PREFERRED OPTION REPORT TO DISTRICT PLAN COMMITTEE (DPC)

DATE: DPC Meeting - 5 December 2018

TOPIC NAME: Energy Generation including Small Scale Energy Generation (E1008)

SCOPE DESCRIPTION: Stage 2 - Preferred Options for Energy Generation including Small Scale Energy Generation (E1008)

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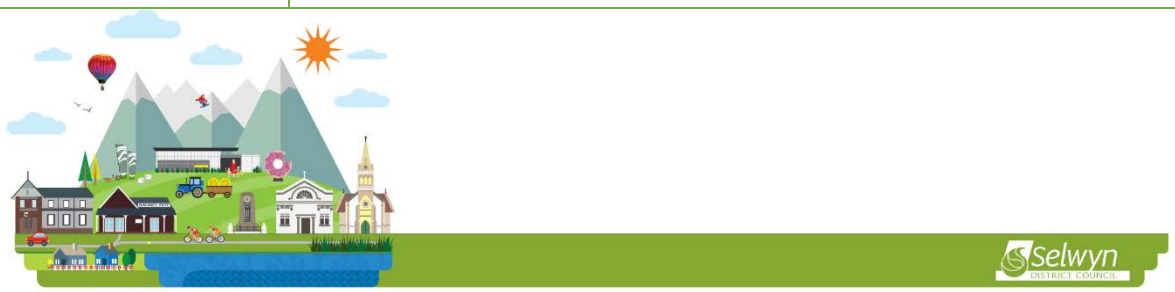
EXECUTIVE SUMMARY

Issue(s)	*The key issues for this topic are:* 1. *Maintenance and minor works to the Coleridge Power Station need a potentially more permissive consent framework to maintain efficient electricity generation output.* 2. *Opportunities for new development and upgrades of REG activities need to be provided for consistent with the NPS-REG.* 3. *Effective management of REG buildings and infrastructure which have the potential for adverse effects on sensitive receiving environments is required.* 4. *More permissive provisions are needed to establish small and community-scale renewable energy generation activities with acceptable environmental effects.*
Preferred Options	*In summary, the recommended Preferred Options for further development are:* • *Encouraging REG activities - Option 1b: Prepare enabling objectives, policies and rules to encourage REG activities, including small scale on-site and community scale generation activities, across the district in appropriate locations.* • *Enabling, maintenance and minor upgrades to the Coleridge Power Station - Option 2b: Enabling maintenance, repairs and minor upgrades to the Coleridge Power Station as a permitted activity, while requiring discretionary activity consent to increase the scale and capacity of the power station and to carry out substantial works and upgrades.*
DPC Decision	*That the Committee notes the report.* *That the Preferred Options for "Energy Generation" be endorsed for further development and engagement, including Section 32 Evaluation and Plan Drafting.* *That the Committee notes the summary plan.*



1.0 Introduction

The purpose of this Preferred Option Report is to identify issues and options to address the location, scale and management of Renewable Energy Generation (REG) activities within the Selwyn District.

The National Policy Statement for Renewable Electricity Generation 2011 (NPS-REG) requires District Councils' to review their plans to ensure that the national significance of renewable energy generation activities is recognised and provided for in objectives, policies, methods and rules (where appropriate). The NPS-REG specifically requires District Plans to contain planning provisions to:

a) Assist in meeting the New Zealand Government's renewable energy target;
b) Maintain the generation output of existing REG activities;
c) Provide for new development of REG activities;
d) Consider including more permissive approaches to establishing small and community-scale REG activities; and
e) Limit reverse sensitivity effects of other uses on existing and consented REG activities.

This Preferred Option Report is preceded by the 'Energy Generation' Baseline Report (Baseline Report) prepared by Harrison Grierson Consultants Limited (HG) in October 2018. The Baseline Report provides an overview of existing and potential future renewable energy generation resources in New Zealand and the Selwyn District, summarises relevant provisions in the Operative Selwyn District Plan (Plan), and compares the current Plan provisions against the approaches adopted in four other district plans[1]. A copy of the Baseline Report (E1008) is included in **Appendix 1**.

The Baseline Report notes that a relatively small amount of renewable energy is generated within the Selwyn District, with the most significant source being from the hydroelectric Coleridge Power Station (39 megawatt (MW) output). Solar and wind energy generated within the district is only sufficient for on-site domestic or business use, although the Energy[3] wind turbine operating at Southbridge has the capacity to service the electricity needs of approximately 20-25 average New Zealand homes. The Baseline Report notes that future upgrades to the Coleridge Power Station, investigations for commercial wind farms and new hydro-generation from in-stream or in-irrigation channel, and an increase in on-site solar generation are the most likely future renewable energy sources within the district.

This Preferred Option Report recommends preferred options for managing REG activities in the Proposed District Plan (Proposed Plan). If endorsed by Council, the preferred options will form the basis of further engagement with targeted stakeholders and s32 evaluations and drafting phases of the District Plan Review (DPR).

[1] [Auckland Unitary Plan; Christchurch District Plan; Far North District Plan; Proposed Dunedin District Plan].

2.0 Statement of Operative District Plan Approach

2.1 Summary of the Plan

Section 5.0 of the Baseline Report summarises the key REG objectives, policies and rules in the Plan, which are contained in the following three chapters:

- Rural Volume (RZ) - C5 Rural Zones Rules.
- Township Volume (LZ) - Chapter 6 Living Zone Rules.
- Township Volume (BZ) - Chapter 18 Business Zones Rules.

A summary of the relevant rules is included in **Table 1**.

