Infrastructure for a Better Future

New Zealand Wind Energy Association Submission

June 2021

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By email: www.infrastructure.govt.nz/have-your-say

NZWEA agrees to its submission being released publicly.

Introduction

1. The New Zealand Wind Energy Association (NZWEA) welcomes the opportunity to provide a submission on the NZ Infrastructure Commission's Infrastructure for a Better Future Consultation Document.
2. The Association supports the development of an infrastructure strategy as being essential to having an integrated and co-ordinated approach to the current investment deficit and addressing climate change mitigation and adaption. The Consultation Document is recognised as a key collaborative step in finalising the strategy.
3. NZWEA agrees with Commission's priority areas and the key areas where change is needed. In particular the Association supports a focus on transitioning energy infrastructure and the importance of resource management system reform to better enable electricity sector infrastructure to be built to meet the forecast significant growth in demand.
4. The Association has submitted on most recent consultations relating to climate change and reducing greenhouse gas emissions including The Productivity Commission's Low-emissions Inquiry [1], MBIE's Accelerated Renewable Energy and Energy Efficiency Discussion Document [2], the Zero Carbon Bill [3] , ETS Reform [4] and the Climate Change Commission's 2021 Draft Advice for Consultation [5].
5. In addition NZWEA has submitted on the Electricity Price Review (EPR) [6], the Ministry of Transport's discussion paper on moving the light vehicle fleet to low-emissions [7],the Ministry for the Environment's draft National Policy Statement for Freshwater Management [8] , the draft National Policy Statement for Indigenous Biodiversity [9] and the Electricity Authority in their consultations on transmission pricing [10] and hedge market enhancements [11].

[1] Productivity Commission, Low-emissions Economy Report, August 2018.
[2] MBIE Accelerating renewable energy discussion document, December 2019.
[3] Climate Change Response (Zero Carbon) Amendment Bill, May 2019.
[4] MfE Consultation – Reforming the NZ Emissions trading Scheme: Proposed Settings, December 2019.
[5] He Pou a Rangi Climate Change Commission, 2021 Draft Advice for Consultation January 2021.
[6] Electricity Price Review, May 2019.
[7] Moving the light vehicle fleet to low-emissions: discussion paper on a clean car standard and clean car discount, July 2019.
[8] Action for healthy waterways, a discussion document on national direction for our essential freshwater, September 2019.
[9] He Kura Koiora, Proposed national policy statement for indigenous biodiversity, November 2019.
[10] Electricity Authority, Transmission Pricing Review, July 2019.
[11] Electricity Authority, Hedge Market Enhancements (market making), Discussion Paper, November 2019.

6. The breadth of the Association's recent submissions highlights the interconnectedness and need for policy alignment among the energy, environmental and climate change domains if a meaningful reduction in emissions is to be achieved. The need for a co-ordinated and aligned approach is also recognised throughout the Commission's Consultation Document as essential to infrastructure delivering for New Zealanders.

Executive Summary

7. The Association has two priority areas that its work programme is focused on which influence responses to the Consultation Document. These are:

    - Resource management system reform and ensuring the RMA's replacement better enables the wind industry to consent new renewable electricity generation to support achievement of the 2050 net zero carbon emissions target.
    - Sustaining the energy trilemma in the transition of the sector to a higher level of renewable electricity generation particularly in a dry year situation when combined with a projected significant growth in demand.

8. NZWEA's work programme is based on the outlook for renewable electricity which is one of high growth. For the Association it is about ensuring the appropriate regulatory and policy settings that enable wind energy to effectively contribute to energy sector decarbonisation.

9. There is a high level of alignment with the Commission's thinking and, in responding to this submission, the Association has focused on the energy sector and the following proposed priority areas:

    - Institutional and governance reform – the need for alignment across the energy, environmental and climate change domains and between central and local government.
    - Getting the price right – better managing demand at peak periods to enhance infrastructure efficiency and deliver the benefit of lower costs to consumers.
    - Supporting a zero-carbon economy and preparing for climate change – recognising the level of new infrastructure investment required and complexity of ensuring a just transition.
    - A digital future – acknowledging the importance of information and technology as innovation continues. For the electricity sector this is both in grid scale and distributed energy resources.

