

28 February 2020

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**From:** Westpower Ltd  
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**Attention:** Rodger Griffiths – General Manager Assets and Engineering Services

### **Submission on Discussion Document – Accelerating Renewable Energy and Energy Efficiency**

Thank you for the opportunity to provide feedback on the “Accelerating Renewable Energy and Energy Efficiency” discussion document. We understand the need to achieve renewable energy and energy efficiency outcomes to meet the needs, and provide for the wellbeing, of New Zealand.

Westpower Limited (Westpower) is an electricity generator and supplier/network utility operator undertaking work and activities throughout the West Coast Region, particularly within the Grey and Westland Districts. Westpower is a 100% West Coast community owned company with its head office in Greymouth. Since 1999, when it was required by legislation to divest itself of a set of generation assets within the West Coast, Westpower had principally been an electricity distribution company, responsible for transporting electricity from the national grid to consumers within the communities it serves on the West Coast. In the mid 2000’s the government allowed distribution companies to again undertake hydro-electricity generation and Westpower has become involved with developing generation capacity to meet the needs of the West Coast communities that it services.

As a locally owned and operated network utility operator, with assets and networks across the West Coast, Westpower has an interest in discussion document, issues arising and potential outcomes.

### ***Discussion Document Questions***

The following provides brief comments on the questions raised in the discussion document where there are or may be applicable to the activities undertaken by Westpower.

#### ***Section 1: Addressing Information Failures***

##### **Electrification information package and feasibility studies**

*Q 1.7 Do you support the proposal to develop an electrification information package? Do you support customised low-emission heating feasibility studies? Would this be of use to your business?*

The development of information that would assist, or support businesses, in considering how best to undertake their activities to achieve proposed outcomes is supported. From a suppliers point of view the main issue will be ensuring that any package contains the relevant range of information required in regard to assessing the needs and requirements for electrification. This should also include consideration of the distribution networks capacity and capability to supply the business in question.

*Q 1.8 In your view, which of the components should be scaled and/or prioritised? Are there any components other than those identified that could be included in an information package?*

As discussed under Q 1.7 issues regarding consideration of the distribution networks capacity and capability to supply the business in question will need to be provided for. It is unclear from the discussion whether the issue of local distribution has been considered in the discussion, including the costs to suppliers of development of related information.

It is unclear from the discussion document how distribution matters, including barriers, are integrated with these industry based issues. Whilst it is recognised that Part B of the document relates to “*accelerating renewable electricity generation and infrastructure*” these are matters directly related to this part of the discussion document.

## **Section 7: Enabling development of renewable energy under the Resource Management Act 1991**

### **Amend the National Policy Statement for Renewable Electricity Generation**

*Q 7.1 Do you consider that the current NPSREG gives sufficient weight and direction to the importance of renewable energy?*

Whilst the current NPSREG has been an important development in setting national direction for renewable energy generation under the RMA it is clear that when compared with the wording of other NPS documents the NPSREG should be more directive. The fact that there is an NPS does give weight to the importance of renewable energy generation however it is not clear how this is weighed and integrated with other NPS matters, or how potential conflicts are to be resolved.

*Q 7.2 What changes to the NPSREG would facilitate future development of renewable energy? In particular, what policies could be introduced or amended to provide sufficient direction to councils regarding the matters listed in points a-i mentioned on page 59 of the discussion document?*

Strengthening of direction around all of the matters in (a)-(i) would assist with implementation of the NPSREG. Changes would relate to more direction regarding the interaction between NPS’s and how decisions are to be made where potential areas of conflict arise, including issues of priority between NPS matters.

It would also be appropriate for the NPSREG to be more directive as to how potential adverse effects were to be managed taking into account the technical, operational and locational needs of renewable energy activities. This is, to some degree, already provided for in the NPS but stronger direction in that regard would assist with future development given the national priority for renewable generation.

