QUEENSTOWN LAKES DISTRICT COUNCIL

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Via email: evchargingstrategy@transport.govt.nz

SUBMISSION TO THE MINISTRY OF TRANSPORT ON ITS EV CHARGING STRATEGY 'CHARGING OUR FUTURE'

Thank you for the opportunity to present this submission on the electric vehicle (EV) Charging Strategy 'Charging Our Future' (the Strategy).

The Queenstown Lakes District Council (QLDC) is supportive of the development of a national charging strategy to support the electrification of transport to move New Zealand towards more environmentally sustainable methods of transport. Council urges the Ministry of Transport to not solely focus on electricity as the only alternative fuel source in its strategy. For example, the use of hydrogen vehicles is considered to be viable by many.

This submission outlines the significance of EVs and EV charging infrastructure to QLDC and the district in supporting the transition to net zero emissions by 2050.

QLDC details its support for the various focus areas of the strategy but includes recommendations for further consideration, such as the role of local government in implementing the outcomes in the strategy as well as transport options and the role they play outside of personally owned vehicles.

QLDC does not wish to be heard at any hearings that result from this consultation process. It should be noted that due to the timeline of the process, this submission will be ratified by full Council retrospectively at its next meeting.

Thank you again for the opportunity to comment.

Yours sincerely,

Glyn Lewers
Mayor

Mike Theelen
Chief Executive

SUBMISSION TO THE MINISTRY OF TRANSPORT ON ITS EV CHARGING STRATEGY 'CHARGING OUR FUTURE'

1.0 Significance of electrification to the Queenstown Lakes District

1.1 On 27 June 2019 Queenstown Lakes District Council declared a climate and ecological emergency as well as approving the release of the Council's first Climate Action Plan 2019-2022[1] for public feedback. This plan provided a foundation for QLDC's response to the climate and ecological emergency by laying out a broad programme of actions that span across five outcome areas, including "Queenstown Lakes has a low-carbon transport system". Within section 2b of this outcome was the following EV charging focused actions:

- *Increase electric vehicle charging infrastructure across the district and explore opportunities to develop a regional network.*
- *Advocate to government for measures that will enable greater adoption of EVs and climate-conscious vehicles.*

1.2 On 30 June 2022, the Climate and Biodiversity Plan 2022-2025[2] was adopted by Council, along with an annual plan funding increase to support its year one delivery. This new three-year plan contains a goal to reduce district greenhouse gas emissions by 44% by 2030. Transport is the highest source of greenhouse gas emissions in the district, with all modes of transport accounting for 45% of gross emissions[3]. The delivery of the district emissions reduction target goal will therefore rely heavily on the decarbonisation of the transport system, which is a focus of outcome two of the plan: "Our transport system is low-emission and better connected". Within this outcome is the following EV charging focused action:

- *Develop a plan to expand electric vehicle (EV) charging infrastructure in the district. Incentivise electric vehicle uptake (e.g., dedicated parking) through the district-wide Parking Strategy and Comprehensive Parking Management Plans.*

1.3 Council is also a partner to the recently released Destination Management Plan: "Travel to a thriving future: Regenerative Tourism Plan"[4]. This plan contains the ambitious target of "the visitor economy of Queenstown Lakes reaches carbon zero by 2030". The roadmap to achieve this world-first goal is highly contingent on the decarbonization of the district's transport system, which will require significant investment in EV charging infrastructure.

1.4 In 2020, Council funded an Emissions Reduction Roadmap for the district[5]. This report included modelling for a high change pathway for the decarbonisation of the district's transport system. Under this modelling the largest emissions reduction potential is associated with the conversion of light petrol vehicle fleet to electric vehicles (figure 1). An assumption of 100% fleet conversion by 2050 underpins this modelling. If this scale and rate of transition is to be achieved, then the levels of investment in EV charging infrastructure within the district will need to be significantly increased.

