Western Bay of Plenty District Council
1484 Cameron Road,
Greerton, Tauranga 3112
P 0800 926 732
E info@westernbay.govt.nz

westernbay.govt.nz

01 November 2023

Ministry of Business, Innovation and Employment
PO Box 1473
Wellington 6140

Western Bay of Plenty District Council submission on the overall direction of the energy transition.

Western Bay of Plenty District Council appreciates the opportunity to submit on the suite of documents presented under the consultation on advancing New Zealand's energy transition.

As a local authority we have supported the local government sector position that has since 2015 been calling for responsive leadership and a holistic approach to climate change. Part of this call to action has been supporting development of an ambitious transition plan toward a low carbon and resilient New Zealand, of which transitioning the energy sector away from a reliance on fossil fuels is a core component.

We have provided comment below on those topics and questions most relevant to local government business and for our residents here in the Western Bay.

1. Measures for Transition to an Expanded and Highly Renewable Electricity System

We consider that measures will likely be needed to support new firming and/or dispatchable capacity and storage (Qns 4 and 5). Funding support for business cases or other related and establishment costs would be in line with central government support for energy decarbonisation projects to date. It may also be appropriate for ongoing support for firming and/or dispatchable capacity and storage projects to be built into PPAs between suppliers and crown agencies. Expansion of dispatchable storage holds great potential for enhancing resilience, if structured to target the areas already most at risk of brown or black out,

particularly if combined with effective demand management. Establishment of fit-for-purpose communications systems to inform impacted areas of the imminent risk of power disruption, enabling individuals and communities to act to reduce demand is another measure that should be considered.

Support for any firming/dispatchable capacity measures should be limited to renewable energy generation (Qn 6) as this avoids perpetuating a reliance on fossil fuels and is more aligned to the long-term goal of a fully renewable electricity network. As any solutions implemented are likely be high capital long-lived assets, this approach also mitigates the risk of private industrial level consumers installing "behind the meter" fossil dispatchable generation and/or storage capacity in the near term, to then apply for further funding support before these assets reach end-of-life as the price or availability of fossil fuels drives them towards renewable alternatives.

We consider that government setting out the future structure of a common digital energy infrastructure, to allow trading of distributed flexibility, would likely support co-ordinated action to increase use of distributed flexibility (Qn 45). Uncertainty around how this can be sustainably structured represents a significant barrier to investment and uptake at a community level. The removal of identified barriers to trading and implementation of other, industry identified, innovation enabling actions should be undertaken in the near term (Qn 46).

It is likely that both regulatory incentives and funding support for collaborative development or procurement of a fit-for-purpose, scalable platform which could serve on a national level would sway the needle in favour of non-network solutions (Qn 48). Electricity distributors have been aware of the risks associated with future increases in energy demand, particularly with the increased prevalence in electric vehicle charging over the coming decades, placing strain on limited and often ageing lines infrastructure. Increases to capital costs of materials and maintenance services will place an increasingly inequitable burden on the infrastructure upgrades needed to support new and infill housing in growth regions if alternative solutions for of mitigating the capacity vs demand issue are found.

We agree with the approach of default off peak charging settings for EV chargers (paragraph 334) and also with the underlying principles and objectives of the suite of approaches to smart device standards and cyber security (Qn 50).

There is a significant opportunity for improved energy resilience through wide scale rooftop solar and battery systems (Qn 54), plus the long term savings in infrastructure costs to both distributors and households by accelerating CER.

Regardless of any funding initiatives, CER must be better supported by guidelines for capitalising systems, as chattel, into property values. This will provide certainty to consumers that the investment is worthwhile, regardless of the length of time they expect to be living at the address.

Priority regulatory measures should (Qn 57);

- limit increases in inequity due to price increases (ie. reasonable that those who can afford it may see a price increase and others see a price drop),
- enable more consumer control and responsibility over their energy usage and costs, and
- accelerate efficiency and flexibility measures as a means of enhancing energy security.

A retreat from fixed retail tariffs and distribution pricing to spot-price signalled plans for all retail customers may be appropriate (Qn 52), for example, with legislated controls that ensure residential customers are protected to some degree from unaffordable peak pricing that coincides with core wellbeing activities such as cooking and winter heating.
Mandated ripple control in electric household hot-water heating installations could similarly have a significant impact on network flexibility as the housing stock is renewed and the current trend of gas water heating flips in favour of electric. Legislation could set out a suite of incentives for retailers or distributors to install these systems and establish a principle of opt-out rather than opt-in for consumers.

With regards to (Qn 61);
Sustainability
Central government's role should be to regulate, direct and support innovation. Renewables are already demonstrably more affordable to construct and operate than fossil generation, but ensuring the changes to generation management and collaboration (between industry stakeholders) that is required to achieve a 100% renewable system is realised may need further policy direction.

Reliability/security
Central government's role should be to remove legislative barriers and support innovation at both industry and consumer scale. Reliability/security requires a more careful approach than the other vertices of the trilemma, as it is uniquely exposed to customer perceptions, attitudes, and behaviours towards reasonable access and consumption of energy. From a wellbeing perspective, not all consumption is equal. In balancing resources to achieve the aims of the transition, it is worth considering how the necessary consumer side behaviour changes can be influenced at a central government level.

