

ENERGY SHOCK: THE RISING PRICE OF OIL

Introduction

Focus

This *News in Review* story focuses on the causes and consequences of the rising price of oil in 2004. We also investigate alternative forms of energy, and every individual's power to change the world through conservation.

Definition

Paradigm means a type of model or way of viewing the world. When one refers to a *paradigm shift*, it means a basic change of approach.

Definition

To *adjust for inflation* we compare what a dollar would buy in the past with what a current dollar will buy. (Today's dollars are almost always worth less.)



Sections marked with this symbol indicate content suitable for younger viewers.

At present, oil is relatively cheap on world markets. Our experts tell us that while oil—and natural gas—will eventually begin to run out, that time is at least 30 to 50 years away, maybe even longer—plenty of time to plan for alternative sources of energy.

But what if you were suddenly told that everything is not exactly as it seems on the oil front? Imagine waking up very soon to a headline in the newspaper: “Global oil production peaks; prices expected to rise dramatically on world markets in coming years” (Jeremy Rifkin, *The Hydrogen Economy*, New York: Tarcher/Putnam, 2002:5.).

“These days, the new paradigm has to do with oil prices and whether \$50 a barrel (all prices are in U.S. dollars) is justified and/or sustainable. The prevailing sentiment is that the world has entered a new era of higher oil prices. . . . The world isn't running out of oil, just cheap oil” (Deborah Yedlin, *The Globe and Mail*, October 4, 2004).

The alarm bells began ringing in May 2004, when the price of oil hit \$40 a barrel. The price rise didn't slow down, and on October 25, oil hit \$55.67. The oil companies were pumping at their maximum capacity, but they couldn't catch up to the demand. Are we seeing a new era of high oil prices?

Perhaps. But are the prices really so

high? Consider that, when adjusted for inflation, prices have not yet hit the peak of the time just after the 1978–1979 revolution in Iran, a major world oil supplier. In the early 1980s, the price of oil was \$80 per barrel, after we adjust for inflation—60 per cent higher than the 2004 prices.

Since those times, Canada's dependence on oil has lessened. We began generating electricity not from oil but from nuclear, coal, and hydro-electric sources. People started heating their homes using natural gas, a dependable fuel source, or using electricity. Our whole economy became a little less dependent on oil. By 1986, oil prices fell through the floor. In the late 1990s, it was only worth \$10 a barrel.

But now the price of oil is high again. Is it going to stay high? It's hard to say. The demand for oil hasn't lessened even though the price is high. Continued high demand will keep prices elevated. Also, oil is getting more expensive to make. Before 2000, the cost of extracting oil had been going up; after 2000 the costs began to rise sharply. We have used up the oil that was easy to get, and we now have to spend more money to get out the oil that is left, so the high prices may well continue. Furthermore, most other energy sources are very expensive as well.

To Consider

1. In what ways has Canada protected itself from excessively high oil prices?
2. Both the Atlantic region and the West have thriving oil industries. Explain how Canadians might both suffer and benefit from high oil prices.
3. Do you think it is time to look seriously at alternative forms of fuel? Why?
4. List the alternative sources of energy of which you are aware.
5. Does your family conserve energy? Explain.

ENERGY SHOCK: THE RISING PRICE OF OIL

Video Review

Complete the questions while reviewing the video. The last question is your personal response and would be useful for a group discussion after viewing the video.

Did you know . . .
To keep up with the current demand, as we use up old wells, someone has to find four million new barrels of oil every day?

1. What are the two major reasons for the current rapid rise in oil prices?

2. What might be different this time about high oil prices?

3. Why is Simmons so worried about the current oil crisis?

4. Why does Simmons think oil production has peaked?

5. What is LNG?

6. How does Canada benefit from rising oil prices?

7. How do rising oil prices hurt Canada?

8. How might slower consumer spending affect Canada?

9. Where are Canada's oil sands located? _____

10. What major problems are associated with recovering oil from the oil sands?

ENERGY SHOCK: THE RISING PRICE OF OIL

Oil: A Non-renewable Resource

How Is Oil Made?

All oil comes from living things. Plants and animals store the energy of the sun in oil or the fats of their bodies.

- Vegetable oil, which you might use to bake muffins, is made from vegetables.
- Animal fat, which you would find in butter or soap, is made from animals or their products.
- Mineral oils, also known as petroleum, also come from living things. These living things, however, have been dead for millions of years. That's why the fuels we make from this oil are called "fossil fuels."

