



## Title

# AIRBORNE WIND POWER SYSTEM



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## Short presentation

The airborne wind system is described in a first embodiment: it consists of a wind turbine **1**, with a horizontal axis, having one or more blades made of light material which drives an electric generator with outer rotor **3**, mounted on a pillar made of light material **6**, this pillar **6** being circular in section or having aerodynamic profile, a tail vane **5** made of a flat plate and fixed on one end of the strut **5a**, which strut is clamped at the end opposite the pillar **6**, balloons **7** filled with a gas lighter than air and attached to the upper end of the pillar **6** with connecting cables **7a**, an open main parachute **9**, which is placed on top of the balloons **7**, covering them at least in the upper part, an additional parachute **10** equipped with an actuator and pressure gauge, a wing **8**, asymmetric with respect to the pillar, which provides additional lift in the wind, a rotating equipment **11** consisting of an axial-radius bearing and an element with sliding contacts that allows rotation of the anchored assembly depending on the wind direction and at the same time ensures the electrical connection with the electrical conductors in the anchor cable(s) **12**. In the second and third embodiments two wind turbines are used, with horizontal axis and respectively, with vertical axis, that spin in opposite directions, thus the torque applied to the pillar **6** by each wind turbine will be cancelled.



## Applicability

Renewable energy production



## Images

