

Wind Energy Siting: Research Studies & Other Resources

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Introduction:

Among the questions posed by local-government representatives to the Department of Environmental Quality (DEQ) is how to interpret and evaluate information presented to them by local citizens and others concerning renewable energy issues. For example, what is low frequency noise and does it present a health concern? How does the presence of wind projects affect real estate values of nearby properties?

DEQ asked the Local Government Outreach Stakeholder Group (LOG) for guidance in responding to these questions. Recognizing that DEQ lacks sufficient resources to research, evaluate, and maintain a comprehensive posting of reliable and current studies, the LOG assisted DEQ in recommending two alternative forms of assistance.

- The first is the [Research Screening Tool](#) that appears on a [separate page](#) of this website. This instrument was developed by LOG members to assist local government leaders and others who seek to evaluate the credibility and accuracy of research studies and other documents they encounter.
- The second is a [List of Websites](#) (below)¹ where local government leaders and others may locate studies or tools related to renewable energy. Although DEQ staff cannot warrant the credibility of every document on these sites, the entities which sponsor the sites are generally governmental or governmentally-funded, and they appear to be responsible and professional. DEQ staff has also endeavored to include sites where the information is not inconsistent with the Commonwealth's statutory policy to encourage development of renewable energy. **Note: Additional websites are listed within the Research Screening Tool.**

¹ **Disclaimer:** This information is being provided in an effort to assist local governments and interested citizens. The listed websites are intended to be suggested resources which are among those that local government leaders and others may wish to consult concerning wind energy projects. *They do not constitute legal or regulatory advice.* Although members of the Local Government Outreach Stakeholder Group (LOG) reviewed and/or contributed to the compilation, the appearance of these external hyperlinks does not constitute endorsement by DEQ or by members of the LOG, or the information, products or services contained therein. DEQ and the LOG do not exercise any editorial control over the information you may find at these locations. The list is *not* intended to be comprehensive, and interested persons are urged to utilize these and/or other resources as they see fit.

List of Websites:

➤ ***American Planning Association (APA):***

www.planning.org/

See, in particular, “Planning for Wind Energy,” Planning Advisory Service Report Number 566. The document may be accessed by entering PAS 566 in the “Search APA” tool at the top.

➤ ***Delaware Valley Regional Planning Commission
Alternative Energy Ordinance Working Group:***

<http://conservationtools.org/experts/show/241-Alternative-Energy-Ordinance-Working-Group>

See, in particular, the link on this site to the following guide:
“Zoning for Non-Commercial Solar and Wind Systems.”

➤ ***Department of Defense (DoD) Siting Clearinghouse***

<http://www.acq.osd.mil/dodsc/>

The U.S. Department of Defense Siting Clearinghouse (DoDSC) is the conduit for early notification to Department of Defense regarding energy development projects. This collaborative site provides renewable energy information relevant to the Department of Defense.

➤ ***Department of Energy (DOE) Energy Efficiency & Renewable Energy (EERE)***

<http://www.eere.energy.gov/>

This site provides an overview of EERE’s efforts to accelerate development and facilitate deployment of energy efficiency and renewable energy technologies and market-based solutions.

➤ ***Department of Energy (DOE) National Renewable Energy Laboratory (NREL)***

<http://www.nrel.gov/>

The National Renewable Energy Laboratory (NREL) is the U.S. Department of Energy’s primary national laboratory for renewable energy and energy efficiency research and development. This website provides information about solar, geothermal, biomass, energy efficiency, and other topics, as well as wind.

➤ ***Federal Aviation Administration (FAA)***

<https://oeaaa.faa.gov/oeaaa/external/gisTools/gisAction.jsp?action=showLongRangeRadarToolForm>

The FAA’s Obstruction Evaluation/Airport Airspace Analysis (OE/AAA) information may be found at this site.

➤ ***Lawrence Berkeley National Laboratory:***

<http://www.lbl.gov/>

See “The Impact of Wind Power Projects on Residential Property Values in the United States: A Multi-Site Hedonic Analysis,” December 2009, funded by Office of Energy Efficiency and Renewable Energy (Wind & Hydropower Technologies Program) of the US Department of Energy Study may be downloaded from <http://eetd.lbl.gov/EA/EMP> .

