

# **PRE-FEASIBILITY STUDY FOR THE CONSTRUCTION OF PLANTS USING THE "GIAR" TECHNOLOGY FOR THE GENERATION OF RENEWABLE ENERGY FROM WIND**

**GIAR Energy Srl B.C. – ..... ..**

**International Patent No. PCT/EP/2013/002653 dated 09/11/2016**

**Contract GIAR Energy Srl B.C. – ..... .. dated ...../...../.....**

**Inventor: Giuseppe D’Ambrosio**

**Design Engineer: Benedetto D’Ambrosio**

# Technical Report

The project consists of an innovative system to produce electricity using wind energy. The advantage of GIAR technology – Reaction Turbine – in wind power applications consists first of all in the possibility of being used in a wide range of sizes and powers.

Each unit of the system (GIAR wind Turbine) consists of:

- Modular supporting structure containing a rotor inside;
- Gear box;
- Electric generator;
- Electric panel.

GIAR wind Turbines:

- Are suitable both in wind farms (for connection to the power grid) and in isolated locations (either for connection to the power grid or for self-consumption);
- Are characterized by their respect for environment and fauna, with very low visual impact and noise pollution;
- Require minimal maintenance, by virtue of their minimal number of components and moving parts;
- Do not require orientation, by virtue of being independent from the direction of the wind, unlike traditional wind turbines.

Furthermore, GIAR wind Turbines:

- Can activate even with minimal wind speeds;
- Working with Resistance and not with Lift, they are not sensitive to air turbulence, and therefore they do not stall even with very high wind speeds.

Figure 1: GIAR Turbine application for wind energy production – Schematic drawings [mm]

