



2 July 2021

Via email: info@infracom.govt.nz

Dear Sir / Madam,

SUBMISSION TO THE INFRASTRUCTURE STRATEGY

Thank you for the opportunity to present this submission on Te Waihanga New Zealand Infrastructure Commission's He Tūāpapa ki te Ora Infrastructure for a Better Future.

The Queenstown Lakes District faces a number of significant challenges in relation to infrastructure, which are exacerbated by growth pressures, high visitor numbers, funding shortfalls and mountainous landscapes. The Queenstown Lakes District Council (QLDC) has a unique position and perspective on the barriers and complexities to building and maintaining affordable, efficient, resilient and emissions-reducing infrastructure.

This submission will traverse a range of strategic recommendations, before addressing some of the specific interventions and activity areas within the infrastructure space. Stylistic points will be addressed in the final section, but QLDC politely requests that future consultation processes provide a longer period for all parties to be able to thoroughly review, digest and respond to such a substantial topic.

Council staff ask to be invited to present this submission at any hearings that result from this consultation process.

Please note that this submission reflects the position of officers and has not yet been ratified by Council.

Thank you again for the opportunity to comment.

Yours faithfully,



Jim Boulton
Mayor



Mike Theelen
Chief Executive

1.0 Background

- 1.1 The Queenstown Lakes District is a high growth area¹ and a high-profile tourist destination. The district includes both urban and rural areas, large and small population centres and townships that are geographically remote.
- 1.2 The demand profile and pressure upon the district's infrastructure is directly affected by the visitor numbers throughout the year and understanding peak numbers is critical in determining requirements for three waters, waste, transport, power and communications infrastructure. Infrastructure also needs to be functional and resilient within seismically active and mountainous terrain, whilst protecting the outstanding natural landscapes on which the district's reputation is predicated.
- 1.3 Ensuring the provision of equitable funding for these services remains a challenge in a district where visitor numbers far exceed residents and ratepayers². QLDC has a long-established position in advocating for a modest local visitor levy applied through the accommodation sector.
- 1.4 Since COVID-19, the district has entered a period of volatility, uncertainty, complexity and ambiguity. Border closures have significantly impacted the district's economy, workforce and wellbeing. The availability of a suitably skilled workforce for infrastructure projects has presented challenges. However, QLDC's demand projections consider this to be a short-term issue which will not change long-term projections of growth.
- 1.5 In June 2019, the Council declared a climate and ecological emergency³ and has since established a Climate Action Plan, focusing on emissions reduction mitigation activities as well as adaptation considerations. QLDC urges the Infrastructure Commission to be bold and progressive in its understanding of the strategic importance of infrastructure to emissions-reducing behaviour change as well as its role in reducing the embodied carbon and emissions in the construction and operation of physical infrastructure.

2.0 Introduction

- 2.1 QLDC is broadly supportive of Te Waihanga's 30-year Infrastructure Strategy and the intent that is shown to ensure provision of innovative, emissions-reducing, accessible and affordable infrastructure throughout New Zealand as it canvasses many of the issues facing infrastructure and provides some good options around solving them.
- 2.2 The QLDC agrees with many of the recommendations throughout the document and will provide feedback on its key points using the following structure. Each section will be followed with a summary of recommendations.

PART A – STRATEGIC POINTS

- Infrastructure needs to be viewed holistically, not positioned as hard or soft.
- The challenge is not population growth, it is demand growth from both residents and visitors.
- The strategy focuses too heavily on big cities... and excludes Queenstown.

¹ <https://www.qldc.govt.nz/community/population-and-demand>

² <https://www.qldc.govt.nz/community/population-and-demand>

³ <https://www.qldc.govt.nz/your-council/our-vision-mission/climate-action-plan>

- There are a number of additional strategic areas that also need to be considered.

PART B – INTERVENTION AND ACTIVITY AREAS

- Effective spatial planning is central to the success of the infrastructure sector.
- Tools need to be reviewed and data inputs well-understood.
- Capability building needs centralised support.
- Greater emphasis is needed on natural hazards, earthquakes and resilience.
- Water metering and charging is supported, but investment in technology is required.
- A paradigm shift is needed in the provision of transport infrastructure and public transport.
- Electrification will not be straightforward for all parts of the country.
- Distributed Energy Resources (DER) have great potential but suffer from a fragmented supply chain.
- Waste management and minimisation approaches need to collaborate and align with the Ministry for Environment.

