

STAGE 3 - SECTION 32

CHAPTER 11

UTILITIES AND ENERGY

CONTENTS

1. STRATEGIC CONTEXT2
2. RESOURCE MANAGEMENT ISSUES4
3. SCALE AND SIGNIFICANCE EVALUATION 14
4. EVALUATION OF OBJECTIVES 15
5. EVALUATION OF PROPOSED POLICIES, RULES AND METHODS17
6. BIBLIOGRAPHY22

APPENDIX 1: LINKAGES BETWEEN PROVISIONS24
APPENDIX 2: Landscape related effects of utilities for Christchurch City and Banks Peninsula : Boffa Miskell Ltd28
APPENDIX 3: Noise and Glare effects of wind turbines and solar cells : Aecom Ltd.....29

1. STRATEGIC CONTEXT

1.1 PURPOSE AND SCOPE OF THE UTILITIES AND ENERGY CHAPTER

The purpose of the Utilities and Energy Chapter is to:

1. provide a streamlined, focused and updated framework and process for the management and direction of utilities and energy;
2. provide certainty and clarity around the rules and standards that apply to utilities and energy generation activities; and
3. update provisions to reflect increasing community expectations around environmental quality, both for the built and natural environments.

Both the Christchurch City Plan and the Banks Peninsula District Plan currently provide a suite of objectives and policies in relation to utilities and energy. In reviewing those provisions, a number of changes were identified that would assist with Canterbury's recovery. In particular there is a need to:

- re-focus the objectives and policies so they specifically recognise and respond to recovery issues and identify opportunities to remove unnecessary regulatory controls on activities (i.e. reduce consent and notification requirements);
- update the provisions (some being nearly twenty years old) to reflect the direction of relevant statutory documents, in particular relevant National Policy Statements, National Environmental Standards, the Greater Christchurch Land Use Recovery Plan and Canterbury Regional Policy Statement; and
- streamline the provisions.

1.2 PROPOSED DISTRICT PLAN: OVERVIEW AND SYNOPSIS

Utilities and energy are fundamental to the functioning of the district. The chapter needs to address effects on the environmental, economic, social, and cultural conditions across the district, some of which can have long-lasting cumulative effects, while ensuring that the provision of utilities is enabled.

The chapter addresses the following utilities:

- electricity transmission and distribution;
- electricity generation;
- communications;
- liquid fuel transmission and storage; and
- water, wastewater and stormwater utilities.

The chapter does not include provisions relating to the Specific Purpose (landfill), Specific Purpose (transfer station), and Transport Zones or waste minimisation initiatives.

The Strategic Directions Chapter of the proposed Replacement District Plan (pRDP) provides direction for the Utilities Chapter in the following objectives and supporting policies:

- 3.6.1 Objective – Recovery and long-term future of the district
- 3.6.2 Objective – Development form and function
- 3.6.3 Objective – Manawhenua
- 3.6.4 Objective – Natural and cultural environment

- 3.6.5 Objective – Natural hazards
- 3.6.6 Objective – Amenity, health and safety

The proposed chapter contains three objectives and associated policies relating to the efficient provision of utilities, electricity generation, and managing adverse effects.

A new policy has been added to address robustness of utilities in response to damage caused by the Canterbury Earthquakes 2010–2011.

Appendix 1 sets out the linkages between all provisions in the Utilities Chapter.

1.3 RESEARCH

The Council has received technical advice and assistance from various internal and external experts and utilised this, along with internal workshops and community feedback, to assist with setting the Plan framework for the proposed chapter provisions. This advice includes the following:

Title	Author	Description of Report
Landscape Related Effects of Utilities for Christchurch City and Banks Peninsula 2011	Boffa Miskell Ltd	Report provides technical advice in relation to the installation of utilities within the district and their impact on landscape and amenity.
Noise and Glare effects of wind turbines and solar panels	Aecom Ltd	Report provides technical advice in relation to the installation of utilities within the district and their impact on people in terms of noise and glare.

In addition to the above reports (in Appendices 2 and 3) and subsequent advice, Council technical staff have provided informal feedback throughout development of the chapter. The Council has compiled, reviewed and developed material as listed in the bibliography later in this report.

1.4 CONSULTATION

Consultation was undertaken with the following stakeholders and network operators prior to the Council decision to adopt a truncated process:

- Transpower;
- Orion; and
- New Zealand Telecommunications Forum (TCF) (representing 19 individual companies).

The Collaborative Advisory Group and Christchurch Joint Officials Group (comprising representatives of the Canterbury Earthquake Recovery Authority, Canterbury Regional Council, Waimakariri District Council, Selwyn District Council, New Zealand Transport Agency, Ministry for the Environment, Mahaanui Kurataio Limited, Department of Conservation, Ministry of Building Innovation and Employment, Department of Internal Affairs, Department of the Prime Minister and Cabinet, Te Puni Kokiri, Treasury, Land Information New Zealand, Ministry of Education, Housing New Zealand Corporation, Ministry of Social Development and Ministry for Culture and Heritage) were also provided the opportunity for input.

