have a range of adverse effects on the environment that renewable electricity potentially avoids, and the use of renewable sources to generate electricity is to be encouraged through the district plan.</p> <p>The Resource Management Act requires the plan to have particular regard to the benefits to be derived from the use and development of renewable energy; while the National Policy Statement for Renewable Electricity Generation requires district plans to recognise and provide for the national significance of renewable electricity generation activities.</p> <p>The NZ Government has a strategic target that 90 per cent of electricity generated in New Zealand should be derived from renewable energy sources by 2025 (based on delivered electricity in an average hydrological year) providing this does not affect security of supply. There are different scales of renewable electricity generation and these opportunities must be enabled in order to meet the national target.</p> <p>Benefits include security of supply and greater reliability (by diversifying sources of energy), reduction in greenhouse gas emissions, reduction in dependence on the national grid, and reduction of transmission losses. There is a global trend towards less reliance on traditional energy resources and more investigation into non-traditional renewable energy resources such as solar, wind, biofuel, wave and tidal, electricity generation from waste gas (e.g. landfills), as well as small-scale hydro and geothermal energy production. Development of renewable energy resources will also add to electricity generation capability on a sustainable basis.</p>	
Issue statement	The need to maintain the efficiency of, and production from, existing renewable electricity generation activities
<p>Existing renewable electricity generation structure and activities can be affected by reverse sensitivity effects. For example wind turbines can cause flicker and noise from the rotation of the blades. Sensitive land uses and activities around the existing renewable electricity generation activities need to be managed so that existing renewable electricity facilities can continue generating.</p> <p>In addition, the generation of electricity must be connected to either a transmission network or a distribution network in order to be able to distribute the electricity.</p>	
Issue statement	There are adverse environmental effects from renewable electricity generation activities that need to be managed.
Development that increases renewable electricity generation capacity can have adverse environmental effects that span local, regional and national scales, often with adverse effects	

manifesting locally and positive effects manifesting nationally. In some instances the benefits of renewable electricity generation can compete with matters of national importance as set out in Section 6 of the Act, and with matters to which decision-makers are required to have particular regard under Section 7 of the Act. There are often visual effects associated with the structures which may adversely affect landscape and amenity values.

3 EVALUATION OF OBJECTIVES

Below is a summary of the objectives that have been identified as the most appropriate to address this resource management issue and achieve the purpose of the Resource Management Act 1991.

The following objectives are considered to be the most appropriate way to achieve the purpose of the Act.

There are other objectives which are also relevant to renewable electricity generation and these are assessed against the purpose of the Act in the Infrastructure Section 32 evaluation report:

6.1.1 Objective – Development, Operation and Maintenance of Infrastructure

6.1.6 Objective – Reverse Sensitivity

Table 9 Summary of objectives

Objective	Summary of evaluation
<p>6.3.1 Objective – Renewable Energy Energy efficient design and an increase in renewable electricity generation activities are promoted.</p>	<p>Waikato District is recognised as having resources that are suitable for renewable electricity generation, in particular wind, solar, wave and hydro energy. Electricity related greenhouse gas emissions can be reduced through maximising renewable electricity generation at the domestic, community and utility scale. This will enable not only the current communities to meet their energy requirements but also will ensure a sustainable supply of energy to meet future energy demand in accordance with Section 5(2)(a) of the Act.</p> <p>Renewable electricity generation constitutes a sustainable use of the physical and natural resources and will enable future generations to meet their energy requirements in a sustainable manner. This will enable communities to move towards greater use of energy which avoids effects on future generations by a reduction in electricity generation derived from fossil fuels.</p> <p>The District faces several significant long term energy challenges, including reducing carbon emissions. There is a clear need to improve energy efficiency and conservation, and maximise the use of renewable energy resources. The path to creating a more sustainable energy future is through using energy more efficiently and generating more energy from renewable sources. This Objective encourages development that demonstrates a permanent net benefit in terms of energy as well as an increase in the renewable generation activities.</p> <p>This objective encourages the sustainable use of energy as a resource. This not only has benefits for the current generations in terms of increased surety of supply and cost benefits but cumulatively will benefit future generations by assisting in reducing the consumption of non-renewable energy resources.</p> <p>This Objective will directly contribute to the economic and social wellbeing of people and communities. Local benefits from renewable electricity can be short term and long term. Additional jobs can be created during construction or upgrade phases, but the longer term benefits for economic well-being is through the on-going benefits of an increased security of electricity supply. Diversifying electricity generation may result in lower electricity prices for the end consumer.</p>

	<p>An increase in electricity supply and increased security of that supply will be necessary to support improvement in the economic, social and cultural wellbeing of the community (Section 5(2) of the RMA).</p> <p>The health and safety of people and communities is both directly and indirectly dependent on a reliable supply of electricity. People rely on electricity to heat their homes, prepare and manage food, for hygiene and safety. In this regard, this Objective will enable communities to contribute to provide for their health and safety by increasing the generation of electricity and increasing the security of supply through renewable electricity generation. It therefore achieves Section 5(2) of the RMA.</p> <p>This Objective also assists in achieving Section 7(b) – the efficient use and development of natural and physical resources and 7(ba) – the efficiency of the end use of energy, and (j) the benefits to be derived from the use and development of renewable energy.</p> <p>In conclusion, this Objective is considered the most appropriate for achieving the Purpose of the Act. It also is the most appropriate for giving effect to the RPS.</p>
<p>6.1.8 Objective – Infrastructure in the Community and Identified Areas Infrastructure takes into account the qualities and characteristics of surrounding environments and community well-being</p>	<p>This objective supports Section 5(2) of the Act which promotes the supports the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being. Infrastructure (and in particular large commercial-scale electricity generation) can detract from the character of an area.</p> <p>The matters of national importance are listed in Section 6 of the Act, and this objective ensure infrastructure does not adversely affect the values of those areas. In addition, Section 7 of the Act identifies matters to be given particular regard to. This includes (c) the maintenance and enhancement of amenity values. This objective will assist in achieving these parts of the Act.</p>

