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2 November 2023

Electricity Market Measures submissions
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Dear Sir/Madam

Submissions on Advancing New Zealand's Energy Transition discussion documents

Thank you for the opportunity to submit on the Government's package of discussion documents on "Advancing New Zealand's Energy Transition". The West Coast Regional Council's (WCRC or the Council) submissions are attached.

West Coast Regional Council Submission on "Advancing New Zealand's Energy Transition

Introduction

The West Coast Regional Council (the WCRC or the Council) appreciates the opportunity to submit on the Discussion Documents in the "Advancing New Zealand's Energy Transition" package.

Te Rūnanga o Ngāti Waewae and Te Rūnanga o Makaawhio (Poutini Ngāi Tahu – PNT) are mana whenua of Te Tai o Poutini (the West Coast). The WCRC's Mana Whakahono ā Rohe (Resource Management Act – Iwi Participation Arrangement) captures the intent of the WCRC and Poutini Ngāi Tahu to progress our relationship in accordance with the Treaty of Waitangi partnership between iwi and the Crown. Poutini Ngāi Tahu were invited to provide input into this submission.

Due to resourcing constraints and our high workload, this submission does not answer the questions in the Discussion Documents. Rather, our submission outlines the Council's general comments, and provides brief feedback on the following discussion documents:

- *Measures for transition to an expanded and highly renewable electricity systems*, including *Implementing a ban on new fossil-fuel baseload electricity generation*
- *Interim hydrogen roadmap*
- *Developing a regulatory framework for offshore renewable energy*

About the Submitter

The West Coast Regional Council (WCRC) is the local authority for a region covering a vast area with a sparse population. The distance from Kahurangi Point in the north to Awarua Point in the south is the approximate distance from Auckland to Wellington.

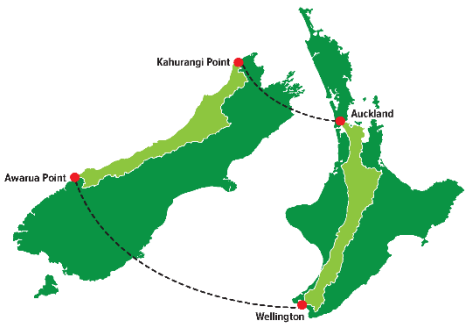

Figure 1: Map of New Zealand to highlight the 600km length of the West Coast Region compared to the distance between Auckland and Wellington.

As indicated in Figure 1, the West Coast coastline is approximately 600km in length. There is relatively little development in the Region's Coastal Marine Area, over which the Council has certain delegated responsibilities under the Resource Management Act.

The West Coast Regional Council works closely with the regions' three territorial authorities (the Buller, Grey, and Westland District Councils). The main towns are Westport, Greymouth, Reefton, and Hokitika. The region's relatively low population of approximately 32,600 is spread across small towns, settlements, and rural communities.

Te Rūnanga o Ngāti Waewae and Te Rūnanga o Makaawhio (of Poutini Ngāi Tahu – PNT) are mana whenua of Te Tai o Poutini (the West Coast). The "Paetae Kotahitanga ki Te Tai Poutini Partnership Protocol, Mana Whakahono ā Rohe Resource Management Act Iwi Participation Agreement; A Protocol and Arrangement between Te Rūnanga o Ngāti Waewae, Te Rūnanga o Makaawhio, Te Rūnanga o Ngāi Tahu and the West Coast Regional Council of October 20" captures the intent of WCRC and its partners to progress our relationship in accordance with the Treaty of Waitangi partnership between iwi and the Crown.

The West Coast is predominantly rural.

The Conservation Estate comprises 84.17% of the West Coast land area, with an additional 1.55% administered by Land Information New Zealand (LINZ). This leaves 14.28% of land available for private ownership. The land in the Conservation estate and Crown ownership is not rateable by local authorities.

Infometrics data on 'Contribution to employment by broad sector, 2022' shows the West Coast region having a predominantly 'services' orientated economy:

- 'Other services' accounted for 40%;
- 'High value services' 23.2%;
- 'Goods-producing industries' 22.1%; and
- 'Primary industries' made a 14.8% contribution.