2. RESOURCE MANAGEMENT ISSUES

2.1 STRATEGIC PLANNING DOCUMENTS

Those strategic matters and provisions that have been specifically given effect or had regard to in this chapter are summarised in the table below. The table does not include reference to various transport plans and strategies, as this chapter has taken advice from the transport chapter team in particular, and the relevant plans and objectives/policies therein are set out in those other chapters.

Key themes to emerge from these documents as relevant to utilities are:

1. management of utilities to protect water quality;
2. management of utilities to protect indigenous flora and fauna;
3. management of utilities to protect landscapes;
4. management of utilities to protect heritage;
5. impact of utilities on people and communities;
6. resilient utilities; and
7. utilities that will enable future urban development.

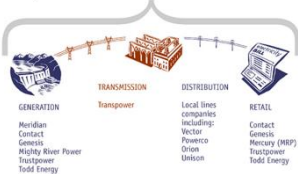
These themes are reflected in the proposed objectives and policies.

Document	Relevant provisions/policy direction	How the chapter will take into account/give effect to the relevant provisions
RMA, Part 2, Section 5 Purpose	Sustainable management of natural and physical resources.	Promote the sustainable management of natural and physical resources through objectives, policies and rules.
RMA, Part 2, Section 6 Matters of National Importance	Recognise and provide for: (a) Coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins (b) outstanding natural features and landscapes (c) areas of significant indigenous vegetation and significant habitats of indigenous fauna (d) maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers (e) relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga (f) historic heritage.	Recognise and provide for these matters through subdivision objectives, policies and rules.

<p>RMA, Part 2, Section 7 Other Matters</p>	<p>Have particular regard to: (a) kaitiakitanga (aa) the ethic of stewardship (b) the efficient use and development of natural and physical resources (ba) the efficiency of the end use of energy (c) the maintenance and enhancement of amenity values (d) intrinsic values of ecosystems (f) maintenance and enhancement of the quality of the environment (i) the effects of climate change (j) the benefits to be derived from the use and development of renewable energy.</p>	<p>Have particular regard to these matters through objectives, policies and rules.</p>
<p>RMA Sections 44A and 55</p>	<p>The RMA at sections 44A (Local authority recognition of national environmental standards) (NES) and 55 (Local authority recognition of national policy statements) (NPSs) of the Act were included in the Act in 2009. They describe the Council's obligations in terms of the NPS and NES.</p> <p>Section 44A requires that district plans be amended if there is duplication or conflict with an NES. The City and Banks Peninsula Plans as they exist currently are not considered to significantly conflict with or duplicate the NES Telecommunications Facilities or NES Electricity Transmission Activities.</p> <p>Sections 55(2) and (3) require that district plans must be amended where an NPS directs it, and where affected by the NPS.</p>	<p>Give effect to the relevant NPS and NES through objectives, policies and rules.</p>
<p>RMA Section 86B</p>	<p>Section 86B of the Act specifies when rules in proposed plan change or variations would have effect. Clause (3) states that a rule in a proposed plan has immediate legal effect if the rule:</p>	<p>Be aware that Section 86B will apply to parts of the Utilities Chapter, specifically (a)–(d) of the adjoining column.</p>

	<p>a. protects or relates to water, air, or soil (for soil conservation); or</p> <p>b. protects areas of significant indigenous vegetation; or</p> <p>c. protects areas of significant habitats of indigenous fauna; or</p> <p>d. protects historic heritage; or</p> <p>e. provides for or relates to aquaculture activities.</p>	
New Zealand Energy Strategy 2011–2021	Seeks the environmentally-responsible development and efficient use of the country's diverse energy resources to grow the economy and recognise the importance of the environment.	Give effect to the goal, areas of focus and objectives and policies.
National Policy Statement for Renewable Electricity Generation 2011 (NPSREG)	<p>Requires that local authorities provide for the development, operation, maintenance and upgrade of new and existing renewable energy generation activities.</p> <p>The NPSREG requires that district plans will implement the NPS by specifically providing for solar, biomass, tidal, wave, ocean current, hydro, wind, and geothermal generation. The stated objective of the NPSREG is:</p> <p><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>	Give effect to the objective and policies in the NPSREG.

	<p>The NPSREG is not accompanied by an NES. District plans therefore need to include rules to manage renewable energy generation utilities in order to satisfy the requirements of s55 of the Act as relates to the NPSREG.</p>	
<p>National Policy Statement on Electricity Transmission 2008 (NPSET)</p>	<p>Requires that local authorities provide for the transmission of electricity.</p> <p>The NPSET was gazetted in March 2008 and was to be implemented within four years of that date. The NPS Renewable Energy Generation was gazetted in April 2011 and was to be implemented within two years.</p> <p>The NPSET seeks to provide a nationwide regulatory framework, in conjunction with the NES for Electricity Transmission Activities. Both documents relate to transmission activities as undertaken by the network operator (Transpower). The stated objective of the NPSET is:</p> <p><i>To recognise the national significance of the electricity transmission network by facilitating the operation, maintenance and upgrade of the existing transmission network and the establishment of new transmission resources to meet the needs of present and future generations, while:</i></p> <ul style="list-style-type: none"> <i>· managing the adverse environmental effects of the network and</i> <i>· managing the adverse effects of other activities on the network.</i> 	<p>Give effect to the objective and policies in the NPSET.</p>