Whilst there is some benefit in undertaking strategic identification of generation potential at the local/regional level there needs to be some assurance of the capability/capacity (including financial

resources) to do such work at those levels in a timely manner. There also needs to be some consideration of risk of decreasing innovation of design and generation option if such work is undertaken based on limited information.

Stronger direction to facilitate the process of renewal (consents) and upgrading of existing generation would assist in maintaining and enhancing generation assets.

The current NPS does not provide for the local distribution network which is an important component in ensuring the uptake of renewable energy. Whilst this is a matter that could be better provided for in a specific NPS it is noted that NPSREG includes connections to the grid but is silent on how electricity gets from the grid to consumers.

*Q 7.3 How should the NPSREG address the balancing of local environmental effects and the national benefits of renewable energy development in RMA decisions?*

The current NPSREG already recognises potential effects from generation activities but also recognises the practicalities associated with generation activities, ie the need to locate where the resource is. As a matter of national importance the NPS needs to be clear and directive as to when, and at what level, effects will be acceptable. This also needs clear integration with other NPS, ie NPSFM and possible NPSIB, and clear direction as to how potential conflicts between the various NPS's are to be managed and resolved.

*Q 7.4 What are your views on the interaction and relative priority of the NPSREG with other existing or pending national direction instruments?*

As discussed above there is a lack of clarity as to how the NPS's integrate. At times they appear to be in competition, and at others the wording (direction) differs to a degree that it is unclear what the priority is between the NPS's. These matters are rarely resolved through the more local Policy and Plan development processes and result in lengthy processes to define how the instruments are to be interpreted against each other. Part of this is likely to be that NPS's are developed one at a time to relate to specific issues. There needs to be an overriding strategy, based on outcomes to be achieved at the national level, as to how it is intended (in a directive sense) that the statements work together.

*Q 7.5 Do you have any suggestions for how changes to the NPSREG could help achieve the right balance between renewable energy development and environmental outcomes?*

The NPS could assist in this regard by making it clear what effects were acceptable to achieve renewable energy development, given that the NPSREG currently accepts there will be effects, and those effects that require closer assessment and management.

*Q 7.6 What objectives or policies could be included in the NPSREG regarding councils' role in locating and planning strategically for renewable energy resources?*

Whilst such strategic planning can be valuable, and objectives and policies encouraging such work would be of value, it would be important to ensure that Councils had the capacity and capability (both technical and financial) to undertake such work. Of concern if such objectives or policies were directive in requiring such activities is that smaller Councils may have limited resources for such activities and the potential that renewable generation could be hindered through either time lapse or lack of technical information to enable a robust level of strategic planning.

Were these options to be considered further it would need to be clear that Councils can determine these matters, and at what scale, and what level of challenge there can be to the strategic process. There is potential for this process alone to be subject to challenge on a Council by Council basis.

*Q 7.7 Can you identify any particular consenting barriers to development of other types of renewable energy than REG, such as green hydrogen, bioenergy and waste-to-energy facilities? Can any specific policies be included in a national policy statement to address these barriers?*

Each of the potential types would need to be clearly understood and differentiated to enable a consideration of the need to include specific policies in this regard. Some care must be taken in mixing too many issues/matters together or there is a risk that focus of the original intent of the NPS will be lost. If these complementary types of development require specific provisions it is more appropriate to develop a specific instrument to address these matters.

*Q 7.8 What specific policies could be included in the NPSREG for small-scale renewable energy projects?*

Clearly defining what a small scale renewable project is and the acceptable effects from them would assist. With the intent being to have such projects developed it would be appropriate to have directive policies which require that such projects be enabled. This would require a scoping exercise to determine under what circumstances that such projects would be enabled under the NPS.

