

## Electricity Price Review - First Report

NZ Wind Energy Association Submission

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### Introduction

1. The New Zealand Wind Energy Association (NZWEA) welcomes the opportunity to provide a submission on the Electricity Price Review First Report.
2. The Association also recently submitted on Improvements to the Emissions Trading Scheme, the Zero Carbon Bill, the Productivity Commission's Draft Low-emissions Inquiry and the Refresh of the NZ Energy Efficiency and Conservation Strategy and has met with the Interim Climate Change Committee.
3. It is encouraging to see the momentum developing to set targets and put in place the governance framework to enable New Zealand to transition to a low carbon economy with a clear strategy and set of actions.
4. As identified, electricity is a significant input into other parts of the economy and with the electrification of high carbon emitting sectors being central to a low-emissions economy it is essential to ensure that the sector is best positioned for substantial growth.
5. The Electricity Price Review (EPR) with a clear focus on efficient fair and equitable prices, market and regulatory framework and emerging technologies is timely considering the sector is in transition and has such a key role to play in reducing emissions across the energy and potentially other sectors. The Association welcomes the Review and supports the Expert Advisory Panel's comment that "the importance of a well-functioning electricity sector cannot be overstated".
6. While not specifically covered in the Report, in the Association's view, it is essential that in lowering electricity sector emissions to meet the 100% renewable target, the cost of electricity to consumers is managed to not disincentivise the larger opportunity from decarbonising emissions across the wider energy and other sectors and create unintended affordability issues. For this reason the Association considers a wider energy sector target more appropriate.
7. The Association's strategy has focused on three key areas:
  - Leveraging NZ's emission reduction target to raise awareness of the benefits of renewable electricity generation, particularly wind energy.
  - Promoting domestic emission mitigation options to increase demand for electricity and support new generation build activity through the electrification of industries that are high carbon emitters.
  - Continuing to raise the profile of wind energy and ensure the regulatory environment supports wind farm development.
8. We consider, as the international price of carbon increases, future competitive advantage should be able to be obtained by utilising New Zealand's natural advantages in land, water and wind resources. New Zealand has a significant potential to develop low cost

renewable energy based on natural resources that are world leading. In particular our wind energy potential is well documented.

9. In this submission we cover the aspects of the EPR which in particular relate to NZWEA's areas of focus and strategy. The following section summarises NZWEA's comments on the First Report. In section 3 we respond to the First Report's specific questions which are most relevant to the wind industry.

**Summary**

10. In the Association's view New Zealand has lacked an integrated approach to developing a low carbon strategy and set of implementation actions. The material level of emissions reduction required and potential cost to meet the 2030 Paris target and a longer-term net zero position warrant a specific focus.
11. The refresh of the NZ Energy Efficiency and Conservation Strategy, Productivity Commission's Low-emissions Inquiry, the proposed Zero Carbon Bill and improvements to the ETS are important developments in ensuring the alignment of climate change strategy and actions which the Association supports.
12. The EPR is another key work programme to ensure the electricity sector is functioning appropriately and can support innovation and advances in technology.
13. The importance of reliable and affordable electricity as crucial to new Zealand's economy and way of life is well understood as is the future need to increase supply to support decarbonisation of the wider economy.
14. While the need to transition to a low emissions future is acknowledged in the EPR the Association considers environmental sustainability should not just be a key consideration for the Interim Climate Change Commission. The ERP should be mindful of the impact of climate change on the sector but also how regulatory and policy setting directly influence the level of emissions.
15. The EPR identified a number of issues and concerns the Association has with the performance of the electricity market. These can be summarised as:

<p>Consumers and Prices</p>	<ul style="list-style-type: none"> <li>▪ NZWEA agrees 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.</li> <li>▪ The Electricity Authority (EA) has been working with the industry to introduce tariffs that are service based and cost reflective. In the Association's view the process of change is taking too long and is adversely impacting the industry including consumers realising the potential benefits from investments in behind the meter technology that can be utilised to improve sector efficiency.</li> </ul>
<p>Industry</p>	<ul style="list-style-type: none"> <li>▪ The Association concurs that the market can meet the growth in demand so long as there is consistency of regulatory positioning. This would include ensuring the national importance of renewable electricity</li> </ul>

