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Wind Energy Production



Renewable Energy:

Renewable energy is energy that constantly renews itself over a short period of time. Generally, these sources are available to us. They never run out. Some common examples include solar, wind, water, geothermal, etc. These energy sources are much more environmentally friendly compared with non-renewable sources.

Non-renewable energy sources include fossil fuels and nuclear energy. They take billions of years to be created and have harmful side effects. These harmful side effects include carbon dioxide and nuclear waste.

Interesting Fact!

Turbines keep getting better. Modern turbines can create over 15 times the electricity they could in 1990.

Wind Turbines:

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Renewable energy - Energy that constantly renews itself over a short period of time.

Non-renewable energy sources – Energy that cannot renew itself over a human lifetime.

Windmill turbines are built in such a way that they are able to capture the maximum amount of wind. This helps them spin the blades. Farms mainly use wind turbines. They are located in far off areas without any direct contact with the electrical grid. By using the wind turbines; the farms are able to produce free electricity.

How they work:

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Wind Farms:

A **wind farm** (or wind park) is a group of wind turbines in a certain location. Many wind farms are located offshore. This is so that they can take advantage of the strong winds found there. Wind farms are located all around the world. Some of the biggest are in Germany, China and the U.S. Obviously, wind turbines only work when the wind is blowing. So what happens when it stops? Wind farm sites are chosen after careful study of wind patterns. The most effective locations are wide-open spaces. The wind should always be flowing in a single direction.



The Controversy:

A lot of controversy is related with wind turbines. Many people who live near wind farms have complained. They have said that the wind turbines disturb their local environment, kill migrating birds and cause **noise pollution**. These fears can cause great difficulty in setting up wind turbines in new areas (Gray, 2010). Furthermore, wind farms take up a large amount of space. Hundreds of square miles are needed for a large farm. However, most of that land is available for other purposes as the wind turbines themselves only take up about 1% of the land.



Turbine – A machine that is used to produce power using a revolving wheel.

Wind farm - A group of wind turbines in a certain location.

Noise pollution – A harmful or annoying level of noise.

Reading Comprehension Questions

1. What are the byproducts of using fossil fuels and nuclear power for electricity generation?
2. What
3. Why might farms use wind turbines to generate electricity?
4. What
5. What

Extension Questions

For the next three questions, please go to the following site using the provided URL or the QR code.



<http://goo.gl/MOUXIA>

6. What
7. Why are wind turbines so tall?
8. How
9. What location

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