	<p>The NPSET applies only to the National Grid, which is defined in that document as being the assets used or owned by Transpower NZ Limited. This is despite Orion owning and operating transmission assets within this district. The review has been prepared with this in mind.</p>	
<p>National Environmental Standard for Electricity Transmission 2009 (NESET)</p>	<p>Requires that local authorities provide for the transmission of electricity.</p> <p>The NESET provides the rules and methods by which Central Government intends to achieve the objective and policies of the NPSET. The NESET specifically applies <i>"only to the operation, maintenance, upgrading, relocation, or removal of an existing transmission line."</i> District plans therefore need to address new transmission structures and lines, and distribution and generation utilities.</p> <p>The diagram below (from the Ministry for the Environment website) shows the network operator (Transpower) in red and entities subject to district plan rules in blue. It is noted, however, that in Christchurch, Orion owns some transmission assets and the review has had regard to this matter.</p> 	<p>Ensure that the pRDP is not more stringent or less stringent than the rules contained in the NESET.</p>
<p>National Environmental Standard for Telecommunications Facilities (NESTF)</p>	<p>Requires that local authorities provide for installation and operation of telecommunications facilities.</p> <p>The NESTF covers:</p>	<p>Ensure that the proposed district plan is not more stringent or less stringent than the rules contained in the NESTF.</p>

	<ul style="list-style-type: none"> • exposure to radiofrequency fields generated by telecommunication facilities in the road reserve; • the erection of roadside equipment cabinets and the installation of telecommunication antenna in the road reserve; and • noise levels from roadside cabinets in the road reserve. <p>The NESTF defers to District Plan rules in relation to protected trees and vegetation, historic heritage, areas of high visual amenity, and where the utility is in a road reserve adjoining and on the same side of the road as the Coastal Marine Area. The NESTF applies to network operators only.</p> <p>In addition, district plans must address telecommunications utilities outside the road reserve, and those utilities proposed by non-network operators (e.g. if an electricity distribution company proposed to install a communications tower similar to a cell tower).</p>	
<p>New Zealand Coastal Policy Statement</p>	<p>Requires that local authorities safeguard the integrity, form, functioning and resilience of the coastal environment and sustain its ecosystems, its character and natural features and landscape. Requires that local authorities take account of the principles of the Treaty of Waitangi and the role of tangata whenua.</p>	<p>Give effect to relevant objectives in these chapters through objectives, policies and rules.</p>
<p>The Canterbury Regional Policy Statement (CPRS)</p>	<p>Chapter 2 – Issues of resource management significance to Ngāi Tahu Chapter 4 – Provision for Ngāi Tahu and their relationship with resources</p>	<p>Give effect to relevant objectives in these chapters through subdivision objectives, policies and rules.</p>

	<p>Chapter 5 – Land-use and infrastructure</p> <p>Chapter 6 – Recovery and Rebuilding of Greater Christchurch</p> <p>Chapter 7 – Fresh water</p> <p>Chapter 8 – The coastal environment</p> <p>Chapter 9 – Ecosystems and indigenous biodiversity</p> <p>Chapter 10 – Beds of rivers and lakes and their riparian zones</p> <p>Chapter 11 – Natural hazards</p> <p>Chapter 12 – Landscape</p> <p>Chapter 13 – Historic heritage</p> <p>Chapter 14 – Air quality</p> <p>Chapter 15 – Soils</p> <p>Chapter 16 – Energy</p> <p>Chapter 17 – Contaminated land</p>	
The Canterbury Earthquake Recovery Strategy	<p>Vision – Greater Christchurch recovers and progresses as a place to be proud of – an attractive and vibrant place to live, work, visit and invest, mō tātou, ā, mō kā uri ā muri ake nei – for us and our children after us. Revitalise Greater Christchurch as the heart of a prosperous region for business, work, education, and increased investment in new activities.</p> <p>Strengthen community resilience, safety and wellbeing, and enhance quality of life for residents and visitors.</p> <p>Develop resilient, cost-effective, accessible and integrated infrastructure, buildings, housing and transport networks.</p>	<p>The Strategy was prepared pursuant to section 15 of the CER Act, and is a statutory document. The District Plan must not be inconsistent with the Recovery Strategy (see sections 15 and 26 (2) of the CER Act available on the CERA website).</p>
The Land Use Recovery Plan (LURP)	<p>Action 20 (which seeks to enable building of new communities);</p> <p>Action 24 (which seeks to provide for business development);</p> <p>Actions 28–33 (which seek the integration and coordination of the provision of infrastructure);</p> <p>Action 43 (where it seeks resilient utilities);</p> <p>Action 45 (reducing consenting requirements); and</p>	<p>Give effect to the relevant LURP actions through objectives, policies and rules.</p>