*Q 7.9 The NPSREG currently does not provide any definition or threshold for “small and community-scale renewable electricity generation activities”. Do you have any view on the definition or threshold for these activities?*

Some definition of who is served by such activities would assist. A community scale activity should be at the local/regional level where it can be clearly demonstrated that the local community benefits from the activity. The term “small” is relative as some community scale activities may in comparison to other options be “small scale”. The main issue is likely be around what level the benefits are accrued, although having said that there would need to be some recognition of the national benefits of not only renewable generation, per se, but the ability for the local community (at whatever scale) to be resilient and self sufficient to the greatest degree possible.

*Q 7.10 What specific policies could be included to facilitate re-consenting consented but unbuilt wind farms, where consent variations are needed to allow the use of the latest technology?*

Such a policy could provide for comparison, between the existing consented activity and a new (upgraded) activity, where renewable outputs/benefits are improved with the same or similar effects. In such cases the policy should enable such changes, including through the ability to “fast track” a proposal.

*Q 7.11 Are there any downsides or risks to amending the NPSREG?*

The main risk is that the need for an NPSREG and what is intended to be achieved is not clearly articulated, understood or agreed at the outset. Work on how the NPS’s are intended to be integrated (including any priorities at a national level) would assist in that regard. Amendments will open the NPSREG to challenge and potentially a lengthy process for completion. Without a clear intent the process could result in unforeseen outcomes or a less clear direction for renewable generation. Having said that the NPSREG will be subject to review and, in particular, matters around the interrelationship between the NPSREG and other NPS’s (both current and under development) needs to be resolved.

## Scope National Environmental Standards or National Planning Standards specific to renewable energy

*Q 7.12 Do you think National Environmental Standards (NES) would be an effective and appropriate tool to accelerate the development of new renewables and streamline re-consenting? What are the pros and cons?*

A NES would be an effective and appropriate tool in terms of providing a consistent approach to these activities. Such an approach provides for the national priority for these activities to be set and the outcomes sought would be achieved on a consistent basis throughout the country.

There is some potential for such an NES to be conservative in providing for activities on the basis of unknown details of a specific area/location however this will be dependent on the outcomes sought at the national level in determining what level of potential effects is acceptable. Likewise there is a possibility that some potential effects would not be considered to the required level and the degree to which this is acceptable would be a challenged part of any process.

The development of an NES provides the ability to be involved in a single comprehensive development of provisions rather than through a number of statutory processes throughout the country. Having said that the national environmental standard process may limit input and assessment of specific issues at the more localised level and mean that local outcomes are less enabled which is a concern at the community level. Whilst the loss of more specific local input and outcomes is not ideal the development of many national policies and standards means that there is becoming a greater need for consistency between NPS's and NES's at the national level.

*Q 7.13 What do you see as the relative merits and priorities of changes to the NPSREG compared with work on NES?*

As discussed above the NPS can benefit from more direction to enable renewable activities. However an NES would clearly be complementary and provide clarity as to how the national outcomes sought by the NPS are to be achieved. An NES based on a less clear NPS is likely to face some challenge, particularly where it is unclear how the matters integrate with other national issues provided for through separate NPS; ie NZCPS, NPSFM or possible NPSIB.

*Q 7.14 What are the downsides and risks to developing NES?*

Potential risk is that there is a lack of clarity as to what is intended to be achieved by the development of an NES, and how it integrates with other NPS and NES. The risk is an overly cautious approach is taken based on a lack of local information which prevents that NES achieving the renewable outcome sought. As discussed above there is also potential to limit input and assessment of specific issues at the more localised level and mean that local outcomes are less enabled at the community level.

*Q 7.15 What renewables activities (including both REG activities and other types of renewable energy) would best be suited to NES? For example:*

- *What technical issues could best be dealt with under a standardised national approach?*
- *Would it be practical for NES to set different types of activity status for activities with certain effects, for consenting or re-consenting? For example, are there any aspects of renewable activities that would have low environmental effects and would be suitable for having the status of permitted or controlled activities under the RMA?*

To develop an NES it will need to be clearly understood what the potential effects of each type of activity can be. A consistent set of rules enabling renewable activities, while providing for the

outcomes sought in other NPS and NES, would assist. This would include enhancing the development, operation and maintenance of such activities.

