19 September 2025
future@energisingqueenstown.co.nz

OTAGO CENTRAL LAKES SUBMISSION TO ENERGISING QUEENSTOWN ON FUTURE OPTIONS

Thank you for the opportunity to provide this submission on the future options consultation.

The Otago Central Lakes (**OCL**) group welcomes this important process, which addresses the challenges for long-term electricity transmission security of the Queenstown/Whakatipu Basin and the wider Central Lakes sub-region. OCL is a sub-regional group formed to place application to the government's City and Regional Deal process. It consists of Queenstown Lakes District Council (**QLDC**), Central Otago District Council (**CODC**) and the Otago Regional Council (**ORC**). One of the five key packages within OCL's Regional Deal proposal is to 'Electrify OCL' through a combination of traditional transmission capacity security and increased uptake of Distributed Energy Resources (**DER**) through solar and batteries enabled through the Ratepayer Assistance Scheme (**RAS**). Increased capacity and security of supply is essential to a range of outcomes that the Regional Deal hopes to achieve for OCL as a high-growth sub-region.

The constructive and transparent approach taken by Transpower, Aurora Energy, and PowerNet is acknowledged and it is noted that QLDC has participated in the process through the provision of forecasting data and participation on the Steering Group. On the information provided, OCL supports Option 2: Cromwell → Arrow Junction, 110 kV double-circuit line with a new Arrow Junction substation, as it offers the best whole-of-life value. OCL supports progressing a solution that ensures reliability, affordability, and resilience while delivering sufficient capacity at the lowest practicable whole-of-life cost. Importantly, this consultation is seen as a chance to look beyond centralised infrastructure investment alone, and realise an opportunity to embed smarter, more flexible, community-focused energy solutions that strengthen resilience and reduce household energy costs over time.

OCL is committed to working in partnership with Transpower, Aurora, PowerNet, Kāi Tahu, government agencies, electrification interest groups and our communities to deliver an energy future that is reliable, equitable, and resilient. This commitment has involved a close partnership with Rewiring Aotearoa and we endorse their strategic recommendations, community initiatives (such as Electrify Wānaka) and the local delivery ambitions of the Queenstown Electrification Accelerator (QEA). However, OCL (as demonstrated in the Regional Deal proposal) takes a 'no regrets' position that will ensure capacity and security of energy supply into the future – balancing sufficiency of transmission supply with uptake of DER judiciously.

We would welcome the opportunity to be heard at any hearings arising from this consultation. This submission will be retrospectively endorsed by the OCL joint committee at their next meeting on 7 October 2025. It was approved by ORC Governance on 11 September 2025, and it will be ratified by QLDC and CODC retrospectively at their next council meetings. Thank you again for the opportunity to comment.

Yours sincerely,

Tamah Alley
Mayor, CODC

Glyn Lewers
Mayor, QLDC

Gretchen Robertson
Chair, ORC

SUBMISSION TO TRANSPOWER, AURORA ENERGY AND POWERNET ON ENERGISING QUEENSTOWN FUTURE OPTIONS

1.0 Context of the Energising Queenstown proposal in relation to the Otago Central Lakes region

1.1 In 2000, the sub-region represented by OCL had only 17% of Otago's population but it now makes up 31% of Otago's population. Within 25 years the combined population will be the same as that of Dunedin and is already only slightly below that of New Plymouth. That growth is significantly fuelled by the sub-region being the tourism gateway to New Zealand. The Whakatipu basin's resident population grew from 28,560 in 2018 to 34,650 in 2024, a 3.27% increase, and is projected to reach 58,704 by 2054 (a 1.77% increase from 2023). [1]

1.2 Resilience is a key strategic priority for the OCL, where steep alpine terrain and high visitor numbers create acute exposure to seismic events. An Alpine Fault (AF8) earthquake would likely sever the local highway and roading network and significantly damage the single-corridor electricity transmission lifelines that serve our communities. This would result in a large population without grid power for an extended period of weeks to months. This loss of power would significantly increase the complexity of the emergency response and recovery across the region, and escalate the impact on visitors, community and economy. In this context, the transmission investment choices must reduce single points of failure, increase assurance around rapid repair and reinstatement, and lift local energy self-sufficiency.

1.3 The OCL group has partnered and successfully applied to central government for a Regional Deal. This will be a strategic 10-year partnership to progress five packages to support improved regional economic outcomes, deliver connected and resilient infrastructure and improve the supply of affordable, quality housing. These include:

a. capturing value
b. transforming transport
c. electrify OCL
d. private investment, public health
e. visitors and investors.