4 SCALE AND SIGNIFICANCE EVALUATION

The level of detail undertaken for the evaluation of the proposed District Plan provisions has been determined by an assessment of the scale and significance of the implementation of the proposed District Plan provisions. The scale and significance assessment considered the environmental, economic, social and cultural effects of the provisions. In making this assessment regard has been had to the following, namely whether the provisions:

- (a) Are of regional or district wide significance;

- (b) Have effects on resources that are considered to be a matter of national importance in terms of Section 6 of the Act;
- (c) Adversely affect people's health and safety;
- (d) Result in a significant change to the character and amenity of local communities;
- (e) Adversely affect those with particular interests including Maori;
- (f) Limit options for future generations to remedy effects;
- (g) Whether the effects have been considered implicitly or explicitly by higher order documents; and
- (h) Include regulations or other interventions that will impose significant costs on individuals or communities.

The evaluation has focused on those provisions that will result in a substantial change to the management of renewable electricity generation activities and are of greater importance to ensure the objective is achieved. The majority of changes proposed to the current provisions involve a framework to encourage the use and development of renewable electricity generation – ranging from the very small scale solar panels on the roof of a house to the large commercial-scale wind farms. The framework of objective, policies and rules strike a balance between encouraging the structure and activities and managing adverse effects.

Policies and rules have been evaluated as a package, as together they address a particular issue and seek to meet a specific objective.

The following table contains a summary of the policies and rules considered to be of a scale and significance to justify a more comprehensive evaluation of options.

Table 10 Scale and significance assessment

Issue	Provisions evaluated	Scale and Significance Reasoning
The location of renewable electricity generation depends on a particular resource	6.3.1 Objective – Renewable Energy 6.3.4 Policy – Future Renewable Electricity Rule 14.6.1 Research and exploratory-scale investigations for renewable electricity generation activities (P3) Rule 14.6.2 Research and exploratory-scale investigations for renewable electricity generation activities that do not comply with one or more of the conditions of Rule 14.6.1.2 (RD3)	Renewable electricity generation is moderately significant to the District for the following reasons: <ul style="list-style-type: none"> (a) It is of regional or district wide significance; (b) It is of national significance as renewable electricity generation will contribute to the National Grid as well as the national targets for reduced carbon emissions and increased use of renewable electricity resources; (c) There is potentially effects on resources that are considered to be a matter of national importance in terms of Section 6 of the Act; (d) There is the potential to adversely affect people's health and safety; (e) Large commercial-scale renewable electricity generation activities may result in a significant change to the character and amenity of local communities; (f) Large commercial-scale renewable electricity generation activities may adversely affect those with particular interests including Maori; and (g) Whether the effects have been considered implicitly or explicitly by higher order documents – this matter
Enabling renewable electricity generation activities	6.3.1 Objective – Renewable Energy 6.3.3 Policy – Enabling Renewable Electricity Generation 6.3.4 Policy – Future Renewable Electricity Rule 14.6.1 Small-scale electricity generation (P1) and associated standards Rule 14.6.1 (P2) Community-scale electricity generation Rule 14.6.2 Small-scale electricity generation that do not comply with one or more of the conditions of Rule 14.6.1.1 (RD1) Rule 14.6.2 Community-scale electricity generation that do not comply with one or more of the conditions of Rule 14.6.1.1 (RD3) Rule 14.6.3 Large-scale wind farms located within the Rural Zone (D1)	
The need to maintain the efficiency of, and production from, existing renewable electricity generation activities	6.3.1 Objective – Renewable Energy 6.1.1 Objective – Development, Operation and Maintenance of Infrastructure 6.3.3 Policy – Enabling Renewable Electricity Generation 6.3.5 Policy – Existing Renewable Electricity Facilities 6.1.2 Policy - Development, Operation and Maintenance 6.1.3 Policy - Technological Advances Rule 14.3.1 The operation, maintenance, repair and removal of	

	<p>existing infrastructure (P1) Rule 14.3.1 Minor upgrading of existing infrastructure (P2) Rule 14.4.3 Minor upgrading of existing infrastructure that does not comply with one or more of the conditions of Rule 14.3.1.1 which are relevant to the activity proposed. (RD1)</p>	<p>is addressed explicitly in the NPS-REG and the RPS.</p>
<p>There are adverse environmental effects from renewable electricity generation activities</p>	<p>6.3.1 Objective – Renewable Energy 6.3.3 Policy – Enabling Renewable Electricity Generation 6.1.10 Policy – Infrastructure in Identified Areas Rule 14.6.2 Small-scale electricity generation that do not comply with one or more of the conditions of Rule 14.6.1.1 (RD1) Rule 14.6.2 Community-scale electricity generation that do not comply with one or more of the conditions of Rule 14.6.1.1 (RD3) Rule 14.6.3 Large-scale wind farms located within the Rural Zone (D1) Rule 14.6.4 Large-scale wind farms not located within the Rural Zone, including within an Identified Area (NC1)</p>	

5 EVALUATION OF PROPOSED POLICIES, RULES AND METHODS

Section 32 (1)(b) requires an evaluation of whether the provisions are the most appropriate way to achieve the objectives by identifying other reasonably practicable options, assessing the efficiency and effectiveness of the provisions in achieving the objectives, and summarising the reasons for deciding on the provisions. The assessment must identify and assess the benefits and costs of environmental, economic, social and cultural effects that are anticipated from the implementation of the provisions, including opportunities for economic growth and employment. The assessment must if practicable quantify the benefits and costs and assess the risk of acting or not acting if there is uncertain or insufficient information available about the subject matter.

