

# Review of Distributed Generation Pricing Principles Consultation Paper

NZ Wind Energy Association Submission  
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## Introduction

1. The New Zealand Wind Energy Association (NZWEA) welcomes the opportunity to comment on the Electricity Authority's (EA) Review of Distributed Generation Pricing Principles Consultation Paper (DGPP).
2. NZWEA notes that the EA has issued the Transmission Pricing Methodology (TPM) and the same time as the DGPP because of the close relationship between the two proposals.
3. NZWEA is submitting primarily of the DGPP. However because of the links between the two proposals makes several comments on the TPM so far as the proposed changes affect the DGPP.
4. Individual NZWEA members will also be submitting in relation to the TPM and DGPP. NZWEA has chosen to respond to the questions asked in the below paragraphs as we consider this provides a more useful context in which to detail our position.

## Executive Summary

5. NZWEA has significant issues with the proposed changes and we do not consider that the proposed timeframe for implementation is realistic given the commercial negotiations that would be required with Transpower and distribution companies.
6. The Association does not support the move from regional coincident peak demand (RCPD) pricing for residual interconnection assets as it considers this will lead to reduced efficiency levels in both transmission and distribution networks.
7. We expect the proposed area of benefit (AoB) charge will be complex to implement from a practical perspective.

8. NZWEA submits that the proposed DGPP changes will have a material impact on hindering the achievement of the New Zealand Energy Strategy and the Energy Efficiency and Conservation Strategy.
9. We consider proposed DGPP changes place DG providers at a competitive disadvantage to grid connected generation. NZWEA is concerned that distribution companies, as potential DG providers, can set connection charges for existing and new DG owners with no recourse to a dispute resolution process.
10. Similarly, NZWEA considers it unlikely Transpower would be prepared to negotiate in a meaningful way with members and that the short implementation timeframes would make it do so difficult.
11. The proposed changes create significant uncertainty and a number of NZWEA members consider the proposed changes will have a significant impact on the viability of existing wind farms. In addition, the uncertainty over future revenue streams and connection costs are material impediments to future investment.
12. NZWEA recommends that the Commerce Commission be responsible for establishing a price to be paid to DG for the current and future services offered by DG as an LRMC derived component of the Commission's determination of the Price Quality Path for Transpower.

## **TPM**

13. NZWEA acknowledges the complexity of transmission pricing and the desire of the EA ensure the parties that benefit from transmission services pay for those services at a level that reflects the cost of providing those services.
14. NZWEA considers the proposal does not recognise the long term lumpy investment nature of transmission investment and the benefit that peak demand pricing signals provide in improving transmission and distribution efficiency by delaying the requirement for new investment. In particular, the influence of transmission pricing signals on distribution investment when distribution costs in total represent a significantly larger percentage of an end consumers invoice.
15. A move to capacity pricing may also reduce the incentive for distribution companies to invest in and pass pricing benefits to end customers for participating in demand side management initiatives.
16. In relation to the proposed residual charge NZWEA considers maintaining a regional coincident peak demand (RCPD) is a better measure of consumer use of the grid than Anytime Maximum Demand (AMD) in the context of additional investment as RCPD measures the peak use of the grid. AMD does not distinguish between access to the grid during periods of high or low demand by other users and therefore captures consumers who make their maximum use of the grid when it is less heavily used overall.

17. We are concerned that removing a locational price signal such as RCPD could remove the signal to avoid transmission services and cause an unintended spike in demand that had hitherto been suppressed, bringing on investment that is inefficient.
18. In respect of the proposed area of benefit (AoB) charge NZWEA considers that in most interconnected grid investment decisions it will be difficult to determine a common basis for calculating charges in proportion to shares of the positive net benefits expected for generators and distributors.
19. This is particularly so when power flows can change direction for a number of reasons such as hydrological conditions, the emergence of new users and future investment decision which may alter the calculation and share of new benefits from any given investment decision.

