

# Research Project: Energy Generation and Use

We get electrical energy from a variety of sources; some are more traditional, and others are still being developed. And, energy's role in society is always changing – the ways we use it, how much we use, and the social and environmental impacts of that energy use.

In groups of 3-4, research a form of energy generation or usage, or a device that uses energy in a novel way. You should cover the following points/issues, and maybe more depending on your topic:

- Explain how useful energy is generated; the mechanisms involved, using proper physics terminology
- Outline the costs: social, economic, moral, environmental, etc.
- Outline the benefits: social, economic, moral, environmental, etc.
- Highlight some recent developments in research or theory, and where in the world it is used

<i>Non-renewable energy generation:</i>	fossil fuels	nuclear fission	gas hydrates
<i>Renewable energy generation:</i>	solar energy	wind power	biodiesel/biofuels
	biomass	geothermal	tidal/wave power
	nuclear fusion	incineration (somewhat renewable)	
<i>Energy devices:</i>	compact fluorescent light bulbs	electric automobiles	
	gas/electric hybrid automobiles	fuel cells	

If there is a topic you would like to investigate but does not appear on this list, please get teacher approval before beginning your research.

You may use books, magazines and newspapers from the Library, as well as the Internet. Keep track of your sources, and create a bibliography – APA style is preferred for references. You might want to use your textbook as a starting-off point. (If you need a little more inspiration, look at “Energy Cost-Benefit Analysis,” on pp. 184-185 of your textbook.)

Your work will be presented in two ways:

- a 5-8-minute presentation to the class, which could take various forms (slide show, play, movie, puppet show... be creative!)
- a one-page (one-sided) handout summarizing the main points of your topic... make it poster-like instead of just a page full of words, and keep in mind that you won't be able to put *all* your information on one page, but that's alright.

Research day(s): \_\_\_\_\_

Handout due date: \_\_\_\_\_

Presentation days: \_\_\_\_\_