5.1 Identification of Reasonably Practicable Options – for Achieving Objective

The following assessment consists of an examination of all reasonably practicable options for achieving Objective 6.3.1 regarding renewable energy. This high-level screening process considers the effectiveness of each option. Only those options considered to be reasonably practicable will be evaluated in this section.

Table 11 Reasonably Practicable Options for Achieving Objective 6.3.1

Objective(s)	6.3.1 Objective – Renewable Energy Energy efficient design and an increase in renewable electricity generation activities are promoted.				
Options Approach to achieve objective(s)	Description (brief) Describe the option and acknowledge the source of this option (if there is one e.g. feedback from consultation, suggestions from workshops with elected members etc).	Relevance How effective provisions are in achieving the objective(s).	Feasibility Within the Council's powers, responsibilities and resources, degree of risk and uncertainty of achieving objectives, ability to implement, monitor and enforce.	Acceptability Level of equity and fair distribution of impacts, level of community acceptance. Where possible identify at a broad level social, economic, environmental, cultural effects.	Recommendation Discard or evaluate further (with brief explanation).
Option 1: Do nothing – (remove all policies and associated methods)	This option would involve the district plan not addressing the matter of renewable electricity generation at all.	This approach would be highly ineffective in achieving the objective.	Council have a requirement under Section 31(1)(a) of the Act to achieve integrated management of the effects of the use, development or protection of land and associated natural and physical resources of the District. This approach would not fulfil this requirement. This approach would not achieve Council's responsibilities under Section	This approach would not encourage people to use renewable electricity generation structures. It would also not assist in achieving the national targets for renewable electricity generation.	Discard. This option would not encourage the use of renewable electricity generation or give effect to the NPS-REG or RPS.

Objective(s)	6.3.1 Objective – Renewable Energy Energy efficient design and an increase in renewable electricity generation activities are promoted.				
Options Approach to achieve objective(s)	Description (brief) Describe the option and acknowledge the source of this option (if there is one e.g. feedback from consultation, suggestions from workshops with elected members etc).	Relevance How effective provisions are in achieving the objective(s).	Feasibility Within the Council's powers, responsibilities and resources, degree of risk and uncertainty of achieving objectives, ability to implement, monitor and enforce.	Acceptability Level of equity and fair distribution of impacts, level of community acceptance. Where possible identify at a broad level social, economic, environmental, cultural effects.	Recommendation Discard or evaluate further (with brief explanation).
			75(3)(a) and (c) which require district plans to give effect to national policy statements and regional policy statements. This approach would not give effect to the NPS-REG nor the RPS which requires the recognition of the national significance of renewable electricity generation activities by providing for the development, operation, maintenance and		

Objective(s)	6.3.1 Objective – Renewable Energy Energy efficient design and an increase in renewable electricity generation activities are promoted.				
Options Approach to achieve objective(s)	Description (brief) Describe the option and acknowledge the source of this option (if there is one e.g. feedback from consultation, suggestions from workshops with elected members etc).	Relevance How effective provisions are in achieving the objective(s).	Feasibility Within the Council's powers, responsibilities and resources, degree of risk and uncertainty of achieving objectives, ability to implement, monitor and enforce.	Acceptability Level of equity and fair distribution of impacts, level of community acceptance. Where possible identify at a broad level social, economic, environmental, cultural effects.	Recommendation Discard or evaluate further (with brief explanation).
			upgrading of new and existing renewable electricity generation activities.		
Option 2: Existing Plan Provisions – retain existing approach of the Waikato Section and applying it across the District	Energy producing resources and structures are recognised in the Waikato Section of the Operative District Plan, however these include non-renewable resources as well such as Huntly Coalfields. There is recognition in the policies that subdivision, use and development must	This approach would be partially effective in achieving the objective. While it does not encourage or enable the use of renewable electricity generation in terms of the rule framework, the policies are helpful. The Waikato Section does not establish an explicit	This approach is within Council's powers and would partially give effect to the NPS-REG and NPS.	This approach is largely acceptable to the community. However, the rule framework is not as enabling or encouraging as the policies would suggest.	Discard This approach is not the most effective way to achieve the objective.