An example of a technical issue might be the development, operation and maintenance/upgrade of lines between generation and the grid, or between the grid and consumers. Another example could be how generation activities can be enabled taking into account matters in the NZCPS, NPSFM or proposed NPSIB.

It would be anticipated that any NES would set different activity types for certain effects. Indeed this would be one of the benefits, in terms of achieving consistent outcomes and setting some direction as to how the various NPS and NES interrelate, to achieve nationally sought renewable generation outcomes. One drawback of this approach is that it removes an ability to provide for local circumstances where the level of effect might be considered acceptable in one area but not another dependent on community views. This is why it needs to be very clear what the national intent is and essentially this is a planning exercise to work through the components of renewable generation activities and develop standards relevant to each. An example of permitted activities for existing works might be where any new work would have the same or similar effects to that existing, or the setting of a threshold where effects could be identified but at set scales were acceptable.

*Q 7.16 Do you have any suggestions for what rules or standards could be included in NES or National Planning Standards to help achieve the right balance between renewable energy development and environmental outcomes?*

This would entail a review of existing planning provisions to see where there might already be consistency. This would assist with both time and cost. Examples of standards could relate to building/structures (including height and design), noise levels, and earthworks. The process should entail a review of the common elements of renewable activities and how these could be provided for through a developed set of standards.

*Q 7.17 Would National Planning Standards or any other RMA tools be more suitable for providing councils with national direction on renewables than the NPSREG or NES?*

This is where the intent of the approach needs to be clearly articulated. If the intent is to have a consistent approach and to enable renewable activities then the NPSREG and/or NES are useful in ensuring national outcomes are achieved and resolving conflict between NPS and NES. The use of the national planning standard approach without ensuring at least the NPSREG is appropriately directive could lead to a similar outcome to the current situation.

#### Other options for feedback

*Q 7.18 Are there opportunities for non-statutory spatial planning techniques to help identify suitable areas for renewables development (or no go areas)?*

There are opportunities for such an approach although there are issues around capability and capacity to undertake such exercises. A major component in such exercises would be defining project participants to ensure a broad range of input, and of a high quality, is obtained. Another matter would be establishing a basis and level of detail required for making any decisions, particularly in regard to “no go” areas. Consideration regarding such areas will depend on a wide range of factors which in themselves may need to be tested to understand the issues and make decisions. It is not clear whether the suggested non-statutory approach would enable that.

Another approach may be the undertaking of a stock-take of potential renewable generation resources for an area or region to define what options exist and what the potential of those might be in achieving national outcomes.

*Q 7.19 Do you have any comments on potential options for pre-approval of renewable developments?*

There would seem to be a number of risks with such an approach, as recognised in the discussion document. The issue would be having approvals that are suitable for any particular project and maximise efficiency and effectiveness of use of any renewable generation resource. The most effective option is to establish a regime that clearly enables the development of renewable generation and attracts developers of such resources to undertake the activities they require to achieve project outcomes that maximise renewable generation potential.

*Q 7.20 Are the current NPSET and NESETA fit-for-purpose to enable accelerated development of renewable energy? Why?*

From the perspective of Westpower Ltd the main issue is the lack of recognition through national documents of distribution connections between; generation activities and the grid and between the grid and consumers. It is considered that this is a significant gap and provides for inconsistent approach to the network as a whole in achieving the use and development of renewable electricity resources.

*Q 7.21 What changes (if any) would you suggest for the NPSET and NESETA to accelerate the development of renewable energy?*

While potentially not a change to these documents consideration should be given to the wider network. This would include the role of distribution in the overall renewable generation network, and how the various aspects integrate.