PART C – STYLE AND STRUCTURE

- The style and structure of the document can be refined.
- Summary of QLDC Recommendations

PART A – STRATEGIC POINTS

3.0 Infrastructure needs to be viewed holistically, not positioned as hard or soft

- 3.1 QLDC notes that the document appears to generally reflect an approach that focuses on traditional built (hard) infrastructure, whilst positioning soft infrastructure (demand management, pricing, smart technologies etc.) as an alternative. QLDC recommends that Te Waihangā take a far more progressive approach in positioning both hard and soft infrastructure together as ‘service provision’.
- 3.2 In an era of climate change, it is essential to take a systems-thinking approach and to understand the whole of life costs/opportunities presented by infrastructure projects. Financial, resource and carbon assessments will need to be undertaken across hard and soft components of infrastructure and all opportunity costs well understood.
- 3.3 Furthermore, QLDC notes that not all infrastructure providers have a common understanding of wellbeing and few have a consistent set of metrics that can be applied. On balance, this strategy does not address health and wellbeing in any detail. QLDC recommends that Te Waihangā explore wellbeing in the context of infrastructure provision, creating a common definition, approach and set of metrics for the sector.

R1 – QLDC recommends that Te Waihangā take a far more progressive approach in positioning both hard and soft infrastructure together as ‘service provision’.

R2 – QLDC recommends that Te Waihangā explore wellbeing in the context of infrastructure provision, creating a common definition, approach and set of metrics for the sector.

4.0 The challenge is not population growth, it is demand growth from both residents and visitors

- 4.1 Demand growth is the challenge that most troubles territorial authorities, particularly in relation to infrastructure. With efficient pricing, spatial planning and demand management, population growth does not always equate to a growth in infrastructure services required. However, in practice in the Queenstown Lakes District, additional housing does often require the provision of additional complex infrastructure services.
- 4.2 QLDC strongly supports demand management as an aspect of infrastructure that can act as an insurance policy for high-growth areas when uncertainty is high.
- 4.3 Whilst QLDC welcomes all initiatives that improve the use of consistent data and demand projections (such as a population strategy), it is important that Te Waihangā recognises that in high growth areas, a level of sophistication has already been built into local projections. Any population data strategy developed will need to establish a mechanism to listen to territorial authorities that have already made such investments.
- 4.4 For example, QLDC’s projections are based on Statistics NZ (Stats NZ) Estimated Resident Population but the methodology incorporates additional information which provides for a more robust, localised

and multi-dimensional model that has proven to be more accurate⁴. The approach considers a range of data sources including Stats NZ, census data, resource and building consents, Housing and Business Capacity Assessments, migration data, Data Ventures information⁵, Infometrics projections (including those produced by Waka Kotahi) and tourism and visitor accommodation projections.

- 4.5 The strategy gives very little consideration to the implications of visitor population on infrastructure. It is not mentioned in relation to growth, wellbeing or population strategy. Whilst many parts of New Zealand can absorb and fund provisions for visitors within the resident population without issue, some of the most high-profile (and economically significant) locations cannot. Destinations such as Queenstown, Wanaka, Glenorchy, Arrowtown and Tekapo experience visitor numbers that far exceed the normally resident population.
- 4.6 QLDC has consistently advocated for the provision of a local visitor levy on Queenstown accommodation, to supplement the current inadequate funding model which relies heavily on residents through the traditional rating model. Some significant portion of infrastructure services support a positive visitor experience and burdening a small rating base with this cost is unsustainable.
- 4.7 MBIE is currently promoting that all key tourism locations take a destination management approach to planning and managing the interface of visitors and community. In the Queenstown Lakes District, the Regional Tourism Organisations have been provided with considerable STAPP funding to develop a destination management plan in partnership with QLDC and this plan could have profound implications for destination marketing, product development, system governance, communications, civil defence and infrastructure.
- 4.8 QLDC recommends that Te Waihangā reflects in the strategy upon the implications of destination management for infrastructure in New Zealand.
- 4.9 QLDC supports the concept of an economic regulator for infrastructure, with a mandate to ensure the availability of infrastructure and funding to meet growth. QLDC also supports the provision of improved information on realised infrastructure costs around the country, which would help us estimate future costs.

R3 - QLDC recommends that Te Waihangā reflects in the strategy upon the implications of destination management for infrastructure in New Zealand.