Objective(s)	6.3.1 Objective – Renewable Energy Energy efficient design and an increase in renewable electricity generation activities are promoted.				
Options Approach to achieve objective(s)	Description (brief) Describe the option and acknowledge the source of this option (if there is one e.g. feedback from consultation, suggestions from workshops with elected members etc).	Relevance How effective provisions are in achieving the objective(s).	Feasibility Within the Council's powers, responsibilities and resources, degree of risk and uncertainty of achieving objectives, ability to implement, monitor and enforce.	Acceptability Level of equity and fair distribution of impacts, level of community acceptance. Where possible identify at a broad level social, economic, environmental, cultural effects.	Recommendation Discard or evaluate further (with brief explanation).
	not compromise the on-going and efficient operation of strategically, nationally and regionally important infrastructure including power stations. There is an objective and two policies which seek to increase the generation and use of renewable energy resources. Activities and structures are largely a discretionary activity as they are not specifically listed.	rule framework for smaller scale activities such as solar panels, small turbines etc			

Objective(s)	6.3.1 Objective – Renewable Energy Energy efficient design and an increase in renewable electricity generation activities are promoted.				
Options Approach to achieve objective(s)	Description (brief) Describe the option and acknowledge the source of this option (if there is one e.g. feedback from consultation, suggestions from workshops with elected members etc).	Relevance How effective provisions are in achieving the objective(s).	Feasibility Within the Council's powers, responsibilities and resources, degree of risk and uncertainty of achieving objectives, ability to implement, monitor and enforce.	Acceptability Level of equity and fair distribution of impacts, level of community acceptance. Where possible identify at a broad level social, economic, environmental, cultural effects.	Recommendation Discard or evaluate further (with brief explanation).
Option 3: Existing Plan Provisions – retain existing approach of the Franklin Section and apply that across the District	The matter of renewable electricity generation is not addressed in the Franklin Section of the Operative District Plan in terms of a policy framework. Rule 15.1.2.1) provides for renewable electricity generation as a permitted activity: Generation of less than 1 MVA of output of electricity, not being a prohibited activity,	This would enable very small structures so would be partially effective in achieving the objective. There is no enabling policy or objective framework to guide non complying activities however.	This approach is within Council's powers and would partially give effect to the NPS-REG and NPS.	This approach would be acceptable to the community as it would allow small-scale structures such as solar panels as a permitted activity. However this framework is not enabling for larger scale activities and structures and provides no policy direction. This approach would not be supported by power generation companies.	Discard This approach is not the most effective way to achieve the objective.

Objective(s)	6.3.1 Objective – Renewable Energy Energy efficient design and an increase in renewable electricity generation activities are promoted.				
Options Approach to achieve objective(s)	Description (brief) Describe the option and acknowledge the source of this option (if there is one e.g. feedback from consultation, suggestions from workshops with elected members etc).	Relevance How effective provisions are in achieving the objective(s).	Feasibility Within the Council's powers, responsibilities and resources, degree of risk and uncertainty of achieving objectives, ability to implement, monitor and enforce.	Acceptability Level of equity and fair distribution of impacts, level of community acceptance. Where possible identify at a broad level social, economic, environmental, cultural effects.	Recommendation Discard or evaluate further (with brief explanation).
	which complies with the development standards and the performance standards of the relevant zone, and is a. from wind or solar sources; or Any other renewable electricity generation activities and structures would be classed as a non-complying activity as they are not specifically listed.				
Option 4 – Enable renewable electricity generation activities in throughout the	This option would involve enabling electricity generation from renewable	Very effective due to the permissive approach.	While this approach is within Council's powers and responsibilities, it	This approach would not be acceptable to the community. There would be no certainty	Discard. While this is the most enabling

Objective(s)	6.3.1 Objective – Renewable Energy Energy efficient design and an increase in renewable electricity generation activities are promoted.				
Options Approach to achieve objective(s)	Description (brief) Describe the option and acknowledge the source of this option (if there is one e.g. feedback from consultation, suggestions from workshops with elected members etc).	Relevance How effective provisions are in achieving the objective(s).	Feasibility Within the Council's powers, responsibilities and resources, degree of risk and uncertainty of achieving objectives, ability to implement, monitor and enforce.	Acceptability Level of equity and fair distribution of impacts, level of community acceptance. Where possible identify at a broad level social, economic, environmental, cultural effects.	Recommendation Discard or evaluate further (with brief explanation).
District as permitted activities	resources to be permitted irrespective of location or scale.		would conflict with other Section 6 matters which are required to be protected such as outstanding natural landscapes, natural character, historic heritage etc.	as to where structures associated with renewable electricity generation would be constructed and no management of the potentially significant effects associated with them.	approach, it does not attempt to manage the adverse environmental effects.
Option 5 – Enable smaller-scale renewable electricity generation activities as permitted activities, but require consents for commercial-scale activities and structures	Small-scale electricity generation structures and activities are permitted while larger scale would require a consent. This approach would discourage the establishment of renewable electricity generation activities in more sensitive	This would be highly effective in achieving the objective.	This approach is within Council's responsibilities and powers. It gives effect to the RPS and NPS-REG whilst balancing the potential adverse effects from larger-scale operations.	This would be the most acceptable approach to the community. It provides certainty that large scale operations are not going to establish without going through a consent process which may allow public input. It also	Retain This approach is the most balanced – it enables small-scale renewable electricity generation activities as permitted activities while requiring commercial scale to

Objective(s)	6.3.1 Objective – Renewable Energy Energy efficient design and an increase in renewable electricity generation activities are promoted.				
Options Approach to achieve objective(s)	Description (brief) Describe the option and acknowledge the source of this option (if there is one e.g. feedback from consultation, suggestions from workshops with elected members etc).	Relevance How effective provisions are in achieving the objective(s).	Feasibility Within the Council's powers, responsibilities and resources, degree of risk and uncertainty of achieving objectives, ability to implement, monitor and enforce.	Acceptability Level of equity and fair distribution of impacts, level of community acceptance. Where possible identify at a broad level social, economic, environmental, cultural effects.	Recommendation Discard or evaluate further (with brief explanation).
	locations through a more stringent activity status to indicate that they are not appropriate in that location.			enables homeowners to install solar panels and small turbines without a consent thus encouraging this scale of renewable electricity generation.	go through a consent process which enables the effects to be assessed.
Option 6 – Require consents for all renewable electricity structures and activities irrespective of size and location	All renewable electricity generation activities would require a consent.	This approach would not achieve the objective. This approach does not encourage or enable the use of renewable electricity generation.	This approach is within Council's powers but would not give effect to the NPS-REG and NPS.	This approach is largely acceptable to the community. The rule framework would discourage particularly small scale generation structures because of the consenting requirements.	Discard This approach is not the most effective way to achieve the objective.