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[1] https://www.qldc.govt.nz/your-council/climate-change-and-biodiversity#climate-action-plan-2019-2022

[2] https://www.qldc.govt.nz/media/ie3jk5bb/qldc_climate-and-biodiversity-plan_jun22-web.pdf

[3] otago-region-ghg-profile-report_v4.pdf (orc.govt.nz)

[4] Travel to a thriving future: Regenerative Tourism Plan

[5] Emissions Reduction Roadmap- Pathway to Science Based Targets – scenarios for Queenstown Lakes District

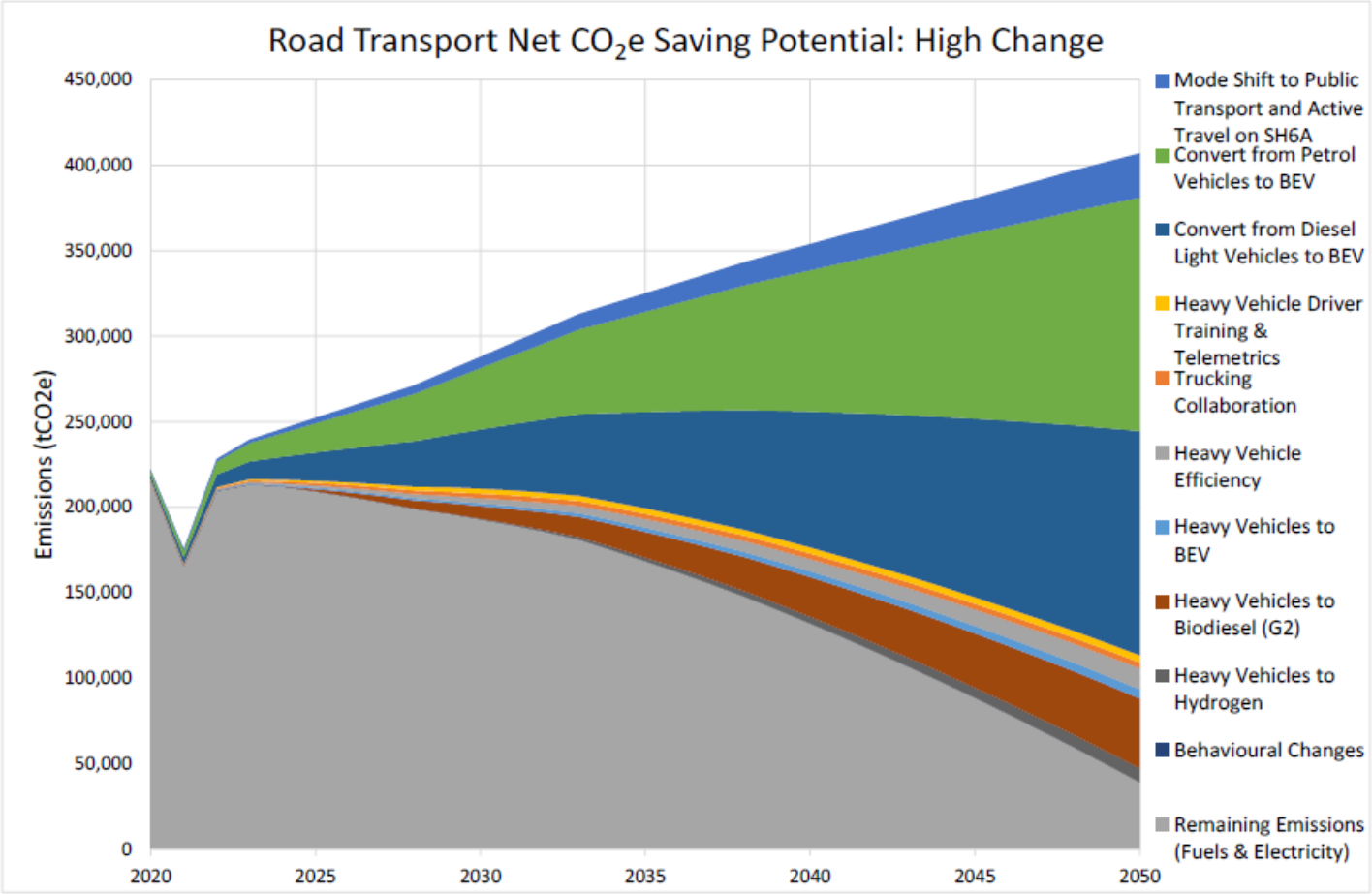

Figure 1: Net CO2e saving potential for QLD road transport under the high change pathway

1.5 Although Council has committed to ambitious decarbonisation targets, it has limited direct control over the largest source of emissions in the district i.e., transport fossil fuels. The conversion of the vehicle fleet to battery electric is a critical element of the district's emission reduction roadmap.

