

## **Hull CARES**

### **Tips for owning a wind turbine and selling the power in your community**

There are three characteristics of the energy produced from wind that have some value for buyers. The way that a town or school sells the power and these attributes will determine how the revenues add up. Finding the customers is the key.

The energy is of course the basic attraction. You have planned for the school (or Town) to use energy directly from the turbine, and can displace hopefully all of a building's energy purchases. This allows that subset of the energy produced from the turbine to be valued at the school's retail cost for power, maybe 8 cents or higher. This high value for the energy may be available only by making a direct connection from the turbine to the school's side of the meter. The surplus production that exceeds the school's use is still a question. In the options section below, there are some scenarios that should be explored for the surplus power.

Other users of electricity can, and will most certainly use, the surplus energy. Getting the details of this worked out will be one of the major factors in getting the revenues. In the narrowest sense, these kWhs are interchangeable with the energy that the local utility buys and resells to its customers. At this level, the energy is priced as a commodity, and has the lowest value. Capturing more value and revenues for the turbine requires separating the other two characteristics and with some effort, selling these to paying customers.

What are the other two characteristics? The green attributes, and the price stability coming from the independence from fuels.

The green-ness can be sold as "green tags", but this requires the separation, marketing, and successful selling at a decent price. Green tags are an invention that was required to allow energy buyers to be able to get green power in regions where there was no choice offered by the electric utility system. The fact that green tags are separated from the energy is an advantage for marketing the green-ness over a broader area. However, because of the separate marketing and selling, green tags have become a commodity that are bought and sold by middlemen with their own expenses to meet.

The price stability, known also as a hedge, is real, but much harder to market and sell to customers separate from the energy. In the financial world, having some part of the portfolio (of power supply in this case) that is immune from volatile changes is understood and can have a calculated value. More often, this is an informally recognized benefit, where the buyer of wind energy recognizes that the price of power won't change when the events in the world otherwise change the price of energy. In most situations, you want to protect this value for the users, rather than try to sell it as a third "product" from the turbines. As you go forward, you will do better to educate all parties on this, and not allow the erosion of this feature. (In some utility green power programs, the utility has an adder to the bills for customers requesting green power, such that the customer still suffers any price increases from the utility's supply of energy. This is no good for the customer, and defeats the price stability benefit.)

## **Options**

The school has a range of choices.

1. A charity-based "Adopt-a-Turbine", where the community or government simply helps defray the cost, and gets no energy-related benefits in return. The surplus power and the green tags would be sold at commodity-market prices.
2. Green Tags sold by the school, where the buyers have something abstract they can use for rhetorical purposes. The price paid for the tags is probably the highest when sold directly by the school, but all the burdens of tracking, marketing and selling fall to the school.
3. Green power sold by the school to the local utility. This route is simple for the school, and should pay a premium price for the surplus. The local utility should be the most capable institution to understand the benefits and values of this energy. The utility is already buying power from other sources, and likely paying charges on top of the commodity price to have the power delivered to your town. Because the wind turbine is inside the service area of the local utility, and attached at the lower voltage, a series of savings accrue to the local utility. ***No other body can capture these savings!***
4. Use the local utility to transport your energy to additional customers in the area, who pay the school in one form or another for supplying energy. This has the most variations, but allows the school to build the broadest support for the turbine, (and possible future turbines). Green tags can still be sold as a commodity if the local customers are only buying the energy.

The differences between these options include the geographic scope, the involvement of the local utility, and the breadth of local support for the project. I know what my preference would be, but you know more about the local situation!

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