5.2 Evaluation of Selected Options

This section contains an evaluation of those options identified above for further evaluation. The short list of options has been developed further to include (where relevant) policies, rules and methods. In some instances, provisions have been bundled where they are expected to work together to achieve the objective(s). For efficiency, this second tier evaluation focuses on the approach and the policies and rules which implement that approach as a package, rather than a detailed analysis of every policy and every rule. How this section is approached in terms of level of detail depends to what extent the options are departing from the existing District Plans and the significance of the alternative options. The following table provides a summary of the evaluation results.

Evaluation of the general infrastructure objective (6.1.8) and policies is outlined in the Infrastructure Section 32.

5.3 Objective: Renewable Energy

The following provisions work as a package to achieve Objective 6.3.1:

- 6.3.2 Policy – Utilising Energy Efficiency
- 6.3.3 Policy – Enabling Renewable Electricity Generation
- 6.3.4 Policy – Future Renewable Electricity
- 6.3.5 Policy – Existing Renewable Electricity Facilities
- 6.1.2 Policy - Development, Operation and Maintenance
- 6.1.3 Policy - Technological Advances
- 6.1.10 Policy – Infrastructure in Identified Areas
- 6.1.7 Policy – Reverse Sensitivity and Infrastructure
- 6.1.10 Policy – Infrastructure in Identified Areas
- Rule 14.6.1 Small-scale electricity generation (P1) and associated standards
- Rule 14.6.1 Community-scale electricity generation (P2)
- Rule 14.6.1 Research and exploratory-scale investigations for renewable electricity generation activities (P3)
- Rule 14.6.2 Small-scale electricity generation that do not comply with one or more of the conditions of Rule 14.6.1.1 (RD1)
- Rule 14.6.2 Research and exploratory-scale investigations for renewable electricity generation activities that do not comply with one or more of the conditions of Rule 14.6.1.2 (RD3)
- Rule 14.6.3 Large-scale wind farms located within the Rural Zone (D1)
- Rule 14.6.4 Large-scale wind farms not located within the Rural Zone, including within an Identified Area (NCI)

- Rule 14.3.1 The operation, maintenance, repair and removal of existing infrastructure (P1)
- Rule 14.3.1 Minor upgrading of existing infrastructure (P2)
- Rule 14.4.3 Minor upgrading of existing infrastructure that does not comply with one or more of the conditions of Rule 14.3.1.1 which are relevant to the activity proposed. (RD1)

5.3.1 Identification of Options

In considering options for managing and enabling the use of renewable electricity generation activities a number of factors were taken into account including:

- Section 7(j) of the RMA
- The NPS-REG
- The RPS
- The Government's renewable electricity targets
- Section 6 matters in the RMA
- Encouraging use of small-scale renewable electricity structures
- Managing adverse effects
- Optimal renewable electricity generation activities depend on the location of a resource

The options considered for the management of renewable electricity generation are outlined in Section 5.1 of this report, and included:

- Option 1: Do nothing – (remove all policies and associated methods)
- Option 2: Existing provisions – applying the approach of the Waikato Section across the District
- Option 3: Existing provisions – applying the approach of the Franklin Section
- Option 4: Enable renewable electricity generation activities in throughout the District as permitted activities
- Option 5: Enable smaller-scale renewable electricity generation activities as permitted activities, but require consents for commercial-scale activities and structures
- Option 6: Require consents for all renewable electricity structures and activities irrespective of size and location

Of all the options considered, Option 5 is considered to be the most appropriate way to achieve the objectives.

5.3.2 Policy, Rule and Method Evaluation

This section assists to identify the provisions (i.e. policies, rules and methods) that are the most appropriate to achieve the objective.

Table 12 Evaluation of provisions

Provisions most appropriate for achieving Objective 6.3.1	Effectiveness and Efficiency	
	Benefits	Costs
6.3.2 Policy – Utilising Energy Efficiency 6.3.3 Policy – Enabling Renewable Electricity Generation 6.3.4 Policy – Future Renewable Electricity 6.3.5 Policy – Existing Renewable Electricity Facilities 6.1.2 Policy - Development, Operation and Maintenance 6.1.3 Policy - Technological Advances 6.1.10 Policy – Infrastructure in Identified Areas 6.1.7 Policy – Reverse Sensitivity and Infrastructure 6.1.10 Policy – Infrastructure in Identified Areas Rule 14.6.1 Small-scale electricity generation (P1) and associated standards Rule 14.6.1 Community-scale electricity generation (P2) Rule 14.6.1 Research and exploratory-scale	Environmental: Ensures those areas that have been identified as having special values and characteristics are protected from generation activities and structures. Manages the scale of the structures and therefore the effects. Encourages people to generate electricity and thereby reduces use of electricity from non-renewable resources. Manages the effects through conditions eg. Noise. Benefits include maintaining or increasing electricity generation capacity while avoiding, reducing or displacing greenhouse gas emissions.	Environmental: Risk of amenity effects on neighbouring properties such as noise, if people were particularly sensitive to noise. May place limitations on the infrastructure in terms of location.