A long time ago in ancient seas, tiny plants and animals called plankton used the energy of the sun to grow. When they died, their bodies settled to the bottom of the sea in thick layers of mud. Eventually the mud turned to rock, but the bodies of the plankton were preserved. Over many thousands of years and under much pressure, the

specks of dead plankton began to heat up and ooze. The hotter it became, the more oil was produced, and the lighter it became. At its hottest, the oil became natural gas.

Usually this oil rose to the atmosphere and dispersed. Some, however, was caught under dense rock caps. Huge pools of oil collected; we call these oil fields.

Finding Oil

The first mineral oil was discovered when it oozed to the surface. Later, people learned to drill for oil deep into the ground, and then pump it out.

Geologists—rock specialists—know where to look for the dense rock caps that might be covering an oil field. They use technology such as seismicological testing (using sound waves) to locate likely locations.

Oil is now found in many countries, but a few have the largest deposits (see table below).

Top World Oil Producers, 2003

Oil Production (million barrels per day)

Saudi Arabia	9.95
United States	8.84
Russia	8.44
Iran	3.87
Mexico	3.79
China	3.54
Norway	3.27
Canada	3.11
United Arab Emirates	2.66
Venezuela	2.58

Source: Energy Information Administration (U.S. Government) www.eia.doe.gov/emeu/cabs/topworldtables1_2.html

How We Use Petroleum

To be useable, crude oil always has to be processed in refineries after it is taken from the ground. Some crude oil is made into oil for use in cars and industry or for lubricating your bicycle chain. Some is made into gasoline or diesel for flying airplanes or driving cars, trucks, or trains. Light sweet crude is especially valuable.

You may not realize how many other products we make from petroleum. Everything from paint to grocery bags and polyester cloth comes from crude oil. The chemicals in petroleum are in our detergents, medicines, cling wrap, and eyeglasses. Where else? Have a look around. See something plastic? You're looking at refined petroleum. Unless you live a very unusual lifestyle

for a Canadian, petroleum products surround you, and are central to your life.

Oil: What Will We Do Without It?

Some fuel sources are renewable, meaning we have an endless supply. The sun's energy, for example, is renewable because every day we receive new supplies of sunlight. We cannot use up our supply of solar energy (sun energy).

Petroleum-based oil, on the other hand, like all petroleum, is a non-renewable resource. That means that on Earth we have a limited supply of oil, which will one day run out. Because it takes millions of years to create oil, it is not something we can renew, like a forest. Instead, we will use it up. We will need to prepare for this day—now.

Activities

1. Make a bar graph showing the top world oil producers in 2003. What patterns do you see? What do you observe about Canada's position?
2. a) Note 10 things made from plastic that you own or use frequently.
b) With a partner, compile a mutual list, avoiding any duplication.
c) Meet with another pair of students to share your lists. Compile another list and avoid duplication.
d) With your class, make up a master list of plastic items people in the class own or use frequently.
e) As a class, offer ideas about what materials could be used to replace items on the list.
f) Imagine that the price of oil starts rising to levels never before seen. Discuss how that might directly affect your life.
3. Write a one-page science-fiction story to reveal how life might change if the world ran out of oil.

ENERGY SHOCK: THE RISING PRICE OF OIL

What Is Causing the High Price of Oil

Did you know . . .

The supply of oil is usually measured in barrels? One U.S. barrel equals about 160 litres.

Did you know . . .

Each resident of Alaska receives an annual cheque for his or her share of the state's oil revenues? This practical acknowledgement that natural resources belong to the people is rare in the world. Most profits go to the international oil industry, its shareholders, and national governments that may or may not use the funds to improve the lives of their citizens.

For years the price of oil has been low. Yet within one year, October 2003 to October 2004, it rose 60 per cent. What caused this vast increase? Two factors: supply and demand.

Supply

When supplies of any commodity are high, prices invariably drop, because buyers will shop around for the lowest price. When supplies of any commodity are low, prices invariably rise, because sellers will find customers willing to pay top dollar.

Let's have a look at some of the factors affecting the supply of oil and pushing prices up.

Hurricanes

Four hurricanes, including the devastating Hurricane Ivan, damaged oil industry infrastructure in mid-2004. They directly reduced the capability for producing oil in the Gulf of Mexico. It took 90 days to repair seven oil-drilling platforms. This reduced production by 15.3 million barrels. Further, many oil-carrying vessels had to stay offshore until the hurricanes sputtered out. The temporary reduction in supply then boosted prices.

