

3 June 2015

Climate Change Contribution Consultation  
Ministry for the Environment  
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### **New Zealand's Climate Change Contribution Consultation**

Thank you for the opportunity to provide feedback on New Zealand's contribution to the new international climate change agreement. No part of our submission is confidential.

Mighty River Power welcomes the increased flexibility introduced post the Kyoto Agreement to allow countries to determine a range of contributions they can make toward domestic emissions reductions.

We support the government's objectives in establishing how our contributions should be determined. Achieving the right balance between the objectives will require in part high quality empirical analysis but also a clear articulation of the inevitable trade-offs that will be required.

The challenges associated with New Zealand's unique emissions profile and the risk that a new agreement may not meet our requirements for the use of carbon markets and the land sector, mean there is a need for us to consider what alternative measures may be able to assist in achieving any target we establish.

We consider there are steps the New Zealand Government could take immediately and on a 'no regrets' basis that would demonstrate leadership and serve to differentiate ourselves on the international stage.

#### **Leveraging our renewables advantage**

New Zealand is ideally placed to take advantage of an early transition given our world leading and subsidy-free renewable electricity generation sector. There is scope to extend our renewable advantage into other sectors of the economy.

In particular the discussion document makes clear that New Zealand's emissions profile is heavily weighted toward agriculture (49%) and transport (17%). Making significant reductions in agriculture is challenging without technological advances which may require decades to commercialise. The challenge is to balance the Government's objective of showing ambition in our contribution, with the costs associated with potentially impacting a critical part of New Zealand's economy.

There are two main areas where additional emissions reduction contributions could be made that leverage our current renewables advantage:

- Government support for vehicle electrification
- Establishing an economy-wide renewable energy target

### **Support for vehicle electrification**

There is currently sufficient renewable generation capacity consented to power every light passenger vehicle in New Zealand. Even without significant new generation development a substantial proportion of the existing light passenger fleet could be converted to electricity without additional infrastructure costs by shifting charging to off-peak periods. This would achieve around a 10% reduction in New Zealand's annual current emissions.

The current outlook for the cost of batteries, the main cost component of electric vehicles, is decreasing much more rapidly than forecast. Under current projections, batteries could reach cost parity with the internal combustion engine within 10 years<sup>1</sup>.

While New Zealand will benefit from the current levels of international subsidisation of electric vehicle technology over the long term, there are a number of commitments government could consider to bring forward the benefits and demonstrate leadership.

#### *Government fleet conversion*

The government is one of the largest fleet owners in New Zealand. Shifting over time a significant proportion of the government fleet to electric vehicles would both demonstrate high level commitment to emissions reduction but also importantly enable the growth of secondary markets.

There are electric vehicle models currently available on the market that are able to substitute for commonly used fleet vehicle classes, but with superior total cost of ownership.

#### *Infrastructure provision*

Many countries internationally are making significant commitments to install public charging infrastructure for electric vehicles. While New Zealand has the advantage of having some of the highest penetration of off-street parking in the world (and therefore access to household charging options) the visibility of public charging is an important step to provide consumer confidence and normalise electric vehicles.

The Electricity Networks Association is currently scoping the potential for a “renewables highway” a national network of public charging infrastructure enabling travel across the country. Given the national significance of such infrastructure, the government should

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<sup>1</sup> Nature Climate Change (March 2015) “Rapidly falling costs of battery packs for electric vehicles” <http://www.nature.com/nclimate/journal/v5/n4/full/nclimate2564.html>

consider what role it is able to play in facilitating the development of the renewables highway.

#### *Addressing barriers and providing positive incentives*

Any new technology will face initial information barriers as consumers understand the costs and benefits versus conventional technologies. There may also be policy barriers that inadvertently disadvantage and hold back the uptake of new technologies.

We support the work currently being undertaken by EECA to address the current information barriers around the total cost of ownership of electric vehicles for fleet managers. In a survey of its members, the Sustainable Business Council (SBC)<sup>2</sup> has highlighted that one main impediment to accelerated uptake of electric vehicles in corporate fleets is the current FBT regime which inadvertently disadvantages higher capital cost vehicles despite a lower total cost of ownership. We would support the government considering ways to address this issue during the initial stages of electric vehicle deployment.

Mighty River Power endorses the other support measures outlined in the SBC report as relevant areas for government consideration.

#### *The need for robust quantification*

The shift towards electric vehicles is expected to bring a range of benefits to the New Zealand economy beyond emissions reduction, such as reducing oil imports and improving air quality as well as providing a viable source of energy storage in the electricity grid.

These benefits are well understood in theory but have yet to be quantified in a robust and systematic way, which would then allow for consideration of the incentives government would potentially be willing to 'invest' in to achieve a given level of electric vehicle uptake.

In the United Kingdom it has been assessed that the net economic effect of shifting toward higher penetration of electric and hybrid vehicles would be to increase GDP by between £2.5 to £5 billion by 2030 when taking into account the above factors<sup>3</sup>. Similar analysis would be useful in the New Zealand context as well as the use of robust demand estimation techniques to inform what a credible contribution might look like for New Zealand in terms of emissions reduction.

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<sup>2</sup> Sustainable Business Council "Accelerated uptake of electric vehicles in corporate fleets"  
[http://www.sbc.org.nz/\\_data/assets/pdf\\_file/0009/94959/SBC-Paper-Electric-Vehicle-Uptake.pdf](http://www.sbc.org.nz/_data/assets/pdf_file/0009/94959/SBC-Paper-Electric-Vehicle-Uptake.pdf)

<sup>3</sup> Fuelling Britain's Future (March 2015)  
[http://www.camecon.com/Libraries/Downloadable\\_Files/Fuelling\\_Britain\\_s\\_Future.sflb.ashx](http://www.camecon.com/Libraries/Downloadable_Files/Fuelling_Britain_s_Future.sflb.ashx)

## **Establishing an economy-wide renewable energy target**

As noted, unlike many countries, New Zealand has limited opportunities to decarbonise its electricity generation sector which is already 80% renewable. Recently we have seen geothermal overtake gas as New Zealand's second fuel source behind hydro generation, which is a testament to the strong renewables base we enjoy.

With significant current renewables generation consented, the Government's current 90% renewable target by 2025 is highly likely to be achieved. Establishing an economy-wide renewable energy target would therefore appear consistent with the Government's objectives that national emissions reductions contributions are fair but ambitious.

There are currently a number of world first examples<sup>4</sup> of where New Zealand is leading in using its renewable resources for export market opportunities and we should be looking for further opportunities to leverage this advantage. Implementing an economy-wide target would provide the visibility and focus required for business and policy makers to innovate around new opportunities to drive GDP growth opportunities while simultaneously reducing New Zealand's carbon emissions.

If you have any questions regarding this submission please contact me at [nick.wilson@mightyriver.co.nz](mailto:nick.wilson@mightyriver.co.nz) or on (09) 580 3623 or 027 7050476.

Yours sincerely

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<sup>4</sup> For example, the Tuaropaki Trust owned Miraka milk processing facility uses geothermal heat to process more than 250,000,000 litres of milk annually into powders and UHT products.