

The Seven Steps of the Research Process

Presented by Carnegie Mellon University Engineering Librarian, Donna Beck for
Summer Engineering Experience for Girls (SEE) 2014.

#1 Identify and Develop Your Topic



[Windmill Island Gardens, Holland, MI](#)

View of tulips, Holland, MI. 2014. Personal photograph by author. JPEG file.

Found my topic while in Michigan

Windmills

View of Dutch windmill, De Zwaan, - The Swan, Holland, MI. 2014. Personal photograph by author. .JPEG file.

Energy-related topic?

Visiting Michigan for a conference:

+ Windmill Island Gardens for annual tulip festival

Is it difficult to build a modern windmill?

Is a wind turbine the same thing as a windmill?

How much power comes from the wind?

How much energy is saved by using wind power?

Think of
your
topic in
the form
of
questions

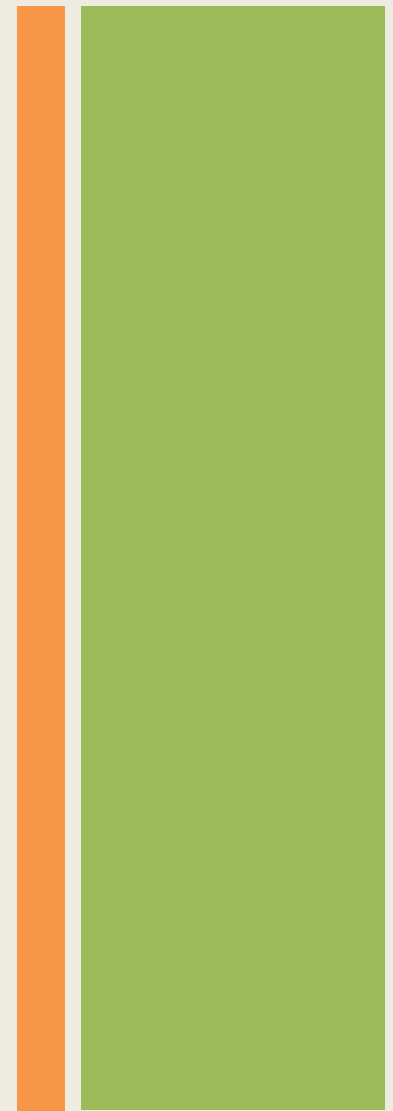


Are windmills the best way to trap energy from the wind?

State your topic as a question



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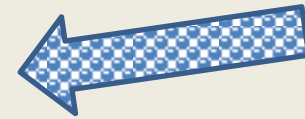


#2 Find Background Information



Background Info for “fringed” tulip

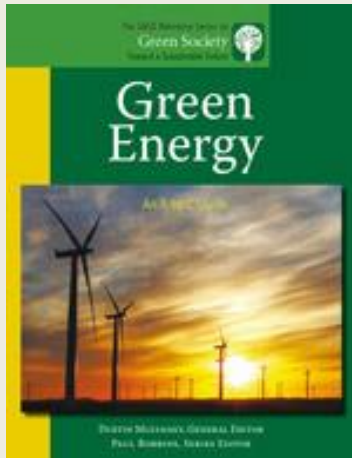
Tulip Time Festival, Holland, Michigan



View of Hamilton tulip,
Holland, MI. 2014.
Personal photograph by
author. JPEG file.

[Google Images](#)

ACCESS Science®
The Science Authority



Encyclopedias

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#3 Use Catalogs to find Books and
Media (like DVDs)



A screenshot of the Carnegie Library of Pittsburgh website. The header includes the library's name, a search bar, and navigation links like 'HOME', 'USING THE LIBRARY', and 'BOOKS, DOWNLOADS & MORE'. A large banner for 'THE LABSY AWARDS' is prominent, with text 'Calling all teen artists and makers!' and 'CARNegie LIBRARY OF PITTSBURGH'S TEEN MEDIA CONTEST'. Below the banner are icons for 'KIDS', 'TEEN', 'CLP', 'LBPH', 'HOURS', 'LYNCS OUTREACH', 'JOBS & CAREERS', and 'ask a librarian'. The footer section contains 'Today's Events', 'Blogs', and 'News' with brief descriptions of upcoming activities and articles.

Use Catalogs like [Carnegie Library](#) to find Books and Media

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#4 Use Indexes to Find Periodical
Articles



Use Indexes to find
periodical articles



What does this
mean?



Magazine & journal &
newspaper articles
find them in
RESEARCH DATABASES

[Academic OneFile](#)

[GreenFILE](#)

wind pumps blades

grinding stones

air-turbines

vibration

Windmills

aerodynamics

turbines

*Harnessing wind
power*

tower mill

Renewable
energy

*old-new
energy source*

wind-catchers



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#5 Find Internet Resources

Try a search engine +Google, like [Yippy](#)

Internet Resources – “gateways”

[Google Patent Search](#)

www.google.com/patentsGoogle

Search more than seven million U.S. *patents*.

SciTech Connect

[Scientific American “Observations”](#) blog

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Would you use this photo?

Would you use that website?

How can I trust this information to be true?

6 Evaluate What You Find

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MLA
format

7 Cite what you find using a
standard format

Works Cited

Andress, Susan. "Alisa Crawford Only Dutch-certified Journeyman Miller in America." Photograph. Palmer, Jeff. "Alisa Crawford, MS Miller." *Great Lakes Chapter Newsletter*. (April 2013). Society for Preservation of Old Mills, Great Lakes Chapter. Web. 7 July 2014.

Borgsumer Windmill. 2012. Photograph. Web.
<http://openclipart.org/detail/167088/windmill-by-jogdragoon>.
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Dutch windmill, Holland, MI. 2014. Personal photograph by author. JPEG file.

Research & Learning Services, Olin Library, Cornell University Library, Ithaca, NY, USA. "The Seven Steps of the Research Process." Web. 7 July 2014.

Tulips at Windmill Island Gardens, Holland, MI. 2014. Personal photograph by author. JPEG file.