WIND FLOW INTERFACE CONCENTRATOR FOR VAWT

PATENTED TECHNOLOGY

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ABSTRACT

The researchers of the University have developed a wind flow concentrator incorporated into a Vertical Axe Wind (VAWT), which allows a significant increase in wind speed before being injected to the turbine.

The system allows the optimization of the currents with independence of its direction and it is applicable to any type of VAWT. It is suitable for any type of building

ADVANTAGES AND INNOVATIVE ASPECTS

ADVANTAGES OF THIS TECHNOLOGY

- Increase of electrical output.

  Interface makes it easy to achieve the nominal power of the wind generator at slower speeds, leading to a longer period in nominal operation.

- Increased operating range of action

  The flow control devices make it possible to adapt the interface architecture to the requirements of the speed of the current.

- Adaptation to the turbulent nature of the breezes

  The design of blades and the sectorization practiced allow both the capture and the continuous injection when turbulent nature breezes are present without affecting the performance.

- Compatibility with other types of microgeneration systems and technical equipment

  The interface configuration allows the incorporation of other microgeneration systems such as solar capture systems, passive solutions, technical equipment, green roofs, etc.

- Easy installation

  Its incorporation is suitable for the majority of architectural volumes, industrial, technical, service facilities, auxiliary, agricultural, military, etc.

- No attached plot is required for its installation.

- It allows energy storage.

- Its dimensions are adaptable to meet the energy demand

- Customizable tonalities to suit the aesthetics of the building

INNOVATIVE ASPECTS OF THIS TECHNOLOGY

There are three innovative aspects of great importance. Firstly, EOLIA combines in a single system three different types of technologies capable of producing electricity and it reuses rainwater for consumption.

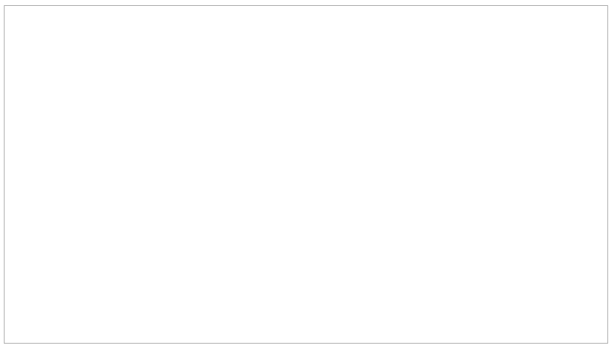
Secondly, EOLIA has been designed to be built into any type of architectural volume. Currently, the installation of systems that use wind energy in buildings is non-existent, except a few cases concerning skyscrapers. EOLIA is the first system to exploit this type of energetic source, as well as solar, intended to be installed into the building itself.

And thirdly, EOLIA is made up of a structure of concentration which has been modeled to use a type of energetic source minimally exploited (such as breezes circulating on the terrestrial surface). This geometry is the result of applying a method developed by researchers. The method determines for each specific case the characteristics that must have the various elements of the wind concentrator so that the maximum output of the system is obtained.

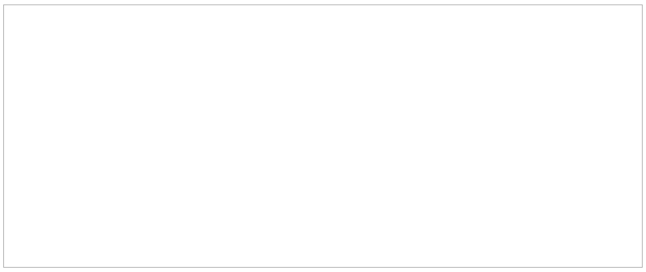
MARKET APPLICATIONS

The possibility of being built in architectural volumes promotes carrying out designs which seek autonomy in energetic terms.

EOLIA can be integrated in all types of architectural volumes, from housing, industrial buildings, logistic centres, mountain lodges, schools to roofs of petrol stations, water tanks, control towers, tolls, etc.



Also, it must be added urban equipment as the case of street lights, water tank height, pergolas, etc. Any structure is open to EOLIA installation as long as it is located in open spaces.



COLLABORATION SOUGHT

We are looking for companies interested in acquiring this technology and its commercial exploitation through patent license agreement.