Affordability/equity
Central government's role should be to regulate to protect our most vulnerable from shocks, enable increased consumer involvement in the market, and support efforts towards energy sovereignty. Energy hardship is better addressed outside of the electricity system. The market lacks the tools to entirely solve the issue of energy equity given the multiple underlying causes of hardship and limited ability to assess a genuine need for support compared to central government information resources.
Re-distributional efforts should continue to be led by a neutral stakeholder but would likely be improved by industry input to reduce administrative costs associated with more targeted support. Eg. data or methodology to better target payments to address known inequities between areas/regions.

2. Gas Transition

In general, we support the pathway presented by the Climate Change Commission that shows fossil gas playing a necessary role in maintaining security during the transition to a low-emissions domestic energy system. We also see it as likely that fossil gas will be required for some hard-to-shift activities, albeit in much smaller capacity, beyond 2050.

We agree that enabling continued investment in the gas sector requires some level of central coordination, as security of supply represents a significant welfare challenge to all domestic energy users. We see this role as being an industry connector and regulator and possibly partner, to assist in planning out and negotiating transition pathways for stakeholders to exit the fossil gas industry (including alternative employment pathways) or to shift from a competitive to a collaborative market structure which can sustain the required level of domestic supply. This planning could include investigating the potential for CCUS in active gas reservoirs through the lens of potential income and investment opportunity for gas industry stakeholders through the transition.

Government also has a role in supporting residential consumers vulnerable to energy hardship as network fossil gas use declines. We see this role as provision of incentives and/or requirements for owners of rental properties to upgrade to electric appliances and means-tested financial support or grants for low-income homeowners to finance switching away from fossil gas to electric alternatives.

Biogas should be considered an important (4/5) and very credible option for reducing reliance on fossil gas in some applications. Many territorial authorities are looking for opportunities to reduce emissions from landfill through waste minimisation and diversion, however, there remains a significant portion of

organic waste generated across the motu for which both current and potential future disposal options are either extremely limited or culturally inappropriate; such as waste water treatment biosolids, medical, animal, and mixed material wastes. Efficiencies could be found by producing biogas close to energy end-uses, further reducing the need for transportation. Biogas digesters offer some degree of flexibility in scale and output, and high traceability of feedstock, which could be taken advantage of when considering the phasing-out and/or retirement of residential distributed gas networks as pipelines reach end-of-life, or to fill the "gap" if switching to hydrogen proves economically viable in future.

Hydrogen is a credible substitute for fossil gas in some applications, such as remote locations or where there are intermittent high heat requirements that do not justify the costs associated with connecting to the grid, but it should not be considered a silver bullet replacement.

3. Interim Hydrogen Roadmap

Reliability and resilience

We agree that hydrogen has the potential to provide much needed flexibility to combat the intermittent nature of solar and wind within a highly renewable energy system and that there are overall efficiencies to be found in hydrogen generation close to demand, and/or generation close to supply of renewable energy, despite the lower than direct electrification end-to-end efficiency of hydrogen.

That the cost of hydrogen is, on average, currently higher than direct electrification may be a function of the location of the current demand for hydrogen (ie. primarily industrial areas with ready ability to connect to utilities). Many remote communities already experience inequity in access to reliable and affordable forms of energy. These communities are likely be early adopters of hydrogen technology as the affordability of existing energy sources are impacted by the transition, as well as reliability due to the disruptive nature of severe weather events on critical energy and transportation infrastructure. We consider that the scope for local or community level hydrogen generation and energy sharing (electricity, transport, and direct heat applications) is as great, or greater than battery back up systems due to the higher energy density of hydrogen and potential for transportation and deployment, which fills the gap left by fossil generators. Further to ease of implementation, hydrogen systems generally have a smaller footprint and will likely be simpler to maintain and repair using local capability than battery back-up systems. This provides a pathway to higher long-term resilience when paired with distributed renewable generation sources.

We consider that Government has a role in ensuring that systems, including hydrogen supply and/or generation, which can improve community level energy security and resilience are developed and supported through the energy transition.

Transport

With acknowledgement that shifting heavy road transport to a lower-emissions model should remain a priority given it's current importance to primary industry and remote, inland, and non-rail connected communities, fuel cell light vehicle transport is also a critical area for development in rural areas. A reliable and affordable fuel source for emergency and rapid response vehicles as well as for remote (eg. back country) and long-haul applications will need to be substituted in as fossil fuels are phased out. As outlined above, we also consider that the ability to develop local maintenance and repair capacity is higher with hydrogen fuel cell vehicles than 100% battery vehicles.

Accelerating and encouraging mode shift to rail-based transport and freight should continue to be a focus as much as possible, along with transitioning rail to alternative fuel sources such as hydrogen and direct electrification. To not do so increases the risk of delaying or missing out on indirect benefits from mode shift to rail, such as improved safety and reliability, reduced maintenance and social impacts, and lower embedded carbon compared to roading networks.

We agree in general with the proposed policy objectives, in particular that:

- production for export should be led by private industry, and
- the Government's focus should be on ensuring adequate and affordable energy supply to meet domestic demand through the transition, particularly on actions that can fast track the required level of investment and construction of renewable generation capacity.

We thank you again for the opportunity to provide feedback on the overall direction of the energy transition. Please direct and queries to the email address provided above.

Yours sincerely,

Climate Change Programme Lead
Western Bay of Plenty District Council