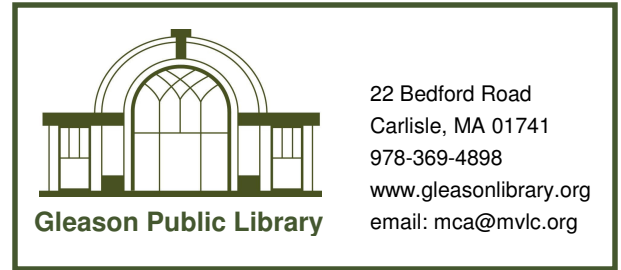


# *Clean Energy Resources*



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## **Facts about energy in Carlisle:**

Typical house uses about 1000 kWh/month (or 1mWhr/month).

- NSTAR provides delivery of electricity at a rate of about \$.07/kWh
- NSTAR generates electricity at a rate of about \$.12/kWh
- Total cost/kWh for a regular NSTAR customer is \$.19/kWh

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## **General information online**

Union of Concerned Scientists - Discusses technical and community impact of wind power  
[http://www.ucsusa.org/clean\\_energy/renewable\\_energy\\_basics/WPNE-Index.html](http://www.ucsusa.org/clean_energy/renewable_energy_basics/WPNE-Index.html)

The Northeast Sustainability Association – (NESEA), established in the 1970s, is an organization of professionals working in sustainable energy, whole-systems thinking and green technologies. NESEA also is a chapter of the American Solar Energy Association (ASES). Information on this website includes, but is not limited to: primer on the generation of electricity; purchasing green energy; conservation; clean energy generation alternatives, e.g. solar electricity; solar hot water and wind; green buildings; clean energy incentives; monographs and periodicals on the subject; workshops; etc.

[www.nesea.org](http://www.nesea.org)

Massachusetts Technology Collaborative (MTC) - Public Awareness home page  
[http://www.masstech.org/renewableenergy/pub\\_awareness/education.htm](http://www.masstech.org/renewableenergy/pub_awareness/education.htm)

MTC Article: "Where are the wind turbines?"  
<http://mass-tech.blogspot.com/2007/03/where-are-wind-turbines.html>

The New England electrical grid  
[http://www.iso-ne.com/aboutiso/co\\_profile/history/index.html](http://www.iso-ne.com/aboutiso/co_profile/history/index.html)

American Wind Energy Association  
<http://www.awea.org/>  
Wind Energy FAQ page (statement of carbon impact):  
<http://www.awea.org/faq/rsdntqa.html>

British wind energy Association site FAQ page  
<http://www.bwea.com/ref/faq.html>

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## Gleason Library Resources on Sustainable Energy

*Kill a Watt Electricity Usage Monitor* – Check one of these out from the library and plug your appliances into it to measure electricity usage.

### Books

Call numbers to browse: look around 333.7 for environmental issues, 690s for construction, and 720.47 for architecture and design. Here are a few titles to start with; more may be requested from other MVLC libraries (try searching for "wind energy"):

*Power with nature : solar and wind energy demystified*, by Rex A. Ewing / Call number: 621.47

*Gaiam Real Goods solar living sourcebook : your complete guide to renewable energy technologies and sustainable living*, written and edited by John Schaeffer ; technical editor, Doug Pratt / Call number: 333.7923 Sch

*Sustainable construction : green building design and delivery*, by Charles J. Kibert / Call number: 720.47 Kib

*Got sun? go solar : get free renewable energy to power your grid-tied home*, by Rex A. Ewing and Doug Pratt / number: 697.78 Ewi

*Ecodesign : a manual for ecological design*, by Ken Yeang / Call number: 720.47 Yea

*Residential green building guide : a web source book for New England*, U.S. Environmental Protection Agency New England / Call number: Ref 690.837 Res or online at [www.epa.gov/ne/greenbuildings](http://www.epa.gov/ne/greenbuildings)

### Online library resources:

*Greenfile* – This new database includes citations and some full-text articles on environmental research and issues, with information for general and expert audiences.

