



Committee Secretary  
Senate Standing Committee on Environment, Communications and the Arts  
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Parliament House  
Canberra ACT 2600  
Australia  
By email to: [innovation@planning.nsw.gov.au](mailto:innovation@planning.nsw.gov.au)

Monday, 31 May 2010

Dear Sir/Madam,

Senate inquiry into:

**Renewable Energy (Electricity) Amendment Bill 2010 [Provisions];  
Renewable Energy (Electricity) (Charge) Amendment Bill 2010[Provisions];  
Renewable Energy (Electricity) (Small-scale Technology Shortfall Charge) Bill 2010  
[Provisions]**

With experience with over 300 grid connect Small Wind Turbines (SWT) in NZ, South Pacific and now Australia we see parity of Renewable Energy Certificates regulations (REC) regulations as being critical to the development of the small wind industry in Australia.

Today in areas of moderate to high wind grid connect SWT can currently produce electricity at around 14 – 20 cents per kWh (prior to REC value) significantly lower cost (prior to REC value) than grid connect PV arrays. We estimate that generation costs of below 10c kWh should be achieved within 5 years.

### **Current Australian SWT Industry**

SWT have been used for generation in Australia for almost a century. Prior to grid electrification and the rise of diesel based electricity most regional and rural farms and stations relied on SWT to provide electricity for lighting and other needs. We Australians have a history of technological innovation – and have had a number of leading edge SWT manufacturers. Unfortunately we have an abject lack of long term government policy in this area – and most manufacturers have been unsuccessful or have moved closer to overseas markets – Eg: West Wind which moved to Ireland.



The grid connected SWT industry in Australia is embryonic. We have only a handful of small manufacturers of SWTs. REC registry data indicates that fewer than 60 grid connect systems claimed RECs during 2009. We estimate that the industry is probably double this size with approximately 120 installed during 2009. This compares with a US market of 9,800 SWT<sup>1</sup> per annum and a global market of 21,500.

### **Overseas trends show massive SWT market growth potential**

The American Wind Energy Association (AWEA) estimates a total theoretical market potential for SWT of 15.1 million units or 113,000 MW or 11% of the current US generation capacity<sup>2</sup>, roughly equivalent to current US Nuclear generating capacity.

To fulfill this demand the AWEA projects a continuation of the explosive growth in the industry experienced over the last 5 years. The AWEA estimates that US SWT installed capacity is currently 100 MW and is on track for 1,000 MW by 2015.

Globally the SWT industry is in its infancy, total global SWT hardware sales were estimated at USD 189 million, with 2/3 of the systems being manufactured by American manufacturers. American manufacturers provide 95% of all SWT sold in the US.

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<sup>1</sup> 2010 AWEA small wind survey  
[http://www.awea.org/smallwind/pdf/2010\\_AWEA\\_Small\\_Wind\\_Turbine\\_Global\\_Market\\_Study.pdf](http://www.awea.org/smallwind/pdf/2010_AWEA_Small_Wind_Turbine_Global_Market_Study.pdf)

<sup>2</sup> US Department of energy 2008 Annual energy survey page 286.  
<http://www.eia.doe.gov/emeu/aer/pdf/aer.pdf>

## The Current REC system is impeding the growth of a viable Australian Market for SWT

We believe that all forms of micro renewable micro-generation should be treated equally. At present PVs have a significant advantage over SWT and other forms of micro generation as follows:

Issue	PV SGU	Wind SGU	Comments	Recommendations
Deeming period	15 years	5 Years	Creates inequity on SWT. Initial deemed RECs for a 10 kW Solar are worth approx \$21,000 vs \$6,000 for SWT. The retail market treats RECs as a purchase price subsidy - and the greater RECs on Solar turns buyers toward solar. Correctly sited SWT will also generate more electricity, and has greater potential to create Australian Green jobs.	Extend Wind and other Microgeneration RECs deeming period to 15 years
Maximum annual generation	100 mWh	25 mWh	A well sited 10 kW wind system can generate up to 40 mWh per annum and under current legislation this will be classified as a Power Station and ineligible for deemed SGU RECs. If the 40 mWh per annum were generated from solar, the installation would be eligible for Deemed RECs. Effectively this creates incentives to install a) lower efficiency turbines, or b) smaller turbines. We believe that the 25 mWh threshold for Wind SGUs creates a market imperfection which prioritises solar over SWT.	Extend Maximum annual generation threshold to 100 mWh per annum

Figure 1 Current RECs treatment of Solar PVs vs SWT

## Unlocking Australian Market potential

We believe that the Australian SWT market potential is as significant as the US. We have world leading technology in Australia through such innovators as the Aerogenesis project at Newcastle University and the SWT test site at Murdoch University. We have manufacturers of SWT inverters and turbines. We have a wind resource equal to or better than many parts of the US.

We want Australians to have the opportunity to build an industry here selling world class SWT to the growing World market and we want to develop and support high technology Green jobs in Australia....but to do so we need a vibrant and competitive domestic market.

We believe that the preferential RECs treatment of Solar PhotoVoltaic's(PVs) over SWT is playing a significant part in retarding the growth of the SWT market in Australia. The preferential treatment of Solar SGUs is resulting in many potential SWT sales being diverted to Solar. US SWT experience shows that a vibrant domestic market is critical to the success on the global stage. We believe that the current poor SWT RECs treatment of will play a big part in stymying Australia's ability to compete in the global SWT market.



We request that you amend the legislation to provide equal treatment for PVs and SWT, and help remove the constraints to building a domestic market and to respond to the Government's MRET target in the most economically efficient manner.

I would be happy to attend any Canberra Senate or House briefings and take Q&A if this is required.

Thanks

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