

From: [Sarah Stevenson \(WLG\)](#)
To: [Mailroom Mailbox](#)
Subject: Genesis Energy submission on PC4 LAWRP PDF
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Dear ECan

Please find attached Genesis Energy's submission on Proposed Plan Change 4 to the Land and Water Regional Plan.

Kind regards

Sarah Stevenson

Think before you Print - By making good use of resources at work we can encourage sustainability and manage our impact. Change Tomorrow by Changing Thinking Today

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Environment Canterbury

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Dear Environment Canterbury

Genesis Power Limited
trading as Genesis Energy

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Proposed Plan Change 4 to the Canterbury Land and Water Regional Plan

Genesis Energy Limited, trading as Genesis Energy (“Genesis Energy”) welcomes the opportunity to submit on Proposed Plan Change 4 to the Canterbury Land and Water Regional Plan (“PC4”).

Genesis Energy is an electricity generator and energy retailer with approximately 1890 MW of installed generation capacity and more than half a million retail customers. Genesis Energy owns and operates the Tekapo Power Scheme in the upper Waitaki Valley. The operation of the Tekapo Power Scheme is reliant on the ability to operate, maintain and upgrade hydro generation infrastructure, and it is in this context that Genesis Energy is affected by PC4.

Genesis Energy wishes to be heard in support of this submission.

Genesis Energy does not gain an advantage in trade competition through this submission.

Background

Genesis Energy’s interest in PC4 is in relation to effects on its nationally significant Tekapo Power Scheme.

The Tekapo Power Scheme sits at the head of the Waitaki Valley and comprises the Tekapo A (25MW) and Tekapo B (160MW) power stations, Lake Tekapo and its associated inflows, and the Tekapo Canal. The Tekapo Power Scheme generates enough renewable electricity to power 120,000 households (approximately 980GWh per annum). In generating this electricity the Tekapo Power Scheme makes an important contribution to New Zealand’s security of

electricity supply, particularly in the South Island and in Canterbury which are dependent on hydro-electricity generation.¹

Tekapo Power Scheme has been part of the existing environment of the Waitaki Catchment for many decades, with Tekapo A being commissioned in 1951 and Tekapo B in 1977. Since Genesis Energy's purchase of the Tekapo Power Scheme in 2011 geotechnical issues with the Tekapo Canal have been addressed and the canal upgraded to comply with recent dam design standards and an increased national focus on seismicity issues. This work was undertaken to maintain the generation capacity from the Scheme as a key electricity generation asset for New Zealand.

The Tekapo Power Scheme is a significant part of New Zealand's electricity generation market, and water from Lake Tekapo has the highest potential energy of all the generation stations in the South Island, given the number of hydro power stations this water eventually passes through.

Genesis Energy is interested in PC4 insofar as its provisions may affect the operation, maintenance and further upgrade of the Tekapo Power Scheme. It is against this background that Genesis Energy is making a submission on PC4.

Statutory Requirement to Provide for Existing Hydroelectricity in the Land and Water Regional Plan

Overview

There are clear statutory requirements in the Resource Management Act 1991 ("RMA"), and in higher order planning documents to provide for the Canterbury Region's existing hydroelectricity generation (including the Tekapo Power Scheme) in the Canterbury Land and Water Regional Plan ("LWRP"). Of particular relevance are:

- Part 2 of the RMA – its purpose and principles.
- The National Policy Statement on Renewable Electricity Generation ("NPSREG").
- The Canterbury Regional Policy Statement ("RPS").

It is important that the LWRP appropriately gives effect to these statutory requirements to provide for existing hydroelectricity generation, and the need for the LWRP to implement this statutory direction is an important consideration when the appropriateness of the PC4 provisions is being assessed.

Each of the above matters is addressed in more detail below.

¹ In addition, most of the water entering Lake Tekapo passes through all eight power stations in the Waitaki Power Scheme meaning, in total, Lake Tekapo inflows contribute approximately 7,680 GWh per annum of renewable electricity to the national grid

Section 5 of the RMA

Expressed in the simplest of terms, the LWRP must promote the sustainable management of natural and physical resources, as defined in section 5 of the RMA.