<http://www.greeninfoonline.com/> (no login necessary)

*Information is subject to change; the Gleason Public Library and the Town of Carlisle do not endorse or guarantee specific vendors or products listed above. Please consult Consumer Reports, the Better Business Bureau, and other resources with any questions about commercial products and businesses.*

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## Purchasing resources:

### Small turbines

<=100kw residential installations. (NSTAR allows up to 60kW for simple net metering interconnection)

#### BYLAWS AND OTHER LEGISLATION

- Massachusetts model for Wind turbine bylaws: (Note: some technical data makes no sense for Carlisle)  
<http://www.mass.gov/Eoca/docs/doer/renew/model-allow-wind-by-permit.pdf>
- Summary of current Massachusetts energy bill  
[http://www.mma.org/index.php?option=com\\_content&task=view&id=2316&Itemid=86](http://www.mma.org/index.php?option=com_content&task=view&id=2316&Itemid=86)

#### VENDORS

- Xantrex - sells power converter equipment for wind and solar systems  
<http://www.xantrex.com>  
Xantrex basic grid-tie system diagram (other vendors do not require batteries)  
<http://www.xantrex.com/web/id/18/learn.asp>
- Bergey - sells Bergey residential turbines up to 10 kw. Net meter hookup  
<http://www.bergey.com/>
- WTIC - sells Jacobs residential wind turbines up to 20kw Net meter hookup  
<http://www.windturbine.net/>
- Entegritiy Wind Systems – sells EW!5 50kw turbine. No net meter hookup  
<http://www.entegritiywind.com/>
- SMA America Incorporated - sells inverters for specific installations (UL 1741 compliant)  
<http://www.sma-america.com/solar-technology/products/windy-boy/windy-boy/windy-boy-5000us6000us7000us/overview/index.htm>
- The Alternative Energy Store - sells various alternative energy equipment  
<http://search.altenergystore.com/>

#### INSTALLATIONS

- WERC installations in Minnesota  
<http://www.cleanenergyresourcesteam.org/conference/construct-jacobs1-07-web%20%5BRead-Only%5D.pdf>
- Farm Installations  
[http://www.mrec.org/confer/2005\\_WindPower\\_Blecker.pdf](http://www.mrec.org/confer/2005_WindPower_Blecker.pdf)

## TECHNICAL DATA

- New England wind Maps - Find your average wind speeds at various elevations for your site  
<http://truewind.teamcamelot.com/ne/>
- Free service to find Longitude/Latitude of site (Need this information for finding wind speeds)  
<http://terraserver-usa.com/default.aspx>  
At this site, find topographical data available online for any location (free)

## GRANTS

- Massachusetts Technology Collaborative (MTC) - Small Renewables Initiative ( $\leq 10$ kw)  
[http://www.masstech.org/RenewableEnergy/small\\_renewables.htm#](http://www.masstech.org/RenewableEnergy/small_renewables.htm#)
- Massachusetts Technology Collaborative (MTC) - Large Onsite Renewables Initiative (LORI) ( $>10$ kw) [http://www.masstech.org/renewableenergy/large\\_renewables.htm](http://www.masstech.org/renewableenergy/large_renewables.htm)

### **Medium turbines**

between 100 and 250kw

Paper (2004) on the community wind electrical generation around the world  
<http://www.wind-works.org/articles/communitywindthethirdway.html>

### VENDORS

- J.P. Sayler & Associates - sells new, refurbished and used medium to large turbines  
<http://www.windturbinewarehouse.com/>
- Solardyne - direct reseller of renewable energy systems  
<http://www.solardyne.com>  
Typical medium sized used turbine from Solardyne:  
<http://www.solardyne.com/vesv27ratat2.html>

### **Large turbines**

$>250$ kw - Not enough wind in Carlisle to operate

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# Questions?

## ASK THE LIBRARIANS!

Gleason Public Library  
(978) 369-4898  
[www.gleasonlibrary.org](http://www.gleasonlibrary.org)