1.4 Building on its dominant tourism and agriculture sectors, OCL has a vision for growth that maximises investment and visitation for New Zealand, whilst ensuring it remains the attractive and liveable place in which talent and investors want to be. Lifting productivity requires the right enablers, including having infrastructure and services in place with the funding models, partnerships, and regulatory settings to allow things to happen.

1.5 The electrify OCL package requests innovative models of funding, financing and delivery, including:

a. regulatory changes so that Queenstown is included as part of the interconnected National Grid
b. enabling innovation in alternative energy generation (relaxation of code, regulation and legislation)
c. enabling increased uptake of solar (flexible pricing, symmetrical import/export tariffs)
d. launching the Ratepayer Assisted Scheme for rooftop solar and batteries as devised by LGNZ, LGFA, RA, providing 20% investment share from central government, creating a pilot project in OCL
e. requesting Transpower to undertake additional options analysis for the new Queenstown line

[1] https://www.qldc.govt.nz/community/population-and-demand/#projections

f. providing streamlined planning and land acquisition pathway for a transmission corridor.

1.6 Accordingly, Energising Queenstown's future options have important implications for both the OCL and Queenstown specifically. The geographical and growth conditions in Queenstown generate housing affordability, natural hazard, infrastructure capacity, transport, social infrastructure and resilience challenges that are of particular concern for Queenstown's long-term electricity supply. For example, transforming transport to offline MRT (mass rapid transit) will require a material electricity supply uplift. This will benefit not only the residents and visitors to Queenstown, but will relieve pressure on the sub-regional roading network by improving traffic and freight movement.

1.7 The demand and pressure on Queenstown's electricity infrastructure is directly affected by visitor numbers throughout the year. Planning for peak resident and visitor population is therefore essential to ensuring the adequacy of three waters services, waste management, transport, power, and communications infrastructure. These systems must be functional and resilient within a seismically active and mountainous environment, while safeguarding the outstanding natural landscapes on which the district's prosperity depends.

1.8 To address growth and resilience challenges, QLDC and ORC have been working collaboratively with Kāi Tahu, and central government partners. This relationship has resulted in an Urban Growth Partnership (Grow Well Whaiora) and a first-generation Spatial Plan. The current Spatial Plan directs growth in a way that will make positive changes to the environment, enable housing development and infrastructure, enable economic and productivity growth and promote the wellbeing of the community. Moving forward, CODC will likely join the partnership and support the development of a sub-regional Spatial Plan.

1.9 The OCL acknowledges the launch of Energising Queenstown, led by Transpower, Aurora Energy, and PowerNet, to lead the community consultation over long-term electricity transmission options for the Queenstown/Whakatipu basin area. The consultation notes the existing transmission may reach capacity around 2032, and that major works take 5–8 years to investigate, consent and deliver.

1.10 While necessary, these large-scale grid upgrades are costly and lengthy to implement, meaning that Queenstown households will be locked into significant investment commitments. Recent investment has occurred to increase near-term security, including two new 120 MVA transformers at Frankton (May 2025), however this will be insufficient to meet future demand projections.

1.11 The following short list of options have been identified by Energising Queenstown as the best options for this investment:

- Option 1 – New Arrow Junction substation + single-circuit line (110 kV) from Cromwell
- Option 2 – New Arrow Junction substation + double-circuit line (110 kV) from Cromwell
- Option 3 – New Arrow Junction substation + double-circuit line with 220 kV capability
- Option 4 – New Jacks Point substation + double-circuit line (110 kV) from Roxburgh

1.12 OCL supports the position of a "no-regrets" approach that involves early coordination and planning to ensure sufficient transmission capacity for the region's future population and electrification goals.

1.13 The consultation acknowledges solar, batteries, wind, small-scale hydroelectric generation activities and flexible load management but provides limited detail or modelling on how these 'distributed energy resources' (DER) can defer traditional infrastructure expansion. Given the

importance of DER and demand flexibility, it is essential that clear and accessible information is publicly shared on how these opportunities could help reduce future community energy costs by deferring major investment upgrades. We encourage Energising Queenstown to take a more proactive role in communicating this information by updating the website content and committing to more regular and direct engagement with the community.

2.0 Preferred Transmission Option and Future-Proofing

2.1 On the information provided, Option 2: Cromwell → Arrow Junction, 110 kV double-circuit line with a new Arrow Junction substation, offers the best whole-of-life value.