There are two general elements of sustainable management in the context of section 5 that must be addressed within the LWRP. They are:

- Enabling people and communities to provide for their social, economic and cultural wellbeing; and
- Protecting the quality of the environment.

Striking the appropriate balance between these two considerations is a challenge for any planning document as the two considerations are often conflicting.

In the context of section 5 of the RMA, the following matters are of particular relevance when considering the region's electricity generation infrastructure:

- The Tekapo and Waitaki hydroelectricity generation schemes ("the schemes") are nationally significant, longstanding "physical resources" that have been part of the existing environment since work first began on the Waitaki Dam in the 1920s, and they are subject to the principle of sustainable management.
- The schemes enable people and communities (locally, regionally and nationally) to provide for their social, economic and cultural wellbeing and for their health and safety.
- The water used by the schemes is used efficiently, and generates electricity within multiple power stations.
- The schemes form a substantial body of renewable electricity generation, contributing, on average, 25% of New Zealand's renewable electricity generation.
- The schemes are of national significance in providing security of supply to New Zealand's electricity network, particularly in the South Island. They alone provide approximately 60% of New Zealand's controllable hydro storage capacity.
- Electricity is a vital resource for New Zealand.
- If the operations of the schemes are constrained, it will adversely affect the ability of the schemes to generate electricity.
- The Tekapo Power Scheme is subject to a detailed operational regime that robustly addresses effects on the environment.

These circumstances mean that to promote sustainable management, as required by section 5 of the RMA, the LWRP should recognize and provide for the national and regional significance of the Tekapo and Waitaki power schemes both individually, and cumulatively.

Additional guidance on how this should be done is provided within the NPSREG and RPS, as outlined below.

The National Policy Statement on Renewable Electricity Generation

Under section 67(3) of the RMA the LWRP must give effect to the NPSREG. The need to “give effect to” the NPSREG requires the LWRP to “positively implement” the NPSREG. The key matters contained in the NPSREG in respect of the existing hydroelectricity generation facilities in the region which must be positively implemented by the LWRP are that the NPSREG:

- Makes the operation, maintenance and upgrading of existing renewable electricity generation activities and the benefits of that generation matters of national significance.
- Acknowledges that the maintenance of generation output from existing activities may require the protection of those assets, their operational capacity, and the continued availability of the renewable resource on which they rely.²
- Requires particular regard be had to managing the effects of renewable electricity generation in a manner which allows for the operational requirements of those facilities.³
- Requires the LWRP to include objectives, policies and methods to provide for the operation, maintenance and upgrading of existing hydroelectricity generation facilities.⁴

Positively implementing the NPSREG does not mean the LWRP needs to reiterate each and every provision in the NPSREG. However, it does require that an appropriate level of protection is given to the operation of existing hydroelectricity generation infrastructure in the catchment, including the Tekapo Power Scheme, and the operation, maintenance, development and upgrading of the infrastructure is enabled.

The Canterbury Regional Policy Statement

The LWRP must give effect to the RPS.

In that regard, the RPS includes the following provisions which are of particular relevance when considering the existing hydroelectricity generation infrastructure in the region:

² NPSREG, Policy B a) and b).

³ NPSREG Policy C1

⁴ NPSREG, Policy E2.

Policy 5.3.9 – Regionally significant infrastructure (Wider Region)

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Methods

The Canterbury Regional Council:

Will:

- (1) Set out objectives and policies, and may include methods in regional plans which:
 - (a) provide for regionally significant infrastructure by reducing constraints on their efficient and effective operation, maintenance and upgrade.
 - (b) avoid development that may impact on regionally significant infrastructure
 - (c) avoid, remedy or mitigate the adverse effects of regionally significant infrastructure on the environment.

Policy 7.3.11 – Existing activities and infrastructure

...