5.0 The strategy focuses too heavily on big cities... and excludes Queenstown

- 5.1 The overwhelming focus of the strategy is on big cities, with growth statistics presented in a fashion that demonstrates high growth only in the main urban centres. Smaller centres are given consideration mainly as examples of potential population decline. QLDC notes that if population growth were presented in relation to percentage growth in that location, as opposed to a share of the total national growth, Queenstown would also make that list. To develop an urban-focused strategy on the basis of population data that can be presented in a number of ways risks being myopic.

⁴ Demonstrated by cross-checks with Qrious mobile phone usage data for the QLD.

⁵ Data Ventures create near real time electronic card spend insights to help inform resident / visitor information and is an input into the demand projections.

- 5.2 Queenstown Lakes is a high growth council, categorized as tier 2 within the NPS Urban Development and required to create a Future Development Strategy. QLDC recommends that Queenstown is also considered as a high growth location.
- 5.3 QLDC understands that in absolute terms, cities face acute infrastructure challenges, but they are also locations that can take advantage of scale and expertise in situ. Smaller urban areas do not have this advantage and QLDC recommends that Te Waihanga give this greater consideration in its strategy. Developing second tier cities would stimulate the economy and take pressure off of the main centres.
- 5.4 Furthermore, in a volatile, complex, uncertain and ambiguous time, the certainty of the assertions relating to city living seem inappropriate. QLDC recommends that Te Waihanga pays close attention to emerging pandemic trends globally that are seeing people leaving big cities and working more flexibly from home in rural location.
- 5.5 QLDC also recommends that Te Waihanga explore the implications of climate change for urban living in New Zealand. From an adaptation perspective, many of the main centres are coastal, but it is still unclear as to the implications for New Zealand as an appealing destination for climate migration.
- 5.6 QLDC recommends that Te Waihanga include Queenstown in its growth centres and explore the nuances and exceptions that this brings within the strategy. The specific challenges faced by Queenstown will add complexity to the strategy, but may help provide depth, richness and applicability to other smaller urban centres.

R4 – QLDC recommends that Queenstown is also considered as a high growth location.

R5 – QLDC recommends that Te Waihanga pays close attention to emerging pandemic trends globally that are seeing people leaving big cities and working more flexibly from home in rural location.

R6 – QLDC also recommends that Te Waihanga explore the implications of climate change for urban living in New Zealand.

R7 – QLDC recommends that Te Waihanga includes Queenstown in its growth centres and explores the nuances and exceptions that this brings within the strategy.

6.0 There are a number of additional strategic areas that also need to be considered.

- 6.1 QLDC does not disagree with any of the key principles and outcomes put forward by Te Waihanga. However, they are at risk of being perceived as maintaining the status quo. QLDC encourages Te Waihanga to take a bold approach.
- 6.2 The strategy needs to place a greater emphasis on systems thinking and inter-generational equity, as a way to approach climate action in a more comprehensive fashion. Taking this approach will allow for better coordination, improved outcomes and the full realisation of long-term benefits.
- 6.3 QLDC does not consider infrastructure to be **the** foundation for people to thrive, it is a foundational area amongst many others that contribute to wellbeing, such as education, health, culture and the environment. Overall, QLDC notes that the strategy does not provide sufficient emphasis on community wellbeing.

- 6.4 QLDC recommends that Te Waihanga explores the order of priority of infrastructure in New Zealand, particularly in the light of the reform programme. It will be interesting to understand which aspects local government will be empowered to influence, which it will be excluded from and in which aspects it will still play an enforcement role.
- 6.5 As will be outlined later in this submission, QLDC is working in a highly progressive space in relation to spatial planning and destination management. QLDC encourages Te Waihanga to consider the implications of these initiatives for the strategy as utilization of these approaches become mainstream in the sector.
- 6.6 QLDC agrees that a step change is required in how we plan, design and build infrastructure, noting that the current system is rapidly failing to be fit for purpose.
- 6.7 QLDC has noted that central government tends to under-value aspects of infrastructure that are not hard infrastructure. QLDC recommends that Te Waihanga considers how job-creating stimulus could be quickly followed by deliberate stimulus of productivity and wellbeing-enhancing infrastructure investments once these jobs are created. This is a problem that is also mirrored in economic diversification thinking, where support is needed for the ecosystem that surrounds diversification and job creation.
- 6.8 International visitor transport should be orchestrated at a national level as it poses a significant challenge for local government to control or influence visitor numbers and flow. National level orchestration would enable central government to deploy strategic nudges and behavioural economics to influence change, smoothing peaks and troughs whilst understanding threshold volumes.

