# Part 2 – Resource management overview

# SRMR – Significant resource management issues for the region

# EIT – Energy, infrastructure and transport

## Issues

**SRMR-EIT-I1 Benefits of regionally significant infrastructure [RPS]**

**The benefits to Whakatū Nelson of regionally significant infrastructure need to be recognised while managing their environmental effects.**

Regionally significant infrastructure in Whakatū Nelson is essential to support community well-being and can generate substantial positive effects both within and outside the Whakatū Nelson region. Some regionally significant infrastructure is also nationally significant (such as the national electricity transmission grid and state highways).

Without well-functioning and effective regionally significant infrastructure, the community will be unable to support beneficial development, or development may cause unacceptable adverse effects on the environment. While there is a need to provide for the establishment, operation, maintenance, and upgrade of regionally significant infrastructure, it is also important to manage their potential adverse effects on communities and the environment.

Other activities can potentially have adverse effects (including reverse sensitivity effects) on lawfully established existing infrastructure. This has the potential to constrain the operation, maintenance and upgrade of infrastructure.

Some existing regionally significant infrastructure is located in areas identified as being subject to natural hazards and the effects of climate change, or are in the Coastal marine area or rivers, which may have the potential to affect the functioning of the infrastructure. Infrastructure needs to be resilient to hazards and the effects of climate change.

**SRMR-EIT-I2 Security of energy supply [RPS]**

**Maintaining and increasing the security of energy supply is important for the social and economic well-being of communities in Whakatū Nelson.**

The supply of energy is critical for people's health and well-being, and as Whakatū Nelson continues to grow, the demand for energy is expected to increase from a variety of sectors. Energy supply in this context includes generation, transmission and distribution.

The efficient use of energy is a core aim of sustainable resource management. Energy conservation and efficiency measures are important, however, they are not sufficient on their own to meet Whakatū Nelson's anticipated energy demands.

Opportunities to harness Whakatū Nelson's renewable energy generation potential need to be taken to minimise demand on energy provided by non-renewable sources and minimise carbon emissions. In particular, opportunities exist for commercial scale solar and micro hydro generation facilities.

Domestic and community scale renewable generation facilities also need to play a role, particularly as improved technology enhances the availability and affordability of smaller-scale devices.

## Objectives

**SRMR-EIT-O1 Benefits and effects of regionally significant infrastructure [RPS]**

Benefits of regionally significant infrastructure are recognised, and the establishment, operation, maintenance and upgrade of that infrastructure is provided for, in a way that avoids, remedies or mitigates adverse effects on the environment.

**SRMR-EIT-O2 Effects on regionally significant infrastructure [RPS]**

Safe and efficient operation and maintenance of regionally significant infrastructure is protected from the adverse effects, including reverse sensitivity effects, of other activities.

**SRMR-EIT-O3 Resilience of regionally significant infrastructure [RPS]**

Regionally significant infrastructure functions effectively and efficiently and is resilient to the adverse effects of natural hazards and the effects of climate change.

**SRMR-EIT-O4 Supply of energy [RPS]**

There is a sufficient, sustainable and secure supply of energy, sourced increasingly from renewable energy resources and from improvements in the efficiency of the end use of energy.

## Policies

**SRMR-EIT-P1 Provide for regionally significant infrastructure [RPS]**

Provide for the establishment, operation, maintenance and upgrade of regionally significant infrastructure so that it is resilient to natural hazards and the effects of climate change.

**Explanation**

Regionally significant infrastructure is considered significant due to its contribution to the social and economic well-being, and health and safety of the Whakatū Nelson community, and/or because of its strategic importance as part of a wider regional or national infrastructure network. The benefits derived from regionally significant infrastructure should be taken into account when considering proposals for use and development of natural resources.

A natural hazard event and the effects of climate change have potential to damage the regionally significant infrastructure and cause widespread disruption to Whakatū Nelson itself, as well as nationally. It is hence necessary to work with the infrastructure providers to identify how resilience

could be included within regionally significant infrastructure and how the hazard and climate change risks can be managed.

