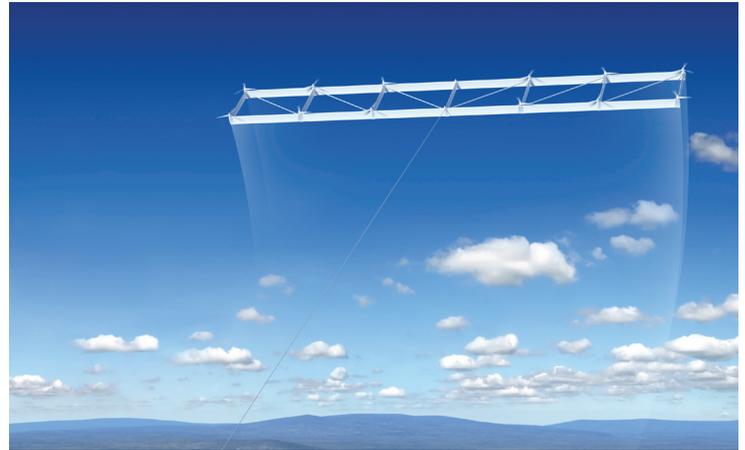


Our Company

Joby Energy is developing airborne wind turbines to harness the immense and consistent power in high-altitude wind to provide reliable, low-cost energy.

Founded in 2008, Joby Energy is comprised of a growing team of engineers, technicians and administrators. We are a diverse group with experience in mechanical, electrical, aeronautical, and systems engineering, mathematics, computer science, CNC machining, composites fabrication, business development and government relations.



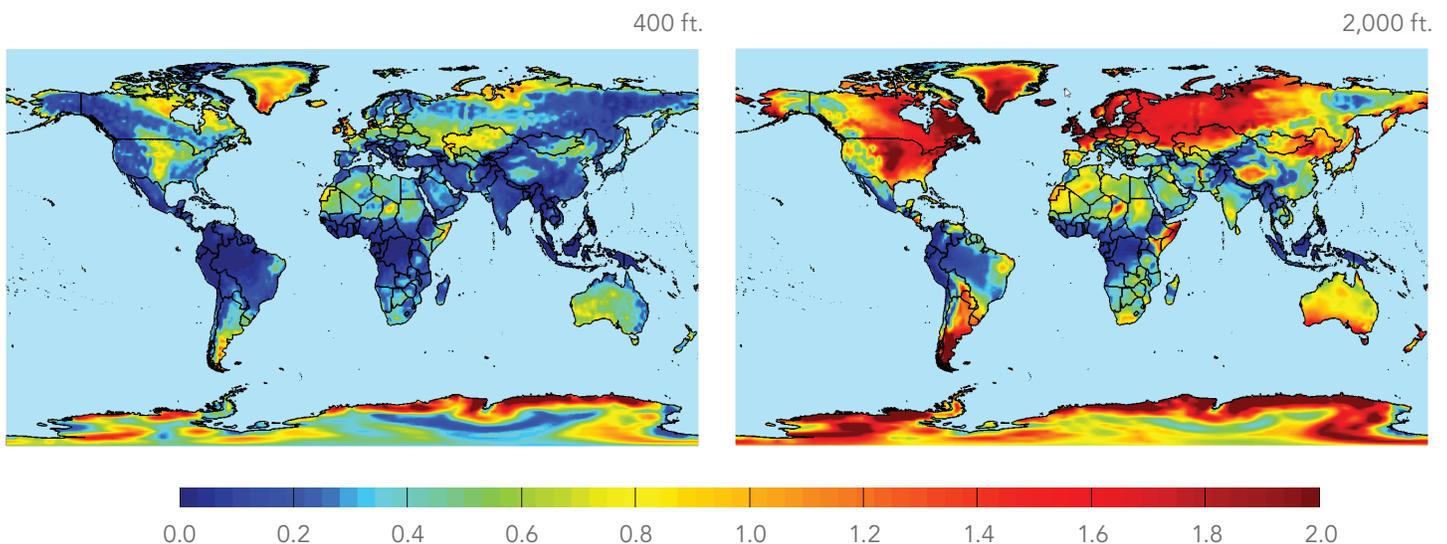
Joby Energy 5 MW system

High-Altitude Wind

We have performed extensive analyses on global atmospheric winds to quantify the potential of high-altitude wind power.

Winds at higher altitudes are faster than winds near the Earth's surface and contain more than three times the power providing a phenomenal untapped energy resource.

Additionally, high-altitude winds are available more consistently compared to near surface winds. Hence, airborne wind turbines produce a more predictable and uniform power output resulting in double the energy production when compared to a conventional turbine.