Political Unrest

Of the 31 million barrels of oil exported throughout the world every day, only five million come from politically stable countries (Canada and Norway). This means that supplies could easily be cut off for many nations, particularly for oil-hungry countries such as the U.S., both now and in the future. This happened in 2004, during the following situations:

- continued violence and war in Iraq
- clashes between police and suspected militants in the Saudi Arabian capital of Riyadh
- political unrest in the oil-producing nation of Nigeria, which is the United States' fifth-largest supplier (two companies removed non-essential workers from the region)
- off-shore oil-rig workers on strike in Norway

In a world where most local inhabitants do not receive any benefit from the resources of their lands, it is very likely that political unrest will increase. Even if this unrest does not affect supply directly, it creates uncertainty, which in turn increases market prices.

A Slowdown in Exploration

Oil companies have been trying to keep their investors (people who buy their stocks) happy, by giving them a good return on their investment. This means that the oil companies spend less on exploration than they used to. Exploration spending dropped by 30 per cent from 1998 to 2003. Now the oil industry devotes only 12 per cent of its total budget to exploration, compared with 30 per cent 30 years ago. This limits the availability of new supplies.

Drive for Efficiency

Over the past decade, oil companies, like many other companies, have tried to become more efficient. Therefore, they don't stockpile huge amounts of crude in case of emergencies. Thus, when the supply is cut, they have a smaller cushion to fall back on.

Further Research

OPEC includes Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela. To learn more about OPEC, visit the official Web site at: www.opec.org.

Environmental Laws

Some environmental laws demand that people use gasoline made from high-quality, light crude oil, which doesn't pollute as much as regular gasoline. This type of oil is harder to find, and the supplies are more limited.

A Controlled Supply

The Organization of the Petroleum Exporting Countries (OPEC) is a powerful organization that controls the world price of oil by manipulating the supply. More supply means lower prices. When OPEC countries slow down the rate at which they extract oil, they reduce overall supply, and prices invariably rise and benefit their members. When prices started spiking, OPEC began pumping to capacity, but they could not reverse the price trend by that point.

Demand

When demand for any commodity is low, prices invariably drop, because buyers will shop around for the lowest price. When demand for any commod-

ity is high, prices invariably rise, because sellers will find customers willing to pay top dollar.

The year preceding October 2004 saw the biggest jump in demand in 24 years. Let's have a look at some of the factors affecting the demand for oil and pushing the prices up.

- The Chinese economy continued to grow voraciously. China was buying 20 per cent more oil in October 2004 than it was a year earlier.
- Many Asian countries used subsidies to keep oil prices low. Consequently, consumers in Asia did not feel the pinch of growing prices, and did not respond by buying less.
- The U.S. economy was slowly recovering from economic recession, and therefore increased its oil requirements.
- North Americans drove a lot of fuel-hungry SUVs.
- Winter was coming. Heating-oil companies were trying to stockpile oil for the imminent increased demand for oil to heat homes.

To Do

1. In your own words describe how supply and demand each affect the price of a commodity. Take an example from your life—for example, the price of pizza.
2. a) Create an organizer to list the factors that affected the supply of oil in mid-2004 and the factors that affected demand. For each factor, explain in point form how it affected the price of oil.

b) Which factor did you find most surprising? Which did you find most unsettling? Explain your choices.

ENERGY SHOCK: THE RISING PRICE OF OIL

How Rising Oil Prices Affect You

How do higher oil prices affect ordinary people? The most immediate effect would be the higher prices you and your families pay for gas, oil, and other fuels for driving your cars and heating your homes. In mid-October 2004, for example, heating oil was priced 30 per cent higher than it had been a year earlier. Some effects are not so obvious.

Ever take a trip? Fuel is so central to the business of transportation companies that a hike in fuel costs will quickly result in higher ticket prices for travellers. Any person travelling on a ferry, airplane, train, or bus would likely see higher prices.

Travel companies aren't the only companies affected by higher fuel costs. All companies have to transport goods, heat a place of business, or buy goods from companies that do. The expenses of operating many companies will go up. If they cannot pass the cost on to consumers, they may have to trim their work force or even shut down.

