



# Bibliography



visit [www.kidwind.org](http://www.kidwind.org) for more information

# the best short list for teachers

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## Books and Websites for Information

**Catching the Wind:** Designing Windmills. Boston Museum of Science 2004. <http://www.mos.org/eie>

**Energy for Keeps Energy Education Group:** <http://www.energyforkeeps.org>. Also find this at <http://www.kidwind.org>

**Wind Energy Basics:** A guide to small and micro wind energy systems Paul Gipe. You can find this at any of the major book stores, or at [www.kidwind.org](http://www.kidwind.org)

**The Wind at Work:** An Activity Guide to Windmills by Gretchen Wolfe. You can find this at any of the major book stores, or at [www.kidwind.org](http://www.kidwind.org)

**Wheels at Work, Bernie Zubrowski:** Out of print at most online stores. You can buy from [www.kidwind.org](http://www.kidwind.org) or <http://www.valorebooks.com>

## Books and Websites for School Curricula

**American Wind Energy Association Teacher's Guide for Grades 6-12:** <http://www.awea.org/pubs/documents/TeachersGuide.pdf> also check out [http://www.awea.org/resources/resource\\_library/#WindEnergyTeachersGuide](http://www.awea.org/resources/resource_library/#WindEnergyTeachersGuide) for more information

**Student WebQuest / Offshore Wind Energy Lesson WebQuest:** Really neat lesson plan in which students research the pros and cons of offshore wind energy...teacher developed and fully vetted! <http://www.web-and-flow.com/members/polson/webquest/webquest.htm>

**Teacher's Guide to Windpower Projects:** [http://www.cat.org.uk/catpubs/pubs\\_content.tpl?subdir=catpubs&sku=PUBS\\_30&key=\[key\]](http://www.cat.org.uk/catpubs/pubs_content.tpl?subdir=catpubs&sku=PUBS_30&key=[key])

## Websites for Turbine Materials and Ideas

**Kelvin Electronics:** Sells a number of wind energy kits that range in price from \$150-\$800. The best thing here is the gears and other parts you can get cheap to build your own turbines. <http://www.kelvin.com>

**KidWind Project:** Lots of free lesson plans and some parts for building wind turbines. <http://www.kidwind.org>

**OtherPower.com:** Interesting homebuilt ideas related to wind. Browse around and you can get a feel for building your own windmill. <http://www.otherpower.com>

**Pitsco:** Offers a wide selection of wind energy materials at a variety of prices. The best thing here is the Motor 500, which is a great small motor to use in wind turbines. <http://www.shop-pitsco.com>

**PicoTurbine:** Has great kits and books for wind energy lessons. <http://www.picoturbine.com>

**WindPower.org:** The official site of the Danish Wind Energy Association. Lots of technical information, simulations, and an educational section, Wind with Miller. <http://www.windpower.org/en/core.htm>

# contents

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## **Books & Articles**

**Introductory**

**Intermediate**

**Overview**

**Politics**

**Hands-On**

**Advanced**

**History**

**Technical/Engineering**

**Data and Information**

## **Curricular Materials**

**Published curriculum guides**

**Web curricula**

**Other curriculum ideas**

## **Video & Audio**

**Online video**

**VCR & DVD**

**Audio**

## **Websites**

**Online Interactivity**

**Worldwide Associations and Orgs**

**News Issues, and Politics**

**Turbine ideas**

**Info & Products**

**Associations, Unions, and Councils**

**Data & Reports**

**Getting Involved**

## **Magazines and Pamphlets**

**Magazines**

**E-Zines & Other Publications**

## **Finding Model Wind Turbine Stuff**

# books

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## Introductory Books

**Gipe, Paul.** Wind Energy Basics: A guide to small and micro wind energy systems. Chelsea Green Publishing Company. April 1999.

This is an easy to read book that clearly and simply covers the mathematical and physical issues related to wind energy. It is a great resource for teachers trying to understand wind energy basics who have never approached this subject matter before.

**Gipe, Paul.** Wind Power: Renewable Energy for Home, Farm and Business. Chelsea Green Publishing Company. January 2004.

Similar to the one above with more updated information and more detail.

**Lombardo, Daniel.** Windmills of New England. On Cape Publishing. December 2003.

A newly published coffee table book about the history of windmills in New England. Lots of history and great pictures. It even includes some great local windmill site seeing tours...if you can convince your family to go look at wind mills for fun.