*Q 7.22 Can you suggest any other options (statutory or non-statutory) that would help accelerate the future development of renewable energy?*

As above consideration should be given to the role of distribution in the overall renewable generation network and how the various aspects are integrated. Currently parts of the network are elevated, ie NPSREG and NPSET, however distribution does not have this level of recognition but is an integral component of the network. It is considered that in achieving national goals the recognition of, and provision for, distribution should form part of national policies. This will potentially avoid parts of the network being given different planning status throughout the country when in fact distribution is needed for the network to fulfil its functions and the national outcomes sought.

## ***Section 8: Supporting renewable electricity generation investment***

### **Power Purchase Agreement (PPA) Platform**

*Q 8.2 Would support for PPAs effectively encourage electrification and new renewable generation investment?*

Support for PPAs would encourage electrification and new renewable generation investment. This would decrease the uncertainty around the revenue from sales of energy exported into the network and encourage investment in new renewable generation.

## Demand-side participation and demand response

*Q 8.7 Do you consider the development of the demand response (DR) market to be a priority for the energy sector?*

This is crucial to enable optimum use of existing assets and minimise unnecessary capital investment. As new loads, such as electric vehicles, come on stream many low-voltage networks and/or distribution substations will become overloaded unless demand response can be used to shave peak loads.

*Q 8.8 Do you think that DR could help to manage existing or potential electricity sector issues?*

DR will assist at a number of levels including; managing load on the installation, load on the LV network, at the distribution substation, at the feeder, at the GXP and even across all regions. The more that DR can be aggregated and controlled at the appropriate level for each asset type, the more value that can be gained for electricity prosumers. Moreover, significant investment from asset owners can be either avoided or deferred, reducing the overall cost of supply.

*Q 8.9 What are the key features of demand response markets? For instance, which features would enable load reduction or asset use optimisation across the energy system, or the uptake of distributed energy resources?*

Demand response markets need to be open and transparent and they need to be readily accessible to individual consumers to bid into. The prosumer has the right to offer their interruptible load to a variety of parties and so a market that allows the highest use value used to be easily determined and automatically offered to the consumer maximises value to them. It also has to offer some level of automation to minimise the amount of time and effort spent by the prosumer in managing the system. In addition, to avoid concern around lack of control for urgent needs such as charging an electric vehicle during peak periods, there also has to be the ability to opt in or out at will provided that there are clear pricing signals around any financial impact.

*Q 8.10 What types of demand response services should be enabled as a priority? Which services make sense for New Zealand?*

Demand response makes sense for loads that can be interrupted for a period of time without significant impact on their utility value. These include;

- Electric storage hot water cylinders
- Electric vehicles
- HVAC systems

However, the value of interruptible load is significantly magnified when it can be controlled at the level required to avoid constraints. By way of example, if the demand could be managed on all installations connected to a specific distribution substation, this could avoid the need to replace the transformer with a larger unit. This is much more efficient than managing the load individually at each installation, and allows a much greater hosting capacity. The same holds true for assets further up the supply chain



## Other options for feedback

### *Q 8.21 What types of renewable projects should be eligible for renewable electricity certificates?*

The following forms of renewable energy would appear to meet the necessary criteria;

- small and community based hydro (where potential effects are appropriately avoided, remedied or mitigated)
- solar
- wind
- geothermal

## ***Section 9: Facilitating local and community engagement in renewable energy and energy efficiency***

### Benefits and costs of community energy projects

#### *Q 9.1 Should New Zealand be encouraging greater development of community energy projects?*

There should be encouragement of community energy projects as part of the overall mix of renewable generation within New Zealand. As discussed above one aspect of this will be defining what a community project is, for example Westpower Ltd is 100% community owned. Westpower currently owns and operates renewable generation, and has been seeking to further develop this for the benefit of the community it serves. Westpower considers that this should be encouraged and further enabled to assist with providing for a resilient and self sufficient community.

