QUESTIONS ABOUT FEASIBILITY

The evaluation of my wind turbine site said that a wind turbine is "Probably Not Feasible". What does this mean?

The preliminary first phase assessment found that it would be unlikely that a large wind turbine would be economically feasible at your site. In most cases the reason is because the current market prices offered by utilities in Iowa are not high enough to make wind power feasible, even if the state extended the 1.5¢ per kWh financial incentive. In some cases, your site may have been too far from a suitable electrical interconnection point to justify the cost of a power line extension. Unless there is some extraordinary feature of your site not obvious to the analyst, it is unlikely that development of wind generation would be economically prudent.

The evaluation of my wind turbine site provided a range in cents per kWh for the selling price of wind power. What does this range mean and how is it useful to me?

The analyst considered the wind speed and other characteristics at your proposed site and estimated how much you would have to sell wind power to make the project economically feasible. A range in selling price was given since there are a number of uncertainties in this type of preliminary analysis. These uncertainties include the exact wind speed at the site, the actual cost of a wind turbine, the actual cost of interconnecting to the grid, interest rates at the time of loan origination, and whether you can obtain any USDA grants for the project. The analyst has made some generic assumptions about all of these factors that affect the overall economics of a wind project. Furthermore, the analyst has assumed that the 1.5¢ per kWh state incentive for locally owned projects was available for the project. As of August 2005, the state incentive program was fully committed and it would have to be reauthorized to be available for additional wind projects. A more detailed and costly follow up analysis would be required to determine what the resolution and impact of all of these factors and uncertainties is on the selling price of power needed for the wind project. If the selling price offered by your local utility is lower than the selling price range needed for your wind project, then it is unlikely your project will be economically feasible.

The evaluation of my wind turbine site said that a wind turbine "May Be Feasible". What does this mean?

The preliminary first phase assessment was based primarily on finding an adequate wind speed and a nearby electrical interconnection point. If these two main criteria were met, then the evaluation also considered secondary factors such as distance from airports and other siting factors. If the site had adequate wind, suitable access to electric system access, and no other obvious problems, then the site may potentially be suitable for wind generation. This suggests that a more detailed second phase assessment of your site might be justified. You will have to make that determination and take the initiative to proceed. It is recommended that this second phase assessment be done by a qualified consultant familiar with wind generation projects in the upper Midwest. Typically, the second phase assessment will cost a few hundred dollars. If this second phase assessment is positive, then you might want a more comprehensive third phase

assessment, which will cost at least $1,000. Farm Bureau has determined that the consultants listed below are qualified to do these studies:

Thomas A. Wind
Wind Utility Consulting
412 S. Locust St.
Jefferson, Iowa 50129
515-386-3405
515-386-4763 fax
tomwind@netins.net

Wes Slaymaker
W.E.S. Engineering LLC
2105 1st Ave S.
Minneapolis, MN 55404
612 210-7579
612 813-5612 fax
wes@wesengineering.com

The evaluation of my wind turbine site said that installing a wind turbine to provide power to my farm or business (self-use) might be economically feasible. What does this mean?

The monthly electric bill information that you provided on the template was used to determine the approximate amount of electricity you use at your site. Based on this usage and your wind speed, the analyst made a preliminary determination if the installation of a small (10 kW) or a mid-sized wind turbine (50-100 kW) wind turbine to provide power to your farm or business (self-use) might be economically feasible. If the analyst determined that a self-use wind turbine might be feasible at your site, then a more detailed evaluation should be made before proceeding. A detailed evaluation should provide the following: 1) an estimate the wind speed at the various possible wind turbine hub heights, 2) a detailed evaluation of your electric bills for each electric service location, 3) a recommended size of wind turbine, 4) the expected kWh generation and electric bill savings, 5) the projected installation and operating cost, and 6) the payback and overall return on your investment. A small wind turbine dealer or one of the above listed consultants could help you make this evaluation.

The economic feasibility of a self-use wind turbine is highly dependent on the amount of electricity you use and the savings you will receive by generating your own electric power. Since larger wind turbines have lower generating costs, farms with higher electricity usage are more likely to be suitable for wind turbines. Furthermore, most utilities won't allow you to use wind generation power to offset usage at more than one electric meter. Therefore, if you have more than one electric meter to serve several facilities that are some distance apart, it tends to reduce the viability of a self-use wind turbine, unless all of the usage can be consolidated behind one electric meter. Analysis of the utility's specific electric rate structure is very important in determining electric bill savings. Some electric rates have sizable monthly fixed charges, which can't be reduced with a wind turbine. A careful analysis of all of these factors is recommended before proceeding with a self-use wind turbine.

The evaluation of my wind turbine site said that a wind turbine "<u>May Be Feasible</u>". What does this mean?

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612 210-7579
612 813-5612 fax
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Is it feasible to install a wind turbine to generate power for my home or business?

In some cases, it is economically feasible to install a wind turbine for private use to offset electricity purchases from your utility even if your site was deemed **"Probably Not Feasible"** by the Farm Bureau evaluation service. The following factors help make a private use wind turbine feasible: 1) a windy site, such as the yellow, green and dark blue areas in the map, 2) large usage of electricity (over $1,000 per month) with average electric rates of 7¢ per kWh or higher, and 3) a suitable site with adequate setback from any nearby residences. A wind generation assessment study by a consultant is often required to determine if a wind turbine for private use is economically feasible, especially if the wind turbine costs more than about $50,000. For smaller wind turbines, the wind turbine manufacturer's web sites offer some guidelines and tools to help assess whether a small wind turbine is economically feasible. Two such sites are www.bergey.com and www.windenergy.com. There are local dealers selling small wind turbines for residences in Iowa that can also help you. Three such dealers are:

Go Solar
Dennis Pottratz
718 Mechanic St.
Decorah, IA 52101
563-382-2342
gosolar@oneota.net

Jacobs Wind Energy Systems
Dan Whitehead
PO Box 1561
Clinton, IA 52733
563-242-6306
www.windturbine.net

Havelka Construction
2147 185th St.
Fairfield, IA 52556
515-472-1853