10. The Association supports the Commission's vision, outcomes and principles.

11. NZWEA supports the three key issues identified by the Commission for the energy sector and considers the key trends on the horizon, as the electricity system responds to a significant increase in renewable generation, should be amended to:

    - A greater focus on solutions to manage short term renewables variability and also the development of a post Huntly dry year solution.
    - The introduction of new and improved technologies which will continue to reduce the LRMC of new electricity generation and the cost of the energy sector transition.
    - A rapid increase in infrastructure investment in distributed energy systems and systems complexity.

12. The Association supports the 3 action areas the Commission has identified and considers, in relation to renewables development, the key areas where change will be needed are:
    - Transitioning energy infrastructure for a zero carbon 2050.
    - Adapt to technological and digital change.
    - Enabling a responsive planning system.
    - Making better use of existing infrastructure.
    - Reduce costs and improve consenting.
13. NZWEA supports the Commission's call for an energy sector strategy. The strategy should also assess the opportunity for New Zealand to become an international exporter of clean energy.

Response to Questions

Question 1 – Proposed infrastructure vision

The Association supports the intent of the vision statement in relation to what infrastructure can achieve for New Zealand but questions the use of 'lays the foundation' and would like to see the vision statement shortened to something like 'Infrastructure, enabling Aotearoa New Zealand to thrive for generations' or 'Infrastructure, sustainably enabling Aotearoa New Zealand to thrive for generations'.

Question 2 – Outcomes and principles

The outcomes are supported and the Association welcomes the focus on ensuring efficiency and balancing economic, social, environmental and cultural wellbeing from investment.

The principles are also supported.

The Association questions whether 'enduring' should be added as an outcome but notes the Commission may view this as being contained within the 'future focused' decision making principle.

Question 3 – Infrastructure issues, challenges and opportunities

NZWEA supports the three key issues identified for the energy sector of being 60% non-renewable, the level of demand growth required and sustaining the energy trilemma particularly an affordable and secure supply.

With regards to what is on the horizon for energy the Association considers the first bullet point should be amended to recognise electricity system changes to respond to the increase in renewables particularly wind and solar with a greater focus on solutions to manage short term variability and also the development of a post Huntly dry year solution.

The Association also recommends a third bullet point should be added to reflect an expected rapid increase in infrastructure investment in distributed energy systems.

Question 4 – 'Building a better future' action area and needs

The Association supports the action areas and where changes will be needed. In particular NZWEA highlights the following as being most important to sustaining existing renewable electricity generation capacity and supporting new development:

- F1 – Preparing infrastructure for climate change.
- F2 - Transitioning energy infrastructure for a zero carbon 2050.
- F3 - Adapt to technological and digital change.
- C1 – Enable a responsive planning system.
- S3 – Make better use of existing infrastructure.
- S7 – Reduce costs and improve consenting.

Question 5 – Encouraging low-carbon transport

The Association supports the recommendations of the Climate Change Commission in introducing a feebate for electric vehicle purchases and new vehicle emission standards. Ensuring recharging infrastructure investment is ahead of demand will also encourage uptake and reduce ownership concerns.

NZWEA also notes the Commission's comments around the importance of developing renewable energy capacity to support electrification and the use of pricing mechanisms and demand management to increase asset utilisation and efficiency.

Question 7 – Infrastructure issues to be included in a national energy strategy

Fundamental to a successful national energy strategy is developing a pathway or pathways to achieving a sustainable energy sector trilemma that supports the Zero Carbon Act's net zero 2050 target including for dry period, low hydro generation sequences. This would include setting a target for the percentage of renewable energy used across the sector as recommended by the Climate Change Commission[12]. The Association also prefers an energy sector target rather than a specific renewable electricity sector target such as the Government's current 100% target by 2030. Like many in the sector NZWEA considers a 100% target will have unintended consequences and may act as a disincentive to electrification.

The consultation document highlights a number of significant challenges to be considered in the energy strategy which the Association supports.

In addition the national energy strategy should the address the limited development of community and other distributed renewable generation projects in New Zealand. The Association considers smaller scale wind projects a key opportunity to support regional growth and improve energy resilience with a key barrier being the RMA consenting process which does not differentiate on the scale and complexity of projects. Resource management reform to simplify and reduce the cost and uncertainty of obtaining a consent is a prerequisite to smaller new developments. For smaller wind farms it should be possible to establish pre-set conditions around capacity (MW) turbine size, tip height etc which if met would have limited environmental effects and provide more confidence a consent can be secured. The current

[12] Climate Change Commission June 2021 Ināiā tonu nei: a low emissions future for Aotearoa p112 section 7.4.

consenting process favours large-scale developments where the high cost of consenting has a lower overall impact on commercial viability. Generally these developments are by larger organisations with a greater ability to manage the risks of consents being amended or declined.

