Memorandum

To: Thurston County Planning Commission

From: Tony Kantas, Resource Stewardship

Date: July 7, 2010


At the June 16, 2010 work session, the Planning Commission discussed exempting solar and wind structures from the height limitations of all four Zoning Ordinances (Title 20, 21, 22, and 23) when the energy structure is used as an appurtenance to an approved use on a property. The Commission pointed out three concerns regarding exempting solar panels and windmills from the height restrictions of the zoning ordinances.

The concerns include:
   1. Impacts to Rural Character
   2. No height limitation to the exemption
   3. Multiple wind structures per lot

1. Impacts to Rural Character:
The main issue raised was that a property could potentially become a wind farm providing power to several properties. The proposed exemption would only be applicable to an individual property that wanted to obtain all their power or a portion of their power from a solar and/or wind structure.

If an applicant proposed to construct any type of energy source including solar panels or windmills that provided power off-site, a special use permit would be needed, which requires a public hearing and Hearing Examiner approval of a “Public Utility”.

A “Public Utility” is defined as: “a business or service, either governmental or having appropriate approval from the state, which is engaged in regularly supplying the public with some commodity or service which is of public consequence and need such as electricity, gas, water, transportation or communications.”
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To approve a Special Use Permit the “Approval Authority” must make a finding that the proposal complies with all of the following standards, which includes impacts to neighborhood character:

1. Plans, Regulations, Laws. The proposed use at the specified location shall comply with the Thurston County Comprehensive Plan and all applicable federal, state, regional, and Thurston County laws or plans.

2. Underlying Zoning District. The proposed use shall comply with the general purposes and intent of the applicable zoning district regulations and subarea plans. Open space, lot, setback and bulk requirements shall be no less than that specified for the zoning district in which the proposed use is located unless specifically provided otherwise in this chapter.

3. Location. No application for a special use shall be approved unless a specific finding is made that the proposed special use is appropriate in the location for which it is proposed. This finding shall be based on the following criteria:

   a. Impact. The proposed use shall not result in substantial or undue adverse effects on adjacent property, neighborhood character, natural environment, traffic conditions, parking, public property or facilities, or other matters affecting the public health, safety and welfare. However, if the proposed use is a public facility or utility deemed to be of overriding public benefit, and if measures are taken and conditions imposed to mitigate adverse effects to the extent reasonably possible, the permit may be granted even though the adverse effects may occur.

   b. Services. The use will be adequately served by and will not impose an undue burden on any of the improvements, facilities, utilities, or services existing or planned to serve the area.

The proposed height exemption would only be applicable to the wind and solar energy structures that provide power to the structures that are located on the same property as the energy source. The exemption would not be applicable to the type of solar panels and windmills that require a Special Use Permit.

To mitigate any potential neighborhood impacts, the code amendment could include design criteria and/or thresholds to maintain character of neighborhoods, such as height limitations beyond the height restriction of the zone and/or a maximum number of windmills allowed beyond the height limitation and/or the property must be a minimum size. A windmill is also reviewed for compliance with SEPA, which considers impacts to neighborhood character as well as impacts to wildlife and the natural environment.
The wind energy technology is changing fast with new versions of windmills that can be easily attached to buildings to supply a portion of energy to a residential or commercial building.

Wind Turbine

Specifications:
Height: 42”
Rotar Diameter: 17.4”
Weight: 19.8 LBS
Cut in Speed: 5 MPH
A total of 160 Watts are generated at a wind speed of 28 MPH.

A company called Oregon Wind manufactures the above shown wind structure. Their products can be found at www.oregonwind.com.

As shown in the above picture, multiple wind turbines can be attached to a building to generate additional power.
The National Wind Watch website www.wind-watch.org indicates that the average height of a common single-family non-commercial windmill is around 65 to 80 feet tall. The American Wind Energy Association www.awea.org designates the South Puget Sound region to have moderate wind energy potential. Washington State is not considered to be within the top twenty states for wind energy potential. An individual may use available resources at www.nrel.gov/eis/imby based upon their property address to determine the needed height of a windmill.

Solar panels only become a height restriction issue if the building is constructed to the maximum height limitation of the zoning district. In many instances brackets are used to lift and angle the panel above the roofline and ridge of the roof. Typically, a solar panel is constructed only a few inches to a few feet above the roofline.

Today, solar panel designs are much more aesthetically pleasing and present less visual impacts compared to designs seen 5 years ago. The panels can be designed to be incorporated into the architectural design of a building.
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2. **No Height Limitation to the Exemption:**
A height limitation beyond the height limitation of the zoning district could be integrated into the language of the code amendment.

3. **Multiple Wind Structures per Lot:**
The amendment could establish a maximum number of windmills to be allowed on an individual lot of record and require the lot to be a minimum size.