



Case Study: Wind and Environmental Measurements

Hybrid Power System (HPS) hosted in a
Trailer to power Wind LiDAR and
Environmental Systems

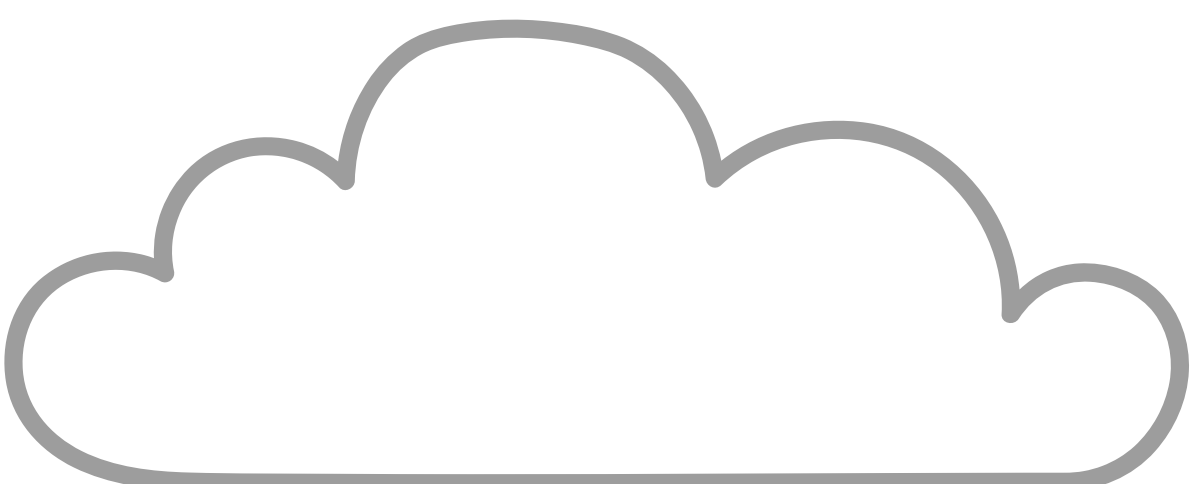


The Application

Innovative and commercially available Doppler Wind LiDAR and environmental measurement systems can be used in a variety of application areas for different tasks. Integrated into the specially developed GWU-LiDAR Trailer or weather-proof housing, these hybrid solutions can be used as mobile or as stationary versions. These hybrid energy solutions are characterized by the following key features:

- Emissions-free and sustainable energy generation
- Low-maintenance and high-reliability
- High-performance and cost-efficient
- Mobility and grid independence
- Scalability and modularity
- Quick deployment





The Challenge

The goal was to develop an autonomous power solution with a reliable energy supply for 24/7 remote monitoring in grid-free, inaccessible locations, ensuring continuous operation, deterring thieves and onlookers and enabling measuring wind and environmental data over weeks and months without requiring any user intervention.

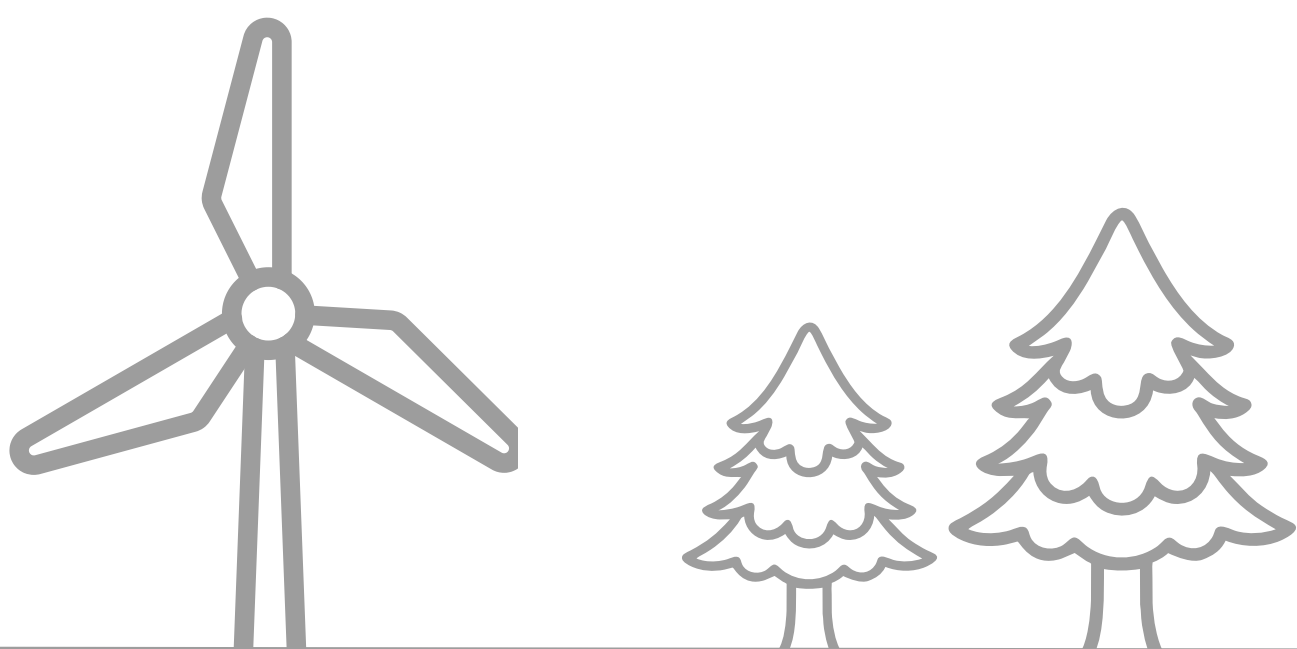
Depending on the location and weather conditions, the GWU-HPS (hybrid power solution) **guarantees up to one year of continuous, self-sufficient operation.**