## Intermediate Books

Overview:

**Asmus Peter.** Reaping the Wind: How Mechanical Wizards, Visionaries, and Profiteers Helped Shape our Energy Future. Island Press. 2001

This is not a technical book but it details the history of commercial wind power in the United States. It introduces you to the scientists and technologists who labored in obscurity, to entrepreneurs and capitalists who believed that a centuries-old idea could be made feasible in the modern world, and to investors who sought to exploit the last great tax shelter in federal history.

## Intermediate Books

**Godfrey, Boyle, Editor.** Renewable Energy: Power for a Sustainable Future. Oxford University Press. 1996.

Takes a comprehensive textbook look at all renewable energy. The chapter on wind is in-depth, technical and offers teachers a glimpse at how complicated this technology can be. A solid technical source that is not too complicated.

**Pasqualetti, Martin.** Wind Power in View: Energy Landscapes in a Crowded World. Academic Press. February 2002.

As siting issues for wind turbines become the major issue over the next few years, *Wind Power in View* offers some discussion on the aesthetic impact of wind turbines on the landscape and what can be done about it. Selected readings from this text can help to understand much of the controversy related to siting and installing large wind farms.

**Piggott, Hugh.** Windpower Workshop: Building Your Own Wind Turbine. Centre for Alternative Technology. January 1997.

As the true costs of fossil fuels are revealed, the ancient art of windpower is making a steady comeback, and many countries are promoting wind energy generation as part of a drive toward a sustainable future. Yet many environmental enthusiasts prefer a more do-it-yourself approach. *Windpower Workshop* provides all the essential information for the individual wanting to build and maintain a windpower system for their own energy needs.

**Righter, Robert.** Wind Energy in America: A History. University of Oklahoma Press. 1996.

This 361 pages book explores historical and political issues related to wind energy in America. For a review by Paul Gipe, check out: <http://www.wind-works.org/articles/Righter.html>. Find this at [www.amazon.com](http://www.amazon.com)

# books

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## Politics:

**Szarka, Joseph.** Wind Power in Europe: Negotiating Political and Social Acceptance. Palgrave Macmillan. October, 2007.

This book explains the development paths taken by the wind power sector in Denmark, Germany, Spain, France and the United Kingdom. It explores how wind power has been promoted, and critically reviews public policies to support it.

**Whitcomb, Robert and Williams, Wendy.** Cape Wind: Money, Celebrity, Class, Politics, and the Battle for Our Energy Future on Nantucket Sound. Palgrave Macmillan. October, 2007.

This fabulous book explores the complex social and political controversy surrounding a potential wind farm on Nantucket Sound.

## Hands-On:

**Jeffrey, Kevin.** Independent Energy Guide: Electrical Power for Home, Boat, & RV. Avalon. 1995.

Plan the ideal independent power system for a home, boat or RV using a guide which promotes building power systems which streamline production and consume the least power. Simple living is one important facet of achieving independent energy goals: chapters tell how to create energy sources which work well. - Midwest book review

**Kemp, William H.** Renewable Energy Handbook: A Guide to Rural Energy Independence Off-Grid and Sustainable Living. Aztext Press. 2005.

As oil prices continue to rise, many people are starting to think about how to unhook from the power grid. The Renewable Energy Handbook focuses completely on off-grid, sustainable living and energy independence in a rural setting.

Find this at [www.goldengatebookstore.com](http://www.goldengatebookstore.com)

## Advanced Books

### History:

**Hills, Richard.** Power from the Wind. Cambridge University Press. 1994.

A very detailed and thorough look at the history of wind power throughout the world since it was first invented. This is a scholarly document that is only for teachers who are very interested and want to add a great deal of depth to their wind presentations.

### Technical/Engineering:

**Burton, Tony et. al..** Wind Energy Handbook. John Wiley & Sons. 2001

Very technical and not for the novice also contains a great deal of mathematics. This book may be useful to the very curious who want to learn the nitty-gritty about the aerodynamics of turbine blades, the mechanics of a turbine rotor, the electrical aspects of wind energy conversion, the design of wind turbines and the siting of wind farms.

**Gasch, Robert.** Wind Power Plants: Fundamentals, Design, Construction and Operation. Earthscan Publications Ltd. August 2004.

This book offers a comprehensive guide to the fundamentals, design, construction and operation of wind turbines.

