Utah Geological Survey
State Energy Program

Utah Anemometer Loan Application – 50-meter tower

Instructions

Utah's Anemometer Loan Program is made possible through the U.S. Department of Energy's Wind Powering America Initiative. To participate in the program, please fill out this application in its entirety. If you are applying for more than one location, please complete separate applications for each specific site. Completion of the application does not guarantee the loan of an anemometer, and the number of anemometer towers available will vary. Applications are due by March 1st and are reviewed once a year. If you submit an application, we will contact you with the outcome by April 15. Anemometers are generally installed at a site for no less than one year.

50-meter towers are generally used for those studying large-scale projects. Fewer 50-meter towers are available than 20-meter towers. Therefore, to be eligible for a 50-meter tower, a site will usually need 20-meter anemometer data that suggest a good wind resource. However, a site without previously collected wind data will be considered if it can be demonstrated that the site has very promising wind resources. Due to the size of 50-meter towers, the equipment required for their installation, and the State's significant investment in them, borrowers are required to hire a contractor to install and decommission them. Costs generally range between $4,000 and $5,000 for installation and $2,500 and $3,000 for decommissioning.

The following factors are used to evaluate each proposed site:

Wind Resource Map: What is the quality of the wind resource as predicted on Utah's wind resource maps? Sites located within or close to regions that have a high-predicted wind resource are looked on favorably. However, these maps give a rough estimate of available wind resources and are not taken as definitive. Many quality sites have been identified inside areas that were predicted to have poor wind resources by these maps. Utah's wind resource maps can be viewed at geology.utah.gov/sep/wind/maps.htm.

Favorable Topography: Do factors such as elevation, vegetation, and/or nearby land forms/topography suggest a quality wind resource? Factors that suggest a quality wind site often include being higher than the surrounding area, being clear of obstructions that would create wind flow turbulence (large trees, buildings, geological features, etc.), tree/vegetation flagging (trees that are permanently bent in the direction of prevailing wind, with branches longer on the downwind side and shorter or missing on the upwind side), and proximity to mountains, valleys, or canyons that may accelerate wind flow. High elevation, whether on a ridge top or a plateau, can also suggest higher wind speeds.

Accessibility: Is there enough clear area at the proposed site to erect a tower, and is it easily accessible? A clear, flat space of roughly 250ft x 250ft is required to erect a 50-meter anemometer.

Favorable Land Use: Is the site appropriate for a wind energy project? Are there (or will there be) building restrictions, zoning problems, or opposition from surrounding neighbors?

Project Purpose/Goal: Is the potential project expected to be large scale (commercial), medium scale (school, town, state, non-profit, Indian land), or small scale (private ownership, residential, business, ranch)? How clear are the objectives of the proposed plan? Who will use the power?

Transmission and Load: For large-scale projects, is the site near an electrical transmission line or a load center? For small-scale projects, is there an ability to use power generated on-site or locally?

Proximity to Past Anemometer Sites: Preference is given to sites near locations where data indicate there are quality wind resources and in promising areas where little or no data have been collected. Sites at or near previously loaned 20-meter towers that show strong winds (11 mph or greater) receive extra consideration. Current and past anemometer sites can be viewed at: geology.utah.gov/sep/wind/anemometerdata/index.htm

Contact Information: *(the person our office will be working with for the loan)*

Last Name _____ First Name _____

Mailing Address _____

City _____ State _____ Zip Code _____

Home Phone (include area code) _____

Work Phone _____ Cell Phone _____

E-mail _____ Fax _____

Landowner Information:

Go on to the next section if the Landowner and the Contact person are the same. If they are not the same, please fill out this section.

Last Name _____ First Name _____

Mailing Address _____

City _____ State _____ Zip Code _____

Home Phone (include area code) _____

Work Phone _____ Cell Phone _____

E-mail _____ Fax _____

Application and Site History:

Have you applied with us before? _____

How many times have you applied? _____

What was the last year you applied? _____

Have you had an anemometer on loan before?_____

How many times have you had a loan? _____

When was the last year you received a loan? _____

Has an anemometer been placed at, or near this site in the past? _____

What was the hub height of the past anemometer (or current anemometer)? _____

Proposed site's distance from past anemometer in approximate feet _____ *or* miles _____

What was the average wind speed recorded with the past anemometer? _____ mph *or*_____ m/s

Project Description:

Purpose and goal of project for this location *(see instructions)*: _____

_____

_____

_____

_____

_____

If data reveal favorable wind resources, what kind of wind project do you foresee pursuing:

(circle one) Small (residential), Medium (community), Large (commercial), or Other _____

_____

Location Specifics:

Physical Address _____

City/Town _____

County/Zip Code _____

Please provide **detailed** GPS Coordinates for the proposed site: (*i.e. degree, minutes, and seconds*):

Latitude:_____Longitude: _____

Please provide **detailed** GPS Coordinates for any other current or previous anemometer(s):
Latitude:_____Longitude: _____

Topographic Map: (*Please mark the proposed site, as well as any other current or previous anemometer(s), on a topographic 7.5' quadrangle map and include with application. You can purchase maps from the Department of Natural Resources Map and Bookstore (*mapstore.utah.gov *) or access them online at* geology.utah.gov/maps/topomap/index.htm. topozone.com *is another website where maps can be accessed for free. Downloading maps using topozone.com requires payment, however, you can print images for free. If you would like help with this please contact our office.)*

Elevation (in feet): _____ Is the land where the anemometer will be placed higher than the surrounding area? _____

Cleared Area: *(Roughly 250ft x 250ft is required to erect a 50-meter anemometer)*
approximate square feet _____ *or* acres _____

Borrowers are responsible for both the installation and decommission costs, which generally range between $4,000 and $5,000 for installation and $2,500 and $3,000 for decommissioning. Are you able to pay for these costs? _____

Accessibility: How far is the site from the nearest paved road? _____ Unpaved road? _____
Can the site be easily accessed with a vehicle? _____

Soil type at site: *(circle one)* Ledge, Rocky (small to medium stones), Rocky (large boulders), Clay, Sandy, Topsoil, Bedrock

Restrictions: Are there any local restrictions on structure height, zoning, building, or other requirements_____? If so what are they: _____
_____

Neighbor: How far is the nearest neighbor from the site?
approximate feet _____ *or* miles _____

Nearest Structure: How far is the nearest structure?

approximate feet _____ *or* miles _____

Please describe the site: *(Vegetation, topography, obstacles, etc. Photographs of the site are also helpful.)*_____

_____

_____

Please explain why you feel that this would be a good site for a 50-meter anemometer?

_____

_____

_____

_____

_____

Property Line: How far is the nearest property line from the site?

approximate feet _____*or* miles _____

Airports: Name of the nearest airport _____

Approximate distance to the airport _____

Transmission/Distribution Lines:

How far are you from electrical transmission or distribution lines?

approximate feet _____ *or* miles _____

What is the voltage of these transmission/distribution lines (if known)? _____

Who owns these lines? _____

_____

Please describe these lines: _____

_____

_____

Have you discussed the possibility of placing a wind turbine at your site with your local utility?

If so, what was said? _____

_____

_____

_____

_____

Utility Contact Name: _____

Did the utility agree to provide transmission? *(circle one)* Yes or No

Anemometer Monitoring:

Monitor: Who will be responsible for monitoring the anemometer equipment? _____

_____

Data Plugs: Who will be responsible for changing the data plugs? *(Data plugs must be changed once a month and mailed to the SEP office)* _____

_____

If you have any questions about this application please contact:

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