### **DGPP Overview**

20. The installed capacity of distributed generation (DG) assets in New Zealand is over 900MW which, at about 10% of total installed capacity, makes DG an important component of the electricity supply system. Of the installed capacity wind and hydro are the largest forms of generation.
21. The total installed wind capacity of NZWEA members is 690MW of which 315MW (45%) is distributed generation so any changes to part 6 of the Electricity Industry Participation Code is an important issue for a number of members.
22. NZWEA does not support the EA's proposal to remove Part 6.4 from the Code and notes it is a significant change and that little weight is given to the change being contrary to Principle 4 of the Consultation Charter.
23. In particular, NZWEA considers the EA is not recognising the long term nature of investment in distributed generation assets and is assessing the value of DG and demand response at a point in the investment cycle after a significant step level increase in transmission investment has occurred. To put in place a fundamental change to pricing methodology, and remove a mechanism which has significantly assisted managing peak loads, we consider to be high risk and inefficient as demand grows before the next major transmission investment cycle commences.
24. NZWEA also notes that distributed generators are required to meet a stringent availability test to be eligible for avoided cost of transmission payments (ACOT) and that the increase in payment levels is a reflection of the level of investment in the grid rather than any other factor.
25. The EA has also overlooked the other benefits that a number of DG wind farms provide in supporting ancillary services such as voltage support which are currently not subject to any pricing payments.

26. NZWEA submits that the proposed changes will have a material impact on hindering the achievement of the New Zealand Energy Strategy (NZES) and the Energy Efficiency and Conservation Strategy (NZEECS) given the uncertainty created for existing and new wind farm developments and implications for the deployment of demand side management initiatives.
27. Both the NZES and NZEECS reference the importance of renewable generation, distributed generation and demand side management. The importance of the Government setting the framework and incentives for a competitive electricity market to deliver the 90% renewables target is highlighted. Areas noted to help achieve this include an appropriate focus on demand management tools and removing barriers to the deployment of distributed generation.
28. Currently there are strong transmission pricing incentives to optimise existing distribution network investment by focusing on demand side management. As noted above NZWEA considers that the EA's proposed removal of peak demand pricing signals will reduce both transmission and distribution efficiency.
29. NZWEA considers the EA consultation paper will have a material impact on the viability of a number of the existing distribution connected wind farms and will hinder future development of wind energy given the remote location of most of the preferred wind farm sites. Significant investment uncertainty and financial shocks are being proposed through fundamental policy changes which reduce revenue and increase connection costs.
30. NZWEA acknowledges the EA has a single statutory objective to promote competition in, reliable supply by, and the efficient operation of the electricity industry for the long term benefit of consumers which does not allow consideration of pan-industry externality policies such as renewable energy targets or lower carbon emissions. We consider the definition of the EA's function creates a disconnect at an industry governance level and that insufficient consideration has been given to these aspects. We do not accept the broad statements in the consultation document that the proposal will not have any negative impacts on environmental outcomes.
31. NZWEA submits that this change will also place distribution connected wind farms at a competitive disadvantage to other entities providing the same services including grid connected generators, DG that sits behind load e.g. solar and DG assets owned by distribution companies.
32. The competitive disadvantage to grid connected generation is as follows:

<b>Our distributed generation will:</b>	<b>Grid connected generation:</b>
<ul style="list-style-type: none"> <li>▪ Be exposed to a different unregulated methodology by each of the 29 network companies for calculating connection costs</li> <li>▪ DG will be required to contribute to common costs on distribution</li> </ul>	<ul style="list-style-type: none"> <li>▪ Face connection charges that are consulted on and form part of the TPM in the Code. Transmission connection charges are set in a transparent and consistent way across the country.</li> </ul>

networks.	<ul style="list-style-type: none"> <li>▪ Not required to contribute to distribution network common costs.</li> <li>▪ We note that grid connected generation has access to a benchmark agreement for connection to Transpower's network.</li> </ul>
<ul style="list-style-type: none"> <li>▪ Not have access to a dispute resolution process as there will be no rules to breach.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Can use the dispute resolution process for any disputes with Transpower.</li> </ul>
<ul style="list-style-type: none"> <li>▪ Face an allocation of the common costs of network companies.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Does not pay the network company any charges.</li> </ul>
<ul style="list-style-type: none"> <li>▪ Be considered as part of 'load' in the proposed TPM – being allocated transmission charges by network companies on the basis of capacity.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Face MWh volume charges for the use of the transmission grid which can be included in wholesale market offer prices.</li> </ul>
<ul style="list-style-type: none"> <li>▪ Continue to be price takers and unable to recover the increase in network and transmission charges through offers into the wholesale market.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Can alter their offers into the wholesale market to recover any increase in transmission charges.</li> </ul>