If the companies pass the increase in expenses on to you, the consumer, you will pay a higher price at the store for the goods and services you buy. For example, you might notice the prices of cell phones, CDs, or running shoes going up.

So what do you do if the price of things gets too high? A lot of people stop spending so much of their money. They may put off or avoid adding so many CDs to their collections. In 2004, for example, many people delayed

buying a car. They waited for gasoline prices to drop. When people stop spending, the economy shrinks. That means there is less money in circulation.

Fewer companies will do well in the marketplace, some may let employees go, and some may even shut down.

How do rising oil prices affect government? As with companies, governments will see their cost of doing business increase. Costs will rise to run buses, ambulances, the trucks that move books from library to library, fix roads, fly members of Parliament to and from Ottawa, operate military equipment, and so on. The cost of doing government rises, and eventually taxes will likely increase, too.

On the other hand, rising oil prices greatly benefit the oil companies operating in Canada, the many people working in the oil and gas industry, and their communities. Any business that can generate higher profits will benefit, as will all the spin-off industries, such as the companies that build oil rigs for the East Coast industry. The people who live in a community with a thriving oil industry will benefit as well through stable jobs.

Oil prices could come back down again, of course, which means that all of the above changes might not occur. But oil is a non-renewable resource. It won't last forever, and as it becomes harder and harder to find new sources, the prices will invariably rise. The question is not "if" but "when."

To Do

1. Create a concept web to show how rising oil prices can affect so many different spheres of life in Canada.
2. Think of one way that rising oil prices will affect your life significantly. Explain your choice.

ENERGY SHOCK: THE RISING PRICE OF OIL

Canada's Oil Sands

CBC Archives

To learn more about the Turner Valley discovery, go to www.cbc.ca/archives and view the audio-visual file "Striking Oil in Alberta."

Did you know . . .

The first oil wells in Canada were discovered in Petrolia, Ontario?

Update

In October 2004, it was widely reported that China was poised to make huge investments in Canada's oil sands projects. Why do you think that might well be true?

In the early 1910s, Alberta farmer William Herron discovered gas at Turner Valley, southwest of Calgary. The petroleum industry got started, but it didn't take off until oil was discovered in Leduc, Alberta, in 1947. And then a transformation began. Oil rigs began to dot the landscape, and the provincial economy boomed. Alberta soon metamorphosed from a have-not province to the envy of the country. Even without a provincial sales tax, Alberta paid off its provincial debt in 2004, largely from huge surpluses generated by its oil industry.

About half of Alberta's oil comes from a source that its industries are only just beginning to tap: the Alberta oil sands. These are located near Athabasca, Cold Lake, and Peace River, and cover about 141 000 square kilometres. In 2004, the industry produced about one million barrels of oil each day. But the total potential may be about 1.6 trillion barrels.

Oil sands are vast deposits of bitumen, an oily substance that is so thick and sticky it does not flow. In the

ground, bitumen is mixed with a combination of sand, clay, and water. The puzzle for years was how to get the bitumen out of the ground, separate from the sand and clay, and then process it to create crude oil. Industry solved the problem, but the processes are costly.

Two methods are currently used to extract the bitumen. In the first method, the oil sands are dug out of the ground in an open-pit mine. Two tonnes of oil sands are then processed to create one barrel of crude oil.

The second method, called *in situ*, or "in place," processing, is used when the oil sands are too deep to dig out. Steam is pumped deep into the earth to heat the bitumen, making it flow more easily so that it can then be pumped up to the surface.

Alberta has a vast reserve of oil sands that has not, as yet, been tapped because the costs of extracting the bitumen are so high. As the price of oil gradually rises, however, that situation will change drastically.

To Consider

1. What are Alberta's oil sands?
2. How will rising oil prices likely affect each of the following?
 - the profits to be made in the oil sands
 - the level of oil sands extraction
 - an oil industry investor
 - an Alberta oil worker
 - the Canadian oil consumer

ENERGY SHOCK: THE RISING PRICE OF OIL

Alternative Forms of Energy

Quote

"Out of crisis comes opportunity. I'm optimistic that a great new mix of environmentalism and economic growth will take us to a leaner, cleaner, and brighter energy future."—Dr. David Suzuki
(Source: www.davidsuzuki.org/Climate_Change/Solutions/Crisis_To_Opportunity.asp)

Further Research

To learn more about alternative energy sources, consider visiting the following "green" sites:
www.greenontario.org/solutions/energy.html
www.ec.gc.ca/envhome.html

Oil and natural gas are non-renewable resources. We know that we will eventually use them up. We do have renewable alternatives. It's hard, however, for society to switch from the way it's been doing things for more than a century.

