

UNIT 12 WIND ENERGY – Part 3

The website of The Office of Energy Efficiency and Renewable Energy (USA) lists the following disadvantages of wind power. Match them to the sentences by writing the correct number in the right place.

1. Wind power must still compete with conventional generation sources on a cost basis.
2. Turbines might cause noise and aesthetic pollution.
3. Turbine blades could damage local wildlife.
4. Good wind sites are often located in remote locations, far from cities where the electricity is needed.
5. Wind resource development might not be the most profitable use of the land.

Challenges of Wind Power

- ... (1) Depending on how energetic a wind site is, the wind farm might not be cost competitive. Even though the cost of wind power has decreased dramatically in the past 10 years, the technology requires a higher initial investment than fossil-fueled generators.
- ... (4) Transmission lines must be built to bring the electricity from the wind farm to the city.
- ... (5) Land suitable for wind-turbine installation must compete with alternative uses for the land, which might be more highly valued than electricity generation.
- ... (2) Although wind power plants have relatively little impact on the environment compared to conventional power plants, concern exists over the noise produced by the turbine blades and visual impacts to the landscape.
- ... (3) Birds have been killed by flying into spinning turbine blades.

Most of these problems have been resolved or greatly reduced through technological development or by properly siting wind plants.

<http://energy.gov/eere/wind/advantages-and-challenges-wind-energy>



Match the words with their meanings.

even though	although
to decrease	to fall
to require	to need
to resolve	to solve, to find a solution
concern	worry

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The following words and phrases are connected to money. Match them with their definitions.

cost	the amount of money needed to buy or do something
cost-effective	good value for the money paid
costly	expensive
cost-competitive	cheap compared to other similar things

Read the text again, and decide whether the statements are true or false.

More money is needed to build a wind farm than a coal-fired power plant.	true
Wind farms are usually built near cities.	false
Agricultural cultivation of lands is not as important as wind farms.	false
Some people are worried about noise and aesthetic pollution of wind farms.	true
Several birds have died due to the spinning blades of wind turbines.	True

These are the most important words to remember. Please check their meanings in your dictionary if necessary.

to compete
competitive
initial investment
site
in remote locations
agriculture
cultivation
profitable
noise pollution
aesthetic / visual pollution

Watch the following video that summarizes the things you have learnt about wind energy.

<https://www.youtube.com/watch?v=8PE69jcleKg>

Watch the first part of the video again (from 0:00 to 2:58), and choose the correct answer.

We have harnessed wind power ...

- a) for a thousand year.
- b) for thousands of years. yes

The generator is ... of a wind turbine.

- a) in the nacelle yes
- b) in the hub

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One wind turbine needs less than ... of land.

- a) one acre
 - b) one square metre
- yes

The United Kingdom is ... of Europe.

- a) the least windy country
 - b) the windiest country
- yes

One wind turbine can generate as much electricity as ...

- a) 1,600 solar panels.
 - b) 16,000 solar panels.
- yes

A wind turbine can work for

- a) 25 years.
 - b) 15 years.
- yes

Wind turbines don't need water to generate electricity, ...

- a) unlike solar panels.
 - b) unlike coal, gas and nuclear power plants.
- yes

Wind turbines ...

- a) cause much fewer bird fatalities than buildings.
 - b) are noisier than a vacuum cleaner at a distance of 400 metres from the base.
- yes

Forum topic:

Which one would be better for the world: supplying all our energy from solar or wind power?