TABLE 1: Summary of Renewable Energy Rules

	LIVING ZONES (LZ)	BUSINESS ZONES (BZ)	RURAL ZONES (RZ)
LAND USE			
Utility (use on-site for solar, wind or petroleum based energy)	**Permitted** (6.1.1.6)	**Permitted** (18.1.1.6)	**Permitted** (5.1.2.4)
Utility* (renewable energy used off site)	**Non-complying** (6.1.5)	**Non-complying** (18.1.1.6)	**Discretionary** (5.1.3)
Upgrading, maintenance, operation and replacement of existing utilities	**Non-complying****(6.1.5)	**Non-complying**** (18.1.5)	**Discretionary** (5.1.3)
BUILDINGS/INFRASTRUCTURE			
New utility building/ additions and alterations to an existing utility building	**Permitted** (6.2.1) subject to compliance with performance standards. Otherwise **restricted discretionary** (6.2.2) for non-compliance with setbacks Or **discretionary** (Rule 6.2.4) for non-compliance with height.	**Permitted** (18.2.1) subject to compliance with performance standards. Otherwise **restricted discretionary** (18.2.2) for non-compliance with setbacks (except within 10m of road/living zone boundary) Or **discretionary** (Rule 18.2.4) for non-compliance with height or within 10m of road/living zone boundary.	**Permitted** (5.2.1) subject to compliance with performance standards. Otherwise **discretionary** (5.2.2)
New utility building/ alterations to existing building in outstanding	**Permitted** (6.4.1.4) (Arthurs Pass and Castle Hill) subject to compliance with performance standards	**Permitted** (18.4.1.4) (Arthurs Pass and Castle Hill) subject to compliance with performance standards.	**Permitted** (5.6.1) subject to compliance with performance standards.

landscape areas***	about materials and reflectivity. Otherwise a **restricted discretionary** activity (6.4.2) (would apply to most structures)	Otherwise a **restricted discretionary** activity (18.4.2) (which would apply to most structures)	Otherwise a **restricted discretionary** activity (5.6.2) or **non-complying activity** (5.6.4).
New utility structure/ alterations to existing structure	**Permitted** (6.3.1) subject to compliance with performance standards. Otherwise a **discretionary** activity (6.3.5).	**Permitted** (18.3.1) subject to compliance with performance standards. Otherwise a **discretionary** activity (18.3.4)	**Permitted** (5.3.1) subject to compliance with performance standards. Otherwise a **restricted discretionary** activity (5.3.2) if exceeds 25m or **discretionary activity** (5.3.4) for non-compliance with pole/mast height requirements
New utility structure/ alterations to existing structure in outstanding landscape areas	**Permitted** (6.4.1.3) Any antenna, mast or utility or other structure that is not a building and does not exceed 10.5 metres Any utility building or utility (6.4.1.4) constructed of timber/stone/corrugated iron (Arthurs Pass only) and reflectivity value between 0-37%. Otherwise **restricted discretionary** activity (6.4.2).	**Permitted** (18.4.1.3) Any antenna, mast or utility or other structure that is not a building and does not exceed 15 metres Any utility building or utility (18.4.1.4) constructed of timber/stone. Otherwise **restricted discretionary** activity (18.4.2).	**Permitted** (5.5.1) subject to compliance with performance standards. Otherwise **restricted discretionary** activity (Rule 5.5.3)

**Includes hydroelectricity, bioenergy and larger scale solar, wind and petroleum based energy generation.*

***Rules 6.1.1.1 and 18.1.1.1 permit upgrades, maintenance, operation and replacement of existing utilities for telecommunications and electricity transmission. Energy generation is not permitted under Rule 6.1.1.6 or 18.1.16 unless the utility is for solar, wind and petroleum based generators located on the same site.*

****Includes the Port Hills, Malvern Hills and the High Country.*

Other relevant rules relate to the following:

- Outstanding Landscape Areas[2]
- Rural Character[3]
- Natural Hazards[4]

[2] Utility Structures (5.5); Utility Buildings (5.6)
[3] Utility Buildings (5.7)
[4] Utility Structures (5.8); Utility Buildings (5.9)

- Sites of Significance to Tangata Whenua[5]
- Waterbody Setbacks[6] and
- Heritage Buildings[7]

Overall, the rules regarding utilities are comprehensive. However, they are lengthy and complex and could be consolidated and streamlined further and to align with the proposed Draft National Planning Standards (Draft Standards).

The objectives and policies in the Plan in both the Township and Rural Volumes are contained in the following sections:

- Natural Resources
- Physical Resources
- Health and Safety Values
- Growth of Townships/ Growth Rural

Relevant objectives and policies are included in Appendix 2 of the Baseline Report.

2.2 Consent requirements for anticipated renewable energy

Discretionary consent is currently required for any proposed energy generation activities, including solar generation plants, further expansion to the Coleridge Power Station, in-stream hydro-generation (such as through the Central Plains Water Scheme), bioenergy generation or commercial scale wind farms. Discretionary consent is also required to carry out upgrading, maintenance, operation and replacing existing utilities at the Coleridge Power Station. Associated utility structures and buildings are permitted activities subject to compliance with performance standards in the RZ, where non-compliance requires restricted discretionary or discretionary activity.

Under the heritage rules, works on the Coleridge Power Station, which is a listed heritage item, are a permitted activity for minor maintenance[8]. More substantial works, such as additions and alterations to the Power Station would require a restricted discretionary activity under Rule 5.14.6. Restricted discretionary consent is also required under Rule 3.16.12 to undertake additions or alterations to the Power Station building.

Small-scale wind turbines or solar panels for on-site use for rural based industries such as dairy farms or plants or domestic dwellings are a permitted activity in the LZ, BZ and RZ. Associated utility structures and buildings are also permitted subject to compliance with performance standards in the LZ, BZ and RZ, where non-compliance requires either a restricted discretionary or discretionary activity consent.