Whereas, Infometrics more detailed 'Filled jobs by 54 industry categories list' shows the percentage contribution to the West Coast's regional economy, as at 2022, as:

- Health Care and Social Assistance - 11.1%;
- Accommodation and Food Services - 9%;
- Dairy Cattle Farming - 6.1% (and dairy product manufacturing 3%);
- Education and Training - 6.1%; and
- Construction Services - 4.4%.[1]

[1] Structure of West Coast Region's Economy; Source Infometrics at https://ecoprofile.infometrics.co.nz/West%20Coast%20Region/Employment/Structure, last viewed 29 May 2023.

General Comments

Support for local renewable energy generation needed

It is disappointing that the Discussion Documents appear to focus on large-scale renewable energy developments in the future. The Council's view is that development of **local** renewable energy sources needs to be supported in a national Energy Strategy. The lack of focus on renewable energy generated by and for local areas is reflected in the Energy Efficiency and Conservation Authority's Regional Energy Transition Accelerator (RETA) report for the West Coast, released in August this year. The RETA report for the West Coast focuses on replacing commercial and industrial fossil fuel use with biomass and electricity, but it does not state where the electricity will be sourced from, and it appears to not support or promote using local renewable resources to generate electricity for local communities.

Recommendation

Support for development of local renewable energy generation which contributes to local wellbeing, needs to be clearly stated and prioritised in the Emissions Reduction Plan, the National Adaptation Plan and the national Energy Strategy.

Solar and wind generation not viable options for West Coast

The approach proposed in the "Advancing New Zealand's Energy Transition" document, to rely on solar and wind generation as backup on a larger scale during dry years (Page 9), is not viable for the West Coast. Medium to large scale, land-based wind generation is not an option due to our low wind power densities, according to a 2008 report on renewable energy sources. There is also less sunshine hours and limited flat land available on the West Coast for commercial, medium to large scale, land-based solar generation, compared to Canterbury, for example. However, solar energy may be an option for domestic use.

Recommendation

The Government supports domestic solar energy generation for domestic use.

Support for locally generated hydro electricity needed

To achieve the medium and longer-term transition of the West Coast to fully renewable energy, in the short term the Government needs to support micro, small and medium-scale hydro electricity generation in the Region. We have the water and slope resources for low-impact 'run of the river' schemes but need access to suitable sites on public conservation land.

Locally generated hydro electricity will improve the West Coast's resilience to the impacts of natural hazards, which may disrupt the National Grid for weeks or months. Local generation will also help to reduce the high price of electricity imported to the Region. West Coast electricity prices are the highest in the country due to the high losses of electricity incurred from transmission through the Southern Alps.

Recommendation

That the Emissions Reduction Plan, the National Adaptation Plan and the national Energy Strategy support locally generated hydro electricity in regions like the West Coast, to contribute to local social and economic wellbeing, where solar and wind are not commercially viable.

Submission on "Measures for transition to an expanded and highly renewable electricity systems"

Coal-powered electricity generation plants needed for longer

The Council is not convinced that banning fossil fuel use to power electricity generation plants such as the Huntly power station is necessary. We understand that 84% of electricity currently generated in New Zealand comes from renewable sources. Council believes that the Government will still need coal-powered electricity generation plants for longer to meet increased demand, until the country is closer to the 100% target of renewable generation.

Recommendation

That current resource consents for fossil-fuelled electricity generation plants be allowed to remain in place, and the Government uses other tools such as exemptions to prohibitions where fossil-fuelled generation plants still need to be used to ensure security of electricity supply.

Wellbeing impacts of banning industrial and commercial fossil fuel use

Although the Discussion Document does not address this matter, the Council is concerned about banning fossil fuel use to generate energy for industrial and commercial activities on the West Coast, such as the milk production plant and vegetable-growing glasshouses. The Region will be the most impacted by phasing out the use of coal. The Government's intention to ban the use of coal will have a significant negative impact on the social and economic wellbeing of West Coast communities, unless there is a co-ordinated and well-funded transition to using and producing solely renewable energy sources on the West Coast.

Recommendation

The Government commits to providing a seamless and funded transition to producing and using fully renewable energy sources on the West Coast.