	Actions 48 and 49 (which seek a quality urban environment).	
The Mahaanui Iwi Management Plan (IMP)	Objectives: 5.3 (Wai Maori) 5.4 (Papatuanuku) 5.5 (Tane Mahuta) 5.6 (Tangaroa) 5.7 (Nga Tutohu Whenua.	Take account of the relevant objectives and policies through objectives, policies and rules.
Climate Smart Strategy 2010–2025	The Council's Climate Smart Strategy 'sets the direction for community and Council actions that respond to issues and harness opportunities presented by climate change'. It includes a number of relevant objectives. Objective 3 is to 'grow Council capacity to respond to climate change' and the explanation refers to improved resource efficiency and the Council leading by example. Objective 5 is to 'encourage sustainable households and communities' and Objective 6 seeks to 'support a resilient low-carbon and competitive economy'. Of particular relevance, however, is Objective 10, which is to 'promote energy conservation, renewable energy and carbon sequestration'. Renewable energy generation is identified (at page 36 of the Strategy) as being of high priority.	Take account of the relevant objectives and policies.
Sustainable Energy Strategy for Christchurch 2008–18	The Council's sustainable energy strategy is part of the implementation plan for the Urban Development Strategy (UDS). It includes four vision statements, including: <ul style="list-style-type: none"> · <i>Christchurch's energy supplies are provided solely from renewable sources, and the city's energy systems are efficient and secure...</i> · <i>Christchurch is seen as a city that shows</i> 	Take account of the relevant objectives and policies.

	<p><i>responsible leadership...in the effort to reduce greenhouse gas emissions.</i></p> <p>Sections 7.4.2 and 7.5 of the Strategy address wind generation and solar energy. The Strategy advises that both are supported by the Council.</p>	
<p>New Zealand Electrical Code of Practice for Electrical Safe Distances 34:2001 (NZECP)</p>	<p>The NZECP (34:2001) sets minimum safe electrical distance requirements for overhead electrical line installations and other works associated with the supply of electricity. It applies to works and personnel near these electrical utilities.</p> <p>The code sets out a raft of electrical safe distances and is administered by the network operator (Transpower). The code does not exempt persons from complying with other statutory requirements, including those in district plans or vice versa.</p>	<p>Ensure consistency with the code.</p>
<p>New Zealand Standard NZS2772 Part 1:1999 and Part 2:2011</p>	<p>NZS 2772 (Radiofrequency Fields) Parts 1 and 2 deal with electro-magnetic fields (EMF) and establish guidelines for limiting EMF and protecting against known adverse health effects. The City Plan lists the standard as a 'referenced document' meaning it has effect in the 'City'. The Banks Peninsula Plan does not reference the standard. The guidance provided in the standard with regards to potential health impacts of EMF is confirmed in the significant background reports to the relevant NPS and NES available on the MfE website.</p>	<p>Refer to and utilise the standard.</p>
<p>New Zealand Standard NZS6808: 1998</p>	<p>NZS 6808 (Acoustics - Wind Farm Noise) provides methods for the prediction, measurement and assessment of sound from wind turbines. The standard is directed at commercial or large scale wind</p>	<p>Refer to and utilise the standard.</p>

	farms and includes noise limits. It is not currently a referenced document in either plan.	
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2.2

RESOURCE MANAGEMENT ISSUE 1 – ENABLING AND MANAGING UTILITIES

The provisions in the existing Christchurch City Plan and Banks Peninsula District Plan are complicated and not comprehensive, with the specific issues identified:

- It is difficult to ascertain whether consent is required in some instances.
- The City Plan defaults to a permitted activity for unlisted activities (e.g. wind turbines).
- Neither plan has given effect to the National Policy Statements nor National Environmental Standards listed above.
- The Council’s resource consent staff have advised of a multitude of legibility and practical issues with the existing district plans, which need to be addressed.
- Lack of flexibility and ability to adapt to a changing environment.

2.3

RESOURCE MANAGEMENT ISSUE 2 – ELECTRICITY GENERATION ACTIVITIES

Neither the City Plan nor Banks Peninsula District Plan seek to manage the installation, operation and maintenance of electricity generation activities. Zone standards and noise standards are not adequate to enable or manage such activities. Strong direction is contained within the National Policy Statement for Renewable Electricity Generation and the Council policies identified above that appropriate renewable electricity generation activities should be enabled within the district.

2.4

RESOURCE MANAGEMENT ISSUE 3 – MANAGEMENT OF ADVERSE EFFECTS

Efficient establishment and operation of utilities is essential to the district but must be considered against the actual and potential adverse effects they generate. Particular issues include:

- renewable electricity generation can have significant visual, aural and amenity effects;
- the installation of cell towers can have significant visual effects and potential health effects; and
- reverse sensitivity.

3. SCALE AND SIGNIFICANCE EVALUATION

The level of detail required 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 provisions. The scale and significance assessment considers the environmental, economic, social and cultural effects of the provisions and whether the provision:

- is predetermined by a higher order document; and/or
- is important to resolve an issue or problem particularly to protect life and property; and/or
- there are a wide range of policy options or only variations of a theme; and/or
- the policy direction (provision) will radically change from business and usual; and/or
- the policy will affect reasonable use of land; and/or
- adversely affects specific stakeholder interests including Ngai Tahu; and/or
- gives rise to adverse effects and whether there is certainty of effects based on the availability of information to assess benefits and costs.