R8 – QLDC recommends that Te Waihanga explores the order of priority of infrastructure in New Zealand, particularly in the light of the reform programme.

R9 – QLDC recommends that Te Waihanga considers the value of aspects of infrastructure that are not traditional hard infrastructure more comprehensively.

R10 – QLDC recommends that Te Waihanga consider national level orchestration of international visitor transport.

PART B – INTERVENTION AND ACTIVITY AREAS

7.0 Effective spatial planning is central to the success of the infrastructure sector

- 7.1 QLDC agrees that infrastructure can set long-term patterns of living and emissions reduction. The QLD spatial plan has traversed some of these intentions⁶, focusing on densification, choice of housing typology, quality of housing, public and active transport. It sets a clear, long-term, high-level set of spatial outcomes that were developed with significant input from infrastructure agencies and providers.
- 7.2 QLDC has been working as part of a partnership with central government and iwi for the past three years to develop the spatial. The spatial plan provides a long-term outlook that will help the district to manage growth well. It takes an holistic approach to spatial planning, focusing on resilience, sustainability and wellbeing throughout.
- 7.3 QLDC notes that infrastructure corridor designations should align with spatial planning horizons.
- 7.4 QLDC recommends that Te Waihanga requires that all combined plans and all regional and local funding plans be consistent and aligned with regional (or local) spatial plans.
- 7.5 QLDC agrees that the integrated planning and the delivery of infrastructure and development can reduce the pressure that growth places on infrastructure networks, particularly transport and water infrastructure. It can also identify cost-effective ways to develop new housing. As such, QLDC recommends that spatial planning is given far greater emphasis within this strategy.
- 7.6 QLDC is also a strong proponent of inclusionary zoning, having been one of the few districts that successfully provided special housing areas under the Housing Accord and Special Housing Areas Act of 2013 to incorporate inclusionary zoning through a local policy requiring a percentage of the development to provide for retained affordable housing development and delivery. Additionally, a proposal seeking to include inclusionary zoning is now being prepared for non-statutory community consultation⁷. QDLC notes that this is a tool that is routinely used in the UK, with positive outcomes for affordability.
- 7.7 It is important to note that different aspects of infrastructure need to be considered at different levels within the system, as one size does not fit all. For example, it is artificial to monitor emissions at a local district level as it is more meaningful to consider these at a national or international level. Conversely energy supply needs to be reviewed at the local level, as significant inequities exist in relation to affordability, capacity and resilience depending upon local landscapes and distributors. QLDC recommends that this strategy ensures that management is applied at an appropriate level within the system.

R10 – QLDC recommends that Te Waihanga requires that all combined plans and all regional and local funding plans be consistent and aligned with regional (or local) spatial plans.

R11 – QLDC recommends that spatial planning is given far greater emphasis within this strategy.

R12 – QLDC recommends that this strategy ensures that interventions are managed at the most appropriate level within the system, whether locally, regionally, nationally or internationally.

⁶ <https://www.qldc.govt.nz/your-council/major-projects/queenstown-lakes-spatial-plan>

⁷ <https://www.qldc.govt.nz/your-council/council-documents/policies/special-housing-areas>

8.0 Tools need to be reviewed and data inputs well-understood

- 8.1 QLDC notes that the common utilization of effective tools and data will be important in the achievement of the outcomes and decision-making principles outlined. QLDC also recommends that a set of common definitions are established to ensure consistent understanding of key terms, such as 'critical infrastructure' and 'wellbeing'.
- 8.2 Tools and data are traversed unevenly in the document, at times taking a very granular approach without over-arching clarity of direction. For example, the merits of cost-benefit analysis in relation to water provisions are discussed at a level of unnecessary detail for a strategy.
- 8.3 QLDC is interested in understanding the proposal for a standardized planning tool in greater detail (outside of the strategy), noting that differences in climate, climate change implications, landscapes and cultural values will all need to be taken into account. The development of this will need to complement activity in the Resource Management Act Reforms.
- 8.4 Arguably, the Three Waters and Resource Management Act Reforms will potentially reduce the ability for local communities to directly influence the provision of these services in their local area. QLDC recommends that Te Waihangā gives greater consideration to tools and formats that will enable a degree of appropriate community input to infrastructure provision.
- 8.5 QLDC encourages Te Waihangā to signal the need for a review of the tools available for infrastructure development within this strategy. Currently, the sector is highly focused on the Better Business Case model, which is far from accessible, fast paced and agile in an uncertain environment. Te Waihangā could explore tools that would help the sector traverse uncertainty more effectively, improving futures literacy and building scenario-thinking capabilities. Guidance for local authorities on where Treasury-standard business cases are required, as a function of cost, risk and complexity, would be welcome.
- 8.6 QLDC also recommends that Te Waihangā develop a database of completed infrastructure projects and their final costs, so that territorial authorities can access the best available actual data in the planning and development of infrastructure projects. This would provide a useful cross-reference point when working with quantity surveyors.
- 8.7 QLDC supports a move to open data for New Zealand. The challenge for infrastructure is to identify a device-agnostic platform for obtaining real-time data, so that the data platform can be separated from the market for sensors and smart devices.
- 8.8 QLDC recommends further consideration of the opportunities for AI to be linked to the priorities identified by Te Waihangā e.g., asset management and demand management.
- 8.9 QLDC recommends that Te Waihangā critically review timelines and programmes for decision-making and planning decisions at local, regional and central government level to avoid misalignment. This is consistently problematic for local government authorities.