➤ ***Massachusetts Department of Environmental Protection:***
www.mass.gov/dep/

See, in particular, “Wind Turbine Health Impact Study: Report of Independent Expert Panel,”
January 2012

Prepared for: Massachusetts Department of Environmental Protection and
Massachusetts Department of Public Health

➤ ***Mid-Atlantic Wind Energy Institute (MAWEI):***

<http://www.midatlanticwind.org/resources.shtml>

The Mid-Atlantic Wind Energy Institute, or MAWEI (ma WEE), is a regional collaborative, funded by a grant from the U.S. Department of Energy, that provides resources and knowledge for promoting wind energy across the Mid-Atlantic region. The current grant cycle has ended, but MAWEI continues to provide an up-to-date reference library of publications, studies, websites and other resources related to wind energy development.

According to the organization’s staff, MAWEI only includes materials in their reference library that are from well-known government, educational, non-profit and industry groups. Examples of resources include materials from the National Renewable Energy Laboratory, Department of Energy, New York State Energy Research and Development Authority, and the American Wind Energy Association.

Information provided by Courtney Lane, Senior Energy Policy Analyst, PennFuture & MAWEI

➤ ***National Association of Regulatory Utility Commissioners (NARUC)***

www.naruc.org/

A number of studies may be found at this website under the drop down “Our Programs,” “Grants & Research,” and “SERCAT” (in blue to the left). In particular, a noise study commissioned by NARUC appears under “the second round” and is the second bullet point, **Minnesota**: “Best Practices Guidelines for Assessing Sound Emissions from Proposed Wind Farms & Measuring the Performance of Completed Projects,” [Summary Report](#). (Alternatively, this noise study may be accessed directly at

<http://www.naruc.org/Grants/Documents/Final%20full%20MN%20SERCAT%20rep%20with%20NARUC%20cover%20Hessler.pdf>.)

➤ **Natural Resources Defense Council (NRDC)**

<http://www.nrdc.org/energy/readgdb.asp>

Representatives of DoD recommended that interested persons consult this NRDC website, where a mapping and analytic tool called the Renewable Energy And Defense Geospatial Database, or READ-Database, appears. According to the website, the READ-Database is a proactive planning tool for renewable energy development, resulting from a partnership between NRDC and US DoD. The tool “provides Geographic Information Systems (GIS) data and is available online to help renewable energy developers identify appropriate sites for renewable projects such as utility-scale wind, solar, and geothermal energy facilities, that are unlikely to interfere with military activities and training, and have the fewest environmental conflicts.” Online registration is required in order to access the database.

➤ **U.S. Fish & Wildlife Service (USFW)**

www.fws.gov/

The agency’s final voluntary guidelines regarding siting of land-based wind energy projects may be found at this site under “Wind Energy” (in list on left) or at the following direct link:

http://www.fws.gov/windenergy/docs/WEG_final.pdf .

Other Information: Wind Energy Data & Information (WENDI) Gateway <http://windenergy.ornl.gov/node/1> (no longer available; see note below)

Note at WENDI website as of 6/10/2013: Due to an absence of funding, the WENDI Gateway web site is no longer available. We regret that we are no longer able to support the site. We highly recommend the DOE-supported openei.org site for wind data and information. This site has incorporated the WENDI Gateway's unique and popular wind plant database/layer into its own GIS, where it is being maintained and updated. *Note: Since openei.org contains some information that appears to be from non-governmental sources and/or not governmentally endorsed, it does not meet all the criteria for appearing on this Resource list; however, the site also houses some valuable information previously found at WENDI. Users should exercise care in evaluating different sources of information at openei.org, if they choose to consult this site.*

Previous WENDI information: Established in March 2010, the WENDI Gateway is sponsored by the [U.S. Department of Energy's](http://www.doe.gov) [Wind & Water Power Program](http://www.doe.gov), within DOE's Office of [Energy Efficiency and Renewable Energy \(EERE\)](http://www.doe.gov). It is located within the Environmental Sciences Division of Oak Ridge National Laboratory (ORNL) in Oak Ridge, Tennessee. The WENDI Gateway is an integrated system for the archival, discovery, access, integration, and delivery of wind energy-related data and information. WENDI's [WindGIS](http://www.doe.gov) enables users to browse, query, and display United States wind energy-related spatial data - including a map of wind power plant locations, plus wind resource assessment maps, electrical transmission lines, transportation infrastructure, ecological data layers, and more. WENDI's [Metadata Clearinghouse](http://www.doe.gov) allows users to search for datasets, publications, applications, and websites.

