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ONIPKO ROTOR.
UNIQUE HIGH-EFFICIENCY WIND GENERATOR

About 25 years ago, the World Program of Action for New and Renewable Energy was adopted as a testament to the scientific hypothesis of the impact of greenhouse gases on global warming. Today, even children know that the use of traditional fossil energy sources (coal, oil, gas) emits carbon dioxide (CO2). By burning 1kg. of coal or 1m³ of natural gas, we pollute the atmosphere with 2.2kg of carbon dioxide, respectively. The danger is that it is one of the main factors of the greenhouse effect. As a result - an inevitable increase of average air temperature, decrease of glacier area and global climate change on the planet. [1, p.1]

That is why humanity is paying more and more attention to alternative energy sources. Such exhibitions where scientists present their inventions would help us to be more informed about the ways how to obtain energy from alternative sources.

Unique windmills that produce electricity even in low winds are the result of the work of Ukrainian scientist, Doctor of Technical Sciences Oleksiy Onipko. The feature of its design is the unusual shape, which provides high efficiency, making the device almost silent.

Traditional wind turbines use different blades, while Onipko's windmill refused such a solution. The scientist proposes to use three-dimensional spirals which have different diameters and can be installed at different heights. The uniquely high productivity is the result of a non-standard shape, which the scientist calls "natural" and which is able to generate energy even in low winds, while the bladed windmills in such conditions remain stationary.

Onipko rotor

To demonstrate the benefits of the new development, the scientist installed a traditional windmill and his own wind turbine. During the operation of both devices in terms of strong winds, the blade installation produced a strong noise and completely stopped when the wind speed decreased, while the Onipko's windmill worked continuously, creating a minimum of noise. [2, p.1]

On the author's official website, you can find the following characteristics of this rotor:

- working in a range starting from 0.1m/sec, the Onipko's rotor is the only wind-driven generator that operates in areas with low wind speeds;
- the large active area provides maximum energy from minimum wind speed. The unique spiral design creates a wind cushion surrounding the rotor, increasing it's efficiency;
- the long blade surface provides an even higher efficiency with plenty of surface area for the wind to move;
- the shape of the surface is designed with millimetre accuracy for optimum results;
- the single rigid construction provides the noiseless work and an ergonomically safe design for birds;
- the Onipko's Rotor can function in areas with wind speed less than 5.6 m/sec. This wind range is globally dominant and makes up most of the Earth's surface;
- the power output from the Onipko rotor is 220V AC [3, c.1].

For his invention, the Ukrainian scientist received many awards and prizes, namely: the Leonardo Da Vinci Medal, awarded by the Association of European Inventors "AEI", the Green Oscar awarded by the International Federation of Inventors (IFIA), the Diploma of the participant "GREENEXPO / Alternative Energy" and dozens of others.

The scientist have been working on this project for ten years, and it is interesting that he began his work together with his three grandchildren. The process of making rotors is not complicated by itself, but you still need some skills. According to Onopko, even small deviations in size lead to significant losses of efficiency - a reduction of up to 30% with a deviation of 5 mm. [2, c.3].

At the moment, Oleksiy Onipko is looking for investors who would bring his invention to manufacturing on a production scale, because now you the rotors are made by his own forces.

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