R13 – QLDC recommends that a set of common definitions are established to ensure consistent understanding of key terms, such as ‘critical infrastructure’ and ‘wellbeing’.

R14 – QLDC recommends that Te Waihangā conducts a full review of infrastructure development tools (including Better Business Case) and consider tools to enable a degree of appropriate community input into infrastructure provision.

R15 – QLDC also recommends that Te Waihangā develop a database of completed infrastructure projects and their final costs.

R16 – QLDC recommends further consideration of the opportunities for AI to be linked to the priorities identified by Te Waihangā e.g., asset management and demand management.

R17 – QLDC recommends that Te Waihangā critically review timelines and programmes for decision-making and planning decisions at local, regional and central government level to avoid misalignment.

9.0 Capability building needs centralised support

9.1 QLDC supports Te Waihangā’s recommendation for a Centre of Excellence for Asset Management.

9.2 However, QLDC would recommend further Centres of Excellence are required for behaviour change and demand management. Behaviour change will become an integral part of infrastructure work in future and smaller councils will struggle to adequately understand and resource behavioural science without access to centralized support.

9.3 A Centre of Excellence for Demand Management will be particularly useful for ‘outlier’ communities, such as can be found in the Queenstown Lakes District, where visitors far exceed resident population and demand is driven by peak day number.

R18 – QLDC recommends the development of Centres of Excellence for behaviour change and demand management.

10.0 Greater emphasis is needed on natural hazards, earthquakes and resilience

10.1 The challenges outlined in the document make insufficient reference to natural hazards and particularly earthquakes in the strategy. Whilst many of these will be managed through the lens of climate adaptation work, earthquakes will not. QLDC recommends that the strategy highlights its interface with other workstreams and programmes in this space, particularly in relation to the Alpine Fault.

10.2 QLDC notes that much of the work relating to natural hazards sits within the purview of regional councils. This poses a risk in terms of consistency of service across the country.

10.3 Identifying critical infrastructure is only one part of resilience. Having identified critical infrastructure, investment must be prioritized to areas that provide the greatest resilience benefit. This assessment of resilience needs to address how the infrastructure network performs as a system in and following an event, whilst understanding what mechanisms may be put in place to deliver the service to communities in the event the infrastructure fails. Understanding the impact of this, and what the restoration of pre-event level of service means for communities is of critical importance to infrastructure. QLDC recommends that this is addressed in far more detail in the strategy.

- 10.4 As a result, QLDC believes that a national definition of resilience would be of significant value. Without such a quantifiable or categorical metric, it is very difficult to evaluate investments in terms of the resilience benefits they provide.
- 10.5 As a high growth area, the Queenstown Lakes District often experiences growing pains as its services, support structures, infrastructure and funding models across all sectors struggle to keep pace with change. Each agency, department or business will have its own framework, but there are no clear thresholds or indicators that signal when a system change is required. QLDC recommends that Te Waihanga explores how thresholds and metrics might be better used in its strategy. For example, which indicators would be needed to identify when a new high school is required, does that then initiate the expansion of the hospital, power supply upgrades, wastewater plants etc. etc.

R19 – QLDC recommends that the strategy highlights its interface with other workstreams and programmes in relation to natural hazards and earthquakes, particularly in relation to the Alpine Fault.

R20 – QLDC recommends that Te Waihanga consider the role of infrastructure as just one element of resilience within the system.

