

Hydroelectricity generation in Waikato

The Waikato and Tongariro power schemes produce approximately 23 per cent of New Zealand's hydroelectricity, which contributes to meeting New Zealand's greenhouse gas emission targets and maintaining security of supply. This information sheet provides an overview of each scheme and how they are currently managed by resource consents granted by Waikato Regional Council, and the relevant national policy direction required to be considered by the council during its Freshwater Policy Review .

Tongariro power scheme

The Tongariro power scheme is comprised of three hydro power stations and operates across regional boundaries, within the Manawatū-Whanganui and Waikato regions. Water is gathered from the mountains of the central plateau through the eastern and western diversions of the scheme, and gravity moves the water between rivers and lakes which are used as holding reservoirs before flowing through the power stations' turbines to generate the electricity. The combined flows through the system eventually discharge into Lake Taupō.

Genesis Energy Limited holds 29 resource consents from the council to operate the Tongariro Power Scheme. The consents provide for damming, diversion, taking and discharge of water in several waterbodies associated with each of the power stations, and authorise a number of other activities associated with scheme-wide maintenance or use of structures within the power stations. The consents that enable the scheme to operate expire on 1 December 2039. Genesis also holds a number of consents from Horizons Regional Council, for similar activities in the Manawatu-Whanganui region; however, these do not need to be considered during this review.

Waikato power scheme

The Waikato power scheme comprises a series of nine power stations along the Waikato River from Lake Taupō to Lake Karāpiro. The stations use the head differential and flows created by dams to drive turbines and generate electricity.

Mercury NZ Limited - Hydro Generation (Mercury Hydro) holds a suite of 19 resource consents under which it operates the power generation system. Three of these are the primary resource consents which provide for damming, diversion, and taking and discharge of water at each of the sites in the scheme. These consents are subject to the same schedule of conditions and expire in 2041. The remaining consents authorise ancillary activities that occur at all sites or at singular sites.

National Policy Statement for Renewable Energy Generation 2011 (NPS-REG)

The NPS-REG sets out two matters of national significance: *the need to develop, operate, maintain and upgrade renewable energy generation activities throughout New Zealand, and the benefits of renewable energy generation*. These matters are incorporated into the objective of the NPS-REG.

The supporting policies direct decision-makers to recognise and provide for the national significance of renewable electricity generation activities, including maintaining or increasing generation capacity and security of supply, and also acknowledge the locational constraints associated with renewable energy generation activities, and the functional need to locate these activities where the resource is available.

Regional councils are directed to include objectives, policies and rules within regional plans to provide for the development, operation, maintenance and upgrading of new and existing hydro-electricity generation activities, and small and community-scale distributed renewable energy generation from any source to the extent applicable to the region.

National Policy Statement for Freshwater Management 2020 (NPS-FM)

The objective of the NPS-FM is based on *Te Mana o Te Wai*, which refers to the fundamental importance of water, recognising that protecting the health of fresh water protects the health and well-being of the wider environment. This objective sets out a hierarchy of three priorities for the management of fresh water, and hydroelectricity generation is considered a third-priority use.

There are 15 supporting policies, all of which need to be considered to the extent that they apply to the use of fresh water and freshwater bodies and environments for hydroelectricity generation, and future responses to climate change.



Relationship between the NPS-REG and the NPS-FM

Both national policy statements must be read and applied together, as neither of these prevails over the other in terms of policy direction. The NPS-REG does not manage the allocation and prioritisation of fresh water—this is managed by regional councils in accordance with the direction of the NPS-FM. However, the NPS-FM acknowledges and provides for the national significance of specified hydroelectricity schemes through Clause 3.31.

The direction in each of these documents will need to be reconciled to ensure that improvements to freshwater resources are achieved in accordance with the NPS-FM, whilst also achieving the objective of the NPS-REG.

Regardless of the provisions developed to give effect to the above policy direction, there is limited opportunity to implement these provisions in relation to the current consents for both power schemes until these consents expire and replacement consents are sought under the new provisions. Section 128 of the Resource Management Act 1991 provides for the review of consent conditions for specified purposes, including where a rule has been set to manage maximum or minimum levels or flows, or rates of use of water, and this is likely the only mechanism which would enable changes to the existing consents to give effect to the NPS-FM.

- Regional councils must set environmental flows and levels for each Freshwater Management Unit (FMU) or part of an FMU, expressed in terms of the water level and flow rate at which *any taking, damming, diversion, or discharge of water meets the environmental outcomes* for the river or lake, any connected water body, and receiving environments.
- Take limits must be identified to meet the environmental flows and levels, expressed in terms of the volumes or rates that may be taken, *diverted or dammed within an FMU*, and flow levels must be identified where taking, damming, or diversion will be *restricted or no longer allowed, or a discharge will be required*.
- Regional councils are also directed to include provisions to address the loss of river bed extent and values, and provide for the maintenance and improvement of fish passage through structures.
- Clause 3.31 identifies nationally significant hydroelectric generation schemes, including the Waikato and Tongariro schemes.
 - It directs regional councils to have regard to the importance of these schemes, as they contribute to meeting greenhouse gas emission targets and maintaining the security of New Zealand's energy supply, when implementing the NPS-FM in an FMU containing an identified hydro-electricity scheme.
 - It also provides for a regional council to set target attribute states below that required as a national bottom line, as an exception, if achieving the target attribute state would adversely affect the scheme, and instead require improvements to the extent practicable.

Mō te puna kōrero Where can I find more information?

Check out [waikatoregion.govt.nz/freshwater-policy-review](https://www.waikatoregion.govt.nz/freshwater-policy-review) to find:

- information sheets breaking down the Freshwater Policy Review
- how to share your views
- a summary of key milestones
- update on our progress.

You can also email us at policy@waikatoregion.govt.nz or call 0800 800 401 to speak to a member of our Freshwater Policy Review team.