Support for renewable energy zones

The Council supports in principle the concept of renewable energy zones (REZ), subject to having further information on how they would work. Council also supports where electricity generators inside a REZ "would receive guaranteed, unconstrained access to the national grid…..to help lower project finance costs" (Pg 113).

Submission on "Interim hydrogen roadmap"

Hydrogen production potential on West Coast

Hydrogen has a potentially important role in assisting the West Coast to transition to renewable energy in the future. The Region has substantial fresh and marine water resources that are needed to generate hydrogen. However, the potential issues for hydrogen production and use on the West Coast may be around storage and transportation to markets. Hydrogen and hydro electricity generation could also compete with each other for use of water resources. Having said that, it should be considered as an option for the West Coast.

The "Interim hydrogen roadmap" paper shows the locations where current trials and projects for hydrogen use are being undertaken (Pg 22). Council notes that there are no trials being held on the West Coast. We would encourage any future research and development trials into types of hydrogen production or use to be held on the West Coast.

Recommendation

The Government funds investigation into the potential for hydrogen production on the West Coast.

Perverse outcomes of reduced consent duration for water takes

The new provisions in the Natural and Built Environments Act which reduce the duration of new resource consents for new water takes is inconsistent with enabling increased hydro electricity generation and/or hydrogen production on the West Coast. The reduced consent duration is a disincentive for electricity generation providers to invest in hydro electricity or hydrogen generation in the Region. This could have a perverse social and economic effect of maintaining high electricity prices for West Coast people, as well as undermining their ability to have energy resilience and security from local generation.

Recommendation

Amend the Natural and Built Environments Act to increase the duration of new resource consents for new water takes for renewable hydro electricity or hydrogen generation, particularly in regions with substantial water resources.

Submission on "Developing a regulatory framework for offshore renewable energy"

Support in principle a permit system
The Council supports in principle a feasibility permit and a commercial permit system, with a feasibility permit having a maximum duration, 'use it or lose it' clause, a list of assessment criteria to meet, and giving exclusive right to apply for a commercial permit to construct and operate a renewable energy generation facility.

Permits would need to be consistent with, but not duplicate, RMA requirements for proposals in the coastal marine area.

If the Environmental Protection Authority (EPA) manages a consent application, the regional council and territorial authority should be advised of the application.

Potential marine sites in West Coast waters
The Discussion Document refers to interest from experienced developers doing initial feasibility assessments in Taranaki, Waikato and Southland (Pg 5). As mentioned in the Council's previous submission on the "Enabling Investment in Offshore Renewable Energy Discussion Document", there are favourable sites in the northern Buller for offshore wave energy generation or a hybrid of wave/wind generation, but these are not mentioned in the Discussion Document. Attached as Appendix 1 to this submission is an excerpt from the Council's previous submission on suitable West Coast marine sites.

Recommendation
That Central Government:
a) makes interested developers aware of the potentially suitable sites in the northern West Coast (South Island) marine area;
b) funds offshore renewable energy feasibility studies and assessments of South Island West Coast waters; and
c) provides opportunity and funding for the West Coast Regional Council, Mana Whenua, and Development West Coast to engage in the process where appropriate.

Support for future research, and communication
Page 70 of the Discussion Document explains that other forms of offshore renewables such as solar and tidal energy are also in development. The Council agrees with the need to keep open to new technologies for offshore renewable energy generation, such as solar, wave and tidal energy. It would be helpful if the Government keeps regional councils and regional economic development agencies up to date with these developments.

Recommendation
The Government keeps regional councils and regional economic development agencies up to date with research and developments in new technologies for offshore renewable energy generation.

This ends our submissions.

Appendix 1: Excerpt from West Coast Regional Council submission on "Enabling Investment in Offshore Renewable Energy Discussion Document"

"Wave Energy Feasibility on the West Coast (South Island).
Resource Availability. NZ is in a prime position to develop wave energy projects as its shores are exposed to high energy wave conditions (Figure 2), approximately 25 kW/m.[2] As seen below, the high wave energy resource is predominately available along the west- and south-facing coasts of the North and South Islands. So, according to correspondence with Dr. Danielle Bertram (Waikato) "if only taking into consideration the availability of resources, the entirety of NZ's west coast would be optimal for wave energy projects".