<p>investigations for renewable electricity generation activities (P3) Rule 14.6.2 Small-scale electricity generation that do not comply with one or more of the conditions of Rule 14.6.1.1 (RDI) Rule 14.6.2 Research and exploratory-scale investigations for renewable electricity generation activities that do not comply with one or more of the conditions of Rule 14.6.1.2 (RD3) Rule 14.6.3 Large-scale wind farms located within the Rural Zone (DI) Rule 14.6.4 Large-scale wind farms not located within the Rural Zone, including within an Identified Area (NCI)</p> <p>Rule 14.3.1 The operation, maintenance, repair and removal of existing infrastructure (P1) Rule 14.3.1 Minor upgrading of existing infrastructure (P2) Rule 14.4.3 Minor upgrading of existing infrastructure that does not comply with one or more of the conditions of Rule 14.3.1.1 which are relevant to the activity proposed. (RDI)</p>	<p>Reduces use and reliance on finite resources</p> <p>Encourages subdivision and development to reduce electricity consumption through design.</p>	
	<p>Economic: Recognises the critical importance of electricity to the functioning of the district.</p> <p>Results in more diverse, resilient and reliable sources of electricity.</p> <p>Enables the exploration of generation opportunities without capital outlays for consent.</p> <p>Encourages the use of small-scale electricity generation which will reduce the running costs of a household over time.</p> <p>Protects the investment in electricity generation infrastructure by ensuring it is not affected by reverse sensitivity effects.</p> <p>Enables people to generate their own electricity and sell surplus electricity to an electricity distribution company.</p> <p>The matters of discretion ensure consideration of the functional and operational needs of the structures.</p>	<p>Economic: The most optimal locations for electricity generation may be in identified areas.</p> <p>The rule structure may preclude generation activities which would otherwise generate an income such as on Maaori owned land</p> <p>Decreases the development potential for sensitive activities near renewable electricity generation structures</p> <p>May place operational limitations on the infrastructure.</p> <p>Increased cost to the network utility provider to consider alternative locations, alignments and routes.</p>

	<p>The matters of discretion ensure consideration of the benefits derived from the infrastructure.</p> <p>Protects the integrity, security and access to infrastructure.</p> <p>Reduces the use of electricity and therefore cost of running the housing / building.</p>	
	<p>Social: Establishes a clear envelope of scale which manages the expectations of neighbouring properties.</p> <p>Enables people to generate their own electricity.</p> <p>The matters of discretion ensure that health and safety risks are addressed.</p> <p>Encourages warm, drier and healthier homes through energy efficient design.</p>	<p>Social: There is the risk of cumulative effects on character.</p> <p>Risks of amenity effects on neighbouring properties for people that are particularly sensitive to noise or flicker.</p>
	<p>Cultural: Protects sites and areas of significance to Maori.</p> <p>Enables more readily people and communities to live off the grid.</p>	<p>Cultural: Inability to maximise potential development of sites and areas of significance to Maori because of the non-complying activity status. This may compromise the ability of Maori to govern their land, and maximise return through electricity generation.</p>
<p>Opportunities for economic growth and employment</p>		
<p>There are likely to be a few additional opportunities for employment with installation of any new renewable electricity generation activities. Contractors will be required to undertake the earthworks and construction. However the main opportunities are associated with a more resilient and reliable</p>		

electricity supply. This in itself will not lead to economic growth, but it will support economic growth.

With the permitted activity for small and community-scale electricity generation, there may be an expanding market for products such as solar panels and small turbines.

Options less or not as appropriate to achieve the objective

- Do nothing – (remove all policies and associated methods)
- Apply the existing Waikato Section provisions to the whole District
- Apply the existing approach of the Franklin Section to the whole District
- Enable renewable electricity generation activities in throughout the District as permitted activities
- Require consents for all renewable electricity structures and activities irrespective of size and location

These options were not the most appropriate way to achieve the objectives and did not give effect to the NPS-REG, NZCPS or the RPS.

Risk of acting or not acting

Uncertainty or insufficiency of information:

It is uncertain whether there will be any proposals for large scale renewable electricity generation. Therefore it is not known whether this is a real issue for this district plan.

Risk of acting or not acting:

The risk of not acting is that the district plan would not give effect to the RPS or NPS-REG. It is better for the district plan to have a policy and rule framework to guide any new large scale renewable electricity generation proposals. The PDP also sets a policy and rule framework to enable small and community-scale electricity generation and thus assists in meeting the national target for renewable electricity generation.

Efficiency and effectiveness

The package of policies and rules generally provide an efficient and effective way to achieve the Objective for renewable electricity generation as the benefits of providing for the efficient development, maintenance, upgrading and operation of renewable electricity generation outweighs the costs. The primary benefits from the policies are encouraging smaller scale generation activities and structures as permitted activities. The policy and rule framework enable larger commercial-scale generation activities to be assessed through a consent process, with a more stringent activity status for wind farms in identified areas that have special characteristics or values.

The policies also give effect to the NPS-REG. The policies efficiently seek to increase the development and use of energy from renewable sources. The policies recognise the benefits of renewable electricity generation activities and provide for the development, operation, maintenance and upgrading of new and existing renewable electricity generation activities. This is consistent with the NPS-REG objective.