*Average power density (kW/m²) over land
at 400 ft. and 2,000 ft.*

Research & Development

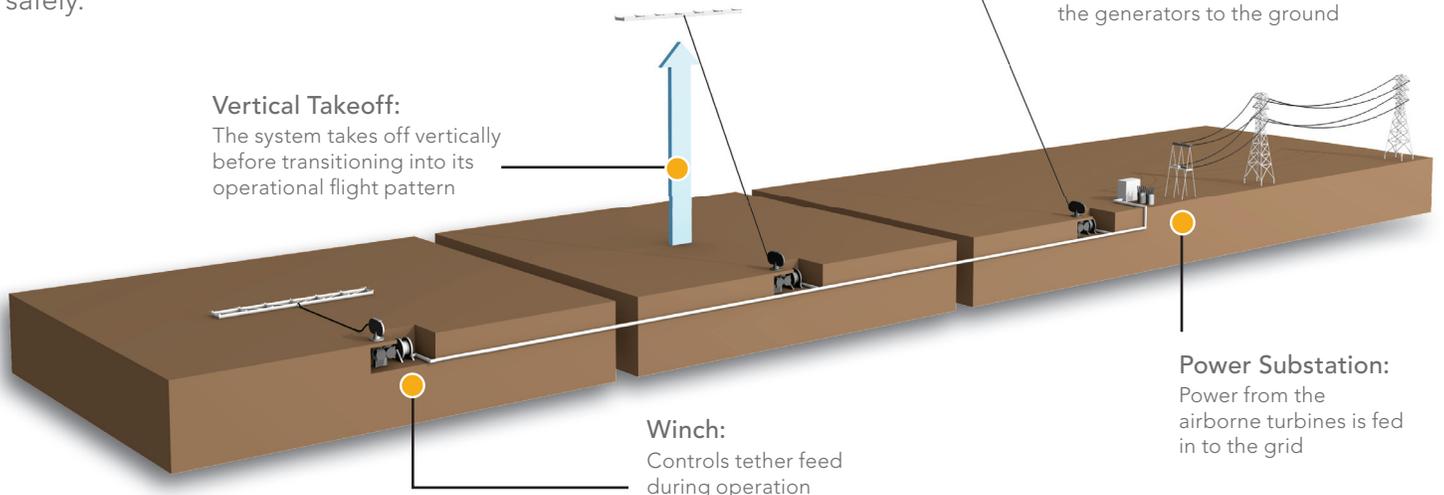
At Joby Energy we thrive on a philosophy of iterative design and testing. Our concepts have been refined through the design, construction, and testing of numerous prototypes.

We've arrived at what we believe is the ideal technological solution for harnessing high-altitude wind. Each element of our system is optimized for scalability, manufacturing, and transport while being extremely cost efficient.

Our modular structure supports an array of turbines. The turbines connect to motor-generators which produce thrust during takeoff and generate power during flight. Orientation in flight is maintained by an advanced computer system that drives aerodynamic surfaces on the wings and differentially controls rotor speeds. A reinforced composite tether transmits electricity and moors the system to the ground. The high redundancy of the array configuration can handle multiple points of failure and remain airborne.

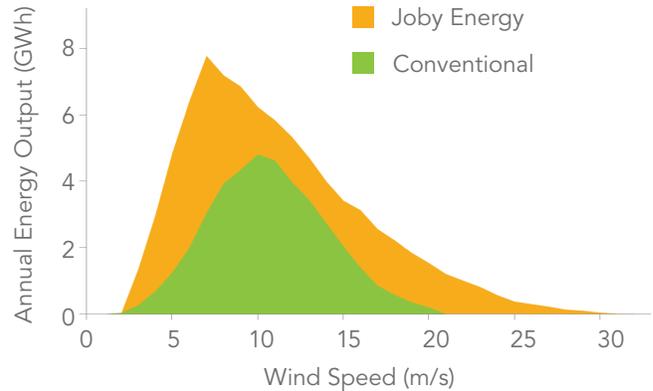
Operation

For launch, the turbines are supplied with power to enable vertical take-off. Upon reaching operating altitude, the system uses the power of the wind to fly crosswind in a circular path. The high crosswind speeds result in the turbines spinning the generators at high speeds, eliminating the need for gearboxes and increasing efficiency and reliability. The energy is transferred to the ground through the electrical tether. During occasional periods of low wind the turbines can be powered to land the system safely.



System Comparison

A comparison between the energy output potential of a 2 MW conventional turbine operating at 400 feet and a 2 MW Joby Energy airborne wind turbine operating at 2,000 feet shows a significant improvement in capacity factor. Our airborne wind turbine yields a capacity factor of nearly double that of a conventional turbine.



Energy Output Potential: Joby Energy airborne wind turbine (76%) vs. conventional turbine (42%).