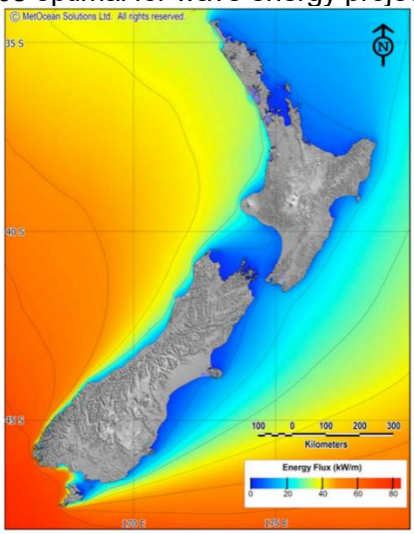

Figure 1. Distribution of mean wave power in NZ, from 1998–2007.[3]

Optimal Locations for Wave Energy Projects. Furthermore Dr. Bertram who has undertaken recent and credible (internationally peer-reviewed work) in this area states, "However, it is not appropriate to select locations for renewable energy installations based solely on resource availability. Sites should be selected by taking into consideration social, economic, cultural, and environmental factors (i.e. the main pillars of sustainability) in conjunction with the technical requirements (i.e., proximity to the grid and ports, resource availability, and the operating depth of the technology). When taking all these factors into consideration, the most optimal locations for wave energy projects in New Zealand are areas such as Greymouth and Southland (close to Invercargill and perhaps Tiwai Point, which uses significant energy) (Figure [3])."

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2 Stevens, C., Smith, M., & Gorman, R. (2005). Ocean bounty: energy from waves and tides. Water & Atmosphere, 13(4).

3 Huckerby, J., & Johnson, D. (2008). New Zealand's wave and tidal energy resources and their timetable for development International Conference on Ocean Energy, Brest, France. Power Projects Limited. (2008). Development of marine energy in New Zealand.

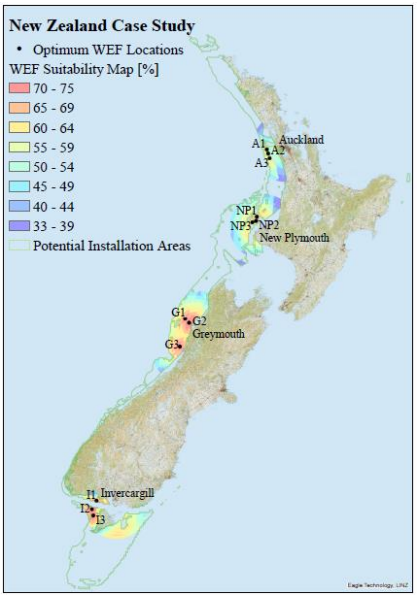

Figure 2. "The most suitable areas for wave energy installations based on the pillars of sustainability [2021]".[4]…..

Hybrid (Wave/Wind/Heatwaves) Energy: Significant opportunities for enabling investment in offshore hybrid (wave/wind) renewable energy may also be valuable for the West Coast (South Island). The sustainability criteria applied by Dr. Bertram to wave feasibility (above) may equally apply to assessing offshore wind feasibility activities. Apparently, stability of wind supply is also crucial and while the West Coast may be remote it may have ideal optimal conditions for feasibility assessments. It is noted that the West Coast may suffer from seasonal variations. Wind capture in summer is potentially challenging on the West Coast (because there is less wind and increased sea warming); but then again, as Dr. Bertram pointed out, energy supply peaks in winter, which is precisely when needed, and the West Coast has several optimal sites for feasibility activities. Capturing energy from heatwaves, while not on the current radar of analysis may also be an area for feasibility, especially if heatwaves, like those unexpectedly seen in summer this year, are recurrent along the West Coast of the South Island."

[4] Bertram, D. V. (2021). An integrated site and device selection methodology for the ocean wave energy sector. [Doctoral thesis, University of Waikato]. "The datasets were collected within four years of the publication of the thesis and were collated from databases such as LINZ, Ministry for the Environment, Ministry for Primary Industries, New Zealand Petroleum and Minerals, New Zealand Hydrographic Authority, and NIWA, to name a few".