The benefits and risks will also be taken into account when developing Nelson Plan provisions and the Nelson City Council's Infrastructure Strategy and Asset Management Plans.

**SRMR-EIT-P2 Adverse effects of regionally significant infrastructure [RPS]**

Avoid, remedy or mitigate adverse effects on the environment from the establishment, operation, maintenance and upgrade of regionally significant infrastructure, while recognising their functional and operational needs, including adverse effects on:

1. water and air quality, including discharges into water, or onto or into land, and discharges to air from treatment plants and pump stations;
2. cultural values (including places and resources) of significance to Whakatū Nelson's tāngata whenua;
3. the natural character of and public access to, along and within the coastal environment, wetlands, lakes and rivers and their margins;
4. cultural or historic heritage and significant natural values;
5. the social cohesion of communities and the potential for community severance resulting in inadequate connection between parts of settlements;
6. amenity values including from noise, odour and vibration effects; and
7. Whakatū Nelson's resilience to natural hazards and the effects of climate change.

**Explanation**

It is important that where new infrastructure, or extension or upgrade of existing infrastructure, is proposed, that the effects identified in this policy are avoided, remedied or mitigated. Development of infrastructure should be undertaken in a way that promotes the sustainable management of natural and physical resources and enables the health, safety, resilience and well-being of the community.

While it is important for new infrastructure to manage effects on the environment, it is also necessary to acknowledge that regionally significant infrastructure may be constrained in its location, given its functional needs or operational requirements.

New renewable energy generation facilities need to be located where the renewable energy resource can be harnessed. In some cases, those locations are also naturally sensitive, so careful consideration needs to be given to the positive and adverse effects arising from new proposals.

Many significant assets, such as the National Grid, the State Highway network and reticulated water services have a linear characteristic. It is important to recognise that fundamental character when considering the location, scale and nature of new infrastructure or upgrades to existing facilities. The benefits of constructing (including extensions to existing infrastructure) and operating any new regionally significant infrastructure will have to be evaluated alongside any adverse effects the infrastructure will have on the surrounding environment. The provisions of the Nelson Plan identify how these environmental effects should be avoided, remedied or mitigated, taking into account functional need and operational requirements.

**SRMR-EIT-P3 Effects of activities on regionally significant infrastructure [RPS]**

Restrict subdivision, use and development to avoid, remedy or mitigate their adverse effects, including reverse sensitivity effects, to ensure the safe and efficient operation of regionally significant infrastructure.

**Explanation**

The effective and efficient operation of regionally significant infrastructure can be impaired by effects of incompatible activities in close proximity. This policy recognises that the significant investment in lawfully established existing infrastructure should be protected from adverse effects that would constrain its operation or efficiency, and that there are usually considerable difficulties relocating regionally significant infrastructure in the event of conflict with other land uses.

**SRMR-EIT-P4 Energy supply [RPS]**

Encourage and enable the development of renewable energy and improved efficiency in the use of energy in Whakatū Nelson by:

1. providing for renewable electricity generation capacity while avoiding, remedying or mitigating adverse effects on the environment;
2. enhancing the security of electricity supply within the region by providing for diversification in the type and/or location of renewable electricity generation;
3. recognising the reversibility of the adverse effects on the environment of some renewable electricity generation technologies;
4. promoting land subdivision and building design that optimise solar heating efficiency; and
5. encouraging effective insulation of residential dwellings.

**Explanation**

Local sources of renewable energy should be developed to maintain and enhance a secure supply of electricity for Whakatū Nelson. This policy expresses a clear preference for the use and development of renewable sources of energy, as opposed to non-renewable sources. Renewable sources of energy ensure that electricity can be sourced on an ongoing basis, with negligible impact on greenhouse gas emissions. Provided those sources of energy are reliable and able to meet demand, they will help improve the security of supply and reduce stress on the National Grid. The preference for renewable sources of energy also assists in avoiding reliance on imported fuels for electricity generation.