Policy A of the NPS-REG require maintaining or increasing electricity generation capacity and using renewable natural resources rather than finite resources. The approach is enabling small-scale generation activities as a permitted activity will give effect to Policy A. It will have the effect of removing any regulatory control as no resource consent is required (provided the structure complies with the standards).

Policy B of the NPS-REG requires protection of the assets, operational capacity and continued availability of the renewable energy resource. The potential for reverse sensitivity effects to arise is reflected in the Policy - Existing Renewable Electricity Facilities. This policy seeks to ensure that subdivision, use and development is designed and located so that it does not adversely affect the operation and maintenance of existing, lawfully established renewable energy generation facilities.

Policy B(c) of the NPS-REG requires particular regard be given to the significant development of renewable electricity generation activities. The policy and rule framework gives effect to this policy but supporting the development of generation activities and setting out a clear consenting pathway for larger scale developments.

Policy C1 sets out matters to have particular regard to, including the need to locate the renewable electricity generation activity where the renewable energy resource is available, and logistical or technical practicalities. These matters are efficiently addressed by the matters of discretion for small-scale and community-scale electricity generation activities that do not comply with the standards for a permitted activity.

Policy C2 of the NPS-REG requires consideration of offsetting measures or environmental compensation including measures or compensation which benefit the local environment and community affected. This issue is addressed in the Section 32 for biodiversity.

Policy D of the NPS-REG requires activities to managed to avoid reverse sensitivity effects on consented and on existing renewable electricity generation activities. This is achieved by the policy - Existing Renewable Electricity Facilities which ensures subdivision, use and development is designed and located so that it does not adversely affect the operation and maintenance of existing, lawfully established renewable energy generation facilities.

Policy E of the NPS-REG requires inclusion of provisions for various renewable resources. The PDP does this in a really efficient way as it groups all of the renewable resources together, apart from large scale wind farms which have their own rules framework. Large scale wind farms are most likely to establish in the Waikato District and have significant effects. The activity status for large scale wind farms is discretionary, unless they are located in an identified area in which case the activity status is non-complying. Smaller wind turbines of a small or community scale are permitted in the first instance and restricted discretionary if it can not comply with the standards for a permitted activity.

Policy F of the NPS-REG requires district plans to include objectives, policies, and methods (including rules within plans) to provide for the development,

operation, maintenance and upgrading of small and community-scale distributed renewable electricity generation from any renewable energy source to the extent applicable to the region or district. The PDP efficiently achieves this with a policy and a permitted activity status.

Policy G of the NPS-REG requires district plans to provide for activities associated with the investigation, identification and assessment of potential sites and energy sources for renewable electricity generation by existing and prospective generators. This is achieved through an enabling policy and a permitted activity status.

In terms of the RPS:

- Objective 3.12(i) requires district plan to provide for the development, operation, maintenance and upgrading of new and existing electricity transmission and renewable electricity generation activities including small and community scale generation;
- Policy 4.1.7 requires recognition of the coastal environment for renewable energy generation. This is a matter addressed in Objective 6 of the NZCPS. The PDP does not specifically address the coastal environment. Small and community scale electricity generation activities would be permitted, while larger scale ones would either be restricted discretion, discretionary (large scale wind farms) or non-complying (large scale wind farms in identified areas);
- Policy 6.5(b) requires district plans to encourage the use of on-site and community-based renewable energy technologies. The package of policies and rules achieves this in the most efficient and effective way with a permitted activity status for small and community scale renewable electricity generation activities and structures.
- The suite of policies and rules achieve Policy 6.6(b) and (c) by establish a clear policy and rule framework which encourages the generation of electricity from renewable resources.

Effectiveness:

The proposed policies provide an effective framework to achieve the Objective by enabling the development, operation, maintenance and upgrading of renewable energy generation facilities. The policies provide for preliminary investigations of renewable energy resources and seek to minimise the effects of their development. The policies also ensure that new land uses do not compromise the functioning of existing renewable energy facilities. The policies enable generation activities to take place at a range of scales while minimises potential adverse environmental effects.

Overall this approach (Option 2) is the most effective and efficient way of achieving the objective. It also appropriately gives effect to the NPS-REG, the NZCPS and the RPS.

6 CONCLUSION

After undertaking an evaluation as required by Section 32 of the RMA, Objective 6.3.1 is considered the most appropriate way to achieve the Purpose of the RMA (Section 5) for addressing renewable electricity generation.

It is considered that the recommended policies and methods outlined above are the most appropriate way for achieving the objective, having considered:

- (i) other reasonably practicable options for achieving the objective; and
- (ii) assessing the efficiency and effectiveness of the provisions in achieving the objective.

