

Objective: By discussing the history of energy in the U.S and the technological inventions of the 20th century, students will examine the United States' current and future energy needs. **Students will be able to:**

1. Analyze the increasing need for energy (natural resources) in the US based on the development and distribution of new technological innovations.
2. Describe different forms of renewable energy sources and compare the impacts of renewable and nonrenewable energy sources on the earth and society.
3. Identify where renewable energy options are appropriate and how they may affect the overall energy use in the US.

Length: 60 minutes

Homework Assignment:

1. Prior to class, students should research renewable and non-renewable energy sources and the uses for each.

Download EDN's *Renew Our Future* resource by logging into Earth Day Network's Teachers Corner from the homepage of the Web site, www.earthday.net.

2. After the class discussion, write a description of life at some point in the future. Pay particular attention to our future energy sources (Will most of our energy continue to be petroleum based or will we rely more on renewable sources of energy?), and how our future energy use will affect the environment. Encourage your students to be creative.

Teacher Preparation: Download and prepare copies for individuals or groups of students of *Renew Our Future*. To get ideas about major modern innovations to use in this lesson, browse the Web site, *20th Century Inventions*, (at <http://inventors.about.com/>)

Outline (with times)

10 minutes

Create a timeline of the 20th century, inserting inventions which require increased energy use (automobile, airplane, air conditioner, home electricity, heater...). For ideas, see the *20th Century Inventions* link noted above. Note that western society has increased dependence on energy to operate increasingly demanding modern innovations.

Renewing Our Position

10 minutes

Based on the reading (*Renew Our Future*), compare and contrast renewable and non-renewable energy sources,

their availability, and the advantages and disadvantages of each.

15 minutes

Small group discussion – divide the class into groups. Each group should take a few minutes to discuss the following questions:

- a) How does energy influence history and society?
- b) Compare 20th century inventions with the demand for energy.
- c) What is the current status of our energy supply? What problems might we encounter in the future if we rely too heavily on these resources?
- d) What are some potential alternative sources of energy? Compare/contrast the environmental impact of each source of energy.

25 minutes

As a class, discuss the following:

- a) What are the advantages/disadvantages for a society to switch from non-renewable to renewable sources of energy?
- b) Is switching to renewable energy sources an easy process? Is it a necessary process? How long do you think it will take?
- c) Why do companies not manufacture more products that use renewable energy?
- d) Does U.S. government policy affect these decisions?

Homework

Students can write an essay defending their opinions or describing the status quo in 25 years as it relates to energy use. Students can submit essays as editorials to the school and local newspapers. Teacher may want to research environmental organizations operating in their community.

Find organizations

by conducting a Web search or looking on [Earth Day Networks' database](#) of environmental organizations by location. (*Visit EDN's homepage at www.earthday.net and go to "Groups and Events" to find an*

environmental organization near you.) Inquire into important local environmental topics and what your class can do about them. How can your students get involved? Invite a volunteer from a local environmental group to speak to your class.

Extension Activities: Students can look into their energy sources at home and at school.

- Find out where the local utility is buying energy.
- Does any energy come from renewable sources?
- Are there state policies that encourage utilities to include more renewable energy sources?
- Many rural communities are considering building wind turbines. Is your community investigating this?

What has it found out or decided?

- Students researching these questions may write letters to the editors of local papers based on their findings.
- Students can also write letters or emails to state representatives addressing their concerns regarding national energy policies. Find information about your Congressman at [Thomas Legislative Information](#)