Renewable energy resources can be variable, being reliant on climatic conditions. However, utilising the wide range of renewable energy resources available should spread that risk and improve the resilience of energy supply.

Renewable energy opportunities that have been identified as well-suited to the Whakatū Nelson context include:

1. commercial-scale and residential scale rooftop photovoltaics, and possibly small-scale commercial solar PV arrays (<100kW);

2. niche micro hydro (including at Maitai Dam) and biogas (including Bell Island Treatment Plant and Hospital);
3. small-scale wind turbines and run of river micro-hydro in niche rural off-grid scenarios; and
4. niche biodiesel wood pellet manufacture, and waste wood.

Reduced use of fossil fuels and increased reliance on renewable sources may also give rise to a need for new supporting facilities and technology, including facilities for charging electric vehicles and appropriate supplies of dry wood fuel for ultralow emission burning wood burners.

## Methods

| Regulatory methods | Who | Links to policy |
|---|---|---|
| **The Nelson Plan** | | |
| **SRMR-EIT-M1 [RPS]**<br>Include a framework of objectives, policies and rules to:<br>1. provide for regionally significant infrastructure that is resilient to natural hazards and the effects of climate change;<br>2. avoid, remedy or mitigate the effects of regionally significant infrastructure;<br>3. restrict adverse effects on the safe and efficient operation of regionally significant infrastructure, including from subdivision, use and development and from natural hazards;<br>4. enable the development of renewable energy; and<br>5. encourage the layout of subdivided sites and built development to improve energy efficiency and solar gain. | Council | SRMR-EIT-P1<br>SRMR-EIT-P2<br>SRMR-EIT-P3<br>SRMR-EIT-P4 |
| **SRMR-EIT-M2 [RPS]**<br>Encourage the inclusion of designations to facilitate the establishment, operation, maintenance and upgrade of regionally significant infrastructure. | Council, Requiring Authorities | SRMR-EIT-P1 |

| Non-regulatory methods | Who | Links to policy |
|---|---|---|
| **Advocacy and education** | | |
| **SRMR-EIT-M3 [RPS]** | Council | SRMR-EIT-P4 |

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|---|---|---|
| Provide information and advocacy materials to encourage energy efficient house design and installation of domestic scale renewable electricity generation. | | |
| **Funding and assistance** | | |
| **SRMR-EIT-M4 [RPS]**<br>Investigate the use of incentives for small or community-scale renewable generation initiatives, or exemplary energy conservation or efficiency initiatives that result in increased community resilience and security of energy supply. | Council | SRMR-EIT-P4 |
| **Partnerships** | | |
| **SRMR-EIT-M5 [RPS]**<br>Work with existing relationships and set up a process to encourage and improve information sharing between Council, iwi and requiring authorities in relation to the requirements of regionally significant infrastructure, values of significance to tāngata whenua and Sites of significance to Māori. | Council, iwi, utility providers | SRMR-EIT-P2 |

## Principal reasons

**SRMR-EIT-PR1 [RPS]**

The issues, objectives and policies of this chapter seek to protect regionally significant infrastructure, ensure infrastructure is resilient to hazards, and improve energy efficiency and the use of renewable energy.

Regionally significant infrastructure such as the port, airport, water supply, wastewater and stormwater networks and strategic transport routes need to be resilient to hazards and the effects of climate change, and infrastructure planning and asset management need to develop long term strategies to achieve this.

The National Policy Statement on Electricity Transmission (NPSET) recognises the national significance of the National Grid by facilitating its operation, maintenance and upgrade, while managing both the adverse effects of the network and of other activities on the network. The NPSET also facilitates the establishment of new transmission resources to meet the needs of current and future generations. Transpower has indicated there are no plans to develop new infrastructure in the Whakatū Nelson region in the foreseeable future. However, its assets may need to be added to or altered to enable future development and growth or for other operational reasons.