2.0 Power supply and infrastructure to provide widespread charging infrastructure need to be planned to manage demand.

2.1 Outcome one is of particular importance to the Queenstown Lakes community. The district faces a complex electricity challenge due to the capacity of the infrastructure, the topography, landscape values and protections, seismic risk of the landscape, the rapid increases in energy demand and the affordability of asset investment and maintenance programmes. Secure and reliable EV charging services can only be provided from a resilient distribution network that has sufficient capacity to cope with peak demand. Currently the Queenstown Lakes District is subject to significant vulnerabilities from both a disruptive shock to the district's transmission network as well as the stress of insufficient capacity to manage the increased demand from decarbonisation. In light of these vulnerabilities, careful consideration needs to be applied to future generation and transmission network planning and how smart technology can assist to alleviate pressure on the grid and avoid the risk of capital over-investment.

2.2 QLDC therefore supports the opportunity statements and focus area actions that are contained in outcome one. The mass transition to an EV fleet will create a significant increase in electrical demand but it will also create a unique technological opportunity for smarter approaches to distributed load management. With

the right combination of intelligent metering and integrated system investment, the charging of EV vehicles can be optimised to ensure that peak demand spikes are avoided

2.3 Although the load management opportunity is communicated in the Strategy, there is a significant gap with regards to incorporating home solar into the scope of outcome one. The draft Strategy is largely silent on the role that home solar generation can play to minimising stress on the electricity network, which is a concern given that 82% of light vehicle charging occurs at home[6]. The integration of home solar and EV charging represents a transformational opportunity to improve network resilience, reduce peak demand levels and enable significant levels of household savings. Trials are currently being conducted internationally[7] and within the Queenstown Lakes district[8] to demonstrate how an integrated solar-EV charging system can be implemented at a household, neighbourhood, and community level to save money, improve community resilience, and reduce peak network loading. If these projects were to be adopted at a district and national scale, they could help to avoid the risk of overinvestment in central power generation and transmission capacity.

Recommendations

R.1 – Ensure that electricity distribution networks are sufficiently resilient and have the capacity to meet the demand from the transition to EVs.

3.0 The strategy has a focus on moving to EV vehicles, but should also consider the wider goal of reducing private vehicle use

3.1 The status quo description focuses on the electrification and charging of personal vehicles and how charging stations would work, in comparison to how petrol stations are used by owners of internal combustion engine vehicles. While this is an important comparison to make, the status quo would also need to take into account the wider transport system, for example, the increasing use and ownership of e-bikes. The Strategy should include consideration of the current and future requirements for charging infrastructure that supports all types of personal transport vehicles rather than just cars.

3.2 One of the primary objectives of well-functioning urban environments[9] as required by the National Policy Statement on Urban Development (NPS UD) is 'good accessibility for all people between housing, jobs, community services, natural spaces, and open spaces, including by way of public or active transport'. It is known that a reliance on private vehicle transport compromises the goal of achieving well-functioning urban environments. The final strategy must be aware and speak to this issue. It must be consistent with the overall goal to reduce reliance on private vehicles.

3.3 While QLDC acknowledges that the promotion of and shift towards private EVs is necessary and likely to have a range of positive impacts, it should not be done at the expense of promoting the need for mode shift towards alternate transport, including forms of active travel. Consistency with other urban development objectives and national policy statements is critically important in this regard.

