

Upgrading a vital electricity connection for Aotearoa

INFORMATION SHEET SEPTEMBER 2025



Why upgrade the HVDC Link?

New Zealand's High Voltage Direct Current (HVDC) link between the North and South Islands is a key part of our electricity system and helps ensure Aotearoa's power supply is reliable and stable.

The current HVDC cables, installed in 1991, are nearing the end of their expected 40-year lifespan and need to be replaced by the early 2030s. Other parts of the link also need to be replaced or upgraded.

Upgrading this critical infrastructure means Kiwis can continue to access the lowest cost electricity generated across both islands. It will also ensure the link is future-ready as our country's electricity use increases.

What's being upgraded?

Transpower has proposed to replace three submarine electricity cables, add a fourth cable to boost electricity transfer capacity, and build new cable termination stations on either side of Cook Strait.

In 2026 we plan to submit an additional proposal to replace the specialised IT control system that manages the power flow and do this work at the same time as the cable replacement. We are also continuing to investigate options for removing the existing cables from the sea floor once the new ones are in place.

Consultation on the cable replacement and the wider programme of HVDC renewal work has shown a high level of support for investing in the electricity link.

Timeline

- 2025 - planning underway, so we can have suppliers and manufacturers ready to start the work later this decade
- 2027 - expect work on site to begin
- 2031 - expected commissioning of new cables and cable termination stations

All electricity users pay for transmission infrastructure as part of electricity bills (transmission charges make up around 8% or less of consumers' bills). The Commerce Commission is currently assessing Transpower's proposal, considering whether the investment represents good value for New Zealanders and is in consumers' long-term interests.

Local area impact

Construction and upgrade activities may impact local areas and roads. Transpower will work with landowners, other stakeholders and local community groups to ensure you have up to date information about our plans and minimise disruption as much as possible.

For more information or to discuss how the project may affect your land or community, please email feedback@transpower.co.nz.



Transpower proposes the following projects to upgrade the HVDC Link

Undersea cable supply and install

Replace the three existing cables when they reach the end of their life, as expected, in 2031. Replacing them with four new cables will increase how much electricity the link can carry, setting New Zealand up for the future.



Recovery of decommissioned cables

Once the new cables are in place and working well, we would remove the cables we use today.

HVDC Control System Replacement

The control system technology will be 20 years old in the early 2030s and being phased out, so will need to be replaced.

The control system communicates and works together with equipment at many locations to transfer electricity and keep the wider transmission grid stable.



New submarine cable storage facility

A dedicated storage facility for spare cable lengths, which can be used if needed for smaller-scale repairs.



Pole 2 overload scheme

Boost the overload capacity of Pole 2 to better manage the risk from unplanned outages on Pole 3.

1400 MW

Benmore filter bank upgrade

Upgrade filter bank equipment at Benmore to enable electricity transfer of up to 1400 MW.

Auckland

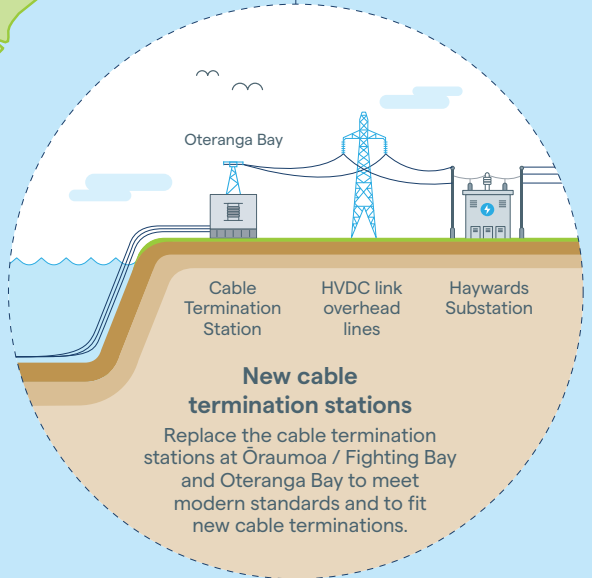
Haywards Substation

Wellington

Christchurch

Benmore Substation

Dunedin



Key

- Transmission lines 66 - 220kV AC
- Transmission lines 350kV HVDC
- Transpower substations
- Cable termination stations
- ≡ HVDC Undersea Cables
- Cable Protection Zone