Nuclear Energy

To produce electricity, we currently have several alternatives to burning coal or oil. Nuclear energy is an efficient and "clean" energy source, but it creates hazardous waste and holds the possibility of catastrophic accidents. Uranium, the key ingredient, is a finite resource. In 2004, Canada had seven nuclear power plants.

Tidal Power

Tidal power is currently being tapped at Nova Scotia's Annapolis Tidal Generating Station. It takes advantage of the Bay of Fundy's enormous tides. Similar sites, however, are rare.

Solar Energy

Solar energy tends not to be efficient for large-scale projects, but works very efficiently at the home level. A proper system can supply a household with all its energy requirements. Germany has installed thousands of these units.

Wind Energy

Wind power is also completely renewable. Wind energy is captured by large windmills, or wind generators, and is converted to electricity.

Germany, a leader in the area of renewable energies, has installed a total of 16 000 megawatts of generating capacity from a combination of wind and solar initiatives. This push has

generated a new industry to set up these installations, employing 120 000 people.

By comparison, Canada has taken baby steps. In 2004, Alberta produced about 200 megawatts from wind energy. Quebec generated about 100. Ontario has no wind farms at all, but Alberta-based Suncor Energy is partnering with EHN Windpower Canada to start up a wind farm near Ripley, on the eastern shores of Lake Huron. This will consist of 50 wind turbines generating 1.5 megawatts each. Although this amount may not seem like much, it's a start. It will provide electricity for and heat 30 000 homes.

Ethanol

Ethanol is industrial alcohol made from corn, wheat, cereal straw, or wood waste. Pure ethanol cannot be used in today's automobiles by itself, but it can be and is being used as a minor ingredient in some blends of regular gasoline. When it burns, it creates no sulphur and only a little carbon monoxide and particulate matter. Adding ethanol to all gasoline will benefit the environment, while decreasing our dependence on fossil fuels. In addition, the production of the raw materials will provide new opportunities for Canada's farmers.

Currently both Alberta and Ontario exempt the ethanol portion of a gasoline blend from their road taxes.

Saskatchewan and Manitoba plan to enact a law in 2005 to make it mandatory that all gasoline contain a certain percentage of ethanol. The provincial government in Ontario is set to make laws requiring that gasoline contain five per cent ethanol by 2007 and 10 per cent by 2010.

Did you know . . .
 If just 35 per cent of the gasoline sold in Canada contained 10 per cent ethanol, it would be like taking 400 000 cars off the road.

In 2004, 245 million litres of ethanol were processed annually in Canada. To fulfill the sudden need for ethanol, Canada would have to build several new ethanol plants. We're far behind Brazil and the United States, where 14 billion litres are produced annually, and where a third of all gasoline sold contains ethanol.

Some people wonder if the effort to boost ethanol use is worth it. Corn causes excessive erosion of the soil. Further, farmers need to use plenty of herbicides and insecticides, so corn production causes water pollution. Finally, it takes a lot of energy (in farm machinery, processing, transportation, etc.) to make ethanol. According to a recent USDA study, it takes one unit of energy to produce 1.67 units of ethanol energy. *And*, the study didn't even take into account the energy required for the farm machinery.

Hydrogen

Using hydrogen as an energy source is starting to move from the research and development stage to the commercial stage. No longer are industry experts trying to figure out "if" hydrogen fuel cells are a possibility. Instead, they're sorting out "how," "when," and "who will do it." Hydrogen has many advantages over fossil fuels. For one thing,

the fuel cell creates no pollution because it doesn't burn its fuel—it converts hydrogen to water and energy. Further, hydrogen is a renewable resource. The problems, however, are still plentiful.

- The problem of slow start-up in freezing temperatures must be solved.
- Hydrogen costs a lot to make, and a lot to convert to usable energy. Today's fuel cells can create power at \$50 per kilowatt. That price has to drop to about \$5 before it will be economically feasible. But the industry is steadily making headway. Every year the price drops.
- A hydrogen infrastructure will be the highest hurdle. What's required is a whole network of supply stations, just like gas stations are the infrastructure for the gasoline industry. This, too, will take time

Everyone in the auto industry would like to develop the vehicle that people will finally start switching to, but it's a long time coming. First, the fuel cell will probably generate electricity for buildings, cellphones, and laptop computers. Iceland wants to be the first hydrogen-based economy, and it is setting up a network of hydrogen supply stations. California plans to have 200 hydrogen stations running by 2010.