**Hansen, Martin O.L..** Aerodynamics of Wind Turbines. Earthscan Publications Ltd. January 2008.

Aerodynamics of Wind Turbines is the established essential text for the fundamental solutions to efficient wind turbine design.

**Hau, Erich.** Windturbines: Fundamentals, Technologies, Application and Economics. Springer-Verlag Telos. April 30, 2000.

Very technical look at wind power, but with less math. As an advanced book I like this document more than the others since I can understand what it is saying most of the time. Still, this is not a book to read just before you hit the hay.

# books

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**Manwell, J.F. et. al..** Wind Energy Explained. John Wiley & Sons. June 2002.

Very technical not for the novice and has a great deal of mathematics. This book may be useful to the very curious who want to learn the nitty gritty about the aerodynamics of turbine blades, the mechanics of a turbine rotor, the electrical aspects of wind energy conversion, the design of wind turbines and the siting of wind farms.

**Matthew, Sathyajith.** Wind Energy: Fundamentals, Resource Analysis and Economics. Springer. February 27, 2006.

The book covers all the major aspects of wind energy conversion technology. In contrast with other publications on this subject, the author gives due emphasis to wind resource analysis and its economic aspects. Comes with CD-ROM.

**Spera, David A.** Wind Turbine Technology: Fundamental Concepts of Wind Turbine Engineering. American Society of Mechanical Engineers. May 1994.

An historical and modern look at wind turbine engineering. Compiles works from several authors.

## Data and Information:

**Koller, Julia; Koppel, Johann, and Peters, Wolfgang.** Offshore Wind Energy: Research on Environmental Impacts. Springer. November 14, 2006.

The accompanying ecological research for using wind energy in the German North and Baltic Seas is part of a series of research projects in the German Government's Investment Programme for the Future. It has brought out a variety of results about possible effects on the marine environment. The main objective of the book is to show the relevance of the new results of these research projects for the planning and permission process for offshore wind

**National Renewable Energy Laboratory and U.S. Department of Energy.** Wind Energy Information Guide. University Press of the Pacific. February 28, 2005.

## Published Curriculum Guides

**Boston Musuem of Science.** Catching the Wind: Designing Windmills 2004.

Great curriculum and activities related to the engineering and construction of windmills. Designed for elementary teachers to teach about engineering.

<http://www.mos.org/eie/>

**Coyle, Harold P. et. al. Eds.** Challenges in Physical Science: Windmills. Harvard-Smithsonian Center for Astrophysics. Kendall Hunt Publishers. 2001.

**Educators for the Environment.** Energy for Keeps. 2003.

Broad and easy to read. A great addition to any teacher's library or student's research. It is mostly an informative document with a few scattered activities.

<http://www.energyforkeeps.org/>

**Grossman, Marvin et. al.. Exploring Energy: Waterwheels, Windmills and Sun light.** Aries: Astronomy Based Physical Science. Harvard-Smithsonian Center for Astrophysics. Charlesbridge Publishing. 2001

**KEEP Activity Guide.** Distributed by the Wisconsin K -12 Energy Education Project

This contains 44 hands-on, interdisciplinary lessons that are aligned with Wisconsin's academic standards and make energy relevant to students' lives.

There are four themes: We Need Energy, Developing Energy Resources, Effects of Energy Resource Development, and Managing Energy Resource Use.

<http://www.uwsp.edu/cnr/wcee/keep/about.htm>

**MacGarry, Ann.** Teachers Guide to Windpower Projects, Center for Alternative Technology Education. 2001.

This is one of the finest guides for building classroom windmills and turbines.

We highly recommend this document for middle and high school students.

<http://www.cat.org.uk> Can also get at <http://www.picoturbine.com>.

**Michael Celaya & Patrick Keegan.** Energy Science in the Home Activity Guide (Binder). Colorado Energy Science Center. 2003

This broad, well-developed activity guide teaches about energy efficiency and electricity. It has a long list of activities appropriate for middle and high school science students.

<http://www.energyscience.org>

# curricula

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**Science Projects in Renewable Energy and Energy Efficiency.** National Energy Foundation Publication. 1991.

This guide offers a wide variety of ideas for science fair projects on renewable energy. While there are some innovative ideas in this document, some of the information is a little dated.

<http://www.nef1.org/>

**Woelfle, Gretchen.** The Wind at Work An Activity Guide to Windmills. Chicago Press Review. June 1997.

This is a great book that will give teachers a simple historical background to windmills and how their design and function have changed over time. It also includes more than a dozen wind-related activities. While the activities are solid they will appeal to younger middle school teachers.