[5] Utility Structures (5.10); Utility Buildings (5.11)
[6] Utility Structures and Utility Buildings (5.13)
[7] Utility Structures and Utility Buildings (5.14)
[8] Selwyn District Plan: Rural Volume, C5 Rural Rules – Utilities, 5.14 Heritage Buildings – Utility Structure and Utility Buildings, Rule 5.14.1

3.0 Summary of Issues

3.1 Overview

The Baseline Report is one of the key steps in reviewing the effectiveness of the energy provisions in the Plan. The key issues for this topic are:

1. Maintenance and minor works to the Coleridge Power Station need a potentially more permissive consent framework to maintain efficient electricity generation output.
2. Opportunities for new development and upgrades of REG activities need to be provided for consistent with the NPS-REG.
3. Effective management of REG buildings and infrastructure which have the potential for adverse environmental effects on sensitive receiving environments is required.
4. More permissive approaches are needed to establish small and community-scale renewable energy generation activities in appropriate locations with acceptable environmental effects.

These issues are summarised further in sections 3.2 to 3.6 below.

3.2 Maintenance and minor works on the Coleridge Power Station

A reasonably onerous requirement for a discretionary activity resource consent for maintenance, repair and minor upgrades has been applied to the Coleridge Power Station. This does not appear to be well aligned with the nature and significance of potential effects that would be typically associated with these works.

The effects anticipated from maintenance, upgrading and replacement works at the Power Station are relatively minor and are permitted for other utilities under Rule 5.1.1 of the Plan. For example, maintenance of open channels used to convey water is a permitted activity for existing drains and stock races under Rule 5.1.2.5 but is discretionary for the Power Station under Rule 5.1.3. This restrictive consent framework, particularly for maintenance and minor repairs, appears unduly onerous and suggests that the Operative Plan is not as efficient as it could be in terms of enabling the on-going efficient operation of the Power Station.

The rules for new buildings and structures associated with the Power Station are more permissive than the rules for maintenance activities although new buildings and structures may potentially have more significant effects. New utility buildings and structures, are permitted under Rules 5.2 and 5.3 (subject to compliance with height and location standards) and smaller scale utility buildings with low reflectance levels are permitted in Outstanding Landscape Areas (OLA) under Rule 5.5.1.

Minor maintenance on the listed heritage Coleridge Power Station building is a permitted activity under the Heritage Rule 5.14.1. More substantive works such as additions and alterations to heritage buildings are a restricted discretionary activity under Rule 5.14.6. Consent is also required under the more general Section C3 Buildings in the Operative Plan (Rule 3.16.1.2) for a restricted discretionary activity for additions or alterations to a listed heritage item. It is noted that there are no specific assessment matters for considering the tension between protecting the

heritage values of the Power Station building and ensuring continued efficient operation of the Power Station.

A portion of the Power Station building, part of the inlet structure from Lake Coleridge, and the tail races, are located within the Outstanding Natural Landscape (ONL) area. The ONL boundaries and their relationship to the Power Station will be assessed as part of the Natural Environment – Outstanding Natural Features and Landscapes topic and may be subject to amendment. Some structures associated with the Power Station are considered likely to remain located within the ONL area (such as tail races and inlet structures) and the consent requirements and assessment matters under Rules 5.5.4 and 5.6.3 are considered appropriate to manage the likely effects of these utility structures on the ONL .

3.3 Potential adverse reverse sensitivity effects on the Coleridge Power Station

Through consultation Trustpower noted that that plantation forestry (plantations) have the potential to increase fire risk and disrupt operations of the Power Station. As the ONL is expected to be retained around the Coleridge Power Station and plantation forestry is expected to be retained as a non-complying activity in the ONL, this matter is considered unlikely to be a significant issue in the District Plan Review process.

3.4 Opportunities for new development of REG activities and upgrades

The Operative Plan does not provide for temporary activities for site suitability investigations for future renewable energy generation which is a requirement of Policy G of the NPS-REG.

Opportunities for new development (including upgrades) of REG also need to be provided for consistent with the NPS-REG. More substantial expansion of the Coleridge Power Station requires a consent for a discretionary activity under the Plan which is appropriate for larger scale expansions. As described above, other in-stream or in-channel hydro-generation activities still require a consent as a discretionary activity under Rule 5.1.3 even though the anticipated effects of using existing irrigation channels to generate energy is likely to be much less significant than constructing and operating new larger scale infrastructure.

While the Baseline Report has identified that commercial scale wind generation is not likely due to inappropriate wind conditions relative to other locations in New Zealand, the effects of this activity and associated structures can be significant and requires appropriate management.

3.5 Managing REG buildings and structures

The effects of REG buildings and structures vary dependent on their location in relation to more sensitive land uses and the landscape and amenity values of the setting.

Living Zones are more sensitive to the noise and amenity effects of larger scale structures such as turbines. While the Baseline Report does not anticipate on-site wind generation in living zones (as the sites are too small to achieve compliance with the New Zealand Standard for managing noise effects), it is appropriate that the Proposed District Plan clearly manages any effects of

wind energy generation. In addition to the height of structures, other potential effects include noise, overshadowing, and impacts on amenity values in living zones.

In Living Zones the visual effects of solar panels are generally minimal and anticipated. However, more significant visual effects may arise if solar panels are not aligned with the roof pitch and are more visually obtrusive. Within industrial and commercial settings, the visual effects of solar panels are likely to be minimal, even if they are not aligned with the roof pitch due to lower levels of amenity in these locations.

Local commercial areas are also likely to be sensitive to REG structures such as wind turbines due to noise and amenity effects on the adjoining residential areas. However, industrial areas and key activity centres are likely to be less sensitive to these effects as activities as the scale of development and anticipated level of amenity can better absorb the potential effects of wind and solar infrastructure.