2.2 Option 2 delivers approximately 300 MW of additional capacity within 5–7 years, supporting community growth and electrification while moderating near-term customer costs. It avoids the likely second upgrade implied by Option 1 and provides comparable capacity to Options 3–4 at materially lower cost. While Option 3 increases future optionality, it does so at a higher cost to customers. Option 4 offers resilience and security benefits but is significantly more expensive overall.

2.3 Option 2 provides the opportunity to design substation layout, foundations and clearances to be 220 kV-ready where the marginal cost is low, while operating initially at 110 kV. Design considerations can also be made to preserve corridors to enable upgrades beyond 2050. This will help future-proof design choices and preserve optionality at a low marginal cost, while avoiding cost shocks in the near term.

2.4 OCL supports careful consideration of undergrounding and recommends that it be limited to short, targeted sections required for constructability or specific effects management given the large cost premium of full undergrounding referenced in the consultation. Short underground sections should be planned around best-practice visual, landscape and cultural effects mitigation.

3.0 Managing affordability through a partner programme for Local Distributed Energy Resource (DER) and Demand Flexibility

3.1 OCL notes that some information on the household bills impact of each short-list option has been provided on the Energising Queenstown website. Specifically for Option 2 the estimated cost of household electricity bills would be $360 to $610 per year in 2032, and $270 to $450 per year in 2050[2].

3.2 Based on an average Queenstown household electricity bill of $3,370[3], the increase in 2032 would represent a 11%-18% increase in household bills in a single year. OCL understands that this will make it one of the largest single power bill increases in NZ market history. Across 16,000 households, this is $5.8M – $9.8M taken out of Queenstown's households each year.

3.3 OCL also notes that Energising Queenstown engaged independent experts to assess how non-network, off-grid solutions could support Queenstown's electricity network and defer the need for significant infrastructure upgrades[4].

3.4 Based on this information, a well-managed deferral programme for the upgrades, which does not compromise security of supply, would mitigate an annual $5.8M-$9.8M of household bill impact

[2] https://www.energisingqueenstown.co.nz/options
[3] See https://www.ea.govt.nz/industry/monitoring/regional-power-prices/
[4] https://www.energisingqueenstown.co.nz/options - "Non-network off-grid solutions"

for every year the line can be deferred. Across the 2-4 year deferral window suggested by Energising Queenstown, this would result in tens of millions of dollars of mitigated household expense.

3.5 This deferral can be achieved "*if strong growth in solar and battery storage can be implemented over the next four years*"[5]. OCL therefore requests that Energising Queenstown takes every reasonable measure to maximise the chance that this deferral can take place, without compromising security of supply.

3.6 As part of OCL's Regional Deal proposal, OCL is asking the government to support and promote the Ratepayer Assistance Scheme to supercharge the uptake of solar and batteries in an affordable way across the sub-region.

3.7 Furthermore, if this deferral is in part, or in full, achieved by DER, there is a significant improvement in community energy resilience, that cannot be achieved by any of the transmission line investment options (see Resilience section for further details). This does not appear to be valued in any analysis undertaken so far.

3.8 OCL recommends that this project is delivered in an innovative fashion, with establishment of an oversight group for the duration that includes representation from OCL. The project should be delivered based upon a staged decision-making process that takes into account the uptake of DER, establishes clear 'trigger points' and has the ability to defer investment if not required. Insights from Rewiring Aotearoa and the Queenstown Electrification Accelerator (QEA) should also be considered.

3.9 Additionally, innovation should be applied to the funding and financing model to reduce the cost impost and shock for Queenstown households. Smoothing cost increases over 10+ years would reduce this impact and reduce costs, due to growth reducing the per household cost over time.

3.10 Key elements of this programme may include the following:

a. creation of a project delivery oversight group, including OCL representation and insights from Rewiring Aotearoa and the QEA
b. creation of a project delivery approach that establishes staged decision-making and sets clear trigger points for investment deferral
c. design of an innovative funding and financing model to smooth and reduce costs per household
d. partnered support to identify and activate levers to accelerate the adoption of rooftop solar and batteries to achieve the embedded modelling target of approximately 6,000 households each with ~5 kW of solar PV and ~25 kWh of storage
e. industry led support for the Ratepayer Assisted Scheme (RAS) to enable improved financial funding for residential solar and batteries
f. industry support for the Regional Deal electricity workforce development programmes to lower costs of installation and increase local installation capacity
g. utilisation of time-of-use and critical-peak incentives to shift load away from winter evening peaks, aligned to the consultation's emphasis on peak demand management
h. leverage Aurora's progressive initiative to double residential export limits to 10 kW (effective 1 August 2025), significantly improving the business case for behind-the-meter solar and storage investments.