	<p>generation is reflected in the RMA consenting process by revising the National Policy Statement for Renewable Electricity Generation and National Policy Statement on Electricity Transmission.</p> <ul style="list-style-type: none"> <li>▪ NZWEA also 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.</li> <li>▪ The Association also considers that it is essential to implement the proposed improvements detailed in the Emissions Trading Scheme Consultation Document in a timely manner.</li> <li>▪ Delays in finalising the transmission pricing methodology is creating unnecessary investment uncertainty and needs to be addressed.</li> <li>▪ 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.</li> <li>▪ The Association considers that distribution efficiency and ability to support innovation requires sector reform. Quality standards should be mandatory across all EDB's.</li> </ul>
<p>Technology and Regulation</p>	<ul style="list-style-type: none"> <li>▪ Advances in technology and enabling consumers to benefit from their investment in technology need to be better supported in areas such as demand management and utilising storage capabilities to improve resilience and meet peak demand periods.</li> <li>▪ 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. This view is premised on the current regulatory failure to ensure effective emissions pricing using the ETS.</li> <li>▪ The Association agrees the broad functions of the regulatory agencies are appropriate but considers they are lagging in their response to supporting innovation and effective decision-making in areas that impact investment decisions in long-life assets.</li> </ul>

16. The EPR, in conjunction with other initiatives to transition NZ to a low carbon economy, has the potential to create an exciting future where the electricity sector plays a pivotal role in creating a more sustainable and prosperous future for New Zealand.

## Response to Specific Questions

### Part three: Consumers and prices

#### Consumer interests

##### 1. What are your views on the assessment of consumers' priorities?

The Association agrees that consumers want power that is reliable, affordable and fairly priced. Environmental sustainability has now also become a key consideration for consumers as the impacts of climate change are increasingly being experienced.

For example:

- Eco America's 2018 Climate Perspectives Survey found 87% of Millennials are personally concerned about climate change.
- According to the World Economic Forum's 2017 Global Shaper Survey of more than 31,000 millennials from 186 countries and territories climate change is considered to be the world's most serious issue.
- Close to half (48.8 percent) of those surveyed chose "climate change/destruction of nature" as their No. 1 concern. This is the third year in a row that 18-to-35-year-olds declared the issue as their biggest global concern.
- The vast majority of survey participants also agreed about what causes climate change - 91 percent answered "agree" and "strongly agree" with the statement "science has proven that humans are responsible for climate change."
- About 78 percent of respondents also said they are willing to change their lifestyle to protect the environment.

The Association considers environmental impact will continue increase as a consumer priority.

##### 2. What are your views on whether consumers have an effective voice in the electricity sector?

Achieving a position where there are common descriptions and formats on electricity invoices would assist. In some ways the bundling of transmission/distribution and energy charges has made it harder for consumers to understand what they are really being charged for and how their actions can influence the cost.

#### Prices

##### 3. What are your views on the assessment of the make-up of recent price changes?

The increase in transmission prices is understandable given the historic under-investment in the national grid. The significant increase in residential distribution costs warrants further investigation and may partially be due to the revaluation of assets rather than new investment to improve service quality.

##### 4. What are your views on the assessment of how electricity prices compare internationally?

New Zealand has relatively low economies of scale with a small geographically dispersed population, the cost of which is offset by a high level of renewable generation. As the cost of carbon increases internationally and more lower cost renewable generation is built NZ's comparative position should improve.

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**5. What are your views on the outlook for electricity prices?**

The long run marginal cost of new wind generation continues to decline. The introduction of further renewables into the electricity generation mix provides the potential for stabilising and potentially reducing electricity prices.

The Association agrees with the EPR finding that a key determinant of future affordability is whether price structures stay the same. The bundling of distribution and transmission charges with electricity usage disadvantages lower-income households and encourages potentially uneconomic and underutilised investment in behind the meter generation.

In addition unless electricity prices reflect the cost of providing electricity at different times of the day and year consumers are not offered the incentive to support sector efficiency and unnecessary investment in supporting peak periods will be required. Enabling demand response also assists with managing the variability of renewables and minimising the need for high cost and high emissions gas peaking generation. Consumers should be offered the opportunity to make electricity more affordable by changing usage patterns to better utilise existing infrastructure.

**Affordability****6. What are your views of the assessment of the causes of the affordability problem?**

The Report identifies the key reasons for the cause of affordability issues. The nature of retail pricing and lack of appropriate pricing signals to encourage consumers to utilise lower cost electricity in off-peak periods is exasperating the issue.

**7. What are your views of the assessment of the outlook for the affordability problem?**

As noted in the response to question 5 current pricing structures disadvantage lower-income households. Unless changes are made the expected increase in behind the meter generation investment will result in further customer cross subsidisation and wealth transfer from low income households to higher income households that have invested in technology. Changing price structures will also lead to optimising investment returns across the sector value chain.

**8. What are your views of the assessment of the causes of the affordability problem?**

The Association does not have a position on this.

**9. What are your views of the assessment of the causes of the affordability problem?**

The Association does not have a position on this.