In rural locations, the larger land areas for individual properties means that there is appropriate separation between REG infrastructure and residential dwellings. The most significant effects will relate to visual effects where the infrastructure is visible from road corridors, ridgelines or in Outstanding Landscape Areas (OLA). The Plan is permissive in sensitive locations by enabling smaller scale utility infrastructure in OLA as permitted activities regardless of its effect on the OLA.

3.6 Small and community-scale renewable energy generation activities with acceptable environmental effects

There is a tension between enabling smaller community-scale renewable energy generation activities as required under the NES-REG and ensuring that the effects of these activities and structures are effectively managed. The Plan permits on-site wind and solar generation activities in the living, business and rural zones and manages the effects of utility structures by controlling the height[9] and siting of utility structures. Utility structures such as solar panels and some wind turbines[10] (subject to compliance with recession planes) are permitted under these rules without any consideration of the amenity or overshadowing effects of wind turbines, the noise effects of any turbines, or the amenity effects of solar panels not aligned with the roof pitch (and potentially encroaching recession planes).

The Plan does not distinguish between smaller community-scale renewable energy (generated to supplying a local community) activities and larger scale commercial generation activities or the varying effects of these activities. A consent is required as a non-complying activity in the living and business zones and for a discretionary activity in rural zones for all energy generated for off-site use regardless of it purpose or effects. The non-complying activity status in commercial

[9] Rule 6.3.1[9] permits utility structures up to 15 metres in height and either less than 500mm in diameter over 6 metres or greater than 500mm over 6 metres subject to complying with the recession plane in living zones. Rule 18.3.1 permits utility structures up to 30 metres in business zones[9] and Rule 5.3.1 permits utility structures up to 25 metres in rural zones with the same exceptions over 6 metres as applied in Rule 6.3.1.

[10] A website search indicates that wind turbines for domestic use in New Zealand recommend a minimum pole height of over 8 metres.

zones and discretionary activity status in rural zones may discourage development of community scale renewable electricity generation projects which is encouraged by the NES-REG.

4.0 Summary of Relevant Statutory and/or Policy Context and Other Background Information

4.1 Statutory framework

Section 5.6 of the Baseline Report reviews and summarises the planning framework relevant to this topic. The following sub-sections outline the findings of the assessment of the Plan against the NPS-REG; Canterbury Regional Policy Statement (CRPS), draft National Planning Standards and Mahaanui: Iwi Management Plan.

National Policy Statement – Renewable Electricity Generation

The NPS-REG[11] sets out the requirements for objectives and policies for renewable electricity generation under the Resource Management Act 1991 (Act). The NPS-REG also requires District Councils' to recognise and provide for renewable electricity generation activities at a local level and reduce unnecessary barriers to obtaining resource consent for the development of small and community scale REG projects.

While some provisions of the Plan are consistent with the requirements of the NPS-REG, this was unintentional as the Plan pre-dates the NPS-REG.

Canterbury Regional Policy Statement

The Canterbury Regional Policy Statement 2013 (CRPS) contains specific objectives and policies regarding energy generation in Chapter 16 – Energy which aim to implement the NPS-REG.

The Plan is inconsistent with the CRPS as it does not recognise, promote and encourage renewable electricity generation explicitly. Furthermore, there are no specific objectives, policies and rules relevant to REG activities.

The Plan does not provide for small and community scale distributed renewable electricity generation.

Draft Planning Standards

The draft National Planning Standards (Draft Standards) aim to improve consistency in plan and policy statement structure, format and content. The first set of the Draft Standards is anticipated to be gazetted in April 2019 (Ministry for the Environment, 2018). The Draft Standards currently include definitions on renewable energy generation but do not contain any proposed standardised rules. The Draft Standards also require any district plan rule to manage noise emissions consistent with noise measurement methods in the New Zealand Standards which in this case is New Zealand Standard 6808:2010 Acoustics - Wind farm noise.

[11] The NPS-REG came into effect on 13 May 2011.

Mahaanui: Iwi Management Plan

Ngāi Tahu have a particular interest in energy generation, distribution, use and the establishment of wind farms and its potential effects on Ngāi Tahu values and associations with the landscape. The Mahaanui Iwi Management Plan 2013 includes a series of relevant objectives and policies that are attached in Appendix 5 of the Baseline Report. In summary, policies (P.17.1 to P17.5 and TAW1.1 to TAW1.5) are considered relevant in terms of electricity generation from renewable energy. In particular Policies P17.4 and P17.5 support the development and implementation of policies for renewable energy and encourage solar and wind energy generation activities in the Canterbury Region.

Policy 17.3 specifically supports the use of Cultural Impact Assessments (CIA) to assess actual and potential effects of proposals on Ngāi Tahu values for renewable energy generation. Ngā Paetae objectives in section 5.8 Ngā Tūtohu Whenua seek recognition and mapping of cultural landscapes. The objectives and policies reiterate the importance of consultation with the Rūnanga to address cultural, heritage and landscape values early in the consent application process.

The requirement for a resource consent and consultation with local iwi are triggered in the Plan when undertaking earthworks associated with utility buildings and structures within identified cultural sites. There is no other consent trigger or assessment required in relation to the energy generation as an activity.

The Plan provisions do not specifically require CIA's. However, it does contain specific policies which seek to ensure that any adverse effects of utilities on or near waterbodies, or on any ecological, heritage, cultural, recreational, aesthetic or amenity values of the waterbody, are avoided, remedied or mitigated.

5.0 Summary of Alternative Management Responses - Other Districts

5.1 Case studies selected

The following four operative Unitary and District Plans were selected to provide a representative sample of the type of policy approaches used:

- Auckland Unitary Plan (AUP)
- Christchurch District Plan (CDP)
- Far North District Plan (FNDP)
- Proposed Dunedin District Plan (pDDP)

A summary of the different approaches adopted in the case studies is included in Section 6 of the Baseline Report – **Appendix 1**.