R21 – QLDC recommends that a national definition of resilience and associated metrics are required.

R22 – QLDC recommends that Te Waihanga explores how resilience thresholds and metrics might be better used in its strategy to understand systems change.

11.0 Water metering and charging is supported, but investment in technology is required

- 11.1 QLDC supports Te Waihanga's recommendation for water metering and charging but notes it should be outlined more explicitly within the document. It is noted that water infrastructure is a significant challenge for growing urban areas and that QLDC will be trialing water metering in the near future.
- 11.2 QLDC further recommends greater emphasis on technology investment is needed within the strategy. It will be important for people to be able to maximise the efficiency of their supply, enabling water entities to interrupt non-essential water supply during peak periods for example.
- 11.3 The Three Waters Reform⁸ provides a significant opportunity to better understand future regulation, finance and operation of the sector, whilst reform of the Resource Management Act will potentially support water-sensitive urban design and land use.
- 11.4 QLDC supports clarification of the interface between new water entities and developer-financed water infrastructure provided under the Infrastructure Funding and Financing Act 2020.

R23 – QLDC recommends greater emphasis on technology investment to accompany water metering.

⁸ <https://www.dia.govt.nz/Three-Waters-Reform-Programme>

12.0 A paradigm shift is needed in the provision of transport infrastructure and public transport

- 12.1 Public Transport needs to be better integrated into the decisions made in relation to transport. Disaggregating decisions between Waka Kotahi (state highways), territorial authorities (bus stops and local roads) and regional councils (public transport) presents an inefficient and often ineffective solution.
- 12.2 Congestion pricing is only part of the solution to resolving congestion and encouraging mode shift. A well-rounded approach to behaviour change is needed, that takes into account the wider social systems of working hours and school schedules. Greater flexibility (and appetite for) working from home, combined with changes to school hours would arguably also influence congestion metrics.
- 12.3 QLDC supports the implementation of congestion pricing in all Tier 1 (NPS UD) urban areas, with planning initiated for Tier 2 authorities. This will promote the desired mode shift to Public Transport and provide more money for transport infrastructure.
- 12.4 The time taken to plan and build transport infrastructure is too long and does not always take emissions reduction, supply chain sustainability and embodied carbon into account.
- 12.5 A paradigm shift is needed in the way public transport is provided in New Zealand. The model needs to switch from being demand-lead, to providing a solution that attracts usage quickly – ‘build it and they will come’. QLDC recommends that Te Waihangā should consider this challenge as a high priority.

R24 – QLDC recommends exploration of a streamlined and cohesive transport decision-making process.

R25 – QLDC recommends Te Waihangā explore opportunities to deliver a paradigm shift in the delivery of public transport.

13.0 Electrification will not be straightforward for all parts of the country

- 13.1 Prior to the pandemic and the Climate Change Commission’s report⁹, the district acknowledged the need to transform the energy system for the following reasons:
 - Electrical capacity in the district is limited
 - Resilience of supply is low
 - Heating affordability is a critical issue
 - The transition from oil-based transport fuels and natural gas to lower emissions solutions will be a necessary, but difficult change for the district in the short term with limited transmission capacity
- 13.2 In aggregate, these challenges compromise the district’s ability to be resilient, affordable and able to meet its emissions reduction aspirations in line with the Climate Action Plan’s goals¹⁰ and Vision Beyond 2050¹¹.
- 13.3 From an infrastructure perspective, this presents a series of challenges and opportunities. Whilst the district’s ability to quickly electrify its transport may be limited, it does create a ‘burning platform’ issue for the communities, distributors and Transpower to resolve.

⁹ <https://www.climatecommission.govt.nz/news/inaia-tonu-nei-the-time-is-now-for-climate-action/>

¹⁰ <https://www.qldc.govt.nz/your-council/our-vision-mission/climate-action-plan>

¹¹ <https://www.qldc.govt.nz/your-council/our-vision-mission>

- 13.4 These challenges also erode the district's ability to provide a reliable, modern economic infrastructure. In the competition for highly mobile international investments, the electricity supply presents a risk. This risk has significant implications for the district's ability to diversify its industry and attract new investments.
- 13.5 QLDC believes that the district's unique energy context presents an imminent need and opportunity to transform in partnership with government.
- 13.6 Both Queenstown and Wanaka will face significant, if slightly differently paced challenges in relation to electrification due to the status of the current network. QLDC recommends that Te Waihanga understand some of the energy challenges in specific locations and would welcome the opportunity to provide input into a case study process.

