

Join the national conversation!

ARE GREEN TECHNOLOGIES WORTH THE INVESTMENT?

Word Generation - Unit 2.15

Focus Words

conserve | renewable | invest | proceed | maximize



Weekly Passage

The BigBelly is a solar powered trash can. About 50 of them have been installed in different locations around the city of Boston. The BigBelly compacts its contents automatically and only needs to be emptied once or twice a day. Normal trash cans usually need to be emptied more than fifteen times a day into garbage trucks. The BigBelly reduces the miles garbage trucks drive, and thus is a “green” technology.

Green technology, also known as CleanTech, can help to conserve the natural environment and maximize resources. A lot of money is invested into programs for recycling, water purification, and renewable energy. Renewable energy uses natural resources that are quickly replenished by nature, such as sunlight, wind, and ocean tides. Supporters say that CleanTech programs minimize the damage done to the

world by humans. They claim that renewable sources of energy are better for the environment.

Other groups argue that green technologies have costs as well as benefits. For example, the BigBelly trash cans in Boston cost up to 6,000 dollars each. Do they save enough money by keeping garbage trucks off the streets to be worth it? The electricity that powers CleanTech electric cars is sometimes made in power plants that use oil. Do electric cars reduce pollution or increase it?

What do you think about this debate? How high a price should we pay for green technology? Do you wonder whether all the programs called “green” are better than what is already out there? If so, how would you proceed to inform yourself?

Unit 2.15 - Are Green Technologies worth the investment? Focus Word Chart

Word	Meaning	Forms	Examples of Use	Notes
conserve	(v.) - to protect from loss			
renewable	(adj.) - can be replaced			
invest	(v.) - to spend, expecting future benefit			
proceed	(v.) - to move on			
maximize	(v.) - to increase to the greatest possible amount			

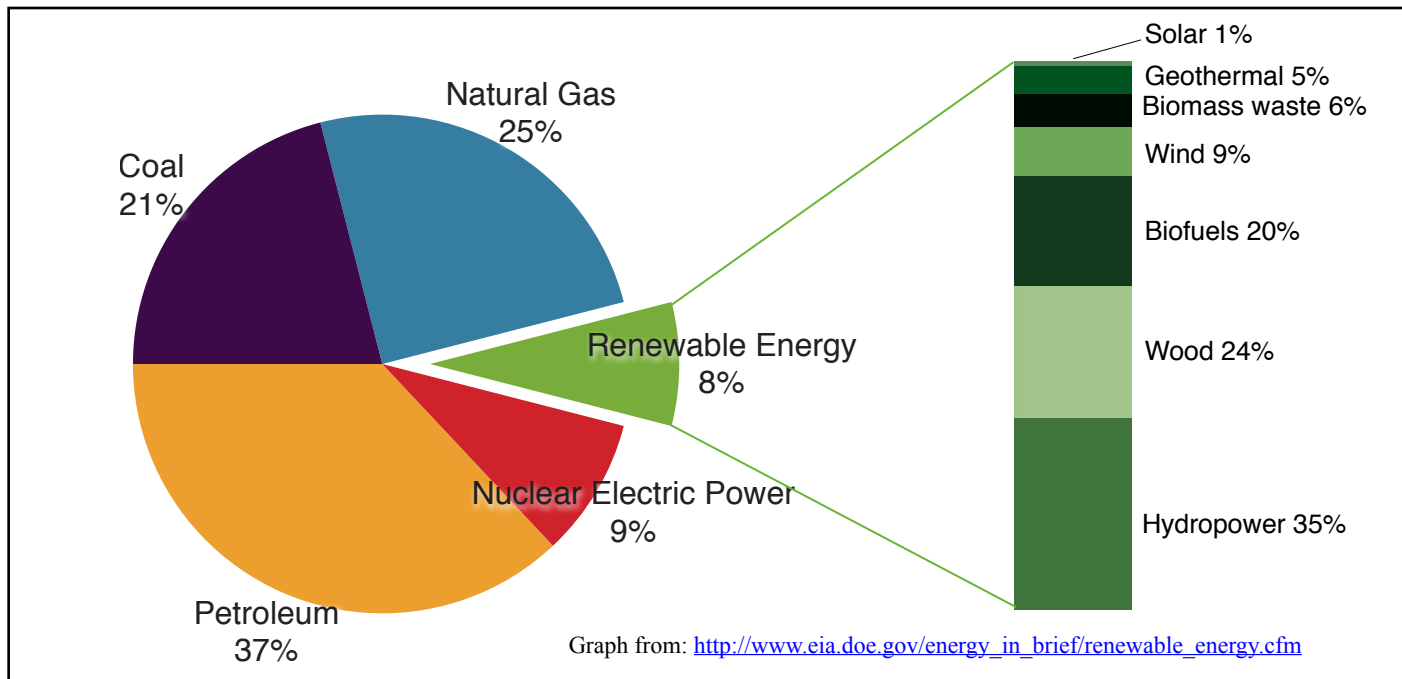
Unit 2.15 -

Are Green Technologies worth the investment?



