



**USD-375 Wind for Schools Proposal
School Year: 2011-2012**

Location

Address: 905 East Main Street, Towanda KS, 67144

Contact Information

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Circle High School Principal: Todd Dreifort

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Lead Curriculum Developer: Trey Harrison

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Property Description

Location: Circle High School is located off the main street and through way for Towanda, KS. Circle High School is a highly visible location in the community and a central gathering point. Southwest and behind the main building are the baseball stands, fields, ticket booth and a few small storage buildings. A storage shed for baseball equipment has a transformer and electrical box ideal for a grid-tie. Also, conduit large enough to transfer the electricity runs underneath the site and can be pulled up to link from the turbine to the shed where the transformer resides. The turbine site soils are composed of: Backfill with small rock and gravel from previous construction; this poses no trouble for development of anchor pad. The main high school building is across a parking lot approximately 450ft from the site and the "Grid-Tie Shed" is 125ft from site.

Obstructions: Although the baseball shed resides 75ft closer than the recommended 200ft, the turbine will be erected on a slightly elevated plane. The size and height of the shed do not appear to pose any problems for wind generation. Neighbors will not have a full view of the turbine. School students and the community will likely have a good view of the turbine and it will appear to be atop the high school from some directions if the tower is built to 60-75ft.

Local Ordinances: The City of Towanda has a local ordinance banning wind turbines from the within the city limits. Lisa Long, Planning and Zoning Administrator stated the City of Towanda will provide an easement to the Circle High School for construction of a wind turbine.

District and Community Support

Letters of Support

Jim Keller, Superintendent

Dr. Robert Grassino, Assistant-Superintendent

Todd Dreifort, Circle High School Principal

Science Department, Circle High School

Kris Howell and Roger Tullis, Electrician and Master Electrician

Sara Jones, Energy Manager

Culture of Conservation and Sustainability-Current Activity

Energy conservation and development of a renewable energy portfolio are part of a long range plan for Circle School District to create a "culture of conservation and sustainability" for students and the

outlying community. A wind turbine will inspire other programs district wide. One program in development at Benton Elementary titled "Backyard Benton" is to install a permanent outdoor classroom. This year, to aide development of the "culture of conservation," three schools will have presentations from "Stan Slaughter, The Eco-Troubadour." Circle School District has an active Energy Management Program supervised by Assistant-Superintendent Robert Grassino, Facilities Director Marvin Dodson, and Energy Manager Sara Jones.

Community Outreach

Circle School District views the wind turbine as an asset for the community, for students and Butler County. The central location of the turbine near the newly constructed baseball fields allows for community outreach and education. Science teachers will teach high students all the inner workings of the turbine construction, main features and electric generation capacity. High school students will then provide tours for younger students and teachers in the District and any school who wants to tour the turbine. Greensburg, KS follows a similar model for teaching to facilitate public speaking and teaching opportunities for older students. We feel this project should be a community learning experience. Who better to learn about a wind turbine from than students attending Circle High School?

Website

Circle Science Department will keep a website with live streaming data as part of an effort to promote the STEM program and to educate the community. On this website, energy data for Circle School District can be attained, ongoing conservation programs and renewable energy generation from the wind turbine. We will also post curriculum for the wind turbine, state opportunities for training and participation in conservation and student projects. The website will be a hub for resources in the Circle School District to support ongoing projects and conservation efforts.

Integration of Turbine for Curriculum

Science teachers from the Circle High School will adopt curriculum from the National Education Energy Development Program (NEED). Curriculum from NEED has been nationally recognized for accurateness and advocacy of wind power. Lower grade levels will learn about energy principles, energy conservation and renewable energy generation through the same NEED curriculum.

Resource Commitment

Big A Electric Supply: Randy Thomas, owner of a local electric supply company located in El Dorado, KS has committed to provide the copper grounding rods, fuse disconnect box, wiring and conduit.

T-Electric: Roger Tullis, Master Electrician and Kris Howell, Journeyman Electrician have agreed to make the necessary electrical connections in the building at no charge. (See attached letter of support.)

Circle School District: Site preparation costs and curriculum costs up to \$2500.00.

Orinoco Wind and Solar: David Taylor, Owner Orinoco Wind and Solar Energy will do initial site survey and install the wind turbine and for base cost.