The strategy also should consider environmental and climate change policies and regulations to ensure the required investment in generation and transmission infrastructure can be consented and set an overall objective as to the level of renewables across the energy sector.

The Consultation Document also refers to export opportunities for renewable energy. The Association notes that South Australia's state government predicts the state could boast more than 500 per cent renewable energy by 2050 as it becomes a national and international exporter of clean energy. Similarly Tasmania has also announced a goal of 200 per cent renewables by 2040 so it can export excess renewables, primarily through the proposed new Marinus link to the mainland.

Given new Zealand's abundant renewable energy resources the energy strategy should also assess the opportunity to become an international exporter of clean energy including utilising onshore and offshore wind resources.

Question 8 – Role of renewable energy zones

The resource management system reforms proposed by the Randerson Review highlight the importance of a strategic approach to natural resource management. The development of regional spatial plans required under the Act may benefit electricity generation and transmission development if they reduce the consenting burden and are sufficiently broad and do not prevent other locations, outside of areas of significant ecological value, being considered for development. In a similar way renewable energy zones could be similarly advantageous. Key will be ensuring sites outside of regional spatial areas or renewable energy zones can be progressed albeit without the consenting advantages that should come from developing within these designated areas. This will ensure competition and optimise adoption of new technologies particularly if regional spatial strategies are not regularly updated.

While the concept of regional spatial plans is still formative, and there is a need to for further consultation on the concept to avoid unintended consequences, it will also be important to integrate the plans with the proposed Natural and Built Environment Plans and that competing priorities should be resolved.

Question 9 – Key recommendations from the MBIE Accelerated Electrification document to be included in the infrastructure strategy.

The Association in its submission to MBIE focused on the key priorities to support renewable electricity generation which were as follows:

Initiative	Priority	Reference	Comment
Reforming the ETS	H	PC - R 5.1, 5.2, 5.3, 5.4, 13.2	The Association considers the ETS as the key market mechanism to enable energy sector decarbonisation based incentivising lowest cost emissions abatement. Introducing a cap and aligning prices with modelled pricing to drive a reduction in

			emissions is essential and overdue. The Association has suggested refinements to the architecture to ensure the total emissions budget is not exceeded and a higher level of ambition around the price settings.
Amend the NPS REG to provide stronger direction on the national importance of renewables	H	AREEE 7.1 ICCC - R 5a PC – 13.3, 13.4	Stronger national direction can be provided by updating the wording of the NPS to be consistent with later policy statements for example changing “have regard to” to “enable” and “ensure”. In parallel the work programme should include strengthening the NPS on Electricity Transmission and NES for Electricity Transmission as both are required to enable new renewable generation to be connected.
Finalising transmission and distribution pricing	H	EPR (E1 and 2) ICCC – R 6b	Delays in finalising the transmission pricing methodology has created unnecessary investment uncertainty. Current HVDC pricing is disadvantaging South Island renewables development which can support improved geographical spread and reduce short term variability. The Association considers an effective peak pricing signal is required to optimise the investment in grid / distribution assets and avoid unnecessary costs being passed to consumers. The Association also considers there remains an unresolved issue around the pricing of distributed generation connection costs. In particular whether the EA changes the rule book for distributed generation connection costs from incremental costs to including a share of common costs as originally proposed under the Distributed Generation Pricing Principles July 2016 Consultation Paper. A change to including common costs would create investment uncertainty and disadvantage distributed generation.
Revise the draft NPS-IB to enable responsible renewables development	H		Revise the NPS-IB to enable ecological mitigation / offsets that are finically responsible rather than an in effect “must avoid” requirement.
Revising the draft NPS-FM to ensure the value of existing hydro generation to NZ’s climate change objectives is given sufficient weight.	H	ICCC – R4	In the NZWEA submission on the NPS-FM the Association has highlighted the risk of councils being provided the discretion to set higher national bottom lines for hydro.
Improve the availability of wholesale market information	M	EPR (D1)	This includes all fuel types including gas.
Introduce mandatory market making obligations / improve wholesale	H	EPR (D2)	Wholesale market depth and product development is required to support merchant generation which requires a level