**Zubrowski, Bernie.** Wheels at Work. William Morrow. April 1999.

This book has tons of excellent activities for using readily available materials to make models of machines with wheels. The activities related to windmills will be helpful to teacher's as they plan their independent projects.

**Zubrowski, Bernie.** Windmills Curricular Materials. Found in the Boreal Labs Wind Science Kit.

This is a curriculum document that in a windmill kit sold by Boreal Labs. It is very well done and has great ideas for teachers interested in wind energy in the classroom. It does **not** discuss windmills and electrical generation.

However, it **does** explore work, power and energy.

<http://www.sciencekit.com>.

## Other Curriculum Ideas

**Massachusetts Technology Collaborative:** Wind Speed Data Maps

These free CDs contain detailed wind speed data from the entire state of Massachusetts. Teachers can use this data during the workshop to create lessons for their independent projects. Available online from the Massachusetts Technology Collaborative.

[http://www.masstech.org/renewableenergy/Community\\_Wind/wind\\_maps.htm](http://www.masstech.org/renewableenergy/Community_Wind/wind_maps.htm).

**Students' Year 2001 Wind Energy Competition:**

<http://www.geocities.com/windy4us/competition/CompetitionSchool.html>

# curricula

## Web Curricula

**Department of Energy Lesson Plans:** Huge list of links for energy lessons and materials.  
[http://www.eere.energy.gov/education/lesson\\_plans.html](http://www.eere.energy.gov/education/lesson_plans.html)

**EconEdLink:** 9-12 Curriculum involves understanding how a turbine works along with environmental, political, and economic issues surrounding wind turbine projects.  
<http://www.econedlink.org/lessons/index.cfm?lesson=EM298&page=teacher>

**From Windmills to Whirlgigs:** Fun ideas and projects for the classroom having to do with wind.  
<http://www.smm.org/sln/vollis/>

**GE Wind:** Materials for elementary students.  
[http://www.gepower.com/businesses/ge\\_wind\\_energy/en/kids\\_teachers/index.htm](http://www.gepower.com/businesses/ge_wind_energy/en/kids_teachers/index.htm)

**Greening Schools:** Ideas on greening everything from the lesson plan to the school.  
<http://www.greeningschools.org/>

**Idaho National Laboratory: Wind Energy for Educators:** Tons of curricular material for all ages.  
<http://www.d91.k12.id.us/hawth/windenergyforeducators/wind%20energy.htm>

**National Energy Education Development (NEED):** A comprehensive energy education site with lessons and materials on many energy topics.  
<http://www.need.org>

**Office for Mathematics, Science, and Technology Education:** Great curriculum guide for wind energy.  
<http://www.mste.uiuc.edu/projects/wind>  
The power grid website is: <http://tcip.mste.uiuc.edu/>

**Student WebQuest:** Offshore Wind Energy Lesson Plan.  
<http://www.web-and-flow.com/members/polson/webquest/webquest.htm>

**Texas Energy Office:**  
<http://www.infinitepower.org/lessonplans.htm>.

**Wisconsin k12 Energy Education Project:**  
<http://www.uwsp.edu/cnr/wcee/keep/>

# video

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## Online Video

**AWEA Video Room:** a collection of videos on wind energy  
<http://www.awea.org/newsroom/video/>

**DOE Energy Savers:** Check out the animated How a wind turbine works link.  
[http://www1.eere.energy.gov/windandhydro/wind\\_how.html](http://www1.eere.energy.gov/windandhydro/wind_how.html)

**The Futures Channel - Wind Farming:** a sweet feature of a New York wind farm. This video provides a glimpse into the complexity of building a wind turbine.  
[http://www.thefutureschannel.com/dockets/science\\_technology/wind\\_farming/](http://www.thefutureschannel.com/dockets/science_technology/wind_farming/)

**NREL (National Renewable Energy Laboratory):** National Wind Technology Center Video Tour. Great collection of videos about a cool wind turbine testing site!  
[http://www.nrel.gov/wind/nwtc\\_video.html](http://www.nrel.gov/wind/nwtc_video.html)

**YouTube:** As you may know, there is a lot of wacky stuff on YouTube. We have sifted through some of it and have posted a list of our favorite YouTube wind videos.