#### *Q 9.2 What types of community energy project are most relevant in the New Zealand context?*

There can be a range from small local scale to larger community scale (ie Westpower Ltd). Whilst Westpower is supportive of a range of scales it also considers that it is in a position to provide community scale projects that maximise efficiency and effectiveness of renewable generation.

#### *Q 9.3 What are the key benefits and downsides/risks of a focus on community energy?*

This will to some degree depend on scale. A range of project sizes can provide for resiliency dependent on circumstances. Community projects are also designed and undertaken to meet the needs of the community served, although there can be some efficiencies of large scale community projects in providing for growth as well as direct supply of current needs.

Potential risks, particularly at the smaller scale, could be lack of investment, capacity and long term maintenance for future growth. A higher number of smaller projects may also result in duplication of effort, investment and infrastructure requirements which may be rationalised through larger scale projects. There is also potential for a lack of coordination between projects, particularly where these might be adjacent and there are efficiencies to be gained from working together.

### What's the problem?

#### *Q 9.4 Have we accurately identified the barriers to community energy proposals? Are there other barriers to community energy not stated here?*

Barriers to community energy proposals have been accurately identified. Other barriers include technical issues around monitoring power flows in near real time to ensure that hosting capacity is maximised through monitoring of power quality performance. Dynamic voltage control and demand

control at the edge (or within a microgrid) is also necessary to get the optimum utility value from the distribution network.

*Q 9.5 Which barriers do you consider most significant?*

Resource Management Act barriers can be significant if the community benefits are not appropriately weighed alongside any perceived negative impacts.

*Q 9.6 Are the barriers noted above in relation to electricity market arrangements adequately covered by the scope of existing work across the Electricity Authority and electricity distributors?*

The barriers identified are adequately covered by the scope of existing work. These barriers are being actively addressed. Open access to data will be critical to reducing these barriers.

### What are the options?

*Q 9.7 What do you see as the pros and cons of a clear government position on community energy, and government support for pilot community energy projects?*

Equity issues may arise around access to the support. For example how would those who don't own their own dwellings access any benefits from the scheme? Landlords generally don't fund the power costs and so would not be incentivised to become involved.

### **Section 11: Local network connections and trading arrangements**

*Q 11.1 Have you experienced, or are you aware of, significant barriers to connecting? Are there any that will not be addressed by current work programmes outlined above?*

There are no significant barriers to connection apart from those relating to consenting distribution lines discussed in Section 7 of the Discussion Document. Distributors will need to invest in new monitoring and control tools to provide a neutral platform so that the networks can support two way power flows - something that they were not originally designed for. With appropriate open network standards supported by modern wireless communication technologies, this is not insurmountable.

*Q 11.2 Should the section 10 option to produce a users' guide extend to the process for getting an upgraded or new distribution line?*

*Are there other section 10 information options that could be extended to include information about local networks and distributed generation?*

Most EDBs already have clear and well-established guides for the process of getting an upgraded or new distribution line. This is generally termed a customer initiated work process and can be found on power company websites.

*Q 11.3 Do the work programmes outlined above cover all issues to ensure the settings for connecting to and trading on the local network are fit for purpose into the future?*

*Are there things that should be prioritised, or sped up?*

Current pricing and cost allocation for network connections is currently constrained by the Low Use Fixed Charge (LUFC) regulations. This continues to result in overinvestment by consumers to avoid network charges. Until the LUFC requirement is changed, it will be difficult to introduce cost reflective pricing distribution charges.

*Q 11.4 What changes, if any, to the current arrangements would ensure distribution networks are fit for purpose into the future?*

Ongoing monitoring of distribution company readiness for the introduction of new DER and related technologies would help to provide a clear focus for the path ahead. The ENA Roadmap would form a useful benchmark in this regard.

**Further Information and Hearings**

If you have any queries, or require further clarification, in regard to this submission please feel free to contact me.

Yours faithfully

***for Rodger Griffiths***  
**General Manager Assets and Engineering Services**