3.1 Objectives

The assessment of scale and significance in the Section 32 report for the Strategic Directions Chapter as notified (26 August 2014) in relation to utilities identifies a range of matters, with some being directly relevant. It is not intended to revisit this assessment in each chapter and the reader is referred to the assessment in the Strategic Directions Chapter, however, it is important to note that the Strategic Directions Chapter provides significant direction in terms of preparation of the proposed objectives in this chapter.

3.2 Policies and Rules

The proposed policies and rules in the Utilities Chapter have been drafted in response to the three key issues identified above. There is one significant policy shift in this chapter.

The proposed plan seeks to enable and manage renewable electricity generation, specifically through solar and wind resources. As noted above, the Council is required to give effect to the objectives and policies contained within the National Policy Statement for Renewable Electricity Generation. The Regional Policy Statement at Chapter 16 in particular, provides further direction. The Council's climate smart and sustainability strategies are consistent with these documents.

To support the rules, the review includes a number of definitions. The definitions are largely based on those in the existing operative district plans, and while there has been some merging, clarifying and updating, none of the amendments are considered to be significant. Some new definitions have been included and existing definitions amended. The proposed plan looks to definitions in other statutory documents listed above for direction.

4. EVALUATION OF OBJECTIVES

Section 32(1)(a) of the RMA requires the Council to evaluate the extent to which the objectives are the most appropriate way to achieve the purpose (Section 5) of the Act.

4.1 Evaluation of Proposed Objectives

GENERAL POLICY DIRECTION OPTIONS AND RECOMMENDATIONS	
<ol style="list-style-type: none"> 1. Status Quo – retain existing objectives, policies, rules and assessment matters. 2. Amend existing objectives, policies, rules and assessment matters to give effect to the relevant NPS and have regard to the relevant NES as is required by the RMA. 3. Full review of all utilities provisions including giving effect to the relevant NPS and NES. <p>Option 3 is the preferred option. It is considered most likely to address the three key resource management issues identified above and give effect to the relevant statutory planning documents.</p>	
ADOPTED GENERAL POLICY DIRECTION	
<p>The above recommendation has been confirmed through the Technical Advisory Group, Collaborative Advisory Group, legal review, and Christchurch Joint Officials Group. It is not practical to retain existing provisions. They are often not consistent across the existing district plans and are not comprehensive. They do not give effect to key documents including those listed at Section 2 of this report.</p>	
OBJECTIVE MOST APPROPRIATE WAY TO ACHIEVE THE PURPOSE OF THE RMA	
Objective	Summary of Evaluation
<p>11.1.1 Objective: Provision of utilities</p> <ol style="list-style-type: none"> a. Effective and efficient provision of utilities in a manner that is integrated with land use and development in the district. b. The continued operation, maintenance, upgrading and, where appropriate, development of utilities are enabled throughout the district, including in relation to the National Grid. 	<p>The objective is considered the most appropriate way to achieve the purpose of the Act because it:</p> <ul style="list-style-type: none"> • is more comprehensive and effective than the identified alternative options in addressing the Resource Management issues; • is better than the identified alternative options in giving effect to the relevant sections of the Act – in particular: Principles in Section 6, 7, 44A and 55; • gives effect to the relevant provisions of the strategic planning documents listed in Section 2.1 of this report, particularly in relation to the integrated and coordinated provision of utilities sought in LURP and RPS; and • aligns with the provisions of the Strategic Directions Chapter of the pRDP, in particular the objectives and supporting policies.
<p>11.1.2 Objective: Adverse effects</p> <p>Avoid, remedy or mitigate the adverse effects of and on utilities while providing for the diverse nature and specialised character of utilities.</p>	<p>The objective is considered the most appropriate way to achieve the purpose of the Act because it:</p> <ul style="list-style-type: none"> • is more comprehensive and effective than Option 1 (status quo) and as comprehensive and effective as Option 2 in

	<p>addressing Resource Management Issue 2;</p> <ul style="list-style-type: none">• is better than the identified alternative options in giving effect to the relevant sections of the Act – in particular: Principles in Section 6, 7, 44A and 55;• gives effect to the relevant provisions of the National Policy Statement for Renewable Electricity Generation; and• aligns with the provisions of the Strategic Directions Chapter of the pRDP in particular the objectives and supporting policies.
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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.

The Utilities Chapter seeks to be permissive in its approach. Each section of the chapter contains the minimum number of provisions necessary to meet the objectives of this chapter, Chapter 3 (Strategic Directions) and Chapter 9 (Natural and Cultural Heritage) in particular, as well as the objectives in higher order documents, including the Regional Policy Statement and National Policy Statements for Renewable Energy Generation.