5.2 Case study findings

The four case studies provide some valuable insights into developing renewable energy policy within the district. For example, the approach of retaining all assessment matters for renewable energy in the same chapter used in the CDP, FNDP and the pDDP is considered appropriate for district plan usability. The approach of permitting small-scale (domestic-scale/on-site energy generation) renewable electricity generation and other smaller scale infrastructure subject to meeting activity specific standards and built-form standards in relevant zones is consistent with the enabling intent of the NPS-REG.

The preferred approach to rules is that they relate to the scale of activities and related effects and the sensitivity of locations. The approach of requiring consents for large scale infrastructure, and smaller scale permanent infrastructure in sensitive landscapes and areas of cultural or historic significance is preferred.

6.0 Summary of Options to Address Issues

A series of options have been developed to identify a broad approach to addressing the issues outlined in section 3.0 of this report.

Following Council consideration of this report, preferred options will form the basis of draft objectives, policies and rules for the energy generation topic.

6.1 OPTION 1a - Retain the current restrictive consent requirements for REG activities

Effectiveness in Addressing Issue:

The Baseline Report concluded that the current planning framework in the Plan is unreasonably restrictive for some utility activities and works. The Plan contains some objectives and policies which are consistent with the NPS-REG by default but requires updating to achieve full compliance with the NPS-REG. Option 1a is a more restrictive approach to managing energy generation similar to the Plan where off-site distribution and use of electricity generated requires a consent as a discretionary activity and in some cases as a non-complying activity.

The Plan rules restrict activities that generate electricity off-site, while it is permissive for electricity generation from solar and wind for on-site use in all zones. For example, the enabling framework which permits on-site wind generation in the LZ, BZ and RZ subject to compliance with performance standards is likely to lead to some unintended consequences by permitting adverse amenity effects (visual, noise and overshadowing) in residential areas.

The permitted activity status of on-site solar generation does not allow assessment of the visual and amenity effects of solar panels which do not align with the roof pitch and may cause adverse effects. Resource consent and consultation with the local iwi are triggered only when undertaking earthworks within identified cultural sites but not on the basis of activity being undertaken.

The Plan was prepared prior to the NPS-REG. The existing provisions have been in place for over a decade and have been tested through the resource consent process on very few occasions. The Plan does not recognise REG activities and it does not provide a robust framework for assessing new and existing REG activities.

Risks:

The primary risks associated with retaining the status quo approach of more restrictive consent requirements are that they will not fully give effect to the NPS-REG or the CRPS. This has the potential to discourage any new REG activities and as discussed above may result in adverse effects on people living, working or visiting the living, business and rural environments in the district.

Budget or Time Implications:

While this option would be efficient both in terms of cost and timeframes as the existing rules would effectively be rolled over, it has the potential to result in significant longer term costs to Council and applicants in consent processing for some relatively minor matters. It also fails to address the need to provide more enabling provisions to encourage REG activities and fails to give effect to the NES-REG.

Stakeholder and Community Interests:

Trustpower has raised the following issues in relation to the Coleridge Power Station and performance of the Plan: reverse sensitivity from forestry , activity status for activities in the Outstanding Natural Landscape(ONL), activity status in relation to maintenance and up-grades to the heritage listed Power Station. Trustpower indicated that it would accept restricted discretionary activity status for fundamental external changes and additions but would prefer a controlled or permitted activity status for minor repairs and up-grades. This approach would better recognise the provisions of the NPS-REG and CRPS.

Liaison with the relevant work streams is required in the subsequent phases of the DPR to enable a consistent approach across the Proposed Plan.

Recommendation:

The Plan contains some objectives which are consistent with the NPS-REG by default but requires updating to give effect to the NPS-REG. Based on the analysis that has been undertaken, and the results of brief consultation with MKT, Trustpower and E^3, the current framework is considered to lack the degree of certainty required by the NPS-REG, CRPS and community. Retaining the current restrictive provisions is not considered to be the most efficient or effective means of providing for existing and new REG activities within the District.

6.2 OPTION 1b – Enabling renewable energy generation activities including small scale on-site and community scale generation in appropriate locations

Effectiveness in Addressing Issue:

Option 1b adopts an enabling approach of facilitating increased renewable energy activities consistent with the NPS-REG that would be applied district-wide as part of the Utilities Chapter. This option would also permit a series of smaller-scale works to be undertaken where they comply with performance standards. This approach is similar to the approach applied in the Christchurch District Plan and would enable the following REG activities to occur where they comply with performance standards: (a) maintenance, repair and replacement of buildings and structures; (b) minor works to access tracks and tail races, equipment within buildings, temporary generators and noise monitoring equipment; and (c) installation of, solar panels on buildings or structures including provision for surplus energy generated by domestic users to be sold back to energy distributors and retailers.

Option 1b would require restricted discretionary activity consent for establishing new REG activities or to undertake significant alterations to utility buildings and structures in rural and industrial zones. A discretionary activity consent would be required to carry out these works in more sensitive residential and commercial zones and other sensitive locations identified in the Plan.

Commercial wind farms would require discretionary activity consent in all zones, while wind turbines limited to on-site and community scale generation would be a restricted discretionary activity in rural and industrial zones and a discretionary activity in residential and commercial zones.

Risks:

This approach will provide certainty to residents and the renewable electricity generators regarding the anticipated outcomes for different scales and types of REG activities in different locations across the district. As this option is more aligned with the NPS-REG it does not provide any significant risk.

Budget or Time Implications:

This approach would enable new REG activity provisions to be developed collaboratively as part of the DPR process. There are a number of cross over areas with other Topics, including Utilities, Noise and Vibration, Visual Amenity, Outstanding Natural Landscapes, Sites and Areas of Cultural Significance and Heritage.