3.4 The final Strategy should therefore acknowledge the need for an integrated approach to strategic focus by central government on the need to transition away from private vehicle use and towards promoting the use of electrified public and active transport that contributes to well-functioning urban environments.

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[6] Page 11, Discussion document

[7] https://electrify2515.org/

[8] https://www.stuff.co.nz/environment/climate-news/130786927/how-your-ev-could-power-your-cooking-heating-and-gadgets

[9] Policy 1 of the National Policy Statement on Urban Development 2020

Recommendations

R.2 – QLDC recommends that the strategy incorporate the broader need to transition away from private vehicle use, towards low emission public transport.

4.0 Tourism and transient visitors in the district mean that EV charging infrastructure needs to take into account the potential for large numbers of vehicles transitioning concurrently.

4.1 QLDC recommends that targets for EV charging infrastructure are not driven by residential population numbers only. It is critical that the daytime population including visitors, and transient population numbers are included to provide a complete picture of likely EV charging demand. This should be acknowledged as part of the Strategy's goal to recognise geographic variations.

4.2 It is recommended that the final strategy document include references to transient communities and tourists who also rely heavily on private vehicles, and how they will be supported, noting that many people in these demographic groups do not have access to a dwelling with charging infrastructure. These sectors are important to the Queenstown Lakes District.

4.3 The vision is described as including:

- *a commitment to all New Zealanders (existing and future EV users across demographic and geographic groups) to support an equitable transition.*[10]

4.4 QLDC supports the provision of an EV charging network with this underlying rationale. However, it is not clear from the document or the Strategy how New Zealand's diverse environments, communities, and economies have been taken into account.

4.5 QLDC is also concerned about the provision of charging facilities to support the large fleet of rental vehicles and campervans that are based in the district. The draft strategy provides no reference to the unique requirements for this sector of the private vehicle transport fleet. Self-drive vehicles are a critical feature of the national and district tourism sector, so consideration to how these will be charged in short-term visitor accommodation or freedom camping locations is important. Requirements around multi-lingual maps and information guidance should also be a consideration.

Recommendations

R.3 – The EV charging requirements of non-resident drivers, including visitors and transient individuals, needs to be incorporated into the strategy.

5.0 Consistency between planning instruments and the Charging Our Future' strategy will be critically important to success.

5.1 Annex 2 does not contain sufficient options or explanation of how local government will be included in the institutional arrangements. This is inconsistent with statements elsewhere in the document which highlight the important role that local government plays, for example:

- *Local authorities have the best understanding of local transport needs and behaviours and have responsibility for local planning policies. Local authorities play a key role in future*

[10] Page 13, Discussion Document

proofing roads and carparks, including planning to accommodate on-street and destination charging.[11]

5.2 QLDC largely agrees with the above statement, and highlights that the Resource Management Act (1991) (RMA) places responsibilities on local government with regard to the operation of safe and efficient transport networks. These roles and responsibilities should be identified and considered within the discussion document and final Strategy to ensure effective and efficient alignment.

5.3 Further, it is noted that many RMA plans (i.e., district plans) will contain objectives, policies and rules relating to the provision of EV charging or associated infrastructure. The Strategy development process should look to understand how these roles and responsibilities will be managed across the country within the RMA and its successor legislation and planning documents.

5.4 QLDC supports the following statements in the discussion document:

- *'Investigate potential changes to planning strategies (for local and regional councils, e.g., minimum numbers of EV parking bays in certain locations)'*
- *'Provide guidance material for local councils, landowners and developers (e.g., in regard to "licences to occupy" granted to charging providers to place charging on council land)'*

5.5 Both actions are paramount to success of any final strategy.

5.6 It is recommended that additional guidance be provided in relation to territorial authority documents, such as land development policies/strategies so that there is clarity around the changes to be made to these documents to align with any final Strategy.

5.7 QLDC agrees with the statement in the Strategy that 'New Zealanders are inhabiting a wider range of types of housing'[12]. It is noted that the provision of a greater range of housing types is a national direction under the NPS UD. However, this outcome and the final Strategy should more explicitly demonstrate how the provision of EV charging capability is to be provided in light of the requirement for local authorities to promote increased and varied housing densities and types[13] under the NPS UD.