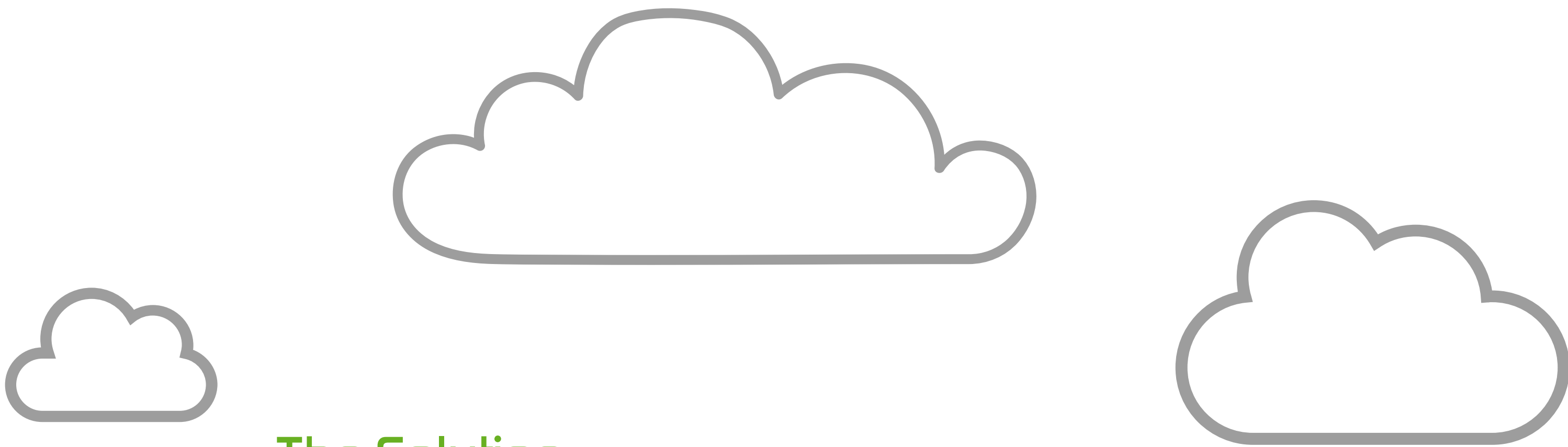


⚡ Power consumption per year: ~600 – 700 kWh

🔋 ~1/3 of the time: powered by EFOY Fuel Cell

☀️ ~2/3 of the time: powered by solar energy



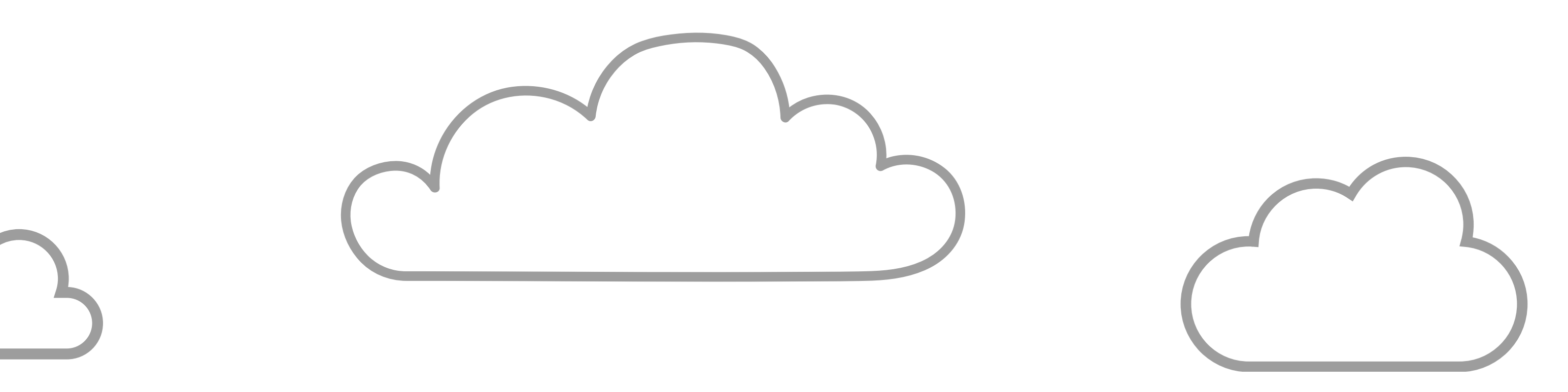


The Solution

The energy solution which is used to power the wind profile, and environmental measurement systems is a hybrid energy source (GWU-HPS) supported by EFOY Pro Fuel Cells from the manufacturer SFC Energy AG and associated PV technology (~1 kW). This configuration provides an emission-free, self-sufficient, and sustainable power supply characterized by high reliability, long self-sufficiency, and low maintenance requirements.

Reliable Power, Anytime, Anywhere!





“The EFOY Fuel Cell provides a self-sufficient and reliable power supply in hybrid operation with PV technology. In combination with the EFOY Cloud it ensures continuous monitoring, prevents system downtime and minimizes the workload of emergency services in an environmentally friendly and efficient way.”

Dipl. Met. Ludwig Wagner
CEO / Managing Director
GWU-Umwelttechnik GmbH



Bonner Ring 9
50374 Erftstadt, Germany
☎ + 49 (0) 2235 95522 0
✉ info@gwu-umwelttechnik.de
🌐 www.gwu-umwelttechnik.de