Opportunity exists through this process to gain efficiencies by developing the new provisions as a comprehensive suite of provisions through integrating the s32 evaluations with other Topics.

Stakeholder and Community Interests:

Trustpower seeks provisions for up-grading existing facilities such as structures or canals of the Coleridge Hydroelectric Power Station and less restrictive provisions for undertaking works on the Power Station building which is a listed heritage item.

Liaison with the relevant work streams is required in the subsequent phases of the DPR.

Recommendation:

Option 1b is recommended as it would enable increased renewable energy activities and promote energy efficiency. It would permit activities with minor effects such as domestic solar panels and enable increased domestic energy efficiency and opportunities for surplus energy generated by domestic users to be sold back to energy distributors and retailers (subject to the requirements of energy distributors and retailers).

It would require a resource consent for a restricted discretionary activities for most other activities (except in sensitive locations where consents would be required for discretionary activities) consistent with the NPS-REG.

It is recommended that this option is progressed in consultation with Environment Canterbury, Iwi via MKT, Trustpower, and other relevant Topic Leads.

6.3 OPTION 2a - Enabling the efficient operation and providing for future development of the Coleridge Power Station with fewer consent requirements

Effectiveness in Addressing Issue:

Option 2a applies specifically to the Coleridge Power Station and provides for future development of the Power Station with fewer consent requirements than Option 2b.

Option 2a would provide the following consent framework for the Power Station:

Permitted activity (subject to performance standards)	**Restricted discretionary activity**	**Discretionary activity**
Operation and future expansion of the Power Station (activity)		
Minor repairs, maintenance and new smaller scale buildings and infrastructure (works)	Smaller scale buildings and infrastructure that does not meet performance standards (works) Larger scale buildings and infrastructure (works)	

Risks:

This approach would enable continued operation of the Coleridge Power Station without any consent requirements for expansion of the activity, minor repairs, maintenance and smaller scale new infrastructure and buildings subject to compliance with performance standards. Works on

the heritage power station building and in the ONL would continue to require consents under other rules which would protect important landscape or heritage values with minor works[12] being a permitted activity. Larger scale works would be assessed through a restricted discretionary consent with consideration of a limited set of matters of discretion.

The key risks with this approach is that it would provide less management of the actual and potential environmental effects of a larger scale expansion to the Power Station. It may also be difficult to set threshold performance standards for permitted works including matters such as tail race expansions and any associated environmental effects.

Budget or Time Implications:

The restricted discretionary status for larger scale expansion would reduce costs to Trustpower and may result in a more straightforward consent process which is limited to considering certain issues. This may reduce the need for unnecessary reports and/or assessments that may be unduly time consuming and costly to prepare and process.

Stakeholder and Community Interests:

Option 2a is generally consistent with Trustpower's position as they are seeking more permissive provisions for both management and upgrade of the Power Station. Trustpower indicated that works such as external changes or additions could be supported as a Restricted Discretionary activity, but works such as replacing the roof could be a controlled activity. This is further discussed below as it is interrelated with District-wide Natural Environment- Heritage Items and Protected Trees.

Trustpower has advised that forestry in close proximity to the Coleridge Power Station could adversely affect operations. However, use of adjoining land for forestry is considered unlikely due to its location within an ONL. Therefore, a separate rule is not considered necessary to address this issue.

Liaison with the relevant work streams is required in the subsequent phases of the DPR.

Recommendation:

Option 2a would enable continued operation of the Coleridge Power Station without any unnecessary consent requirements for repairs, maintenance and smaller scale buildings and infrastructure. It would also enable expansion of the Power Station activity without the need for a resource consent while requiring a restricted discretionary activity consent for more significant works. Works on the heritage power station and in the ONL would continue to require consents under other rules which would protect important landscape or heritage values.

Although there are a number of benefits with this approach, Option 2a is not recommended as it would enable an increase in the scale and intensity of the Power Station without sufficient

[12] Including: the replacement of materials that do not form part of the original heritage features of the building, structure or site; replacement of any materials which form part of the original heritage values of the buildings, structure, or site, provided that these materials are of the same or similar appearance and character as the original material; any repainting of existing painted surfaces; repainting; any cleaning or washing of external heritage features provided this does not involve the use of abrasive materials or techniques, such as sandblasting.

consideration of the effects of the proposed activity and works which may give rise to adverse effects on the environment.

6.4 Option 2b – Enabling efficient operation and managing future development of the Coleridge Power Station through a more controlled consent framework

Effectiveness in Addressing Issue:

Option 2b provides for future development of the Coleridge Power Station with more controlled consent requirements than Option 2a.

Option 2b would apply the following consent framework:

Permitted activity (subject to performance standards)	Restricted discretionary activity	Discretionary activity
Operation of the Power Station (activity)		Significant expansion of Power Station (activity)
Minor repairs, maintenance and new smaller scale buildings and infrastructure (works)	Smaller scale buildings and infrastructure that does not meet performance standards (works)	Larger scale buildings and infrastructure (works)

Risks:

Option 2b would enable continued operation of the Coleridge Power Station without any excessive consent requirements for minor repairs and maintenance which are not on the listed heritage buildings or in the ONL.

This option would reduce the risk of any adverse cumulative effects associated with the increased scale and operational capacity of the Power Station activity and would enable consideration of the broader effects of larger scale buildings and infrastructure on the environment.

Budget or Time Implications:

The discretionary activity status for expansion of the power station (activity and works) would maintain the status quo for more substantive works. Option 2b would enable maintenance, repairs and other smaller scale buildings and infrastructure to be undertaken as permitted activities and minimise costs associated with consent preparation and processing. It would also enable more straightforward consent processes for smaller scale buildings and structures which do not meet performance standards and require consent as a restricted discretionary activity.