5.1 Policy and Rules relating to the efficient provision of utilities

PROVISIONS (POLICY, RULE, METHOD) MOST APPROPRIATE WAY TO ACHIEVE THE OBJECTIVES	
Relevant objective: 11.1.1 Objective: Provision of utilities	
Provision(s) most appropriate	Effectiveness and Efficiency
<p>Option 3</p> <p>11.1.1.1 Policy : Sustainable water supply To achieve sustainability and resilience of the district's water supply by encouraging water conservation and the re-use and recycling of water.</p> <p>11.1.1.2 Policy: Security of supply a. Require that new utilities are designed and constructed to maintain function should a significant seismic event or other natural hazard event occur. b. To recognise the national, regional and local benefits of secure utilities by enabling the operation, maintenance, and upgrading of utilities.</p> <p>11.1.1.3 Policy: Renewable energy generation Provide for the establishment and operation of utilities which derive or generate energy through renewable sources by recognising:</p>	<p>Effectiveness</p> <p>Option 3 is considered most effective in achieving the objective as it will:</p> <ul style="list-style-type: none"> • give effect to LURP and RPS objectives and policies relating to the integrated and coordinated provision of infrastructure and utilities; and • give effect to relevant National Policy Statements and National Environmental Statements. <p>Efficiency</p> <p>Benefits</p> <ul style="list-style-type: none"> • Enables the provision of infrastructure and utilities which are critical to the practical and economic functioning of the district. • Enables the provision of infrastructure and utilities in a cost-effective manner for providers. • Consenting requirements are minimised by providing a more comprehensive range of permitted activities. • The full range of utilities is proposed to be managed. • Notification and written approval requirements are clarified and the number of applications requiring either is minimised.

<p>a. the benefits to people and communities of harnessing renewable energy sources for electricity generation, heating, and other activities, and in particular from small scale solar cells;</p> <p>b. the practical constraints associated with renewable generation activities, including the locational, operational and technical matters;</p> <p>c. the increased resilience and security of supply provided by a diversified electricity generation network;</p> <p>d. the benefits of reducing emissions likely to contribute to climate change.</p> <p>11.1.1.4 Policy: Telecommunications Enable telecommunication utilities to be developed and used provided that, as a result of its location and design:</p> <p>a. the adverse effects on significant natural and physical resources and cultural values are avoided, or where this is not practicable, remedied, mitigated; and</p> <p>b. other adverse effects on the environment are appropriately managed.</p> <p>11.1.1.5 Policy: Established utilities Enable the operational, maintenance and upgrade requirements of utilities.</p> <p>11.1.1.6 Policy: New and substantial electricity transmission assets Provide for additions and substantial upgrades to the National Grid, while managing the adverse effects on the environment by:</p> <ol style="list-style-type: none"> 1. having regard to the extent to which any adverse effects have been avoided, remedied or mitigated by route, site and method selection; and 2. taking opportunities to reduce (when upgrading) and avoid adverse effects on existing sensitive activities, residential and commercial areas, areas of high recreational value or amenity and outstanding natural landscapes. 	<ul style="list-style-type: none"> Renewable energy is proposed to be provided for, with an emphasis on solar energy. Facilitates servicing requirements in relation to new or infill housing and other development within the district. <p>Costs</p> <ul style="list-style-type: none"> Cost of compliance for network operators/developers, including resource consent costs and processing times, noting that no significant change expected when compared with status quo. <p>Benefits to the environment significantly outweigh costs. Environmental benefits are greater than for Options 1 and 2 and will offset any increase in compliance and opportunity costs.</p> <p>Wind energy</p> <p>Large scale The two key effects identified in relation to large scale wind electricity generation are visual and aural. Expert advice has been commissioned by the Council in relation to both matters.</p> <p>Landscape advice from Boffa Miskell Ltd (Appendix 2) has resulted in specific protection for specific areas (e.g. Outstanding Natural Landscapes) and a buffer to those areas.</p> <p>Advice from Aecom Ltd at Appendix 3 in relation to noise and glare finds firstly that reliance on NZS 6808 Acoustics Wind Farm Noise is appropriate and the most common method nationwide. No significant glare/flicker issues need to be managed by the Plan but are included as assessment matters for resource consent.</p> <p>It is noted that research commissioned by EECA (Energy Efficiency and Conservation Authority) in 2006 to assist councils to realise the potential of renewable energy indicates that Banks Peninsula has a wind resource of about 8m/s at 50m elevation. This is at the lower end of what is viable at present.</p> <p>Small scale In relation to small scale generation utilities, the two key effects are again visual and aural. Small scale generation is to be ancillary to residential or industrial/commercial activities but concerns remain in residential areas in particular, including cumulative effects, the constancy of</p>
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	<p>noise emission, the degree of sensitivity households have to noise, and the proximity to households.</p> <p>The report from Aecom Ltd discusses this matter in greater detail. The report notes that small-scale turbines generate between 70 and 107dBA (at 95 per cent of power output). This is well in excess of what is appropriate in residential areas, as demonstrated by the setbacks Aecom consider would be required to achieve compliance with noise standards.</p> <p>Requiring resource consent is therefore considered appropriate until such time as turbines emit substantially less noise.</p> <p>Solar energy</p> <p>Large scale Solar cells, arrays, and concentrators can have significant visual and glare effects. Advice has resulted in specific protection for specific areas (e.g. Outstanding Natural Landscapes), items (e.g. heritage, trees) and a buffer area, and provisions reducing the impact of glare, including in relation to the airport and roads.</p> <p>Small scale Again, small scale utilities can have visual and glare effects and the proposed rule reflects this. The proposed rule is largely about how the panel is mounted so as to minimise any adverse effects.</p> <p>Benefits to the environment significantly outweigh costs, which are principally economic. Environmental benefits are greater than for Options 1 and 2 and outweigh any increase in compliance costs.</p>
Options less or not as appropriate to achieve the objectives and policies:	
Option 1 (Status quo – current policies and rules)	<p>Appropriateness Option 1 would retain the existing policies and rules. These are not as comprehensive as the proposed policies and rules and would not enable the establishment and operation of utilities within a framework of appropriate environmental safeguards.</p>
Option 2 (Amend existing objectives, policies, rules and assessment matters to give effect to the relevant NPS and NES as is required by those documents)	<p>Appropriateness Option 2 would largely retain the existing policies and rules with regards provision of infrastructure and utilities. These are not as comprehensive as the proposed policies and rules and would not enable the establishment and operation of</p>

