

SUBMISSION

Electricity Price Review Hikohiko Te Uira Options Paper

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Overview of electricity issues related to irrigation

Irrigation is a significant user of electricity. On a national basis it is estimated to be up to 3% of New Zealand's annual electricity use but, given its seasonal and regionally concentrated nature, irrigation can account for a high proportion (more than 70%) of distribution companies' network infrastructure and seasonal load.

Electricity use in the irrigation sector will continue to increase in the near term driven by modernisation of existing systems and some expansion in irrigated area. Good irrigation practice involves the use of pressurised water through modern spray systems to maximise water use efficiency and minimise adverse environmental impacts.

Electricity is a significant cost to irrigating farms and the future price of electricity is extremely important to irrigators. Connection charges typically form a significant proportion of overall electricity supply costs to irrigators and this is exacerbated by the seasonal nature of irrigation. Pricing stability is important, so connection pricing mechanisms need to ensure that annual connection costs remain stable.

Irrigation use typically occurs over the September–April period, with most demand in the November–March period. As a significant power user which doesn't use power over the peak demand winter period, irrigation provides revenue to electricity providers which helps keep power costs affordable for residential and business users and also provides income to allow investment in power infrastructure to cope with growing winter demand.

However, irrigation electricity use is inherently variable – both across seasons and within seasons and this presents challenges throughout the supply system.

Irrigation electricity use has some inherent time-of-use flexibility so pricing mechanisms and signals that enable irrigators to manage their electricity use are beneficial both to the irrigators and throughout the electricity supply chain (generation-transmission-distribution).

Many irrigation schemes provide natural opportunities for embedded hydro generation. Confidence in the commercial framework for embedded generation is important to ensuring that these renewable energy opportunities are realised in support of New Zealand's ambitious renewable energy targets. Some proposed changes in the transmission pricing methodology appear to be counter-productive to this. This area needs to be reviewed to ensure that opportunities for additional hydro generation through irrigation infrastructure are maximised.

Discussion of specific options

Section A: Strengthening the consumer voice

A1: Establish a consumer advisory council

Irrigation New Zealand supports the proposed establishment of a consumer advisory council. It is noted that the proposed council would promote the interests of “residential and small business consumers.”

As stated in our submission, irrigation schemes and irrigator-farmers are collectively significant users of electricity (with that use being primarily outside of the peak demand winter period). At the level of the individual farmer-irrigator or irrigation scheme, however, the sector is more akin to a large group of small businesses.

Irrigation New Zealand therefore seeks a recommendation that the proposed consumer advisory council include a representative from the irrigation sector.

A2: Ensure regulators listen to consumers

Irrigation New Zealand supports the strengthening of consumer voices in the development of regulations relating to electricity. Regulations must ensure that New Zealand’s electricity sector is responsive to the needs of consumers in order to support our communities and industries.

Section E: Improving transmission and distribution

In many parts of New Zealand, irrigation is a large user of electricity demand in the summer season, creating significant loads during periods of hot weather, which can present challenges for supply and distribution networks. The ability of the transmission and distribution systems to provide power during these periods is of critical importance to irrigators, when loss of supply over even short periods of time could have significant economic implications for farmers and their communities.

In areas where there has been irrigation in place for a number of decades, transitions from traditional irrigation systems which were somewhat passive in terms of energy use, to more efficient (in terms of water use) pumped systems, can result in substantial increases in summer demand and investment may be required to ensure that supply requirements can be met.

As noted in the discussion document, transmission pricing is important in encouraging the right investments in the right place at the right time.

As stated in our original submission, electricity price stability is a key concern to the irrigation sector. We are supportive of the options favoured that the Government issue policy statements on transmission and distribution pricing if this will improve reliability and appropriate investment, and minimise price shocks.

About Irrigation New Zealand

Irrigation New Zealand represents over 3,500 irrigator members nationally, including most large irrigation schemes as well as individual irrigators. Our members include a wide range of farmers and growers – dairy and cropping farmers, horticulturalists, winegrowers, and sheep and beef farmers. We also represent over 140 irrigation service industries – manufacturers, distributors, irrigation design and install companies, and irrigation decision support services.

As an organisation we actively promote best practice irrigation and carry out a range of training and education activities, including in efficient water and energy use. Over the last five years we have trained over 3,000 irrigators on different aspects of irrigation best practice to improve water use efficiency.

Irrigation New Zealand members share the same goals as other New Zealanders: to see improvements to their waterways, to make a positive contribution to the wellbeing of their communities and the country as a whole, and to make a living to support themselves and their families.