*Favorites:* <http://www.youtube.com/user/KidWind1>

*Browse by Category:* [http://www.youtube.com/profile\\_play\\_list?user=KidWind1](http://www.youtube.com/profile_play_list?user=KidWind1)

## Old Fashioned (VCR) Video

### Out of the Blue - 30 minutes

The DVD gives a broad, informative introduction to wind turbines and wind energy. It covers wind power history, technological development, the history of modern Danish wind power and the environmental and social aspects of wind energy.

Available at the webshop on <http://www.windpower.org/movies/uabl/uablen.htm>

# video & audio

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## **Power of Wind - 30 minutes**

This video provides a visual history of wind power and presents the recent technological accomplishments of the U.S. wind energy industry. It explains the basics of wind power, describes the current state of the technology, and makes the case for using wind energy to diversify our power sources in a positive, educational way, based on inherent advantages of the technology. Available from the American Wind Energy Association <http://www.awea.org>.

## **Vermont Wind: A Look at Our Energy Future 27 minutes**

This film details the history, current issues and future promise of wind energy in Vermont. Vermont Wind was funded by a Vermont Department of Public Service Grant with federal funds secured by Senator James Jeffords. Available at <http://www.kidwind.org/materials/videos.html>

## **Wind Over Water – 60 minutes**

Wind Over Water is a documentary chronicling the debate over the Cape Wind Project, an offshore wind farm proposed for off the southern coast of Cape Cod, MA. With similar facilities spreading throughout Northern Europe, many people were excited at the prospect of the first offshore wind project ever proposed for American shores. Available at <http://www.windoverwater.org>.

## **DVD Video**

### **Everything's Cool:**

Website with a DVD about global warming.  
Available from <http://www.everythingscool.org/>

## **Audio**

**NPR: All Things Considered** - Wind Power Proves Divisive, Even for Environmentalists - August 24th, 2006  
<http://www.npr.org/templates/story/story.php?storyId=5705281>

**NPR: Science Friday** - Program on Wind Energy Issues - June 20th, 2003  
<http://kidsnet.org/sfkc/sfkc20030620-1.html>

# websites

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## Online interactivity

### **CAT.org:**

<http://www.cat.org.uk/interactive/windfarm01.tpl>

**Energy Information Administration:** Official Energy Statistics from the U.S. Government. Wind Information from the Energy Kid's page

<http://www.eia.doe.gov/kids/energyfacts/sources/renewable/wind.html>

### **Interactive Map of Offshore Wind:**

Shows where wind projects are being planned and gives information about development stages

<http://offshorewind.net>

### **National Geographic Wind Turbine Simulation:**

This website lets you experiment with a simulated wind turbine. Adjust the variables and see how many houses you can power! Also provides simple and clear explanations of a wind turbine's components.

<http://green.nationalgeographic.com/environment/global-warming/wind.power/interactive.html>

### **Windpower.org:**

<http://www.windpower.org/en/tour/wres/shelter/index.htm>

## Worldwide Associations and Orgs

### **List of worldwide associations:**

<http://energy.sourceguides.com/businesses/byP/wRP/byB/trade/trade.shtml>

**African Wind Energy Association:** <http://www.afriwea.org/>

**American Wind Energy Association:** Wind energy lobby group. Site contains lots of detailed information about wind energy. Also contains state information.

<http://www.awea.org>

**Australian Wind Energy Association:** <http://www.cleanenergycouncil.org.au/>

**Austrian Wind Energy Association:** <http://www.managenergy.net/actors/A1299.htm>

# websites

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**Bwea:** The British version of the American Wind Energy Association.  
<http://www.bwea.com/index.html>

**Canadian Wind Energy Association:** <http://www.canwea.ca/>

**Danish Wind Energy Association (WindPower.org):**

The official website of the Danish Wind Energy Association. Lots of information and a cool educational section called Wind with Miller.  
<http://www.windpower.org/en/core.htm>

**European Forum for Renewable Energy Sources (EUFORES):** <http://www.eufores.org>

**European Wind Energy Association (EWEA)European Wind Energy Association:**  
<http://www.ewea.org>

**Finnish Wind Power Association:** <http://www.tuulivoimayhdistys.fi>

**German WindEnergy Association:** <http://www.wind-energie.de/en/>

**Indian Wind Energy AssociationIndian Wind Energy Association:**  
<http://www.inwea.org>

**Irish Wind Energy Association LtdIrish Wind Energy Association Ltd:**  
<http://www.iwea.com>

**Latin America Wind Energy Association:** <http://www.lawea.org/ing/>

**World Wind Energy Association:** <http://www.wwindea.org/home/index.php>

## News, Issues, and Politics

**Science Daily: Wind Energy News:** News and articles related to current events in wind energy.  
[http://www.sciencedaily.com/news/matter\\_energy/wind\\_energy/](http://www.sciencedaily.com/news/matter_energy/wind_energy/)

# websites

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## Turbine Ideas

**Otherpower.com:** Interesting homebuilt ideas related to wind. Browse around and you can get a feel for building your own windmill.