Stakeholder and Community Interests:

As noted in 2a above.

Recommendation:

Option 2b is recommended as it would enable continued operation of the Coleridge Power Station without any unnecessary consent requirements for minor repairs and maintenance. Works on the

listed heritage Power Station and in the ONL would continue to require consents under other rules which would protect important landscape or heritage values.

Option 2b would also enable management of the effects of increasing the scale and operational capacity of the power station activity including any cumulative effects and management of larger scale works through a consent for a discretionary activity.

7.0 Summary of Stakeholder Engagement

7.1 Overview

Stakeholder engagement has been undertaken as part of the DPR for Energy Generation to inform the Baseline Report, which has assisted to prioritise the issues and evaluate the Preferred Options.

This report has been based primarily on desk-top research. A limited number of targeted discussions were undertaken with Energy (E^3)[13] an energy design and manufacturing company based in Christchurch but working primarily in Australia, and Trustpower as managers of the Coleridge Power Station.

7.2 Trustpower

Based on consultation with Trustpower, we understand that the following activities and structures are operated/associated with the Coleridge Power Station:

- Earthworks related to diversion of water (Canterbury Regional Council (ECan) functions)
- Earthworks and structures associated with gates, weirs, canals. Mention was made of Lake Stream where there is a small gate used to control outflows from the lake. The dam is to be rebuilt and will require a new gate
- Instruments associated with monitoring and operation
- General maintenance activities
- Vegetation clearance
- Up-grading - may or may not involve any distinguishable change to structures, may be internal to powerhouse. Upgrades may involve changes which result in the structure looking quite different. These may be due to materials used, technology, or in response to climate variability and change which requires a different design response.

Many of the activities/structures are located close to or are in waterbodies connected to the powerhouse.

The following broad topics were discussed:

Activity Status - Activity status was discussed, for example works to upgrade canals or structures. Trustpower indicated that it can be very difficult to determine the physical parameters of an upgrade. Trustpower indicated that a restricted discretionary consent may be acceptable,

[13] E3 is an energy design and manufacturing company providing commercial energy solutions primarily in Australia.

acknowledging the ONL status of Lake Coleridge. With respect to the Power House (which is a listed heritage item), Trustpower indicated that fundamental external changes or additions could be accepted as a Restricted Discretionary activity, but works such as replacing the roof could be a controlled activity.

Reverse sensitivity - forestry can impact operation of the Coleridge Power Station. Trustpower indicated that they would like to ensure that forestry is excluded in the general locality (Note: The surrounding area is ONL where it is likely that any commercial forestry will be a non-complying activity in the Proposed Plan). It is noted that Forestry is also regulated by the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017. Topic *RU209 - Vegetation (Plantations, Plantation Forestry, Shelter Belts, Amenity Plantings), including Wilding Tree Spread* is addressing forestry as part of the DPR.

7.3 Energy[3]

Energy[3] is an energy design and manufacturing company . Selwyn District Council consulted with Tom Cameron who is the founder of E[3] and sought advice on the following matters that are reflected in the Baseline Report and this Preferred Options Report:

- Dimensions, height and number of wind turbines required for domestic use
- Features associated with wind turbine
- Feasibility of wind energy for residential, Industrial, Commercial and Rural areas
- Monitoring duration for a wind turbine
- Colour finishes of the blades
- Any visual effects from blades
- Solar energy feasibility from photovoltaic

7.4 Environment Canterbury

Feedback from Ecan will be incorporated after consultation.

7.5 Mahaanui Kurataiao Limited

Mahaanui Kurataiao Limited (MKT) act on behalf of the Runanga and facilitate the Runanga input into Council reports. From reviewing the endorsed Preferred Options report for Sites and Areas of Cultural Significance, it appears there will be cultural landscape layer in the District Plan maps (Ngā Tutohu Whenua / Wāhi Tapu, Wāhi Tapu Waipuna and Wāhi Taonga / Ngā Turanga Tūpuna/ Ngā Wai), that may trigger engagement with the Runanga and/or require consents. Lake Coleridge and the Rakaia River are proposed to be classified as a Ngā Wai[14] in accordance with the Endorsed Preferred Options report.

Feedback from MKT will incorporated after consultation.

[14] Wai is water and represents the essence of all life

8.0 Conclusion

The Operative Plan is relatively restrictive in terms of consent requirements for undertaking maintenance and minor works on the Coleridge Power Station. More enabling provisions are also needed to encourage REG activities anticipated under the NPS-REG in appropriate locations, while taking into account the character of the setting. In particular, more permissive approaches to on-site renewable energy are required.

Preferred Options 1b proposes a district-wide enabling planning framework for REG activities with consent requirements that encourage this form of development, while managing any potentially adverse effects.

Preferred Option 2b recommends a more enabling planning framework for the Coleridge Power Station with new permitted maintenance, repairs and other smaller scale buildings and infrastructure. Increases in the scale of the energy generation activity and more substantial works associated with major redevelopment are proposed to be a discretionary activity under Option 2b.

9.0 Preferred Option for Further Engagement

The Project Team recommends that Option 1b and 2b be developed as follows:

1. The above preferred options are received and the approach outlined in Section 6 is endorsed.
2. The Preferred Options for District Wide matter- Energy Generation including small scale energy generation, as outlined in Section 6.0, are endorsed for further development (including targeted stakeholder engagement, Section 32 analysis and Drafting Phase).
3. Incorporate definitions related to renewable energy for small and community and large-scale REG activities consistent with definitions within the NPS-REG and the Draft National Planning Standards.
4. Provide for upgrading, maintenance, operation and replacement of the Coleridge Power Station.
5. Develop a robust objective and policy framework to manage REG activities consistent with amenity, character anticipated in relevant zones, and which provides for REG activities to occur in appropriate locations while avoiding or mitigating adverse effects, particularly on sensitive receptors.