Problem of the Week

As Americans worry about **conserving** resources, more people are thinking about **renewable** energy. The Obama administration promised to **proceed** toward **maximizing** production of cleaner energy, and has **invested** in wind and other renewable energy sources. However, most of America's energy still comes from non-**renewable** sources like oil and gas.



Option 1: Which of the following is true?

- A) Americans get more of their energy from coal than from petroleum (oil).
- B) Americans get more of their energy from coal than from all **renewable** sources combined.
- C) Americans get more of their energy from natural gas than from petroleum.
- D) Americans get more of their energy from hydropower than from nuclear electric power.

Option 2: Eight percent of the energy Americans consume comes from **renewable** energy sources. Of this, 9% comes from wind. What percent of America's total energy consumption comes from wind?

Discussion Question: Nations around the world are **investing** in **renewable** energy. In 2005, 8% of the energy produced by the European Union came from **renewable** sources. To **maximize** renewable energy production, the EU set a goal of producing 20% of its energy from renewable energy sources by 2020. In 2010, this change is **proceeding** on schedule: the EU is on track to meet its goal. Should the US set a similar goal? Why or why not?

Are Green Technologies worth the investment?

Debating the Issue



I. Get ready...

Pick one of these positions (or create your own).

A “Green technology” is good. It saves the environment.

B Not all “green” technologies are worth the investment.

C “Green technologies” are only worth the investment to the people who can afford them.

D “Green technology” is sometimes no better than the programs already in place.

E _____

GO!

Be a strong participant by using phrases like these.

...because...

I disagree with part of that...

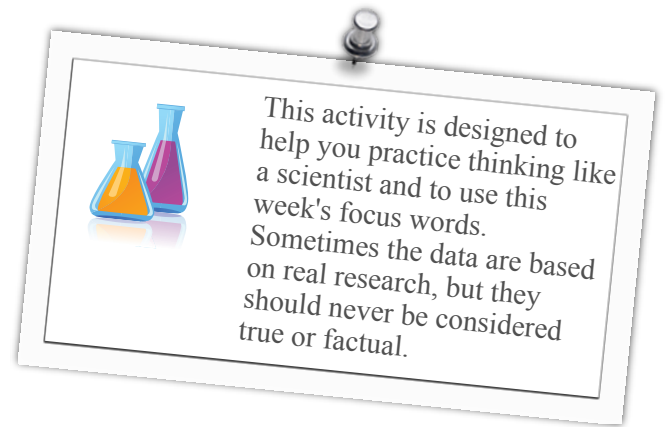
An example might help convince me. Can you give me an example?

What part of the passage makes you think that?

2. Get set...

Be ready to provide evidence to back up your position during your class discussion or debate. Jot down a few quick notes:

Unit 2.15 - Are Green Technologies worth the investment? Science Activity



Sekou is giving a report on **renewable** energy.

“Scientists say **conserving** energy is not enough. We need to switch to **renewable** sources of energy like wind, water, and sun. To **maximize** our efforts, people around the world must work together.”

Sekou **proceeds**. “Two scientists named Mark Jacobson and Mark Delucchi have a plan to meet all the world’s energy needs with renewable energy by 2030. Their plan would require governments to **invest** a total of 100 trillion dollars.”

“What about using renewable energy here at school?” asks Nadia.

“Good question!” says Sekou. “Let’s talk about wind!”

Question:

Is there enough wind on school grounds to power a wind turbine?

Hypothesis:

There is enough wind on school grounds to power a wind turbine. (A wind turbine requires an average wind speed of 5 meters/second.)

Materials:

- ▶ Anemometer (device for measuring wind speed)

Procedure:

1. Measure daily wind speed for one week.
2. Calculate the average speed for the week.

Data:

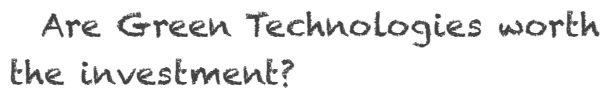
	Daily Wind Speed (meters/second)
Day 1	5.3
Day 2	5.4
Day 3	5.5
Day 4	5.4
Day 5	5.5
Day 6	5.4
Day 7	5.3

Conclusion:

Is the hypothesis supported or not by the data?

What evidence supports your conclusion?

How would you make this a better experiment?



Support your position with clear reasons and specific examples. Try to use relevant words from the Word Generation list in your response.

	Exemplary
<input type="checkbox"/> Included 1-2 arguments	<input type="checkbox"/>
<input type="checkbox"/> Included 1-2 focus words	<input type="checkbox"/>
<input type="checkbox"/> Stated my own position clearly	<input type="checkbox"/>
<input type="checkbox"/> Included 1-2 arguments	<input type="checkbox"/>
<input type="checkbox"/> Included 1 counterargument	<input type="checkbox"/>
<input type="checkbox"/> Used 2-5 focus words	<input type="checkbox"/>

☐ Used 2-5 focus words

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