

**«Time is like the wind, it lifts the light and leaves the heavy»**

Wind - an important renewable energy source for people and the environment. Since time immemorial, people have tried to harness the wind, be it to start a machine, to boost agriculture or to produce electricity.

### **The power of the wind - invention of the sail**

In the past, when there were almost no roads and paths for transporting goods, the only option was to go over water. They put sails on their ships and used the power of the wind. The importance of the wind was much higher at that time than it is today. If the power of the wind had not existed, it would hardly have been possible to transport raw materials and other important goods.



## Windmills - powering agriculture

It was not long before people wanted to use the wind in the countryside as well. Windmills set a great example in agriculture. With the power of the wind, which set the windmills in motion, grain could be ground and water could be lifted.



## Wind generator - Power generation

Today, it is impossible to imagine life without generating electricity from renewable energy sources such as wind. Wind generators were created in order to obtain electricity as efficiently, cheaply and environmentally friendly as possible. The kinetic energy from the wind is passed on to a generator. This in turn generates the electricity. It is two to three times cheaper than producing electricity with coal/atomic power plants.

### Calculation

Wind turbines 2 to 5 MW

Reference: 3 MW (Megawatt)  
 $3'000 \text{ kW} = 3'000'000 \text{ watt}$

One household = 3'500 kWh for one year

How long does a wind turbine have to run to supply a house with electricity for one year?

$$6'000'000 = 100\%$$

$$3'500 = ? \rightarrow 0.058\bar{3}\%$$

$$100\% = 365 \text{ days}$$

$$0.058\bar{3}\% = 0.21291\bar{6} \text{ days}$$

$$1 \text{ day} = 24 \text{ h}$$

$$0.21291\bar{6} = 5.109 \text{ h}$$

The wind turbine would have to run for a little more than five hours.

How can everyone help to build an ecological, environmentally friendly system to fully exploit wind as a renewable energy?

Have we already tried everything? Or are there other ways in which wind could be used?

In conclusion, it can be said that the energy source "wind" has had an enormous influence on humanity, and not just since yesterday. More and more ideas came up, often out of necessity, on how to use the wind to produce food or generate electricity. What it will really look like in the future is something that only we ourselves can control.

Thank you for your interest. I hope you enjoyed our showcase about the energy source "wind" and that you were able to take some things away with you.

### Sources

[WWZ](http://wwz.ch) (wwz.ch)

[Suisse éole](http://suisse-éole.ch) (suisse-eole.ch)

[LEIFIPhysik](http://leifiphysik.de) (leifiphysik.de)

[Energie Winde](http://energiewinde.orsted.de) (energiewinde.orsted.de)

[WWF](http://wwf.ch) (wwf.ch)

[Energie mit Zukunft](http://energiequelle.de) (energiequelle.de)



By Cheyenne Lea Henzelmann & Mario Anderegg