

CWSF 2010 - Peterborough, Ontario



Alanna Howell

A Feasibility Analysis of Wind Energy Conversion

Division: Health Sciences

Category: Senior

Region: Saskatchewan Chinook

City: Swift Current, SK

School: Swift Current Comprehensive High School

Abstract: This project involved the analysis of meteorological data taken at Meanook Biological Research Station near Athabasca, Alberta to examine the theoretical feasibility for local landowners to construct small wind turbines as a means of power production. The effect on power production by increasing the height of the wind turbine tower was calculated, and it was determined that a twenty metre tower height was optimal.

Biography

Alanna Howell is currently a grade twelve student at the Swift Current Comprehensive High School in Swift Current, Saskatchewan. Growing up on a grain farm which specializes in durum and pulse crops, she has developed a strong connection with the land and the natural forces which shape human existence. At school, Alanna is the student leader of the Take Action committee, which succeeded in raising over \$3,000 for Rick Mercer's Spread the Net Student Challenge, provided fifty local elementary students with backpacks and school supplies, and started an initiative to install solar panels on the school's roof. As an active member of the school band and choir program, Alanna leads the trombone section in the senior wind orchestra, as well as in the group Thursday Nite Jazz. She also enjoys singing soprano in the SCCHS Chamber Singers group and the vocal jazz group By Design. A active promoter of sustainable transportation, she enjoys cycling, running, canoeing, snowshoeing, and horseback riding with her sister and brothers. Next fall, Alanna plans to study engineering at the University of Saskatchewan with a focus on environmentally sustainable technologies.

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