APPENDIX I PROVISION CASCADE

Issue to be addressed	Objective	Policies	Rules	Conditions / Assessment Criteria
The location of renewable electricity generation depends on a particular resource	6.3.1 Objective – Renewable Energy	6.3.4 Policy – Future Renewable Electricity	Rule 14.6.1 Research and exploratory-scale investigations for renewable electricity generation activities (P3)	Rule 14.6.1.2
			Rule 14.6.2 Research and exploratory-scale investigations for renewable electricity generation activities that do not comply with one or more of the conditions of Rule 14.6.1.2 (RD3)	Discretion is restricted to: (a) The functional and operational needs of, and benefits derived from, the infrastructure; (b) Visual, landscape, streetscape and amenity effects, including noise; (c) Shadow flicker effects; (d) The risk of hazards affecting public or individual safety, and risk of property damage; (e) Effects on the values, qualities and characteristics of any Identified Area.
Enabling renewable electricity generation activities	6.3.1 Objective – Renewable Energy	6.3.3 Policy – Enabling Renewable Electricity Generation 6.3.4 Policy – Future Renewable Electricity Rule	14.6.1 Small-scale electricity generation (P1) and associated standards	
			Rule 14.6.1 (P2) Community-scale electricity generation	Rule 14.6.1.1
			Rule 14.6.2 Small-scale electricity generation that do not comply with one or more of the conditions of Rule 14.6.1.1 (RD1)	Discretion is restricted to: (a) The functional and operational needs of, and benefits derived from, the infrastructure; (b) Visual, landscape, streetscape and amenity effects, including noise; (c) Shadow flicker effects;

				<p>(d) The risk of hazards affecting public or individual safety, and risk of property damage;</p> <p>(e) Effects on the values, qualities and characteristics of any Identified Area.</p>
			<p>Rule 14.6.2 Community-scale electricity generation that do not comply with one or more of the conditions of Rule 14.6.1.1 (RD3)</p>	<p>Discretion is restricted to:</p> <p>(a) The functional and operational needs of, and benefits derived from, the infrastructure;</p> <p>(b) Visual, landscape, streetscape and amenity effects, including noise;</p> <p>(c) Shadow flicker effects;</p> <p>(d) The risk of hazards affecting public or individual safety, and risk of property damage;</p> <p>(e) Effects on the values, qualities and characteristics of any Identified Area.</p>
			<p>Rule 14.6.3 Large-scale wind farms located within the Rural Zone (D1)</p>	
<p>The need to maintain the efficiency of, and production from, existing renewable electricity generation activities</p>	<p>6.3.1 Objective – Renewable Energy</p>	<p>6.3.5 Policy – Existing Renewable Electricity Facilities</p>	<p>Rule 14.3.1 The operation, maintenance, repair and removal of existing infrastructure (P1)</p>	
	<p>6.1.1 Objective – Development, Operation and Maintenance of Infrastructure</p>	<p>6.1.2 Policy - Development, Operation and Maintenance</p> <p>6.1.3 Policy - Technological</p>	<p>Rule 14.3.1 Minor upgrading of existing infrastructure (P2)</p>	<p>Rule 14.3.1.1</p>

	6.1.6 Objective – Reverse Sensitivity	<p>Advances</p> <p>6.1.7 Policy – Reverse Sensitivity and Infrastructure</p>	Rule 14.4.3 Minor upgrading of existing infrastructure that does not comply with one or more of the conditions of Rule 14.3.1.1 which are relevant to the activity proposed. (RDI)	<p>Discretion is restricted to:</p> <p>(a) The functional and operational needs of, and benefits derived from, the infrastructure;</p> <p>(b) Visual, streetscape and amenity effects;</p> <p>(c) Road network safety and efficiency;</p> <p>(d) Management of sediment and dust, including the staging of works;</p> <p>(e) The volume, extent and depth of the earthworks activities;</p> <p>(f) The location of the earthworks activities, taking into account any effects on the values, qualities and characteristics of the site;</p> <p>(g) Any flood or land stability risks;</p> <p>(h) Visual, landscape and amenity effects;</p> <p>(i) The location of the earthworks in relation to ecosystems and habitats;</p> <p>(j) Whether alternative methodologies avoiding the need to affect tree(s)/vegetation have been adequately considered.</p>
There are effects from renewable electricity generation activities	<p>6.3.1 Objective – Renewable Energy</p> <p>6.1.8 Objective – Infrastructure in the Community and Identified Areas</p>	<p>6.3.3 Policy – Enabling Renewable Electricity Generation</p> <p>6.1.9 Policy – Environmental Effects, Community Health, Safety and Amenity</p> <p>6.1.10 Policy – Infrastructure in Identified Areas</p>	Rule 14.6.2 Small-scale electricity generation that do not comply with one or more of the conditions of Rule 14.6.1.1 (RDI)	<p>Discretion is restricted to:</p> <p>(a) The functional and operational needs of, and benefits derived from, the infrastructure;</p> <p>(b) Visual, landscape, streetscape and amenity effects, including noise;</p> <p>(c) Shadow flicker effects;</p> <p>(d) The risk of hazards affecting public or individual safety, and risk of property damage;</p> <p>(e) Effects on the values, qualities and characteristics of any Identified Area.</p>

			<p>Rule 14.6.2 Community-scale electricity generation that do not comply with one or more of the conditions of Rule 14.6.1.1 (RD3)</p>	<p>Discretion is restricted to:</p> <ul style="list-style-type: none"> (a) The functional and operational needs of, and benefits derived from, the infrastructure; (b) Visual, landscape, streetscape and amenity effects, including noise; (c) Shadow flicker effects; (d) The risk of hazards affecting public or individual safety, and risk of property damage; (e) Effects on the values, qualities and characteristics of any Identified Area.
			<p>Rule 14.6.3 Large-scale wind farms located within the Rural Zone (DI)</p>	
			<p>Rule 14.6.4 Large-scale wind farms not located within the Rural Zone, including within an Identified Area (NCI)</p>	

APPENDIX 2 ISSUES AND OPTIONS REPORT

APPENDIX 3 FEEDBACK FROM WORKSHOPS