33. The competitive disadvantage to DG that sits behind load is as follows:

<b>Our distributed generation will:</b>	<b>DG behind load:</b>
<ul style="list-style-type: none"> <li>▪ Be exposed to a different unregulated methodology by each of the 29 network companies for calculating connection costs.</li> </ul>	<ul style="list-style-type: none"> <li>• Does not face connection cost from the network company.</li> </ul>
<ul style="list-style-type: none"> <li>▪ Face an allocation of the common costs of network companies.</li> </ul>	<ul style="list-style-type: none"> <li>• Does not pay the network company any charges.</li> </ul>
<ul style="list-style-type: none"> <li>▪ Be considered as part of 'load' in the proposed TPM – being allocated transmission charges by network companies on the basis of capacity.</li> </ul>	<ul style="list-style-type: none"> <li>• May also considered as part of 'load' in the proposed TPM – being allocated transmission charges by network companies on the basis of capacity.</li> </ul>
<ul style="list-style-type: none"> <li>▪ Pay transmission charges on a MWh basis for any volumes exported on to the transmission grid.</li> </ul>	<ul style="list-style-type: none"> <li>• Does not pay transmission charges.</li> </ul>
<ul style="list-style-type: none"> <li>▪ Continue to be price takers and unable to recover the increase in network and transmission charges through offers into the wholesale market.</li> </ul>	<ul style="list-style-type: none"> <li>• Contract with attached load likely to allow recovery of increased charges.</li> </ul>

34. The competitive disadvantage to DG owned by distribution companies is as follows:

<b>Our distributed generation will:</b>	<b>DG owned by network companies:</b>
<ul style="list-style-type: none"> <li>▪ Be exposed to a different unregulated methodology by each of the 29 network companies for calculating connection costs.</li> </ul>	<ul style="list-style-type: none"> <li>• Face no regulatory control of the connection charges their network company charges its arms' length generation entity.</li> </ul>
<ul style="list-style-type: none"> <li>▪ Face an allocation of the common costs of network companies.</li> </ul>	<ul style="list-style-type: none"> <li>• Potentially face an allocation of common costs from their arms' length network entity which is unlikely to be transparent.</li> </ul>
<ul style="list-style-type: none"> <li>▪ No longer have a backstop process (in the DGPPs) to negotiate connection with network companies.</li> </ul>	<ul style="list-style-type: none"> <li>• Will be negotiating with its own arms' length network entity.</li> </ul>
<ul style="list-style-type: none"> <li>▪ No longer have access to a dispute resolution process.</li> </ul>	<ul style="list-style-type: none"> <li>• Unlikely to have a dispute with its own arms' length network entity.</li> </ul>
<ul style="list-style-type: none"> <li>▪ Be attempting to negotiate service based payments for the services provided by existing and new DG with a monopoly network company with asymmetry of information.</li> </ul>	<ul style="list-style-type: none"> <li>• Will have more information about the state of the network and how its DG is assisting the network company in deferring or avoiding investment.</li> </ul>

35. The level of disadvantage identified is not consistent with the Authority's statutory objective to promote competition or efficient operation and investment in the sector. It could also have consequences for reliable supply of electricity given that all distributed generation supplies nearly 10% of the electricity consumed at ICPs.
36. As identified in the consultation paper the financial implications of the reduction in avoided cost of transmission payments (ACOT) for our members will be significant. The consultation paper does not consider the impact of what is likely to be a significant increase in connection costs on the financial viability of existing DG assets. Our members have not been able to confirm the expected level of increase in connection costs with distribution companies. As noted above we have been advised is that a per MWh charge may be introduced. The removal of ACOT payments and increased connection charges will have considerable negative impact on investor confidence arising from a proposed rule change that has a negligible net positive value
37. In addition to these changes our members are expected to incur costs in establishing agreements with Transpower and distribution companies. The Authority has made no attempt to value this cost and disruption. Annual costs across the entire DG sector of about \$206,000 are sufficient to change the CBA's positive NPV to a negative value which means the Code change is not consistent with the Authority's statutory objective.

