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8 June 2018

New Zealand Productivity Commission  
PO Box 8036  
The Terrace  
WELLINGTON 6143

Dear Sirs,

**Submission on the April 2018 Draft Report “Low-emissions economy”**

I am Managing Director of Windflow Technology Ltd, which has established local manufacturing of innovative, synchronous wind turbines that have been installed in New Zealand and Scotland. I am a registered mechanical engineer in New Zealand and California, a Fellow of Engineers NZ and a life member of the NZ Wind Energy Association. I am making this submission as an individual.

My commitment to wind power for New Zealand dates back to 1976 when I returned to Christchurch from Australia as an 18-year old to study at Canterbury. I have worked in wind power since travelling to California in 1984 then moving on to London in 1986. After working overseas in the wind industry for seven years, I returned again to Christchurch in 1991.

Since then I have worked continuously to establish Windflow Technology Ltd, raising over \$150 million to build several companies and 106 turbines (53 MW total) between 2001 and 2016. Very little of this funding has come from the New Zealand government or SOEs, who have bought turbines from Denmark to date. Windflow turbines have been technically successful but the companies have been commercially challenged primarily because of inconsistent pricing and policy signals in New Zealand and Britain.

My submission is in respect of “getting emissions pricing right” and is simply that:

- **Users/wholesale providers of fossil fuels (and other sources of GHG emissions) need to bear the cost of absorbing CO<sub>2</sub>.**

The late Professor Peter Read called this economic instrument the tradeable absorption obligation (TAO), a name which sums up the concept very well. Government should set the allowed quantum of net emissions each year and administer the system for trading the obligations (equivalent to emission permits and absorption credits). Other complementary measures should be adopted as appropriate (especially while the cap on net emissions is allowed to be greater than zero), but nothing else will be as effective as the TAO at:

- Absorbing CO<sub>2</sub> so as to control atmospheric GHG concentrations now and into the future,
- Incentivising energy efficiency and renewable energy (direct solar, wind, hydro, and biofuels),
- Incentivising the fossil fuel industry to make the transition to sustainable biofuel production, and
- Minimising the cost of achieving any required trajectory for net GHG emissions.

I enclose a 15 page summary of my thoughts on global warming and would draw your attention to pages 9-14 which focus on the TAO. Centred on three 1-page “statements”, this document sets out the intellectual contributions I believe I can make to this global issue, including the science (which I have not previously presumed to address, and understand is outside your scope of work, but I include it for your interest). In terms of specific comments on your Draft Report and the thrust of New Zealand’s current government policies, I am generally supportive but (as mentioned above) remain impatient to see real action, 26 years after the FCCC was signed.

In particular, I am pleased to see land use and forestry bracketed with emissions pricing in your Draft Report, although I would note that there is more than one reference to afforestation being a temporary

measure. While this is strictly true in the sense of new forests as a form of land use change, it is an unhelpful comment in the context of the transient and steady-state roles for afforestation and ongoing re-afforestation in the TAO (see also FAQ 1 on page 11 of the attached).

I would urge the government to continue this sort of "joined-up thinking" by:

- a) Rapidly phasing out free-riding for farmers on methane emissions, while encouraging them to invest in the agro-forestry that they are so well-placed to increase. As for the fossil fuel industry, it's a simple application of the polluter pays principle, asking Cicero's age-old question "who benefits?"
- b) Minimising taxpayer funding of afforestation (eg the "billion trees" target). It is essential for political durability and long-term effectiveness that the fossil fuel industry funds afforestation and the creation of other biomass feedstocks. This will incentivise them to make the transition to different forms of industrial scale organic chemistry than the petro-chemical industry they have such expertise in. The impact on their balance sheets of having to leave fossil fuels in the ground is one of the biggest political impediments to moving those companies beyond lip service. The TAO will put something else on their balance sheets that can be "banked" as a resource in future decades.

As a related point, in the case of forestry that is funded by the private sector (whether that be fossil fuel companies, farmers or other investors), decision-makers need to learn the lesson of the mistake made the previous Labour Government, whereby they convinced themselves that Treasury owns the forestry credits, thus alienating the land-owners and foresters who truly owned them and set about proving that with chainsaws. Yes, carbon credits can be separated from the wood itself as an asset. No, the ownership of the carbon credits cannot rightly be appropriated away from the owner of the trees, other than by a fair, transparent and well-regulated trading system.

I trust that the rationale for my submission regarding "getting emissions pricing right" is clear, but if you need me to enlarge on any of these points, I would be happy to do so.

Addressing this issue will require a strong macro-economic vision that will not be swayed by the tropes and platitudes of business-as-usual thinking. That will require great leadership, communication skills and ability to bring the people with them. As your Draft Report says, profound change can occur over timeframes of 30 years or less, "with the wellbeing of communities benefitting enormously from changes that, at first, appeared to be highly disruptive and threatening." New Zealand can do this. If we can't, the future for global civilisation is bleak.

I believe this new government has the visionary leadership to get this message across and bring New Zealanders with them through this "nuclear-free moment". I wish the government well and have taken the liberty of copying this submission to the Prime Minister and appropriate ministers in the hope that they find it relevant to their portfolios.

Yours sincerely,



G M Henderson

Cc: Prime Minister Jacinda Ardern  
Minister for Climate Change James Shaw  
Minister of Finance Grant Robertson  
Minister of Economic Development and Minister for the Environment David Parker  
Minister of Energy Megan Woods  
Minister of Forestry Shane Jones