



**Falcon Energy Worldwide Inc.**  
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# Renewable Energy



..... WE PRODUCE ENERGY WITHOUT DISTURBING THE ENVIRONMENT .....



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We consider Renewable Energies all forms of energy generated from sources which, by their intrinsic characteristics, regenerate or aren't exhaustible in the scale of human times, and whose use doesn't affect the natural resources for future generations. The sun, the wind, the sea and the warmth of the earth are therefore generally considered "renewable energies". In contrast, the non-renewable energies have long periods of formation, that are much higher than those of current consumption (oil, coal, natural gas) and are present in exhaustible stocks on the scale of human times (isotope 235 of 'uranium, the element used to produce nuclear energy), so they are limited in the future.

In the last years, the awareness policy for the respect of the planet, the environmental pollution and the protection of nature, has generate an exponential growth in the renewable energy market. In favor of this, there were the gradual depletion of oil fields, and serious nuclear accidents since the Chernobyl disaster of 1986, which damaged and rendered unusable large areas of land also causing deaths and injuries. In the recent past, there was a similar episode in Fukushima, where a nuclear reactor exploded because of an earthquake that struck Japan.

The diverse and specific expertise of our partners in the design and production mean that our interventions are of the highest qualitative standards and using modern technologies. Our mission is to design systems that can generate clean and inexhaustible energy, following our customer in every stage, from the preliminary inquiry to the installation, from the evaluation of the environmental impact to the support service.





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## Sustainable development

The progress and the continuous scientific achievements of mankind in the last hundred years have led to a tremendous growth in the global economy and the standard of living of most inhabitants on our planet. The use of energy in its various forms has greatly contributed to the achievement of important goals in all industries. However, we are currently well aware that the exploitation of fossil fuels cannot be our only energy source for the future. The continuous growth of CO<sub>2</sub> emissions and particulates is gradually leading to evident climate changes, respiratory diseases occurring in the most polluted places, continuous speculation in times of change in the amount of fuel extracted and, last but not least, potential conflicts in resourcerich countries, always for reasons often linked to the exploitation of energy resources. In other words, the exploitation of fossil fuels as well as set in the last 50 years isn't sustainable; this undermines the ability of future generations to continue to develop, preserving the qualities of our ecosystem. Our goal is to maintain an economic and energy development compatible with the environmental balance.







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It is the end product of the conversion of the wind's kinetic energy into other forms of energy (electrical or mechanical energy). The wind is a free and easily available resource and, compared to the sun, it can also be used during the night. Wind energy can also ensure a constant production because there are no significant differences in energy production over time, or based on time of day or on season. Its simple and inexpensive exploitation is implemented by wind machines divided into two groups depending on the type of basic module used, which is known as a wind turbine: Vertical axis wind turbines, independent from the direction of the wind. Horizontal axis wind turbines, where the rotor is parallel oriented to the direction of the wind. A wind turbine, both vertical and horizontal, requires a minimum wind speed (cut-in) of 3-5 m / s, and delivers power at a wind speed of 12-14 m / s. With high speed (cut-off), the turbine stops for safety reasons, by using brakes that lock the rotor or by methods based on the phenomenon of stall.

# W i n d E n e r g y





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## Vertical axis wind turbine



A vertical axis wind turbine is a type of wind machine characterized by a reduced number of moving parts in its structure, which give it a high resistance to strong winds, and the ability to exploit any wind direction without having to continually re-orient. It is a very versatile machinery, suitable for household use and for the centralized production of electricity in the order of gigawatt. Vertical axis wind turbines have been built since 1920. The latest prototypes, working in many more hours/years than the horizontal axis turbines, have a greater overall efficiency.



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## Small - scale wind power

These are small plants, with nominal power between 0 and 20 kw and from 20 to 200 kW. They have the advantage of operating with wind speed less than those required by the large turbines; the vertical axis wind turbine vertical has no tolerable maximum speed limits, the noise is almost zero and the wind is picked up from all directions.

The low environmental impact, and the design, which allow a greater versatility, favor the use in any context (urban, natural and industrial).





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Our turbine, was created with the idea of generating a “revolution” in the way of thinking about energy production. We worked on the idea to take advantage of any kind of windy conditions, even with gusts and whirlwind, where the blast is generated passively by means of transport.

## The production of our turbine is divided into two lines:

The line CW (CAR WIND), in the version of 3000w and 5000w;



The line HW (HOME WIND) in the version of 1000w, 3000w, 5000w, 7500/1000w







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## Line “CW” (car wind)

It was created specifically to capture the windy turbulence of moving vehicles of all types (cars, trucks, trains, planes), while the other line was created to make the most of wind turbulence on the sites that allow it, i.e. situations where there is a wind average of at least 6-7 m/ s.







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## Mission

Our aim is to create products that have a low costs of purchase and maintenance, also attractive for private individuals, and that could even have an output in the places where the wind isn't very strong or is generated passively, for example by the passage of vehicles on the highway or state highway at high speed, and near the railways or runways. In such a situation, for example by installing a turbine with a power of 3kw on the highway, where the passage of vehicles can produce turbulence and gusts up to 8-15 m/s, it is possible to produce, between 10,000 and 20.000 kw / year.





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## Turbine Car Wind

The wind turbine “CAR WIND” has been designed to make full use of both passive and natural wind. The turbine with profile “Savonius” is entirely designed and built in Europe, and it effectively exploits the power of wind in order to generate clean energy.

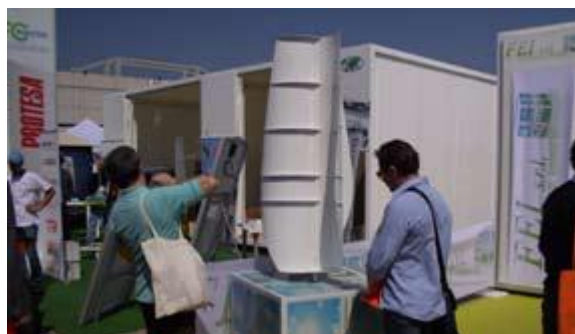
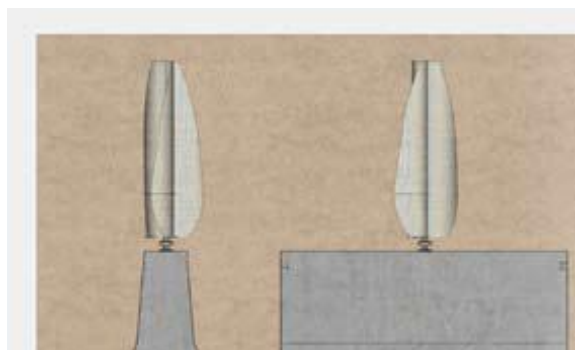




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## Additional information

We realized that we have achieved our goal with the participation to the fair on renewable energy, one of Europe's most important events in the field, where we checked out the interest that our product has prompted both in those who intend to make a household use, also enticed by the object of design, both in companies interested in higher power installations in order to exploit the energy produced for industrial purposes. We also have noticed the interest of environmentalists, always hostile to installations of large horizontal axis wind turbines; our turbine has the advantage of being absolutely silent and having no environmental and landscape impact, because the blades can be air-brushed to blend perfectly with its surroundings.





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Our turbines, both CW and HW line are CE certified and patented.  
They are guaranteed for a period of 2 years, and with minimal  
maintenance costs and have a lifetime warranty. Installation is quick and  
easy.

CE







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## Applications