**10. What are your views of the assessment of the outlook for the affordability problem?**

An increase in renewable generation with a lower LRMC should support an improvement in affordability.

**Summary of feedback on Part three**

11. Please summarise your key points on Part three.

Lower cost renewable electricity generation offers significant potential to stabilise and potentially reduce electricity prices. To obtain the full benefit of renewables pricing structures need to change to improve the efficiency of transmission and distribution investment and encourage demand side management and reduce the need for new generation investment.

**Solutions to issues and concerns raised in Part three**

12. Please briefly describe any potential solutions to the issues and concerns raised in Part three.

Prescribing greater standardisation of how retail tariffs are displayed and setting timeframes for revising pricing structures and ensuring the implementation of service based and cost reflective pricing.

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## Part four: Industry

### Generation

#### 13. What are your views on the assessment of generation sector performance?

The EPR provides a measured perspective on industry performance with the maturity of the market leading to better management of periods where hydro generation is required to be reduced and more expensive thermal plant utilised. The industry has however reached a point where, given there is greater certainty over the continued operation of the NZAS, the reserve margins are at a level that new investment in generation is required.

#### 14. What are your views of the assessment of barriers to competition in the generation sector?

The Association considers one the key barriers to competition, particularly for new entrants, is the cost and uncertainty of obtaining a consent under the RMA for renewable electricity generation. Industry challenges and issues with the RMA have been documented in submissions to the Productivity Commission's Low-emissions Inquiry. The Productivity Commission has made a number of recommendations including revising the National Policy Statements for Renewable Electricity Generation (NPS-REG) and Transmission and introducing a new National Environmental Standard to support smaller and community-based renewables projects.

#### 15. What are your views on whether current arrangements will ensure sufficient new generation to meet demand?

The scale and magnitude of the challenge to potentially double the size of the electricity industry needs to be recognised. While industry generation doubled from 1974 to 2004 and there are over 2,000MW of consented wind generation many existing wind farm consents will need to be varied to take advantage of technological improvements that result in a lower long run marginal cost of new generation.

At some point the wind industry is also going to need to replace the turbines at existing wind farms and most probably repower with larger turbines and this is likely to require a new consent. Existing thermal plant will also need to be replaced.

The Association considers that the market can meet the growth in demand so long as there is consistency of regulatory positioning. This would include ensuring the national importance of renewable electricity generation is reflected in the RMA consenting process by revising the National Policy Statement for Renewable Electricity Generation and National Policy Statement on Electricity Transmission (NPS-ET).

The Parliamentary Commissioner for the Environment's (PCE) 2006 Report Wind Power, People and Place highlighted the role of small-scale wind energy projects.

The PCE Report concluded that large scale wind farms can only ever occupy a small portion of the country's wind locations. The Association also observes that distributed generation is positive for electricity sector resilience and supports the Government's regional growth agenda.

There are a number of challenges to community investment in renewable generation in New Zealand in addition to obtaining community support. The two key issues being obtaining the funding for feasibility studies and meeting the requirements of the Resource

Management Act particularly completing environmental effects studies when seeking a consent as, to date, there has been no differentiation based on project size.

NZWEA consider 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 and lower the cost of RMA consents.

The Association also considers that it is essential to implement the proposed improvements detailed in the Emissions Trading Scheme Consultation Document in a timely manner.

Consistency of regulatory policy and delays in making decisions such as with transmission and distributed generation pricing create investment uncertainty and needs to be addressed.

The Association references aspects of the previous EA consultation as an indication of the material impact transmission and distribution pricing has and the risk of unintended consequences such as:

- the proposed shift from using peak pricing signals to a capacity-based model which could have a major impact on the demand profile and better support fossil fuel based peaking generation and disadvantage renewables which, in scale with geographical dispersion, have a baseload like generation profile.
- Proposed changes to connection costs for distributed generation from incremental to including EDC's common costs provide a connection advantage to grid connected generation. This approach flies completely contrary to the NZ Energy Strategy's focus on supporting distributed generation, smart grid deployment and smaller scale generation technologies which are largely renewable. While the EA has retained the current connection rule at this time they have advised that they consider having a price ceiling distorts competitive neutrality thereby creating future uncertainty for new investment.

The Association considers that distribution efficiency and ability to support innovation requires sector reform. Quality standards should be mandatory across all EDB's

## **Retailing**

16. What are your views on the assessment of retail sector performance?

The Association is not in a position to comment on the retail sector.

17. What are your views on the assessment of barriers to competition in retailing?

The Association is not in a position to comment on the retail sector.