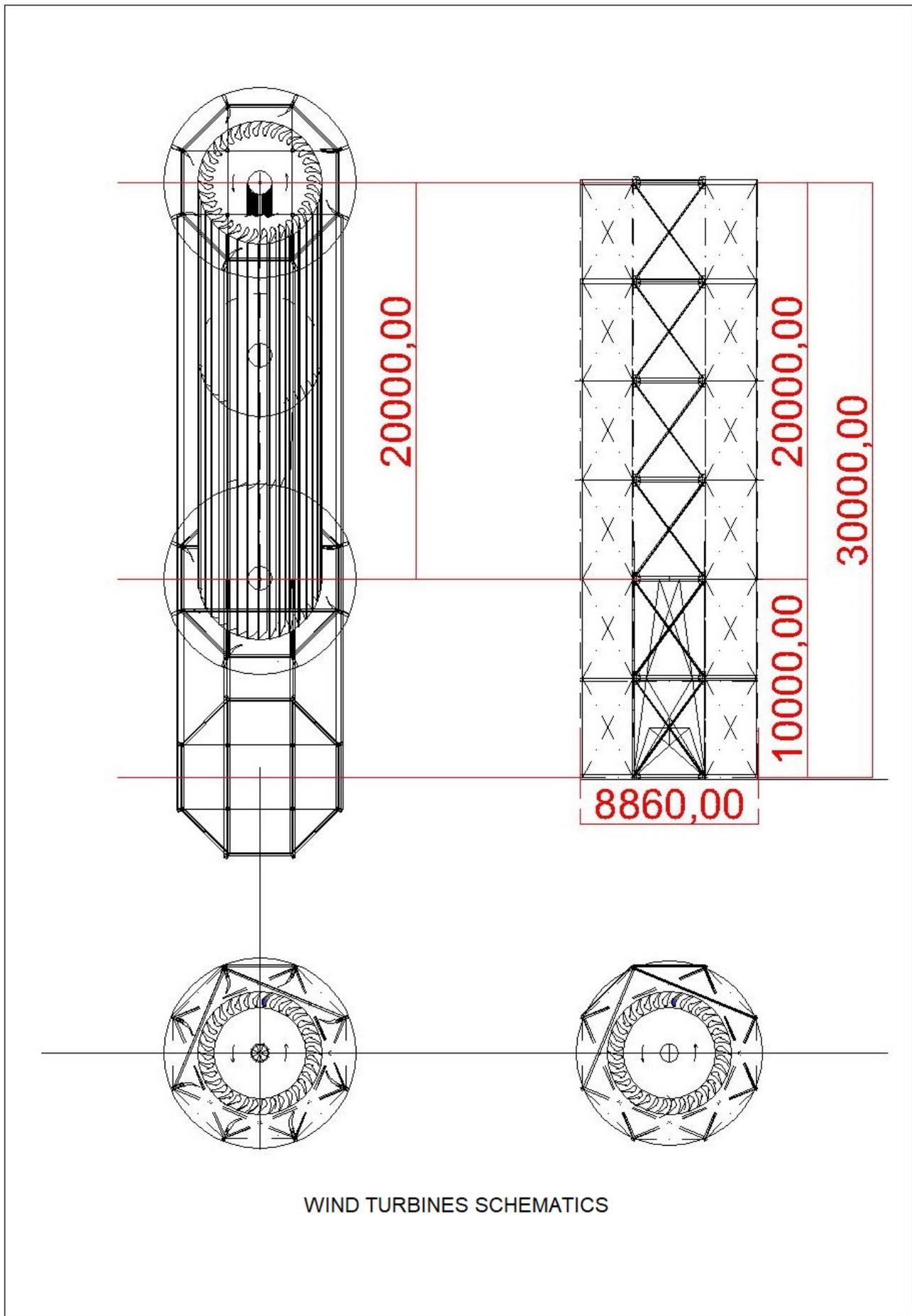


Figure 1: Front view – Example of a GIAR mini wind Turbine

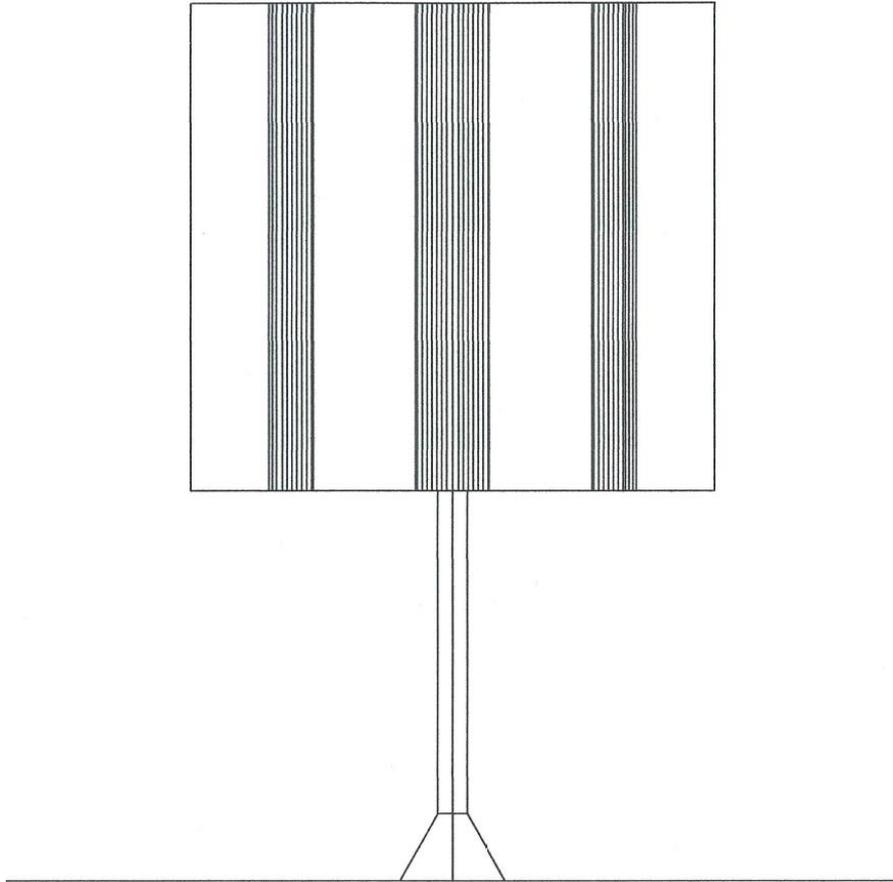


Figure 2: Plan view – Example of a GIAR mini wind Turbine

