

Trustee Notebook

By Laura Busheikin

After an amazing run of sunny days that stretched right into mid-October, the weather gods finally checked the calendar and realized it was high time to send in the fall storms. As I write, the wind is howling outside. As the trees sway dangerously and my house creaks ominously, I put another log on the fire, and my thoughts turn to the awesome power of wind.

Is it possible to harvest wind power on Denman Island? Is it a good idea, financially, environmentally and otherwise? Is it even legal? These and other questions are explored in an Islands Trust document called *Renewable Energy Technology in the Trust Area: Topic 1 — Domestic Small Scale Wind Energy* (available on the Trust website by typing in the title on the site search engine).

The report is intended to be the first in a series that will also look at tidal power, solar power, geothermal/hydrothermal heating, microhydro electricity, and rainwater collection. This initiative is part of the Climate Wise Action Program for reducing greenhouse gas emissions throughout the Trust Area.

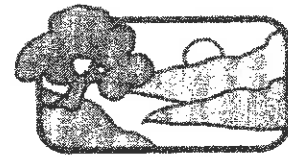
The report focuses on small scale wind turbines, which means anything in the range of 1 to 50 kW. It is aimed mainly at Local Trust Committees, but has lots of good information for the Island public.

Currently, wind turbines are....well... kind of allowed on Denman. To explain: our Official Community Plan (OCP), which lays out general goals for the island, promotes "the use of renewable energy and the development of renewable energy sources," (Section C4, Objective 2), and includes a number of policies supporting this.

Also on the supportive side, "generation of electricity from non-polluting renewable sources accessible to a principal use" is explicitly listed as a permitted use in most zones on Denman.

However, Denman Island has a six metre height restriction for out-buildings (to ensure that development remains small scale and does not excessively block sunlight and viewsapes). A wind turbine, even a small scale one, would exceed this. But this barrier can potentially be overcome — by applying for, and receiving, a variance permit that would grant a site-specific exception to the rules.

Whether we stick to this rather ambiguous state of affairs, or move forward to create more detailed regulations for wind turbines, we need to consider the potential impacts of wind turbines on the human and natural environment.



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The report lists eight possible impacts: noise, property values, visual impact, effect on birds and bats, shadow flicker (the shadow cast by the rotating blades), and three safety concerns known as blade throw (a falling blade), ice throw (ice buildup flying off a blade), and structural failure (the whole thing falls down).

The report explains and assesses these potential impacts and suggests ways a regulatory framework for wind turbines could address them. Some of this may be as simple as establishing setbacks from lot lines or from the nearest residences. Setbacks could be established according to noise levels (at the lot line or the nearest residence, the noise can't be higher than 40 decibels) or distance (again to the lot line or nearest residence). There could also be guidelines about not allowing wind turbines near important bird and bat areas.

Also, the report looks at the economic viability of small scale wind turbines. It's not particularly encouraging. Consider this: a very small (1 - 10 kW) turbine costs \$10,000 - \$80,000 and a larger one (up to 50 kW) costs \$100,000 - \$400,000. This does not include other costs such as inverters, batteries, installation, labour, permits, and sales tax. As well, because BC Hydro rates are relatively low, the cost-benefit is minimal or non-existing for anyone who has access to BC Hydro.

For instance, the report tells us that a 10 kW wind turbine installed on breezy Ogden Point in Victoria, with an average wind speed of 5 metres/second, will generate electricity at a cost of \$.87/ kWh, while BC Hydro sells electricity at approximately \$.08/ kWh.

However, the report is not, ultimately, pessimistic. It points out that there can be good reasons to invest in wind power — some people have no access to Hydro, and wind power generation helps meet widespread community desires for self-reliance and self-sufficiency. Also, the report includes a list of funding resources for wind power.

The LTC has placed the topic "regulations governing wind towers" on its projects list, signaling an intention to take this on, but thus far there is no timeline in place for this. In the meantime, the wind is blowing, and if you want to think about harvesting its power, hopefully I've provided some information to get you started.