R26 - QLDC recommends that Te Waihanga understand some of the energy challenges in specific locations and would welcome the opportunity to provide input into a case study process.

14.0 Distributed Energy Resources (DER) have great potential, but suffer from a fragmented supply chain

- 14.1 The current regulatory framework for distribution companies is based on the premise of recovering sunk costs, not pricing efficiently to signal future costs let alone preparing for an energy transition. A better question is "what are the barriers to the uptake of DER?" Some of these barriers may simply be efficient costs, but the efficiency of the economic framework may be preventing the value of learning (Helm, 2017¹²).
- 14.2 The government's stated goal of 100% renewable by 2030 is laudable but does not provide for the fact that some smaller/remote communities (such as Queenstown and Wanaka) are limited in the extent to which they can take advantage of highly renewable grid power by the capacity of the transmission and distribution network. Without a clear pathway to local energy solutions, national decarbonisation will only reach these communities if they pay for expensive upgrades to the infrastructure that connects them to the national grid.
- 14.3 Further, a fragmented supply chain and outdated models of economic regulation often prevent these communities from properly trading off local generation and storage (e.g., solar and batteries) with investment in transmission and distribution lines.
- 14.4 The challenge is that much of the value that DER can provide is derived from the wholesale markets, which is beyond the concern of the distributor. Yet when it comes to connection assets (such as Transpower's Cromwell-Queenstown connection line for Queenstown), we understand that Transpower is not responsible for the tradeoff between grid investment and DER solutions – that responsibility is left with the distributor. The fragmented nature of the supply chain makes it difficult for DER solutions to shine.
- 14.5 Finally, the current electricity market rules (governed by the Electricity Authority) contain a number of requirements which are preventing communities from considering the full spectrum of benefits that DER provide. Changes to these requirements – most of them developed in the late 1990s – should be prioritised. This could be piloted and tested by providing for regulatory "sandboxes", where a confined geographic community is exempted from some of these rules in order to test innovations. QLDC supports the work of Ara Ake in this respect.

¹² <https://www.sciencedirect.com/science/article/abs/pii/S0301421518300211>

14.6 QLDC also recommends that DER Roadmaps as per the Australian regulatory regime would be valuable, as these will engage distributors and also highlight parts of the network where DER could be of value.

R27 – QLDC recommends the creation of regulatory ‘sandboxes’ where defined geographic communities can test DER innovation.

R28 - QLDC recommends creation of DER Roadmaps as per the Australian regulatory regime.

15.0 Waste management and minimisation approaches need to collaborate and align with Ministry for Environment

15.1 QLDC supports that waste needs to be priced efficiently, noting that maintaining a balance between effective reduction, cost coverage and affordability.

15.2 The Ministry for Environment is undertaking significant work in relation to waste management and minimization at present¹³, including a waste legislation review, development of a waste strategy and building a waste and resource recovery infrastructure investment plan. QLDC recommends that Te Waihanga ensure collaboration and alignment with these initiatives throughout.

R29 – QLDC recommends that all activity in relation to waste is closely aligned to ongoing work with the Ministry for Environment.

¹³ <https://environment.govt.nz/what-government-is-doing/>

PART C – STYLE AND STRUCTURE

16.0 The style and structure of the document can be refined

- 16.1 QLDC respectfully notes that the timeframe provided for submission preparation on such a wide-ranging strategy was insufficient. A longer consultation period would have enabled provision of a more detailed response and greater depth of engagement across the organisation. QLDC urges Te Waihanga to provide summary documentation for consideration in future as the length of the materials provided presented an unnecessary obstacle to participation. Expansive commentary on topics such as population projects and patterns, socioeconomic issues, carbon pricing, public sector discount rates etc. could be avoided with effective referencing to authoritative sources.
- 16.2 The document makes many good points but is structured in a way that traverses high level strategic goals and tactical interventions interchangeably. QLDC recommends that the Commission considers separating this body of work into a strategy and a separate tactical implementation plan.
- 16.3 The strategy does not create clear linkages between its strategic objectives and the topics considered. It is unclear how outcomes, vision, decision-making principles, action areas, and needs connect. QLDC recommends that the outcomes listed on p25 could be more powerfully worded, if less easily confused with principles.
- 16.4 QLDC recommends that the strategy should reflect more comprehensively on the risks and barriers to effective infrastructure delivery and management e.g., lack of strategic direction, low risk appetite, insecure funding and burdensome bureaucracy.

