

Solar Electrical Power

Tom Budler from MidAmerican Energy talked about wind-power electric generation in Iowa. Iowa ranks 10th in the nation in available wind and 3rd in actual generation. MidAmerican completed their first wind-generation farms in December 2004.

Two things are needed to build a wind farm: good wind and good transmission facilities. MidAmerican required one full year of on-site wind data before considering a building site. They correlate that with long-term wind records when selecting a location.

Long term access agreements are then negotiated with farmers. Although additional space is needed during construction, about one-third of an acre of crop land is needed later for each windmill for the site and road access.

Most of the wind turbines are General Electric 1.5 Megawatt turbines. Some new Siemens one are 2.3 Megawatts. The actual generation capacity is roughly 35% of the maximum, due to periodic calm winds and maintenance. At the end of the year, MidAmerican will be generating about 748 Megawatts of electrical wind-power.

The blades are about 200 foot in length and weigh 9,000-10,000 pounds. One type of blade used by MidAmerican is built with a wood structure hand-covered with fiberglass. The other type is built strictly from fiberglass through a patented process. Most of the blades are built in Iowa.

MidAmerican receives no State subsidies for wind power. They prefer to have counties give them property tax abatements. About one-third of the cost of installation is funded through Federal subsidies. Effective planning for power generation has meant that MidAmerican electric rates have not increased since 1995.