## **Vertical integration**

18. What are your views on the assessment of vertical integration and the contract market?

The Association is not in a position to comment on the retail sector and vertical integration.

19. What are your views on the assessment of generators' and retailers' profits?

The Association is not in a position to comment on the sector profits.

## **Transmission**

20. What are your views on the process, timing and fairness aspects of the transmission



**pricing methodology?**

The Association agrees with many other stakeholders that the TPM and process has taken too long and has been too costly both in terms of direct cost and opportunity cost.

There are also unresolved decisions on the long-term connection pricing for distributed generation (refer response to question 14) considered in the Distributed generation Pricing Principles May 2016 Consultation Document.

Given the level of new generation investment required what is needed is certainty to enable investment decisions to be made.

**Distribution****21. What are your views on the assessment of distributors' profits?**

The historic revaluation of distribution assets and the inclusion of goodwill has resulted in significant increases in revenue for some distribution businesses without necessarily an investment in new infrastructure.

The flat pricing structure adopted by many distribution businesses is inefficient from an asset optimisation perspective and driving unnecessary cost.

**22. What are your views on the assessment of barriers to greater efficiency for distributors?**

The Association supports the ERP'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.

The Association also concurs that the current bundling of distribution costs with energy usage provides a distorted incentive for consumers to invest in solar energy.

The timeframe for the revision of distribution charges is a concern and NZWEA notes this has been an ongoing priority that has resulted in little actual change as yet as evident from the most recent summary completed by the EA.

The Association considers the number of retailers along with the number of distribution companies poses a significant challenge to the timely introduction of retail price structures which improve overall electricity sector efficiency.

As identified in the EPR Report the Association also has concerns that community owned distributors may not have the incentive to improve efficiency or invest to support overall electricity system efficiency as matters of national importance. The risk of the current structure is that local interests continue to drive decision making.

Similarly the number of separate distributors relative to NZ's population result in diseconomies of scale and it comes as no surprise that smaller distributors have a higher operating cost per consumer although some of the difference may be to density and geographical differences.

**23. What are your views on the assessment of the allocation of distribution costs?**

Fairness requires distribution costs to be allocated to users on the basis of recovering direct costs and a methodology for allocating indirect costs. The concept that some users may disconnect due to an increase in costs, as noted in the EPR is no basis for changing to the most appropriate cost allocation methodology.

The Association also has concerns that there may be inconsistencies in the cost allocation methodology across distribution companies.

**24. What are your views on the assessment of challenges facing electricity distribution?**

The Association supports the IEA and Productivity Commission findings and considers the rate of technological change and the potential for a significant expansion of the electricity sector to decarbonise the wider energy sector may be a major challenge for many distribution companies.

If NZ is to decarbonise its economy and meet emission reduction targets a national approach is required to incentivising and empowering consumers in behind the meter investment and altering electricity usage patterns to gain greater efficiency from sector investment.

In addition consumer behaviour, with the appropriate incentives and signals represent the lowest cost alternative to managing demand peaks and the variability of renewable generation. Consumers need to have the appropriate incentives to make usage decisions and be able to be rewarded for their investment in technologies which support demand side management so as to prevent the need for thermal peaking generation.

There is a need for distribution businesses and retailers to work together to ensure appropriate pricing signals are provided to encourage innovation and new investment. For example cost reflective prices to encourage home charging outside network peak demand period (e.g. EV tariff).

**Summary of feedback on Part four****25. Please summarise your key points on Part four.**

The capability of some distribution businesses to innovate and the quality of the relationship between retailers and distributors is a significant risk to electricity sector efficiency and ability to innovate and support an optimal transition to a low-emissions economy on a national scale.

**Solutions to issues and concerns raised in Part four****26. Please briefly describe any potential solutions to the issues and concerns raised in Part four.**

Refer comments in response to the specific questions.

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## Part five: Technology and regulation

### Technology

27. What are your views on the assessment of the impact of technology on consumers and the electricity industry?

The Association considers the transition to a two-way model is just a question of time as the cost of innovation reduces and consumers seek greater energy independence and resilience from natural events.

The opportunity for smaller community-based initiatives such as that proposed by Blueskin Energy Limited has significant potential given NZ's wind resource. In future these could be a combination of solar, wind and battery storage.

Similarly wind energy technology is improving to the point where there will be opportunities for smaller turbines in industrial and remote power supply situations such as communication stations.

28. What are your views on the assessment of the impact of technology on pricing mechanisms and the fairness of prices?

The EPR has identified what the Association considers is an essential change that is needed to price structures if NZ is to achieve fair prices under today's business model and best leverage existing infrastructure to support additional growth in electricity demand from EV's etc.