market			of offtake certainty to secure investment. The Association would like to see the current market term extended from 3 to 5 years to provide a higher level of contract cover to support new investment and the introduction of a price cap product to enable retailers to manage risk and contract variable wind farm output.
Revise the interpretation of the EA's statutory objective	H	ICCC – R6a	The Association maintains the EA should be required to consider the "energy trilemma" of affordability, security and environmental sustainability as it is these factors that the World Energy Council and others use to assess sector performance.
Phase out low fixed charge tariff regulations	H	EPR (F4)	The Association supports the EPR's position that flat price structures do not support network optimisation and are inefficient. Unless revised pricing structures are introduced, in conjunction with retailers, avoidable investment will occur that will ultimately be reflected in higher electricity prices.
Retail and distribution tariff reform	H	PC – R13.5	NZWEA considers that a change in electricity price structures to reflect the production and delivery costs at different time periods is essential to reducing customer cross subsidisation, improving sector efficiency and optimising future investment. Effective price signals will encourage innovation, including demand side management and investment in distributed energy resources to reduce peak demand periods. The Electricity Authority (EA) has been working with the industry to introduce tariffs that are service based and cost reflective.
Scope National Environmental Standards or National Planning Standards specific to renewable energy	H	AREEE7.2 ICCC – R5b	Current consenting requirements do not differentiate on size with cost and complexity a major barrier to smaller and community wind development. NZWEA considers a new National Environmental Standard for Renewable Electricity Generation should be issued to set out conditions for development which would have minor environmental and social impacts to lower the cost of obtaining an RMA consent (option d – standardising the consent process for small-scale renewable energy projects).
Review legislative framework to give the EA more powers to regulate networks	H	EPR– F1 PC – R13.6, 13.7	Will enable the EA to ensure open competition and support innovation.

The Association further notes the importance of stability in electricity market settings to encourage new investment and that the new transmission pricing model, with benefits-base

charging for new investment, does create additional risks for new and existing generation assets.

Question 10 – Improving data collection and availability on infrastructure assets

The Association supports the open access to data across the electricity sector and in its submission on MBIE's Accelerated Electrification document identified improving the availability of wholesale market information particularly for all fuel types as a priority.

Question 11 – Regulatory and legislative barriers to technology adoption

Regulation of the environment and inability to secure consents is the key barrier to renewables technology adoption. Refer response to question 26.

Also as noted in the Association response to question 9, new transmission pricing model, with benefits-base charging for new investment, does create additional risks for new and existing generation assets. Additional grid investment may result in connection charges being revised.

Question 21 – Is a 10-year lapse period for infrastructure corridor designations long enough

A 10- year lapse period is not considered long enough for either corridor designations or other resource consents given the long lead time in planning developments. For electricity infrastructure ensuring market conditions support commercial development can delay new build decisions given competitor actions and changes in the supply / demand balance.

Question 24 – Creating a better system action areas and needs

The Association considers there are three key areas to address in creating a better system for infrastructure:

- Moving from fragmented planning and decision making to having an integrated approach which recognises the national importance of existing and new critical infrastructure requirements.
- Making better use of existing infrastructure to optimise value and preserve existing capacity. NZWEA also notes the opportunity to repower existing wind farms to lift capacity and output.
- Recognising the cost high cost of infrastructure development in New Zealand and in particular seek to reduce the inefficiencies of the consenting process.

Question 25 – Does New Zealand have the right institutional settings

The Association would question whether 29 distribution entities individually have the scale and resources to respond to the technical innovation occurring in the electricity sector and, in particular, ensuring DER and improved demand management is supported in a nationally consistent manner.

By way of example progress on retail and distribution tariff reform has at best been delayed and inconsistent across electricity distribution businesses.

NZWEA also notes in its submission on the Accelerated Renewables Discussion document (question 9) that:

- The interpretation of the Electricity Authority's statutory objective should be amended to consider the energy trilemma.

- The legislative framework for the EA should be reviewed to give the Authority more powers to regulate networks.

Question 26 – How can local and central government better coordinate themselves to manage, plan and implement infrastructure

The Association's key focus is in improving infrastructure planning and in particular enhancing resource consent efficiency and decision-making capability. The balancing of local and national interests has been an ongoing issue for the wind industry when seeking consents. Aligning legislation and policy to ensure local government takes wider climate change considerations into account when making decisions is paramount particularly in relation to resource management system reform and national direction instruments.