38. There is no factual explanation of why the Authority considers DG to be inefficient. The Authority's concern seems to be more about the signals for operation and investment in DG arising from the current transmission pricing methodology. This methodology will in the near term be more "efficient" – resulting in the value of any change to the DGPP's being almost zero under the Concept DGPP CBA.
39. NZWEA also considers viewing the increase in ACOT payments in the context of the substantial increase in transmission investment is a short term approach after a period of considerable underinvestment in prior years.
40. It is also noted that the Authority is also proposing different treatments in relation to existing assets. Existing investments by load customers are protected as load customers that face residual transmission charges above their willingness to pay under the proposed TPM can apply for a discount. Customers facing an AoB charge that is above their willingness to pay can initiate a review by claiming a material change in circumstances or optimisation of the transmission assets. There does not appear to be a similar mechanism for small generation businesses connected to a local network. The Authority is not proposing the same type of discretion or flexibility to investors in DG. In fact, the above TPM proposals introduce a subsidy from one group of transmission customers to another as the total amount of revenue collected by Transpower remains unchanged.
41. We note that allocation of common costs by distribution companies is currently not consistently applied or transparent and that they may be set at a level which results in DG owners becoming financially stressed.

### **DGPP Engagement with Transpower and Distribution Companies**

42. The Authority expects DG to negotiate with Transpower and distribution companies for service based cost reflective payments. We question what incentives Transpower and the distribution companies have to enter the negotiations. This is especially the case when neither will be funded to make the payments and Transpower will have to seek approval from the Commerce Commission for an increase in its Maximum Allowable Revenue. We also note the EA assumes distribution companies are incentivised to implement efficient charges for DG but have not provided a basis for this assumption.
43. We also consider if Part 6.4 is deleted from the Code the distribution companies cannot pass any distributed generation allowance through to their customers. As well as developing an approach to make service based payments to DG as part of its overall expenses, the distribution company will have to decide how to pass this cost on to its customers.

44. Distribution companies value the management of peak demand. DG provides a service to distribution companies during periods of peak demand on the network, reducing or avoiding the need for distribution investment. Distribution companies invariably consider DG and load control initiatives in their asset planning including incentives such as offering a discount for customers on a controlled tariff. There are numerous network pricing methodology reports that describe how peak demand management is used to avoid or defer network investment.

### **Timeframe for Implementation of DGPP**

45. We submit that the proposed timeframe for implementing the changes of 1 April 2017 and 1 April 2018 are not realistic and do not provide sufficient time for the negotiation of commercial arrangements with Transpower and distribution companies.
46. The following process is considered necessary to ensure an appropriate outcome:
- Submissions on DGPP received by the EA 26 July.
  - The Authority must take the appropriate length of time to consider submissions on the DGPP consultation paper before making a decision. A reasons paper should be issued at the same time as announcing the decision.
  - The Authority informs the Commerce Commission under section 54V, as soon as practicable, following any change in the Code that result in increased costs to Transpower or to any distributor or class of distributors.
  - Transpower has to apply to the Commerce Commission for additional funding to cover the cost of developing the mechanism for payment (set up costs) and for funds that are available to pay DG for its services.
  - Transpower can only start any negotiations with DG owners that could be legally viewed as 'good faith' once it has sufficient funds to pay for any agreement reached.
  - Transpower has to develop the economic, commercial and legal framework before commencing any negotiations to ensure a consistent and fair process and approach.
  - At the same time the Authority expects that Transpower to be prioritising development of the TPM guidelines. The Commerce Commission is yet to approve any funding for this TPM work.
47. The transmission grid has been built with installed DG capacity. We consider Transpower currently does not have the information needed to establish what the grid would look like without the existing DG or reduced DG and thus the value that DG provides.



48. In addition to the above process, Transpower would need to model the grid under the assumption there is no signal to reduce consumption during periods of potential peak demand as a result of proposed TPM changes. This is complex modelling but must be completed for the whole system before any negotiations can commence with any DG owner over the value DG provides.
49. Given the TPM may not be finalised until early 2019 Transpower has uncertainty as to the form transmission charges will take and how these charges can be reflected in service payments to DG. This is a significant inconsistency in the Authority's proposed timeframe for changing the DGPP and does not appear consistent with the efficient operation and investment in distributed generation.
50. NZWEA submits that Transpower has little incentive to negotiate with DG owners as it is a monopoly, its expertise is in building and managing large scale transmission assets as well as more recently developing expertise in arranging demand response by load customers.
51. While Transpower has been required for many years to consider non-transmission solutions as part of developing any grid upgrade project it has not, to our knowledge, contracted with distributed generation to defer or avoid transmission investment.
52. The current transmission grid incorporates existing DG. Transmission planning has been undertaken taking into account existing DG (see Transpower's Transmission Planning Reports).
53. We also note that distribution companies are faced with considering and making submissions on changes to the Commerce Commission's Input Methodologies and transmission charges at the same time as the DGPP proposals – which are probably a lower priority so in NZWEA's view they may have had insufficient time to fully consider the DGPP.
54. NZWEA notes that considerable thought and effort went into developing the DGPP's and that as a minimum the EA should have identified why these code provisions were introduced in the first place, the reasons and problems that lead to their introduction, and whether or not these still exist today. We anticipate the issues experienced prior to promulgation of Electricity Governance (Connection of Distributed Generation) Regulations will reappear. The incentives on distribution companies (and Transpower) are little changed now than they were in the early 2000's. The relaxation of the ability for distribution companies to own DG creates a potential conflict of interest when required to negotiate with third party owned DG.
55. We consider an unregulated approach to reaching agreement with distribution companies for connection costs and service based payments to be in contrast to the Authority's approach to the relationship between retailers and distribution companies. In this instance the Authority is encouraging a mandated agreement promoting major benefits from lower transaction costs and reduced potential for disputes.