[5] ibid

4.0 Cost fairness and bill impact transparency

4.1 The consultation does not present an explicit strategy to ensure that all sectors of the community, particularly vulnerable households and renters, benefit equitably from decentralised electrification.

4.2 To avoid today's community bearing disproportionate costs for tomorrow's growth, a household bill impact analysis should be published at each gateway decision, with the projected "need date" updated annually based on realised DER uptake and load-management outcomes.

4.3 A clear fairness test should be applied at each gateway to ensure current customers are not unfairly subsidising future growth. This should include transparent per-household bill impact analysis and staged commissioning tied to demand triggers. All efforts should also be made to adopt financial mechanisms to smooth the costs imposed to households in the short-term and ensure that future households contribute a fair share to the long-term cost recovery of the upgrades. Such an approach is consistent with the Regional Deal's request for deeper household impact analysis and the use of trigger points to defer expenditure

4.4 Apply connection and capacity contribution mechanisms so that large developments and high-load customers make a fair contribution toward the incremental costs of upstream capacity

4.5 Align transmission investment with the QLDC growth pipeline so that capacity is phased alongside serviced land release, thereby avoiding premature overbuild and unnecessary costs for current customers.

5.0 Resilience

5.1 The consultation website rightly identifies resilience as a critical outcome, including the need for *contingency* planning*, simulation exercises, and rapid repair strategies* as well as *coordination with government agencies and emergency services*.

5.2 OCL considers it essential that all local electricity providers make clear commitments to these measures and proactively collaborate with Emergency Management Otago, CODC and QLDC to ensure they are effectively embedded into region-wide emergency preparedness, response, and recovery planning. This includes developing clear scenarios and evidence-based estimates for power outage durations from a major seismic event.

5.3 OCL also notes that all of the short-listed transmission options are vulnerable to the impact of a major seismic event such as an Alpine Fault earthquake. All upgrade option could experience prolonged outages due to corridor disruption, landslides, and access constraints for repair and reinstatement.

5.4 By contrast, DER solutions, including household and community-scale solar generation and battery storage, offer a high level of localised resilience.

5.5 In the event of a major seismic event, DER can sustain critical emergency services, provide power to designated emergency hubs, and reduce demand on centralised transmission lines as they undergo repair. This aligns with national policy direction under the National Policy Statement for Renewable Electricity Generation (NPS-REG) and the National Policy Statement for Electricity Transmission (NPS-ET), both of which emphasise the importance of renewable generation and resilience in the electricity system.

5.6 OCL recommends that the resiliency value of DER be more clearly communicated to the public and that it is included as an input into any strategic planning around resilience improvements for Queenstown's future energy system.

Recommendations

Transmission planning

- **R1. Advance transmission upgrades early**: Begin planning and consenting for transmission improvements now, while also progressing local energy solutions like demand-side and distributed energy measures.
- **R2. Proceed with Option 2**: Move ahead with consenting and detailed design for the Cromwell → Arrow Junction 110 kV double-circuit line and new substation.
- **R3. Design for future upgrades**: Build Option 2 in a way that preserves future lines corridors to allow easy conversion of substations to 220 kV later, minimising future disruption and cost.
- **R4. Limit undergrounding**: Only use underground cabling where absolutely necessary, with clear cost-benefit justification.
- **R5. Align with regional growth**: Phase transmission upgrades in line with the Spatial Plan and Regional Deal to avoid overbuilding and unnecessary costs.

Local energy and demand flexibility

- **R6. Launch a partnered DER programme**: Collaborate on a programme to accelerate DER use i.e., solar, batteries, smart EV charging, and flexible commercial energy.
- **R7. Use staged investment**: Make investment decisions in phases, triggered by demand and DER uptake, and share updated household cost impacts at each stage.
- **R8. Ensure fair cost sharing**: Apply connection and financial smoothing mechanisms so current households aren't unfairly burdened by upgrade costs.

Community engagement and communication

- **R9. Improve public communication**: Update the Energising Queenstown website and commit to ongoing engagement to highlight the cost-saving and resilience benefits of local energy solutions.

Resilience and emergency preparedness

- **R10. Integrate energy into emergency planning**: Work with QLDC and Emergency Management Otago to embed energy resilience into regional emergency response and recovery plans.
- **R11. Recognise DER's seismic value**: Update public and strategic planning to reflect that distributed energy is the most effective way to strengthen local resilience to major seismic events like the Alpine Fault.