

ABSTRACT FOR 2008 EUEC CONFERENCE

Economic Opportunities of Locating Wind Energy Facilities in the Vicinity of Existing Electric Power Plants

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More than half of all states have adopted Renewable Portfolio Standards (RPS) requiring up to 20% or more of electric energy to be generated by renewable energy sources by 2020. The most prevalent form of renewable energy currently in use is wind power. In addition to having an adequate wind resource, the greatest challenges to locating new wind energy facilities are finding the land to place the turbines on and having the wind turbines in close proximity to transmission lines. Property owned by electric power companies at or near their power plants are prime locations for new wind energy facilities. The purpose of this paper is to examine the economic benefits of locating wind energy facilities near existing electric power stations. Using 12 months of hourly meteorological data collected at multiple levels at or near these plants, we conduct the wind resource analysis, electric energy generation analysis for various wind turbines and the economic analysis to determine the economic viability of locating wind turbines near existing electric power stations.