56. We note that the Australian Energy Market Commission is considering a rule change proposal prepared by Oakley Greenwood on behalf of its clients for a 'Local Generation Network Credit'. There have been positive submissions on this proposal and a decision is expected in the near term. This will create a regulated service based payment by network companies to distributed generation. The AEMC has a very similar statutory objective to the Electricity Authority. We consider the Authority should seriously consider the route the AEMC is taking to recognise the benefits of DG and provide consistency and investor certainty for DG owners.

### **Proposed solution**

57. NZWEA acknowledges that there has been a significant level of recent investment in the transmission grid that has resulted in an increase in capacity and interconnection costs. The significant increase in capacity and resilience is a reality of the economics of transmission investment which comes in large steps. DG and demand side management has not caused this capacity change. Indeed, the peak demand pricing signals will have contributed to enabling investment decisions to be deferred until greater average usage of transmission and distribution capacity has occurred.
58. The increased capacity is a timing issue until demand catches up. From a longer term investment perspective NZWEA's considers it is economically efficient to continue making payments to DG even if there is excess capacity to deliver electricity at the current point in the transmission investment cycle.
59. We note that, such investments were made in good faith to respond to an economic signal being faced and enable a cost to distribution companies to be avoided. The fact that distributed generators invested accordingly should not somehow now be seen as simply "bad luck" or "their fault" or a product of misinformed decision making - quite the contrary.
60. We do not consider the EA has given sufficient consideration to the reasons why the DGPP's were developed in the first instance or that, by requiring DG to pay a share of distribution network common costs that grid connected generation does not, creates an unfair competitive environment.
61. NZWEA members consider the proposed changes will have a significant impact on the viability of many of the existing wind farms which comprise 15 of the current 19 windfarms in operation. In addition, the uncertainty over future revenue streams and connection costs is a material impediment to future investment.
62. It appears that the EA has recognised that Transpower is a beneficiary of the existence of current DG. The TPM CBA states that existing DG is efficient and the Authority expects DG to contract with Transpower for the service DG provides.

63. As we consider Transpower will be reluctant to negotiate in a meaningful way with DG providers we recommend that the Commerce Commission be responsible for establishing a price to be paid to DG for the current and future services offered by DG as an LRMC derived component part of the Commission's determination of the Price Quality Path for Transpower. The Commission already approves transmission investment, has an understanding of the competitive long run marginal cost of new transmission and is responsible for determining the maximum allowable revenue that Transpower can collect from customers.
64. This solution places the responsibility for determining the value of DG services to a regulator. This value is likely to be more efficient than that developed by a monopoly that benefits from the service but has little incentive to offer a fair price.
65. The same approach could also be applied to the avoided cost of distribution – consistent with the regulated approach in Australia promoted by Oakley Greenwood.
66. Under this solution Part 6.4 of the Code remains highly relevant, only requiring a review by the Commerce Commission as part of its Part 4 Price Quality Path determination. This mechanism could also be a precursor for future evolving technologies.
67. Further, under any solution the DGPPs must be retained to ensure that the monopoly transmission and distribution networks pay for the services they benefit from provided by DG. The services based payments, developed by the Commerce Commission under our suggestion, will be an efficient 'beneficiaries pay' charge.
68. As noted in paragraph 1.37 a small change in assumptions changes the CBA NPV to a negative value which means the Code change is not consistent with the Authority's statutory objective. Recognising this level of uncertainty some form of transition period should be considered if NZWEA's recommended solution is not adopted.

### **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 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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