The National Policy Statement on Renewable Electricity Generation (NPSREG) identifies the need to develop, operate, maintain and upgrade renewable electricity generation activities throughout New Zealand, and to recognise the benefits of renewable electricity generation, as matters of national significance. The NPSREG seeks to ensure local decision-making has regard to the benefits of renewable energy generation, and the practical implications and constraints of generation activities. It

also seeks to manage the effects of other activities on renewable generation facilities and to enable specific types of generation activities to the extent relevant to Whakatū Nelson, including small and community-scale facilities.

The operation and provision of regionally significant infrastructure and renewable electricity generation facilities, as well as the efficient use of infrastructure to support growth, is of critical importance to Whakatū Nelson in enabling economic growth and development.

## Anticipated environmental results

| Relevant policies | Anticipated environmental result |
|---|---|
| **SRMR-EIT-P1 [RPS]**<br><br>Provide for the establishment, operation, maintenance and upgrade of regionally significant infrastructure so that it is resilient to natural hazards and the effects of climate change. | **SRMR-EIT-AER1 [RPS]**<br><br>The community's needs for energy reticulation, water supply, wastewater and stormwater collection and disposal, transport networks, telecommunications, and essential public health and medical services are met by the available and future infrastructure. |
| **SRMR-EIT-P2 [RPS]**<br><br>Avoid, remedy or mitigate adverse effects on the environment from the establishment, operation, maintenance and upgrade of regionally significant infrastructure, while recognising their functional and operational needs, including adverse effects on:<br><br>1. water and air quality, including discharges into water, or onto or into land, and discharges to air from treatment plants and pump stations;<br>2. cultural values (including places and resources) of significance to Whakatū Nelson’s tāngata whenua;<br>3. the natural character of and public access to, along and within the coastal environment, wetlands, lakes and rivers and their margins;<br>4. cultural or historic heritage and significant natural values;<br>5. the social cohesion of communities and the potential for community severance resulting in inadequate connection between parts of settlements; | **SRMR-EIT-AER2 [RPS]**<br><br>Necessary infrastructure is provided while managing the adverse effects on the environment. |

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|---|---|
| 6. amenity values including from noise, odour and vibration effects; and<br>7. Whakatū Nelson's resilience to natural hazards and the effects of climate change. | |
| **SRMR-EIT-P3 [RPS]**<br>Restrict subdivision, use and development to avoid, remedy or mitigate their adverse effects, including reverse sensitivity effects, to ensure the safe and efficient operation of regionally significant infrastructure. | **SRMR-EIT-AER3 [RPS]**<br>Regionally significant infrastructure has the ability to operate safely and efficiently, and long-term strategies are in place to improve their resilience to natural hazards. |
| **SRMR-EIT-P4 [RPS]**<br>Encourage and enable the development of renewable energy and improved efficiency in the use of energy in Whakatū Nelson by:<br>1. providing for renewable electricity generation capacity while avoiding, remedying or mitigating adverse effects on the environment;<br>2. enhancing the security of electricity supply within the region by providing for diversification in the type and/or location of renewable electricity generation;<br>3. recognising the reversibility of the adverse effects on the environment of some renewable electricity generation technologies;<br>4. promoting land subdivision and building design that optimise solar heating efficiency; and<br>5. encouraging effective insulation of residential dwellings. | **SRMR-EIT-AER3 [RPS]**<br>There is enhanced resilience in local electricity supply created by supplementary local generation of electricity from renewable sources (including distributed small-scale wind generation and solar generation) and solar water heating.<br>**SRMR-EIT-AER4 [RPS]**<br>Subdivision layout and new buildings are designed to optimise solar heating efficiencies, and residential dwellings contain effective insulation.<br>**SRMR-EIT-AER5 [RPS]**<br>New facilities and technologies that promote the reduced use of fossil fuels or increased reliance on renewable sources of energy are encouraged. |