	utilities within a framework of appropriate environmental safeguards.
Risk of Acting or Not Acting	
The information available is considered sufficient to inform the review. It is important to support recovery through the provision of infrastructure and utilities and the updates and the amendments proposed are considered necessary.	

5.2 Policy and Rules relating to adverse effects

PROVISIONS (POLICY, RULE, METHOD) MOST APPROPRIATE WAY TO ACHIEVE THE OBJECTIVES	
Relevant objective: 11.1.3 Objective: Adverse effects	
Provision(s) most appropriate	Effectiveness and Efficiency
<p>Option 3</p> <p>11.1.2.1 Policy: Adverse effects To ensure that, where reasonably practicable, new or substantially upgraded utilities:</p> <ol style="list-style-type: none"> do not result in a reduction in the values of landscapes, features, Sites of Ecological Significance and conservation reserves; do not result in a reduction in the heritage value of heritage items or settings, or a reduction in the health, structural integrity or values of significant trees; and are located and designed in a way which minimises adverse effects, having regard to their economic benefits and technical and operational needs. avoid, remedy or mitigate the potential for adverse effects of large or noisy utilities or infrastructure, including wind turbines. <p>11.1.2.2 Policy: Adverse effects on utilities</p> <ol style="list-style-type: none"> Avoid adverse effects on utilities, including reverse sensitivity effects that may compromise the development, operation, upgrading and maintenance of infrastructure. To manage the effects of subdivision, development and land use on the safe, effective and efficient operation, maintenance and upgrading of the National Grid by: <ol style="list-style-type: none"> avoiding the location of sensitive activities in close proximity to the National Grid; 	<p>Effectiveness</p> <p>Option 3 is considered more effective than Option 1 in achieving the objective as it will:</p> <ul style="list-style-type: none"> give effect to LURP and RPS objectives and policies relating to the integrated and coordinated provision of utilities; and enable consideration of a full range of potential effects. <p>Efficiency</p> <p>Benefits</p> <ul style="list-style-type: none"> Enhanced protection of natural, cultural and historic heritage. Economic, cultural and social benefits to the district from the greater retention of natural, cultural and historic heritage, including employment opportunities in tourism and hospitality and increased investment in a more attractive district. Enhanced and more sustainable living and working environments. Provides explicitly for utilities across multiple zones. Protection of and certainty for landowners in terms of effects. Continued protection from EMF through the relevant New Zealand Standard.

<p>b. recognising and providing for existing and future electricity transmission corridors when identifying and managing areas of new subdivision and development; and</p> <p>c. ensuring that changes to existing activities in close proximity to the National Grid do not further restrict or inhibit the operation, maintenance, upgrading and development of the asset.</p> <p>11.1.2.3 Policy: Radiofrequency, electric and magnetic fields Avoid adverse effects from utilities that generate radiofrequency, electric and magnetic fields.</p>	<p>Costs</p> <ul style="list-style-type: none"> Cost of compliance for landowners and network utility operators, including resource consent costs and processing times. <p>Benefits to the environment significantly outweigh costs. Environmental benefits are greater than for Option 1 and will offset any increase in compliance and opportunity costs.</p>
<p>Options less or not as appropriate to achieve the objectives and policies:</p>	
<p>Option 1 (Status quo – current policies and rules)</p>	<p>Appropriateness Option 1 would retain the existing policies and rules. These are not as comprehensive as the proposed policies and rules.</p>
<p>Option 2 (Amend existing objectives, policies, rules and assessment matters to give effect to the relevant NPS and NES as is required by those documents)</p>	<p>Option 2 would provide an expanded set of policies and rules to give effect to the NPS and ENS listed above. These are not as comprehensive as the proposed policies and rules.</p>
<p>Risk of Acting or Not Acting</p>	
<p>The information available is considered sufficient to inform the review. It is important to support recovery through the provision of utilities and the updates and the amendments proposed are considered necessary.</p>	

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APPENDIX 1: LINKAGES BETWEEN PROVISIONS