The Randerson Report on New Directions for Resource Management in New Zealand highlights the importance of strategic planning and clear national direction. The Association supports the Randerson Review findings that greater integration and alignment is required to ensure national importance is recognised. The proposed development of regional spatial plans should assist along with greater clarity around national direction priorities. Ensuring the system is efficient and proportionate is also identified as an opportunity to reduce cost.

The key issues for the Association in the proposed reform is to ensure recognition of the importance of renewable electricity generation and that the Natural and Built Environments Act outcomes do not just prioritise environmental bottom lines without considering countervailing measures such as mitigations, offsetting and compensation programmes. These measures are widely used in wind farm consenting which inevitably involve affecting the natural environment and result in an overall positive environmental outcome. The risk of hard environmental bottom lines is that renewable generation will not be able to be developed resulting in specific biophysical limits having priority over the achievement of overall climate system limits.

Question 31 – What options are there to better manage and utilise existing infrastructure

Electricity infrastructure is a long-life asset and utilisation can be impacted by reconsenting requirements, particularly for hydro generation. Preserving existing hydro generation is material to reducing emissions in the electricity sector and supporting the variability of wind and solar with renewable rather than thermal generation.

The Association also supports a focus on demand management to optimise infrastructure efficiency and prevent overbuilding. In the electricity sector there is a significant opportunity to increase asset utilisation and lower the cost to consumers in all areas - generation, transmission and distribution. Improved demand management also assists in supporting the variability of renewables in a low carbon way. Several retailers and distribution businesses have led the way with greater use of time of use pricing and, more recently, specific tariffs to encourage off-peak EV charging.

Comments on the List of Options

F2.1 - Enable / require electricity distribution networks to support Distributed Energy Resource solutions

The transition from fossil-fuelled generation and a growth in renewables requires a significantly more responsive electricity system than today's which is largely a one-way flow. New technologies and a focus on demand response and distributed energy resources offer approaches to manage the daily and seasonal peaks and the variability of renewables in a low-emissions way that minimise the cost of new transmission and distribution.

A standard approach to enabling DER across all electricity distribution networks needs to be established. This would avoid the creation of regional disparities which prevent consumers from maximising the value of their investment in DER or the electricity system fully benefiting from DER capability.

F2.2 - Reduce barriers to building spare transmission capacity

The first mover disadvantage issue needs to be addressed if transmission investment is to be optimised for the expected significant increase in electricity demand.

F2.3 - Investigate the need for a specific regulatory framework for offshore energy generation

NZWEA considers the Government should commit resources to progress the legislative framework to assign rights for offshore wind development. Progressing a framework for development rights is the first step needed for investors to have the confidence to explore the commercial feasibility of generation options.

C2.5 - Implement regional spatial planning

The Association supports the introduction of a new Strategic Planning Act and the requirement for regional spatial plans to be completed to better enable infrastructure development.

S7.3 - Develop a planning system that is more enabling for infrastructure

The options to improve the planning system for infrastructure are supported, in particular:

- Include national direction in the Natural and Built Environment Act that is supportive of the role of renewable electricity and transmission in the achievement of electrification and decarbonisation.
- Support consenting pathways for infrastructure through enabling policy in the National Planning Framework.
- Improve consenting processers in the NBA and plans.
- Limit the scope of effects to matters related to natural and physical resources and not matters like amenity value.
- Ensure that regional spatial strategies can respond rapidly to changing national and regional priorities.

About the NZ Wind Energy Association (NZWEA)

- The NZWEA is an industry association that promotes the development of wind as a reliable, sustainable, clean and commercially viable energy source.
- We aim to fairly represent wind energy to the public, Government and the energy sector.
- Our members are involved in the wind energy sector and include electricity generators, wind farm developers, lines companies, turbine manufacturers, consulting organisations and other providers of services to the wind sector,
- By being a member of NZWEA you are assisting the development of wind energy in New Zealand and helping to reduce our greenhouse gas emissions to meet climate change targets.

The Association's strategy focuses on three key areas:

- Leveraging NZ's emission reduction imperative to enable the energy transition to renewables, particularly wind energy.
- Optimising wind energy's position and ensuring the regulatory environment supports wind farm development.
- Expanding the opportunity for wind energy development to enable community and industrial projects including wind's integration with other technologies.

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