Red, Black and Green Renewable Energy at Owens Community College

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This view, looking towards the east along the south edge of Parking Lot H (at the rear of the Industrial and Engineering Technologies (ET) building) is the proposed location of the newest addition to the Owens Renewable Energy training program – our Entegrity EW50 Wind Turbine.

This second view of the proposed location will include a turbine with a blade diameter of 15 meters (or about 45 feet). This turbine is rated at an output of 50,000 watts (or 50 Kilowatts) at a wind speed of about 25 miles per hour. The average Toledo Edison homeowner uses about 25 Kilowatts a day, so this turbine could supply all the electricity needs of one or two single family homes with enough wind.

The wind turbine will be mounted about 100 feet in the air. By locating the turbine high above trees and buildings the turbine will catch more wind and produce more electricity.

This turbine has been in production for many years, and is installed throughout the world. Locations in North America include the US National Renewable Energy Laboratory, National Wind Technology Center, Colorado; The USDA Agricultural Laboratory, Texas, and also at the Wind Energy Institute of Canada. One of the main reasons Owens chose this design was its long, trouble-free use throughout the world.

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Here we have two extremes. The turbine on the left is the utility scale turbine located in Bowling Green, and the turbine on the right is the Skystream turbine which is also scheduled to be installed on the Owens campus near the southeast corner of the Industrial and Engineering Technologies (ET) building.

Why the additional Skystream turbine? This turbine will be used as a teaching tool for our upcoming wind training classes. Plans are to have classes lower and raise the entire turbine tower (the tower is mounted on a tilt base) to demonstrate the requirements of safely raising and lowering a turbine. Most small scale wind turbines can be lowered for maintenance and repair. Classes will focus on the requirements of sizing, spacing , installation, and basic maintenance of wind turbines. We will also have a full size model of the turbine in the classroom for training.

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Our photovoltaic (PV) solar array (array is the term for a group of solar panels that together produce electricity) has been used by classes for over five years to learn the dynamics of changing sunlight into electricity. This array, also to be located near the Industrial and Engineering Technologies building, produces about 1000 watts of electricity and the electricity it produces will be fed back into the building for use by the college.

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This system has been a part of the Owens Photovoltaic Installer training program for well over five years. We have trained students from Northwestern Ohio and also from as far away as California, New Mexico, Maine, and Quebec, Canada to learn the basics of turning sunlight into electricity.

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Thinking about the most cost effective way to add solar to a municipal building? The Cleveland Fire Department discovered that solar water heating had the best return on investment for any project using renewable energy. Using the sun to heat water is normally the easiest and least complicated way to add renewable energy to a home, business, or municipal structure. If you have a municipal pool, solar is a natural for adding heat to both the pool itself and the showers that use a large amount of energy. Consider attending the Green Energy and Green Jobs Workshop on Saturday June 20 class at Owens Community College. Workshops will include Ohio state and federal resources and incentives to an overview of state of the art solar, wind, biomass, and green building applications, green job training opportunities and more.

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The latest acquisition from Thayer Ford of Bowling Green to the Owens hybrid fleet is this Toyota Prius hybrid vehicle. This hybrid vehicle is being utilized by the Owens Automotive Technology program to teach the latest in battery powered hybrid technology. Owens has been using the Ford Escape hybrid vehicle as a campus security vehicle for a number of years. In addition to security work, the Ford Escape has been used as a demonstration vehicle for classes teaching hybrid technology to area automotive service technicians as well as training emergency service professional s concerned about hybrid safety in a crash situation.

Thank you

Questions are welcomed

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