R30 – QLDC recommends that future processes provide a longer timeline for response.

R31 - QLDC recommends that the Commission considers separating this body of work into a strategy and a separate tactical implementation plan.

R32 – QLDC recommends that the outcomes listed on p25 could be more powerfully worded, if less easily confused with principles.

R33 – QLDC recommends that the strategy should reflect more comprehensively on the risks and barriers to effective infrastructure delivery and management.

17.0 Summary of QLDC Recommendations

R1 – QLDC recommends that Te Waihanga take a far more progressive approach in positioning both hard and soft infrastructure together as ‘service provision’.

R2 – QLDC recommends that Te Waihanga explores wellbeing in the context of infrastructure provision, creating a common definition, approach and set of metrics for the sector.

R3 - Te Waihanga reflects in the strategy upon the implications of destination management for infrastructure in New Zealand.

R4 – QLDC recommends that Queenstown is also considered as a high growth location.

R5 – QLDC recommends that Te Waihanga pays close attention to emerging pandemic trends globally that are seeing people leaving big cities and working more flexibly from home in rural location.

R6 – QLDC also recommends that Te Waihanga explore the implications of climate change for urban living in New Zealand.

R7 – QLDC recommends that Te Waihanga include Queenstown in its growth centres and explore the nuances and exceptions that this brings within the strategy.

R8 – QLDC recommends that Te Waihanga explores the order of priority of infrastructure in New Zealand, particularly in the light of the reform programme.

R9 – QLDC recommends that Te Waihanga considers the value of aspects of infrastructure that are not traditional hard infrastructure more comprehensively.

R10 – QLDC recommends that Te Waihanga requires that all combined plans and all regional and local funding plans be consistent and aligned with regional (or local) spatial plans.

R11 – QLDC recommends that spatial planning is given far greater emphasis within this strategy.

R12 – QLDC recommends that this strategy ensures that interventions are managed at the most appropriate level within the system, whether locally, regionally, nationally or internationally.

R13 – QLDC also recommends that a set of common definitions are established to ensure consistent understanding of key terms, such as ‘critical infrastructure’ and ‘wellbeing’.

R14 – QLDC recommends that Te Waihanga conducts a full review of infrastructure development tools (including Better Business Case) and consider tools to enable a degree of participatory democracy with regard to infrastructure provision.

R15 – QLDC also recommends that Te Waihanga develop a database of completed infrastructure projects and their final costs.

R16 – QLDC recommends further consideration of the opportunities for AI to be linked to the priorities identified by Te Waihanga e.g., asset management and demand management.

R17 – QLDC recommends that Te Waihanga critically review timelines and programmes for decision-making and planning decisions at local, regional and central government level to avoid misalignment.

R18 – QLDC recommends the development of Centres of Excellence for behaviour change and demand management.

R19 – QLDC recommends that the strategy highlights its interface with other workstreams and programmes in relation to natural hazards and earthquakes, particularly in relation to the Alpine Fault.

R20 – QLDC recommends that Te Waihanga consider the role of infrastructure as just one element of resilience within the system.

R21 – QLDC recommends that a national definition of resilience and associated metrics are required.

R22 – QLDC recommends that Te Waihanga explores how resilience thresholds and metrics might be better used in its strategy to understand systems change.

R23 – QLDC recommends greater emphasis on technology investment to accompany water metering.

R24 – QLDC recommends exploration of a streamlined and cohesive transport decision-making process.

R25 – QLDC recommends Te Waihanga explore opportunities to deliver a paradigm shift in the delivery of public transport.

R26 - QLDC recommends that Te Waihanga understand some of the energy challenges in specific locations and would welcome the opportunity to provide input into a case study process.

R27 – QLDC recommends the creation of regulatory ‘sandboxes’ where defined geographic communities can test DER innovation.

R28 - QLDC recommends creation of DER Roadmaps as per the Australian regulatory regime.

R29 – QLDC recommends that all activity in relation to waste is closely aligned to ongoing work with the Ministry for Environment.

R30 – QLDC recommends that future processes provide a longer timeline for response.

R31 - QLDC recommends that the Commission considers separating this body of work into a strategy and a separate tactical implementation plan.

R32 – QLDC recommends that the outcomes listed on p25 could be more powerfully worded, if less easily confused with principles.

R33 – QLDC recommends that the strategy should reflect more comprehensively on the risks and barriers to effective infrastructure delivery and management.