5.8 Guidance associated with amendments to RMA (or successor legislation) plans or other territorial authority plans and strategies should be developed and published at least at the same time as any final strategy is released, so that there is certainty as to how territorial authorities are expected to implement actions.

5.9 QLDC supports the recognition in focus area 3c that urban development planning plays a key role in the development of EV charging infrastructure. QLDC requests that central government provide clarity and comprehensive guidance on how RMA policy development processes will give effect to any final Strategy.

5.10 Consistency between different policy positions is critical in regard to this outcome. The removal of minimum parking requirements for almost all activities under the NPS UD means that territorial authorities cannot mandate parking for residential activities. This may compromise the way that territorial authorities can promote or require the provision of EV charging infrastructure within residential and business zones. If this is something that territorial authorities will be expected to undertake, the final Strategy and other

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11 Page 24, Consultation Document

12 Page 18, Discussion document

13 Policy 6, National Policy Statement on Urban Development 2020

policy direction must consider the levers available to territorial authorities, and if new or revised national policy or legislation is required.

5.11 Section 3a – "*Considerations for local government*" – requires further clarity and specificity regarding the role that councils are expected to play in shaping the future public EV charging network. The proposed guidance is a positive step and QLDC looks forward to receiving this. The question of how public charging will be funded and incentivised is a particular area of interest.

Recommendations

R.4 – The strategy development process should look to understand how these roles and responsibilities will be managed across the country within the RMA and its successor legislation and associated planning documents, to ensure integration with resource management and urban development outcomes.

R.5 - It is recommended that additional guidance be provided in relation to territorial authority documents, such as land development policies/strategies, and the national direction contained within the NPS UD, so there is clarity around necessary changes to be made to these documents to align with any final Strategy.

R.6 - QLDC requests that the issue of EV charging infrastructure be considered as part of the new National Policy Framework that will sit under the proposed Natural and Built Environment Act.

6.0 All wellbeing factors and the current inequitable access to alternative energy solutions should be considered.

6.1 There is currently a significant level of inequity in relation to accessing household savings from home solar systems. The current high costs of both EVs and solar installation mean that only those on higher incomes can access the substantial savings over the long term that these investments enable. The costs of these investments are forecasted to reduce in the coming years, however careful consideration needs to be applied to how these benefits can be made accessible to low-income families who are most exposed to increases in fossil fuel prices.

6.2 In addition, there is a lack of information provided on how more remote communities will be supported. These are locations where it is unlikely that commercial entities will play a role, and further attention is required as to how these communities will be able to access this technology.

6.3 The above factors provide a unique opportunity for an integrated strategic lens to be applied to the roll-out of home solar and home EV charging at scale. Unfortunately, the draft Strategy is largely silent on this subject and QLDC has concerns that an opportunity may be lost if the intersection between these topics is not robustly investigated and incorporated into the strategy. QLDC requests that the strategy be amended to address this gap.

6.4 The drivers mentioned in the discussion document have not included social, economic, or cultural matters. Different communities have a range of social, economic, or cultural drivers for choosing to purchase an EV, some of which may be related to charging. Sometimes these drivers also present considerable constraints. The final Strategy should be alive to these effects and constraints.

Recommendations

R.7 – QLDC recommends that access to EV and solar charging infrastructure across socio-economic groups and for more remote communities should be considered in the Strategy.

R.8 - The Strategy should acknowledge and incorporate social, economic, and cultural influences on EV charging.

7.0 The Strategy focuses on charging infrastructure to support the transition to EV vehicles, while other significant technology options and requirements should also be considered.

7.1 QLDC recommends prioritising actions:

- *Use vehicle and electricity supply data to identify and plan for electricity network requirements (i.e., avoid inefficient network upgrades).*
- *Investigate emerging technologies that can prevent the need for additional power generation, with the aim of encouraging innovative technologies that will make a positive difference.*

7.2 New Zealand is approaching a critical tipping point with regard to the EV adoption so it is imperative that a robust approach is applied to residential EV charging to ensure that new disruptive models of service can be investigated and adopted to reduce the burden of considerable long-term capital investment. Data collection and investigation of emergent technologies are key to unlocking these opportunities.