<http://www.otherpower.com/>

**Windmill Construction:** Learn about building a windmill. Also includes some history.

<http://www.windmillconstruction.com/>

**Windterra:** If you want to buy a vertical axis wind turbine. Also has some info.

<http://windterra.com/main.php?page=sitemap>

## Info and Products

**Alliance to Save Energy:**

<http://www.ase.org/educators/index.htm>

**American Wind Power Center:** For windmill geeks!

<http://windmill.com/>

**Department of Energy:** The wind energy page designed for the Department of Energy.

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

**Global Wind Energy Council:** Source for wind energy policy information and research.

<http://www.gwec.net/>

**Illinois Renewable Energy Association:**

<http://www.illinoisrenew.org>

**Independent Energy Producers Association:**

<http://www.iepa.com>

**Interstate Renewable Energy Council:** Small wind outreach. Great site. Has lots of wind energy links.

<http://www.irecusa.org/>

**Kern Wind Energy Association:** Interesting guide for elementary middle & school teachers. KWEAWhite@aol.com. 661-822-7956.

<http://www.kwea.org/>

## Associations, Unions and Councils

**KidWind Project:** Educational wind turbines. Curricular materials, wind info.  
<http://www.kidwind.org>

**National Wind Coordinating Collaborative:** For research and for updates on wind energy issues.  
<http://www.nationalwind.org/>

**National Wind Technology Center:** A laboratory of the National Renewable Energy Lab, which tests and evaluates wind turbine designs.  
<http://www.nrel.gov/wind/>.

**Nebraska Windmills:** For the windmill geek.  
<http://www.windsoflife.com/>

**North American Wind Power:** Good publication discussing wind issues.  
<http://www.nawindpower.com/naw/page.php?5>

**Renewable Energy Canada:** Great site on wind energy basics from Canada.  
[http://www.re-energy.ca/t\\_windenergy.shtml](http://www.re-energy.ca/t_windenergy.shtml)

**Union of Concerned Scientists:**  
<http://www.ucsusa.org/>

**Utility Wind Interest Group:**  
<http://www.uwig.org>

**Wikipedia:** Source of information and further research for wind turbines.  
[http://en.wikipedia.org/wiki/Wind\\_turbine](http://en.wikipedia.org/wiki/Wind_turbine)

**Wind Powering America:** Explore small wind projects in the United States.  
[http://www.eere.energy.gov/windandhydro/windpoweringamerica/state\\_activities.asp](http://www.eere.energy.gov/windandhydro/windpoweringamerica/state_activities.asp)

**Windustry:** A site that encourages farmers and other landowners to use wind energy.  
<http://www.windustry.com/basics/default.htm>

**World Wind Energy Association:** Loads of information for research on wind technology and energy organizations. See some of the worldwide organizations connected to wind energy development.  
<http://www.wwindea.org/home/index.php>

# websites

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## Data & Reports

**GWEC Global Wind 2006 Report:**

[http://www.gwec.net/fileadmin/documents/Publications/gwec-2006\\_final\\_01.pdf](http://www.gwec.net/fileadmin/documents/Publications/gwec-2006_final_01.pdf)

**Idaho National Laboratory: Turbine Performance Data:** Shows the performance of different wind turbine manufacturers

<http://www.inl.gov/wind/software/>

**Real Time Cape Wind Data from Horseshoe Shoal:**

<http://capewind.whgrp.com/>

**Wind Energy Environmental Impact Statement:** Site for information about government environmental impact assessments of wind turbines.

<http://www.windeis.anl.gov/index.cfm>

Go to <http://www.windeis.anl.gov/documents/fpeis/index.cfm> for the 2005 report

**Wind Energy Resource Atlas of the United States:** Shows a ton of average wind speed data based on U.S. region (1980's).