29. What are your views on how emerging technology will affect security of supply, resilience and prices?

Both the Productivity Commission's Low-emissions Inquiry and Transpower's Energy Futures White Paper offer excellent insights. As both reports note the growth in expected electricity demand creates additional challenges in managing daily and seasonal peaks and managing security of supply in periods of low hydro storage.

The transition from fossil-fuelled generation requires a significantly more responsive electricity system than today's which is largely a one-way flow. New technologies and approaches provide ways of managing the daily and seasonal peaks and the variability of wind. Capacity to manage prolonged dry periods remains an unresolved issue.

These new technologies, along with cost reflective retail pricing plans which support demand side management are positive for renewables such as wind.

The Association considers solar without battery storage is a significant risk for the electricity system given solar's daily and seasonal generation profile which potentially creates steep changes in demand as seen in other countries that have a higher level of penetration than NZ and creates opportunities for fast start thermal peaking generation.

The subsidisation of domestic solar which is covered elsewhere in the Report needs to be addressed to create a level playing field for all renewables.

Load shifting through demand response and storage systems can help with grid challenges.

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## Regulation

30. What are your views on the assessment of the place of environmental sustainability and fairness in the regulatory system?

In the Association's submission to the Productivity Commission we proposed that the EA should take emissions into account in its activities and decisions and the conclusion. While including emissions adds complexity to the EA's role, given their responsibility as the primary industry regulator, the Association considers that should be required to consider the three aspects of cost, emissions and adequacy in their decision making. This view is premised on the current regulatory failure to ensure effective emissions pricing using the ETS.

31. What are your views on the assessment of low fixed charge tariff regulations?

NZWEA also considers the regulations are poorly targeted and have unintended consequences.

32. What are your views on the assessment of gaps or overlaps between the regulators?

NZWEA considers the main issue with the regulators is not the risk of overlap but their level of responsiveness to industry issues and emerging technologies. Recent examples being transmission pricing, the development of default distribution agreements and the introduction of service based and cost reflective distribution pricing.

33. What are your views on the assessment of whether the regulatory framework and regulators' workplans enable new technologies and business models to emerge?

The integration of distributed energy resources (DER) whether enabling small scale generation, battery storage or demand response is key to electricity sector innovation and enabling consumers to make informed investment decisions where they understand the value of their DER investment. DER development is also considered important to supporting the future growth of renewable electricity generation and ensuring the electricity system can cost effectively support generation variability.

The Association also considers there is a need to define the scope of electricity distribution businesses regulated and non-regulated services to support competition at the retail level. Currently there is a lack of clarity in defining whether new technologies represent services provided by EDB's which should be regulated under the price quality regulation and which services EDB's compete with retailers and other providers and are competitive in nature.

We consider consumer engagement will increase with more choice and independence and that business models will need to change to become more service orientated. Consumers will play an increasing role in a more distributed electricity system and the effective integration of their investment can enhance system reliability and efficiency.

34. What are your views on the assessment of other matters for the regulatory framework?

There is a risk that the two-tiered model for overseeing EDB's creates differing efficiency and services quality.

There is also the question as to whether the community owned distributors give sufficient focus and weight to issues of national importance in the transition of the electricity sector in a low-emissions economy.

## Summary of feedback on Part five

35. Please summarise your key points on Part five.

Refer comments in response to the specific questions.

### **Solutions to issues and concerns raised in Part five**

36. Please briefly describe any potential solutions to the issues and concerns raised in Part five.

Refer comments in response to the specific questions.

### **Additional information**

37. Please briefly provide any additional information or comment you would like to include in your submission.

The Association notes the 100% Renewable Electricity target is being considered by the Interim Climate Change Committee and has therefore not been referenced in the EPR. Notwithstanding this it is the Association's view that in lowering electricity sector emissions the cost of electricity to consumers is managed to not disincentivise the larger opportunity from decarbonising emissions across the wider energy and other sectors. As identified in the Productivity Commission's Low-emissions Inquiry retaining the 100% renewable target may create significant affordability challenges which directly relate to the issues the EPR seeks to address.

The Association favours a wider energy sector renewable target rather than focusing on achieving 100% renewable electricity in a normal hydrology year by 2035. We note that the electricity sector has, without incentives or an effective ETS, achieved an 80 to 85% level of renewable generation depending on hydrology. The Association supports the reliance on an effective ETS scheme and note this combined with the age of existing thermal plant and cost of renewables will lead to a higher level of renewable electricity generation. Targeting 100% renewable electricity generation, while aspirational, will result in additional consumer and industry costs which may limit the decarbonisation of higher emitting sectors.

### **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.

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