7.3 The need to ensure equity of access to residential EV charging is of importance to QLDC given the high percentage of rental and multi-unit dwellings in the district. Retrofitting EV charging facilities into existing building stock will be challenging, therefore the rapid investigation of new national policy and regulatory settings around residential charging for new builds is encouraged. There are already high levels of inequity and financial burden for Queenstown Lakes rental tenants. As such, Council is supportive of efforts to investigate how it can avoid the high costs of public charging stations if there is insufficient access to residential charging.

7.4 There are numerous issues with providing on-street EV charging infrastructure, especially in residential areas. This includes but not limited to: space constrains and balancing competing interests, the connection of chargers to the electrical network within the already high demand roading corridor, the charging stations including maintenance, and the demand for general parking versus EV parking, including the associated enforcement required to keep EV charging parks free for EVs needing charging. The focus needs to be on providing off-street public supplied parking that will make it easier to provide and manage EV charging in focused locations and allow for the quicker scaling up of the charging infrastructure as the number of EVs increases.

7.5 The Queenstown Lakes district has a unique transport system that includes vehicles with high energy requirements that traverse the freshwater lakes, alpine environments, and New Zealand's third busiest airport. Many of these large vehicles are being promoted for early electrification conversion in support of the district's regenerative tourism plan[14]. High-capacity charging facilities for these vehicles may be required which will place additional stress on the local power network.

7.6 QLDC supports the recognition of ships and boats in 'charging infrastructure to support electrification in the marine space'[15]. In particular, the outcome should make specific reference to transport that occurs on the surface of freshwater bodies. It is noted that public transport on Lake Whakatipu and Wānaka is acknowledged as an important part of the current and future transport network in the Queenstown Lakes District[16].

Recommendations

[14] https://www.qldc.govt.nz/media/iazdvtln/item-3a-dmp-attachment-1-queenstown-lakes-regenerative-tourism-plan.pdf

[15] Page 33, Discussion document

[16] Queenstown Lakes "Better Ways to Go" - https://webadmin.qldc.govt.nz/media/ljzhnppz/item-2a-attachment-1-mode-shift-plan.pdf

R.9 – QLDC would like to establish early partnerships with the Ministry of Transport and industry partners to investigate opportunities for pilot trials and testing of new technology to help support flagship projects.

8.0 Geographic variation and topography need to be taken into account given the ways in which they impact power supply and transmission.

8.1 QLDC is supportive of focus area 2b – accommodating for geographic variation in charging needs and energy supply. The Queenstown Lakes district has a wide range of challenges and constraints (e.g., very high visitor numbers, alpine climate, long supply chains, vulnerable power and roading networks) which necessitate a localised approach to investment planning.

8.2 While targets such as charging stations every 75 km and journey charging hubs every 150-200kms may seem appropriate on a national scale, careful consideration to the unique requirements of the Queenstown Lakes District is required. There is significant risk that peak demand for public charging infrastructure will be quickly exceed capacity in the district once EV adoption hits a tipping point. The ambitious decarbonisation targets within the regenerative tourism plan could easily accelerate this tipping point if one or more car rental companies decide to convert their large local vehicle fleet prior to any increases in local charging capacity.

8.3 Additionally, the proposed 75 km between charging stations must take into account routes, especially tourist routes, that end within remote rural areas. For the Queenstown Lakes District, these often end in Department of Conservation controlled locations where there is little, or no power supply and considerable built form constrains under RMA planning instruments.

8.4 The reference to locations with challenging topography[17] is supported. However, more explicit identification of these areas should be set out within the final Strategy. The Queenstown Lakes District should be identified as one of these locations.

Recommendations

R.10 – Ensure that the specific impacts of variable geography and topography and the consequent effects on EV charging demand and associated infrastructure are taken into account.

[17] Page 19, Discussion document