Methods

The Canterbury Regional Council:

Will:

- (1) Set out objectives and policies, and may include methods in regional plans (including environmental flow and water allocation regimes) that:
 - (a) Recognise and provide for the continuation of existing hydro-electricity and irrigation schemes and other existing water takes, uses, damming and diversions, which involve substantial investment in infrastructure, as appropriate; and
 - (b) Require these existing activities to make on-going improvements in water efficiency and reductions in adverse environmental effects, as appropriate, including through reviewing conditions on resource consents.

Policy 16.3.3 – Benefits of renewable energy generation facilities

...

Methods

The Canterbury Regional Council:

Will:

- (1) Set out objectives and policies, and may include methods in regional plans that recognise the local, regional and national benefits of a renewable energy supply, including security of supply, providing for electricity capacity, and assisting in meeting international climate obligations.

Policy 16.3.5 — Efficient, reliable and resilient electricity generation within Canterbury

...

Methods

The Canterbury Regional Council:

Will:

- (1) Set out objectives and policies, and may include methods in regional plans to:
 - (a) avoid activities on the beds of lakes and rivers, and uses and developments that impact on the generation capacity from, and/or the maintenance and upgrading of consented and existing electricity generation infrastructure; and
 - (b) provide for the full operation, and maintenance and/or upgrading of, existing generation infrastructure;
 - (c) provide for activities associated with the investigation, identification and assessment of potential sites and energy sources for electricity generation;
 - (d) enable the upgrading of existing and establishment of new electricity generation infrastructure within the coastal marine area and in the beds of lakes and rivers, while avoiding, remedying or mitigating adverse effects including through the use of best practice approaches to design, construction and effect management.

As with the NPSREG, giving effect to the RPS does not require repeating each and every one of its provisions in the LWRP. However, the LWRP does need to positively implement the prescriptive and clear directions contained in the above RPS provisions, particularly in relation to enabling operation, maintenance and upgrade of hydro electricity generation infrastructure.

Our specific submission points follow as Appendix A.

Yours sincerely

A handwritten signature in black ink, appearing to read 'S. Stevenson', with a long horizontal stroke extending to the right.

Sarah Stevenson
Environmental Policy Manager.

Appendix A: Specific Submission Points

Provision	Support / Oppose	Reasons for Submission	Relief Sought
Policy 4.85A	Oppose in part	<p>The policy does not adequately recognise that Genesis Energy's Tekapo Power Scheme assets influence the braided river environment, habitats, and natural character in the region. Activities that could occur within the braided river environment are wider than those relating to existing 'structures' and include erosion and gravel management.</p> <p>Further, the policy as proposed is to prevent 'encroachment' notwithstanding that encroachment may be necessary to maintain and operate the Tekapo Power Scheme.</p> <p>Finally, the policy contains inappropriately high management responses to indigenous vegetation and habitat matters.</p>	<p>Amend Policy 4.85A as follows:</p> <p><i>4.85A <u>Canterbury's braided river systems indigenous biodiversity, and habitats of indigenous fauna and flora is protected, and the natural character is preserved of Canterbury's braided river systems is preserved through:</u></i></p> <p><i>(a) preventing encroachment of activities into the beds and margins of lakes and rivers; and</i></p> <p><i>(b) limiting vegetation clearance within the bed, banks and margins of lakes, rivers, wetlands or coastal lagoons</i></p> <p><i>unless the vegetation clearance <u>activity</u> is for the purpose of pest management, habitat restoration,</i></p>

Provision	Support / Oppose	Reasons for Submission	Relief Sought
			<i>flood control purposes, the operation, maintenance or repair of structures, <u>including renewable hydro-electricity generation assets or network utilities, or maintenance of public access.</u></i>
Rule 5.135	Support	Genesis Energy places, alters, reconstructs and removes such structures as part of operating and maintaining the Tekapo Power Scheme. These structures are essential to its operations and the conditions set out in the rule ensure adverse effects are avoided, remedied or mitigated..	Retain Rule 5.135
Rule 5.136	Support	Genesis Energy drills, tunnels, installs and removes such structures as part of operating and maintaining the Tekapo Power Scheme. These structures are essential to its operations and the conditions set out in the rule ensure adverse effects are avoided, remedied or mitigated.	Retain Rule 5.136

