

Small Wind Turbine - Do-it-yourself model



Why to choose this solution?

Provided that favorable wind resources are in place, small wind turbines can deliver considerable benefits for individuals or small communities. They are relatively easy to build. They can deliver important amounts of energy which can be used for a large variety of applications, from battery-charging to powering equipment. Compared to photovoltaic panels, they operate also during the night and in winter, when the sun is weaker in many regions of the world. Additionally, by producing AC current they can easily be coupled to standard electrical equipment.

Savings per day or production:

Savings are difficult to estimate, since it depends a lot on the weather conditions where the wind turbine is installed; however, once installed in the correct location, the wind turbine can deliver electricity for several years.

Cost in money and in own time to construct:

An average cost of USD 200 to 1,000 should be expected when using quality components, but the final cost can be lowered if recycled materials are used. Additionally, cheaper solutions can be found online, but the quality of the product delivered is not always matching the requirements.

Lifetime:

If built correctly, the small wind turbine should last a minimum of 15-20 years.

Maintenance needed:

Limited.

Resources needed in use:

Wood, steel, copper wires, magnets, bearings, epoxy resin (or equivalent).

Problems and limits:

Although the construction can be done by anyone, a certain knowledge of handling tools is required. Furthermore, some locations may require a taller tower, due to limited wind resources.

Where and how can you get it or make it?

A construction manual can be purchased online: <https://pureselfmade.com/>

Skills needed to produce, install, maintenance, use:

Knowledge of working with tools and someone to instruct (or a manual).

How to use it:

Not relevant.

How to maintain it:

Not available.

Climate effect (if any):

The installation and usage of a wind turbine means that electricity can be produced freely for the whole lifetime of the turbine. This means that fewer or no diesel generators will be needed, resulting in a considerable reduction in emissions.

Where it is used and how many users are there?

Widespread around the world.

Why is it successful?

Relatively simple construction which can deliver free electricity for several years.

If you can make it, a short description, typical problems, materials needed:

It is necessary to either attend a course or to follow the manual.

How to make it (if possible):

Not available yet.

How is it delivered and by whom?

Materials are quite basic and can be purchased everywhere.

Successful financial model

Not relevant.

What policies and strategies helped the success?

Open source model.

More info:

http://folkecenter.eu/pages/Publications_and_downloads_full.php#Wind

Sources:

<https://pureselfmade.com/> and Nordic Folkecenter for Renewable Energy, Denmark.

When was the case uploaded?

2020-12-11

*Case from Catalogue of Local Sustainable Solutions
in East Africa. Read more and see partners at
localsolutions.inforse.org*