Submission
No 87

INQUIRY INTO RURAL WIND FARMS

Organisation: Eco Energy Solutions (Australia) Pty Ltd

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Position: Managing Director

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Submission to NSW Legislative Chamber's Wind Inquiry.

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- Garry Yost – MD, Eco Energy Solution
- Mitra Ardron – CEO, Natural Innovation
- Graham Rogers – MD Austrolabe Nexus Pty Ltd and MD of IRE7CC.

Background to the authors

Eco Energy Solutions (Australia) Pty Ltd (EES), and its founder Garry Yost have a successful track record as a designer, installer, operator and maintainer of standalone and grid interconnected renewable energy systems throughout Australasia. Building off a network of contractors and the previous experience of building Australian Power Industries into a major power industry service provider employing over 680 electrical trades and engineering employees servicing clients throughout Australasia, prior to its sale to ERG.

Mitra Ardron is a consultant working with the development of clean technologies, he was general manager of Beyond Building Energy, and developed that companies business model thereby dramatically changing the Solar Photovoltaic business in Australia.

Graham Rogers has experience in Project Finance, Corporate Finance, Environmental Finance, investment banking and contributions to tertiary education in four Australian universities gained over three decades. He has worked on the financing and risk management of several major energy projects throughout Australia. He is a foundation Director of the Victorian Solar Cities Project and of the Ballarat & Bendigo Solar PV Park Facilities (amongst the largest Solar Facilities built to date n Australia). Having previously worked on wind technology evaluation and planning for Australasia, he is currently assisting Garry Yost on the development of the integrated renewable energy business of EES, together with its proposed mid range assembly and manufacturing facility.

Renewable Energy's Future.

The reality of climate change means that Renewable Energy faces a big future across the World. In Australia, at the federal level, the passage of the Renewable Energy target, and the likely passage of the CPRS in some form or other, means that Australia will be producing significantly more of its energy from renewables.

Australia as leader, or as consumer

Whether Australia participates in the Renewable Energy changes, as an active player, or as a passive consumer will depend in part on building capabilities, and a

skill base at every level of the supply chain. The next few years in particular will be critical in that regard, as Renewable Energy ramps up worldwide.

Countries such as China for example are already suffering because they didn't develop skills and capabilities in the wind sector that match their new targets.

The authors believe that we are entering a period of rapid innovation and product change in which Australia needs to be a lead player, and develop its capabilities and skills, or it will be left importing whatever the rest of the world chooses to manufacture, whether or not it meets Australia's needs.

Lead times on imported wind turbines already range from 10 months for mid-range and 2.5 years for larger turbines, and Australia is not considered a priority in the much bigger world market.

Further, more distributed mid range wind turbines could play a major beneficial role in the industry development.

EES making commitment ...

EES is developing a project, and has secured the rights to establish a manufacturing line for the award winning Nordwind mid-size wind turbines in Australia. This will provide a basis for skill development in the full range of design, evaluation, manufacturing, assembly, installation, operation and management of mid range turbines across the National Power network. EES believes it is critical to establish and build the skill base and market for such mid range turbines for distributed installation and operation. The proposed mid range assembly and manufacturing facility has not been previously publically announced.

Mid-range Wind

EES selected the mid-range (15kw-1MW) wind area for a number of reasons. Specifically:

- Machines in this range, when installed individually, have significantly less visual and other impacts. Many of the complications of large wind farms are reduced.
- Since the typical purchasers (farmers and other businesses) usually own both the land, and the wind resource that goes with it, the affordable cost of the machines provide a means to reduce their energy costs and supplement other income sources with revenues from beneficial grid sales.
- The cost of the machines – typically between $90,000 (30kW) and $650,000 (150kW) is within the range that enterprises such as a farm can afford and can finance.
- At this scale, the size is small enough that installation is uncomplicated, and doesn't require new infrastructure such as access roads. Further their distributed nature offers grid managers greatly enhanced management options that can build system reliability and resilience.

- Since these turbines typically operate at 415V, three-phase it reduces the requirement for high voltage lines, and expensive interconnection equipment, being directly plug and play.
- The payback time of the machines, in part based on the new Renewable Energy targets and improved by potential inclusion in any feed in tariff measures, make turbines in this range a sound investment for buyers excluded from large wind farm costs. The financial return which will improve as costs reduce with volume, and with the Renewable Energy targets.
- In addition it provides a hedge for the owner from future electricity price rises.
- For a farmer with a prime wind site, income from wind could easily exceed that from other sources, and the turbines scattered across a farm are compatible with for example the use of the land for grazing.
- A diversified income improves resilience, providing an income for example in drought years that may be the difference between staying in business or not.

For these and other reasons, it is important that policy measures support the adoption of mid range wind turbines within the national electricity market.

Barriers to Adoption.

In order to be effective, mid-range wind turbines face two impediments,

1. Planning approval is complicated, time consuming and significantly adds to the cost of the project overall, with uncertain outcomes. The experience for example of one northern NSW farm that installed a 20kw turbine acted as a powerful disincentive to several other businesses considering a similar investment.

2. The turbines need to be grid-connected, and such connection is often made problematic, or unnecessarily delayed by the grid operators. It is necessary that government policies require grid managers to permit access, and maximise the power drawn down from distributed renewable energies.

Government stimulus package

The current federal government stimulus package provides significant tax incentives for capital purchases, however those purchases have to be ordered by Dec 2009, and installed by Dec 2010.

If current uncertainties are reduced, around planning, and grid connection these orders are may be placed, thereby supporting the establishment of manufacturing facilities in the Australasian market.

Recent Planning developments

On 17th August, the NSW government announced a new policy to speed up planning decisions (to a maximum of 4 months), and waive infrastructure fees, on wind farms, in an attempt to accelerate the shift to a cleaner economy.

However this was limited to wind farms **of above 30MW capacity**, which restricts the benefits to very large companies, rather than the farmers who can afford mid-range turbines with the benefits, and reduced impacts at that scale. This effectively favours concentrated wind farms over distributed systems and threatens to provide an unfair regulatory disadvantage for mid range machines, thereby introducing anti competitive policies.

Requested changes to NSW legislation.

To facilitate the growth of mid-range wind, with all its advantages, it is suggested that the NSW government extends its support of wind farms to cover wind turbines from 20kw and up, suggestions are made in two areas.

Planning

1. ***That planning process for those turbines should be reduced to 4 months as for the larger turbines.***
2. ***That a common, simple and standardised process applies across all Councils/Shires with simple environmental processes etc.***
3. ***That planning fees also be waived for the same period as for large farms (August 2009-June 2011), noting that as a proportion of the project budget, planning accounts for a larger percentage on mid-range farms.***

Connection to the Grid.

4. ***That the government require the NSW utilities to allow and facilitate the connection of mid-range turbines.***
5. ***That the government require the NSW utilities to purchase all the power generated by these facilities at a reasonable, and certain, feed-in-tariff.***
6. ***That the government extend the Solar PV input tariff multiplier to include wind turbines up to 30kw as well, which can produce up to double the electricity output of a 30kw solar system as they operate for more hours per day.***

Attendance on Enquiry

Garry Yost from EES can make himself available to address the NSW Legislative Chamber's enquiry, In the event that Garry is not available on the date of the enquiry, on short notice either Mitra Ardron or Graham Rogers will attend,.

They can be reached at:

Garry Yost:
Mitra Ardron:
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