Linkages and grouping of provisions under proposed Policy Direction

Issue	Directions	Objectives	Policies	Rules	Assessment Matters
3.4.1 <i>Providing for the different needs of the community</i>	<p>3.5.1.1 <i>The special position of Ngai Tahu is recognised</i></p> <p>3.5.2.1 <i>Development is focused on well-defined urban areas</i></p> <p>3.5.2.4 <i>The district is a good place to do business</i></p> <p>3.5.3.1 <i>A safe and reliable water/wai supply</i></p> <p>3.5.3.2 <i>Communities are safe and resilient</i></p> <p>3.5.3.3 <i>The district's culture and heritage is valued</i></p>	<p>11.1.1 <i>Objective: Efficient provision of utilities</i></p> <p>11.1.2 <i>Objective: Adverse effects</i></p>	<p>11.1.1.1 Policy: <i>Sustainable water supply</i></p> <p>11.1.1.2 Policy: <i>Security of supply</i></p> <p>11.1.1.3 Policy: <i>Renewable energy</i></p> <p>11.1.1.4 Policy: <i>Land-use integration</i></p>	<p>11.3.1 <i>Utilities and energy – General</i></p> <p>11.3.2 <i>Electricity utilities</i></p> <p>11.3.3 <i>Energy</i></p> <p>11.3.4 <i>Communications Facilities</i></p> <p>11.3.5 <i>Water, wastewater and stormwater</i></p>	11.4 <i>Assessment Matters – Utilities</i>
3.4.3 <i>Improving the quality of the urban environment</i>	<p>3.5.2.1 <i>Development is focused on well-defined urban areas</i></p> <p>3.5.2.4 <i>The district is a good place to do business</i></p> <p>3.5.2.6 <i>A well-designed</i></p>	<p>11.1.1 <i>Objective: Efficient provision of utilities</i></p> <p>11.1.2 <i>Objective: Adverse effects</i></p>	<p>11.1.2.1 Policy: <i>Adverse effects</i></p> <p>11.1.2.2 Policy: <i>Radiofrequency emission</i></p> <p>11.1.2.3 Policy: <i>Undergrounding and upgrading of services</i></p>	<p>11.3.1 <i>Utilities and energy – General</i></p> <p>11.3.2 <i>Electricity utilities</i></p> <p>11.3.3 <i>Energy</i></p> <p>11.3.4 <i>Communications Facilities</i></p>	11.4 <i>Assessment Matters – Utilities</i>

Issue	Directions	Objectives	Policies	Rules	Assessment Matters
	<p><i>urban environment.</i></p> <p><i>3.5.3.1 A safe and reliable water/wai supply</i></p> <p><i>3.5.3.2 Communities are safe and resilient</i></p> <p><i>3.5.3.3 The district's culture and heritage is valued</i></p> <p><i>3.5.4.1 The district's distinctive landscapes and indigenous biodiversity are protected</i></p> <p><i>3.5.4.2 Water/wai quality and quantity are protected and enhanced</i></p> <p><i>3.5.4.3 Efficient and sustainable use of resources</i></p>		<p><i>11.1.2.4 Policy: Co-location</i></p>	<p><i>11.3.5 Water, wastewater and stormwater</i></p>	
<p>3.4.4 Protecting our resources, values, health and wellbeing</p>	<p><i>3.5.1.1 The special position of Ngai Tahu is recognised</i></p> <p><i>3.5.2.1 Development is focused on well-defined urban areas.</i></p>	<p><i>11.1.1 Objective: Efficient provision of utilities</i></p> <p><i>11.1.2 Objective: Adverse effects</i></p>	<p><i>11.1.1.1 Policy : Sustainable water supply</i></p> <p><i>11.1.1.2 Policy: Security of supply</i></p> <p><i>11.1.1.3 Policy: Renewable energy</i></p>	<p><i>11.3.1 Utilities and energy – General</i></p> <p><i>11.3.2 Electricity utilities</i></p> <p><i>11.3.3 Energy</i></p> <p><i>11.3.4 Communications Facilities</i></p>	<p><i>11.4 Assessment Matters - Utilities</i></p>

Issue	Directions	Objectives	Policies	Rules	Assessment Matters
	<p>3.5.2.6 A well-designed urban environment</p> <p>3.5.3.1 A safe and reliable water/wai supply</p> <p>3.5.3.2 Communities are safe and resilient</p> <p>3.5.3.3 The district's culture and heritage is valued</p> <p>3.5.3.4 People have a sense of connection to and participate in their community</p> <p>3.5.3.5 People have access to recreational opportunities</p> <p>3.5.4.1 The district's distinctive landscapes and indigenous biodiversity are protected and enhanced.</p> <p>3.5.4.2 Water/wai quality and quantity are</p>		<p>11.1.1.4 Policy: Land-use integration</p> <p>11.1.2.1 Policy: Adverse effects</p> <p>11.1.2.2 Policy: Radiofrequency emission</p> <p>11.1.2.3 Policy: Undergrounding and upgrading of services</p> <p>11.1.2.4 Policy: Co-location</p>	<p>11.3.5 Water, wastewater and stormwater</p>	

Issue	Directions	Objectives	Policies	Rules	Assessment Matters
	<p><i>protected and enhanced</i></p> <p><i>3.5.4.3</i> <i>Efficient and sustainable use of resources</i></p>				

APPENDIX 2: Landscape Related Effects of Utilities for Christchurch City and Banks Peninsula 2011 - Boffa Miskell Ltd

APPENDIX 3: Noise and Glare effects of wind turbines and solar panels - Aecom Ltd