

Abstract Submitted
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Evaluation of Wind Power for Ball State University ERIC HEDIN,
Ball State University — Based on two years of site-specific wind speed measurements and actual power curve performance estimates of five commercial wind turbines, a feasibility study of wind-power potential near Ball State University has been conducted. Student involvement in the form of an immersive-learning course and independent study research has formed an integral part of this project. Using measured wind speed data from the study site, estimates of the expected energy produced per year from each turbine will be presented. These results, combined with conventional costs of electrical energy, show that four out of the five selected turbines could be expected to achieve payoff of combined lifetime costs well within the turbines' estimated lifetimes. Expected savings on the cost of electrical energy range from \$2 million to \$4 million for a 25-year lifetime. Physical factors affecting the power output of the turbines, and uncertainties in the estimation of the wind power and economic feasibility projections will also be presented.

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