



Salem Electric line crew assisting with the assembly and installation of the wind generator.

West Salem High School Renewable Energy Lab

PROJECT PARTNERS: Salem Electric, Bonneville Environmental Foundation and Cherry City Electric, with full support of West Salem High School.

Special thanks to Carlson Inspections for their support.

Why a Renewable Energy Lab at West Salem High School?

By creating working examples of renewable energy generating resources we can encourage student interest in alternative energy resources. It also provides a training opportunity for utility personnel, contractors, and code enforcement officials on the installation and safe operation of renewable resources.

Current Project Details:

- A 1.8 kilowatt Skystream Model 3.7 wind generator, manufactured by Southwest Windpower, Inc. and installed by Construction & Renewable Energy Systems, sited south of the Titan Drive entrance.
- At an average wind speed of 12 mph, it will generate about 400 kWh monthly, a value of approximately \$350 per year. By comparison, the average SE residential customer uses less than 1,000 kWh monthly.

Selection Criteria and information:

- Based on safety, noise level, reliability, and

ability to provide research data, the Skystream wind generator was determined to be the best unit available to meet all needs.

- It is equipped with three 6-foot fiberglass reinforced composite blades installed on top of a 45-foot self-supporting metal tower. The tower and foundation were approved by an Oregon registered professional engineer.
- The inverter system is compliance-certified from Underwriters Laboratories.

According to the National Wind Technology Center — part of the National Renewable Energy Laboratories (NREL) — the Skystream wind generator has the lowest noise emissions of any small wind turbine of its size tested at their site. During operation, noise from the generator is not discernible from the background wind noise. The Skystream wind generator has been operating at the NREL site for over two years with no problems.

Are there other systems in place at West Salem High School?

Yes. The first project, installed in 2002, was a photovoltaic system which provides 2.4 kilowatts of power. This project was a partnership between West Salem High School, Salem Electric, the Bonneville Environmental Foundation, West Coast Bank, and Northside Electric. ■