To Do

1. Compare the pros and cons of each type of energy discussed above. Complete a table with headings as shown below.

Source of Energy	Renewable or Non-Renewable	How It Works	Pros	Cons

2. After more laws are in place to require that ethanol be part of gasoline, how will the ethanol industry in Canada be affected?

ENERGY SHOCK: THE RISING PRICE OF OIL

The Conservation Issue

Quote

"The good news about something like this is it does remind us that conservation is important . . . it reminds us that non-renewable resources are just that—non-renewable. There is this positive impact of bad news." — Robin Ritchie, a professor at University of Western Ontario's Richard Ivey School of Business, *The Globe and Mail*, September 29, 2004

Did you know . . .

On average, Canadians each use 15 777 kilowatt-hours of electricity in the space of a year? By comparison, Americans use 12 410, Russians use 5 090, and Egyptians use 857.

Sales of Toyota's hybrid vehicle, the Prius, are doing very well, even though this car is more expensive than a comparable, conventional gasoline-driven car. Saskatoon's ENS Lexus-Toyota dealership has sold more than four times as many Prius hybrid cars in 2004 than in the previous three years *combined*. Bob Harder, the sales manager, says that the first question people are asking these days is always about the gas mileage.

Why is this good news? Bob Harder's experience shows us one way that higher gas prices are affecting the way people think about resources. When our

rampant use of energy resources starts costing us enough, many people get serious about ways to reduce how much energy they use.

Canadian society is a high-energy-use society. We have a lifestyle that uses up far more than our fair share of the Earth's limited resources. Not even considering whether or not this is fair to future generations of Canadians, we certainly know this is not fair to the billions of people who cannot afford the lifestyle Canadians enjoy. To reduce the amount of energy we use—as a country and as individuals—is both a responsibility and an obligation.

Activities

1. Of the following characteristics, which would describe a city that is acting more responsibly about its energy use? Rank order these characteristics and be prepared to both share and explain your findings.
 - it has an efficient transit system
 - people need a car to go anywhere
 - people live close to their work or school
 - people live in big houses with large lots
 - most people drive SUVs
 - it has a well-planned system of bicycle paths
2. Identify one way that government could help transform your own community to be more energy efficient.
3. a) In a small group, brainstorm ways that your way of life uses up energy. Start by thinking of your recreational activities, how you get to school, and whether or not you turn off lights, the television, etc.

b) For each item on your list, try to think of one way you might be able to make a change that would reduce the amount of energy you use.

ENERGY SHOCK: THE RISING PRICE OF OIL

Activity: Waste No More!

Did you know . . .

Two fans running for 12 hours use about two kilowatt-hours of electricity? A central air-conditioning unit can use about 63 kilowatt-hours in the same period.

Individuals have power. We can write letters to our representatives in government, we can communicate our ideas with business or industry representatives, we can write letters to the editor, and we can change our own actions. Besides changing our habits, for example, by turning down the furnace at night, we can make changes through the purchasing power of our families.

Internet Investigation

Investigate one way of exercising your consumer power to make the world a greener place by investigating one of the following Web sites. Summarize the program or Web site in a one-page report. Explain how the program works, and how it will reduce energy use or our dependence on fossil fuels.

- Windshare Co-operative at www.windshare.ca
- Car Sharing at www.carsharing.ca
- Buy Green at www.buygreen.com

Alternatively, you may search the Web for other programs that show how you can use your consumer power to green the Earth. A local program would be a particularly good choice. Some programs offer information on becoming more green, that is, becoming more environmentally responsible. They do not focus exclusively on becoming more energy efficient. That's fine, because in most cases being environmentally responsible goes hand-in-hand with energy efficiency.

Create an Ad to Green the Earth

After researching an organization that promotes one way of using consumer power to green the Earth, create a poster advertisement to promote the program. Your ad should convince your audience why they should buy into the program. Be convincing! You only change the world by changing people's minds.

Your advertisement should

- have a great title
- identify the program
- include enough text to explain the program
- be visually appealing
- capture attention
- include pertinent visuals
- include contact information
- include a logo if the organization has one