

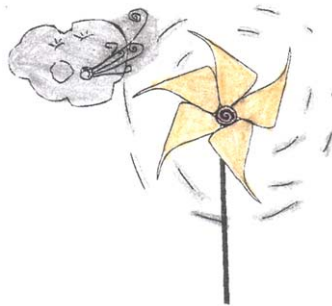
# It's Not Just A Lot Of Hot Air..... Kinko's Uses The Wind!

## Old Ideas Can Be Good Ideas

Do you remember Dorothy's farm in *The Wizard Of Oz*? That Kansas scene had an old kind of energy source in it. As the tornado started to blow, a kind of wind **turbine** began to turn.

In the late 1800's and early 1900's, wind turbines made electricity in rural areas. They also could pump water and grind grain. But in the 1940's, **fossil fuel** power plants took over the job of wind turbines. Of course, these fossil fuel plants produce more than just electricity - they make pollution, too.

Wind turbines do not make pollution. They use the movement of the wind and change it into electrical energy. Today many people and companies are looking into developing this kind of **renewable energy** source. It makes good sense. Think about a pinwheel.



It moves when the wind blows. A wind turbine does the same thing. It uses the movement of the wind and changes it into electrical energy. When wind hits the blades of the turbine, the blades begin to spin. This spinning drives a **generator**. The generator produces electricity.

## **Wind Farming**

If you want a good spot to make wind energy, you should find a place where wind speeds are at least 12 miles per hour. The speed of the wind and the diameter of the blades determine the amount of energy that a wind turbine makes.

These good locations where people are using the power of the wind are called “wind farms.” You can find wind farms in many places. Denmark, Spain, and Germany are world leaders in developing wind energy. The United States can now supply the energy needs of one million people through wind farms. Big wind farms are found in California, Minnesota, and Wyoming.

Because of the amount of wind found in the Great Plains region of the United States, this is also a good place to develop wind farms. In fact, there is enough wind in the United States to make more electricity than the country now needs. No wonder we are interested in developing this resource!

For countries where electricity isn’t available now, wind energy is a good power source to develop. India is a leader in putting the power of the wind to work. A government agency encourages manufacturers to build wind turbines. It is thought that 14 companies will build wind turbines in the next 5 years in India.

## **Wind - A Cash Crop**

Farmers are finding out that they can make a lot of money by setting up wind turbines on their farm land. The Worldwatch Institute says that a farmer in Iowa could earn about \$100 for a quarter acre of corn. The same farmer might earn \$2,000 a year by letting a utility company set up wind turbines on the land. The good thing is that farmers can grow food and set up turbines on the same land. They can earn money for both corn and wind at the same time!

This can help the local area. Instead of buying oil from across the ocean, the money for energy is paid to local people. Then the economy in the area gets stronger. This helps people and towns in rural areas.

## **Kinko's Cares About the Earth**

Kinko's has stores all over the United States and in many countries around the world. Have you ever been in a Kinko's store? If you have, then you saw lots of big copying machines. Kinko's is a company that helps people with their office needs. They can copy papers, laminate projects, and provide computer connections.

Kinko's stores in New York state will buy half of their energy from a wind farm. Because of Kinko's use of wind energy there will be 12,000 tons less of carbon dioxide put into our air each year.

Kinko's cares about the environment. Many of their stores in California, Colorado, and Pennsylvania use renewable energy. They also try to save energy by using efficient lighting in their stores. Kinko's avoids buying products that are made from the cutting of old growth forests. They also have a strong commitment to recycling. The environmental manager of Kinko's is Larry Rogero. He says that Kinko's goal is to lessen its impact on the environment while still providing goods and services to its customers.

By using wind power, Kinko's can be a model for other companies. They show that you can use renewable energy sources that are Earth friendly and still make a profit.

## **You're an Expert!**

1. Make a pinwheel. Take the pinwheel to a younger student and explain how wind power works.

2. Find different places in the world that are good potential spots for wind power. Make a world map and label these places. Be sure to keep a list of the reference materials that helped you to determine where these windy places are located.
3. Find out the average size of a farm in the Great Plains region of the United States. Using the information in the article from The Worldwatch Institute, calculate how much the farmer makes on average to grow corn on that land. Then compute how much the farmer would make if she allowed wind turbines and grew corn on her land. Use your knowledge to write an article for an imaginary farming magazine about the benefits of wind farming.

## **Taking Action.....**

Is there a Kinko's store near you? Visit the store or call them. Find out what they are doing to help the environment. Make a poster for the store to display in its window announcing good environmental stewardship.