

This is to further explain why I believe it is in the best interest of the environment and the State of Oregon to allow industry to self direct the 4-6% Renewable Adjustment Clause that will be part of utility bills shortly. The idea is that the utility would be 'relieved' of installing renewables for those kWhs that are self directed.

What I'll do to illustrate this is to compare the cost & output characteristics of a regional large scale wind generator to various energy conservation projects. I won't include any tax or energy incentives for clarity.

Here's information regarding wind generators in the western US:  
Typical large scale wind generator = 1500 kW max output  
Typical output efficiency (given varying wind conditions, etc) = 32%  
Typical cost = \$2500 / kW (this price has doubled since 2004)

Typical yearly output = 1500 x .32 x 365 x 24 = **4,204,800 kWh / yr**  
Typical cost of the generator = 1500 x \$2500 = **\$3,750,000**

The easiest way to compare this to an energy conservation project is to simulate taking the same \$3,750,000 and 'invest' in varying projects. As a background, HP takes the same view of conservation projects as the Oregon Department of Energy, we evaluate a project's value by 'energy payback', i.e. how much energy is saved per money invested in the project. This is expressed as (project \$ spent) / (energy \$ saved). For example, if \$1000 was spent on a conservation project that saved \$1000 in energy, that's a one year payback project.  
\$1000 in energy is \$1000 / .07 kWh = 14,285 kWh.

So if the above \$3,750,000 was invested in a one year payback conservation project, it will save \$3,750,000 in energy or 52,857,143 kWhs at \$.07 / kWh yearly. This provides 10x the environmental benefit to the above wind generator. There are one year payback projects we have in progress now at HP, but the typical project we do is closer to 2 to 8 years before incentives. Below are energy savings for various projects:

- 1 year payback = 52,857,143 kWhs
- 2 year payback = 26,428,571 kWhs
- 3 year payback = 17,619,048 kWhs
- 4 year payback = 13,214,285 kWhs
- 5 year payback = 10,571,428 kWhs
- 8 year payback = 6,607,142 kWhs
- 10 year payback = 5,285,714 kWhs
- 12 year payback = **4,404,761 kWhs**

So the 'energy value' of a 12 year payback energy conservation project is about the same as the current cost of wind power. A factor in this is the cost of wind energy is has increased in cost by 2.5x in the last 4 years. What was a 'good deal' is less so now.

The cost of Solar Photovoltaic's is substantially worse than wind, a project with today's technology would cost \$7M to deliver 1,700,000 kWhs / yr.

To sum up, if industry could self direct the 4-6 % Renewable Adjustment Clause for the typical 8 year or better project, more kWh and green house gases would be preserved than with wind generation or other renewables. Self direction of energy bill fees are already an established process in the Oregon Department of Energy as an easy to use web based system. Economically for Oregon industry it means the difference between extra a 4-6 % fee that would need to be absorbed by the business vs. a reduction in energy consumption that would lower cost and make industry more competitive worldwide.

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