Provision	Support / Oppose	Reasons for Submission	Relief Sought
Rule 5.137	Support	Genesis Energy installs, alters, extends or removes bridges and culverts as part of operating and maintaining the Tekapo Power Scheme. These structures are essential to its operations and the conditions set out in the rule ensure adverse effects are avoided, remedied or mitigated.	Retain Rule 5.137
Rule 5.140A	Support	Genesis Energy installs, operates and maintains such devices as part of operating the Tekapo Power Scheme. These devices are essential to its operations.	Retain Rule 5.140A
Rule 5.141	Support	Temporary discharges in association with activities in Rule 5.135-5.140A are essential to the operations of the Tekapo Power Scheme and the conditions set out in the rule ensure adverse effects are avoided, remedied or mitigated.	Retain Rule 5.141.

Provision	Support / Oppose	Reasons for Submission	Relief Sought
Rule 5.141A	Support	Genesis Energy has many structures, ducts, cables, pipes and wires in and over the beds of lakes and rivers. Rule 5.141A provides the appropriate default activity status.	Retain Rule 5.141A
Rule 5.148, Condition 6	Support	Condition 6 provides better recognition that Genesis Energy owns, operates and maintains nationally significant structures that could be affected by the extraction of gravel.	Retain Rule 5.148, Condition 6
Rule 5.163, Condition 9	Oppose in part	The rule does not adequately recognise and provide for the operation and maintenance of Genesis Energy's Tekapo Power Scheme assets. Removal of vegetation, hence reducing the area and potential diversity of vegetation (both exotic and indigenous), may be necessary to operate and maintain these nationally significant assets and the electricity transmission associated with them.	Amend Condition 9 as follows: <p><i>9. From 5 September 2015, and within the bed of the Clarence, Waiau, Hurunui, Waimakariri, Rakaia, Rangitata, and the Waitaki rivers the vegetation clearance does not result in a reduction in the area or diversity of existing riverbed vegetation <u>unless the activity is for the purpose of the operation, maintenance or repair of renewable hydro-electricity generation asset or network utilities; and</u></i></p>

Provision	Support / Oppose	Reasons for Submission	Relief Sought
Rule 5.167, Condition 6	Oppose in part	The rule does not adequately recognise and provide for the operation and maintenance of Tekapo Power Scheme assets. Removal of vegetation, hence reducing the area and potential diversity of vegetation (both exotic and indigenous), may be necessary to operate and maintain these nationally significant assets and the electricity transmission associated with them.	<p>Amend Condition 6 as follows:</p> <p>6. <i>From 5 September 2015, and within the bed of the Clarence, Waiau, Hurunui, Waimakariri, Rakaia, Rangitata, and the Waitaki rivers the vegetation clearance does not result in a reduction in the area or diversity of existing riparian vegetation, unless the earthworks have been authorised by a land use consent granted by the relevant territorial authority and conditions 1 to 5 above are also met, <u>or the activity is for the purpose of the operation, maintenance or repair of renewable hydro-electricity generation asset or network utilities.</u></i></p>

Provision	Support / Oppose	Reasons for Submission	Relief Sought
Rule 5.168, Condition 5	Oppose in part	The rule does not adequately recognise and provide for the operation and maintenance of Genesis Energy's Tekapo Power Scheme assets. Undertaking earthworks, hence reducing the area and potential diversity of vegetation (both exotic and indigenous), may be necessary to operate and maintain these nationally significant assets and the electricity transmission associated with them.	<p>Amend Condition 5 as follows:</p> <p>5. From 5 September 2015, and within the bed of the Clarence, Waiau, Hurunui, Waimakariri, Rakaia, Rangitata, and the Waitaki rivers the earthworks do not result in a reduction in the area or diversity of existing riparian vegetation, unless the earthworks have been authorised by a land use consent granted by the relevant territorial authority and conditions 1 to 4 above are met <i>or the activity is for the purpose of the operation, maintenance or repair of renewable hydro-electricity generation asset or network utilities.</i></p>