<http://rredc.nrel.gov/wind/pubs/atlas/>

**Wind Power Outlook 2007:** Overview of wind energy in 2007 (PDF)

[http://www.awea.org/pubs/documents/Outlook\\_2007.pdf](http://www.awea.org/pubs/documents/Outlook_2007.pdf)

**Wind Speed Data Maps:**

[http://www.eere.energy.gov/windandhydro/windpoweringamerica/wind\\_maps.asp](http://www.eere.energy.gov/windandhydro/windpoweringamerica/wind_maps.asp)

## Getting Involved

**Clear the Air:** A national campaign against global warming.

<http://cta.policy.net/dirtypower/>

**Info and outreach Fresh Energy: Wind Energy:** Tool for research and for getting involved in wind energy policy.

[http://www.fresh-energy.org/resources/wind\\_energy.htm](http://www.fresh-energy.org/resources/wind_energy.htm)

**Union of Concerned Scientists: Citizens for Environmental Solutions:** A scientific advocacy of the benefits of wind power presented in fact sheets

[http://www.ucsusa.org/clean\\_energy/renewable\\_energy\\_basics/WPNE-Index.html](http://www.ucsusa.org/clean_energy/renewable_energy_basics/WPNE-Index.html)

# magazines & pamphlets

## Magazines/Pamphlets

**Small Wind Electric Systems:** A Consumer Guide, NREL Pamphlet 2003

This pamphlet provides detailed information about installing a small wind energy system in a variety of states. While it is a technical document, it can you understand many of the details related to installing a wind energy system. Important topics discussed in the guide include: Choosing the correct turbine size, identifying the parts of a wind electric system, determining whether there is enough wind resource on your site, and choosing the best site for your turbine.

**Wind Power Today:** Wind Energy Research Highlights 2002, NREL Pamphlet 2002

Selected readings from this document will help teachers understand some of the current research related to wind energy systems. This should give teachers some additional background information as they introduce their students to wind energy in the classroom.

**Windpower Monthly:** Concise reporting of essential facts, lucid analyses of key issues, authoritative overviews and well informed comment are the trademarks of Wind power Monthly. It is our aim to increase your awareness of the role being played by an important new technology in electricity generation -- and of its potential to play a far greater role in meeting a fundamental need of tomorrow: the clean, safe and economic supply of electricity to all. A subscription is expensive but you can browse articles online <http://www.windpower-monthly.com/>.

## Magazines

**AWEA Wind Energy Weekly:** <http://www.awea.org/wew>

**North American Wind Power:** <http://www.nawindpower.com/page.php?5>

**Wind Engineering Journal:** Updated technological information on wind power.

<http://www.multi-science.co.uk/windeng.htm>

**Wind Stats Newsletter:** <http://www.windstats.com>

## E-Zines & Other Publications

**HomePower Magazine:** Technical info about small residential wind energy projects.

<http://www.homepower.com>

**The Most Frequently Asked Question About Wind Energy** (awea publication):

<http://www.awea.org/pubs/documents/FAQ2002%20-%20web.PDF>

**Wind Turbines: Energy from the Wind:** (Danish Wind Industry Association publication):

<http://www.windpower.org/en/kids/teacher/turbexp.pdf>

# where to buy windmill stuff

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If you head to these websites, do a search for wind energy, wind power or wind and you will find the products that they offer.

**Boreal Labs:** <http://www.sciencekit.com/>

Sell some interesting curriculum materials related to wind. We especially like the kit developed by Bernie Zubrowski where students build wind turbines out of everyday materials.

**Inspeed:** <http://www.inspeed.com/>

Sells neat wind speed meters.

**Kelvin Electronics:** <http://www.kelvin.com/>

Sells a number of wind energy kits that range in price from \$150 - \$800. But the best thing here is the gears, and other parts you can get cheap to build your own turbines.

**Kestrel:** <http://www.kestrelmeters.com/>

Sells wind speed meters.

**KidWind:** <http://www.kidwind.org/>

Lots of free lesson plans and some helpful parts for building wind turbine.

**Pico Turbine :** <http://www.picoturbine.com/>

Small Wind Turbine & Electricity Kits. These kits allow students to wind the generators and build some interesting and advanced Savonius units. Probably better for high school students.

**Pitsco:** <http://www.shop-pitsco.com/>

Offers an interesting selection wind energy materials at a variety of prices. This is where we get the motor 500 that works so well!