10.0 Recommendations for Content of Energy Generation Provisions

10.1 Definitions

While a range of definitions have been applied in other district plans ranging from extremely comprehensive to a more minimal approach, it is recommended that consideration is given to

'wrapping up' definitions into higher order definitions. For example, renewable energy can be defined more generally rather than defining each type of renewable energy resource separately. The same approach could apply to renewable energy infrastructure. Definitions should be consistent with the NPS-REG and take into account the Draft Standards. However, it is noted that the Draft Standards have not been gazetted and may be subject to further change.

We recommend defining the following terms:

- Renewable electricity generation (as defined in the NPS-REG)
- Renewable electricity generation activities (as defined in the NPS-REG)
- Small and community-scale distributed electricity generation (as defined in the NPS-REG)
- Research and exploratory-scale investigations for renewable electricity generation activities
- Large-scale electricity generation

10.2 Matters to be included in objectives and policies

The Baseline Assessment has identified a range of matters that should be reflected in policy to meet the requirements of Part 2 of the Act, the NPS-REG, the Draft Planning Standards and best practice. Inclusion of a 'small scale renewable electricity generation' definition in the NPS-REG and Draft Standards also creates opportunities for a framework of policies and rules based on the type, location and scale of buildings and infrastructure. This approach is consistent with the NPS-REG enabling approach for renewable energy generation and would simplify interpretation of policies and rules.

Matters which should be reflected in objectives and policies are summarised below:

- Higher level objective/s that reinforce and recognise the national and local significance of renewable electricity generation.
- The higher level objective/s are to be supplemented by policies and rules that recognise, provide, enable, and manage REG activities with different types and scales in appropriate locations/zones.
- Policy encouraging regional scale renewable energy generation activities and infrastructure in rural or industrial zones (as proposed in the pDDP) and limiting it elsewhere.
- Policy acknowledging the implications and constraints associated with renewable electricity generation activities, including locational, operational and technical matters.
- Enabling policy to support the maintenance and minor repair of infrastructure and heritage buildings at the Coleridge Power Station.
- Enabling policy for small scale in-stream or in-channel hydroelectricity generation.
- Policy to promote and manage biomass electricity generation in proximity to available fuel sources that minimise potential effects such as on the surrounding road network and the amenity values of neighbours, earthworks and dust which fall under district council functions.
- Enabling policy for temporary wind energy resource monitoring activities and infrastructure.

- Enabling policy for on-site wind energy generation activities and infrastructure in rural and industrial locations including cultural landscapes (to enable on-site generation at marae) provided they are not in areas with landscape, or historic heritage significance.
- Policy limiting wind generation activities and infrastructure in residential or commercial areas.
- Policy managing potential adverse effects of commercial wind farms.
- Enabling policy for solar panels for on-site and on-site use where potential environmental effects are minor.

  Note: The above matters will be consolidated to form a good basis for a higher level objective/s and a few supporting policies.

10.3 Scope of proposed rules

- Rules managing the scale and effects of activities and infrastructure in sensitive landscapes. Cross referencing rules and activity status from relevant work streams will be required.
- Rules managing reverse sensitivity effects of other activities on existing renewable energy generation activities for example Coleridge Power Station.
- Rules enabling repair, maintenance and minor buildings and structures at the Coleridge Power Station.
- Rules managing more significant upgrades to Coleridge Power Station (new buildings, infrastructure and other works).
- Rules enabling small-scale in-stream or in-irrigation channel hydroelectricity generation activities.
- Rules requiring compliance with zone earthwork rules.
- Rules permitting research and temporary exploratory-scale investigations for REG activities.
- Rules to manage potential effects of larger scale bioenergy activities and infrastructure.
- Rules regarding appropriate locations for wind turbines (rural and industrial zones)
- Rules enabling wind turbines in industrial areas with appropriate standards (including noise, setbacks from zone boundaries).
- Rules managing potential adverse effects of commercial wind farm activities and infrastructure.
- Rules that limit number and height of wind turbines based on the zone.
- Rules requiring wind turbines and wind farms as a non-complying activity in the residential areas and restricted discretionary activity in other areas across the District.
- Rules/performance standards requiring compliance with New Zealand Standard 6808:2010 Acoustics - Wind farm noise.

- Rules controlling domestic solar panels do not obstruct or prevent the sale of energy generated by domestic users back to energy distributors and retailers.
- Rules/performance standards to avoid adverse amenity effects in residential areas (e.g. area, reflectivity and alignment of panel with roof). A reference back to compliance with recession plane requirements in the relevant zones is proposed to be included.

  Note: The above matters will be consolidated and developed further to form rules.

10.4 Matters of discretion could relate to managing the following environmental effects:

- Visual (scale of buildings, infrastructure, reflectivity, overhead wires and access tracks)
- Landscape (ridgelines, sensitive landscapes, access tracks)
- Noise from wind turbines and consistency with NZS6608:2010. The noise standards for the relevant zones shall apply and cross referencing rules and matters of discretion in Noise and Vibration chapter.
- Ecological values (removal of native vegetation and effect on habitat). Cross referencing matters of discretion from relevant Natural Environment work streams.
- Construction (earthworks, noise and traffic)
- Overshadowing (from large structures) and shadow flicker on dwellings.
- Heritage (Coleridge Power Station). Cross referencing with Natural Environment work stream.
- Cultural (Ngai Tahu values and sites of cultural significance). Cross referencing with Natural Environment work streams.
- Operational considerations
- Health and safety
- Reverse sensitivity

APPENDIX 1: Baseline Report (E1008)

Baseline Report Energy Generation EI008