



Jan Felix Stroetmann

Project Engineer
SkySails Power GmbH
Technical Sales

Wendenstraße 375
20537 Hamburg
Germany

jan-felix.stroetmann@skysails.de
www.skysails-power.com



Airborne Wind Energy Sites in Continuous Operation

Jan Felix Stroetmann, Julia Wagner, Miguel Nunez
SkySails Power GmbH

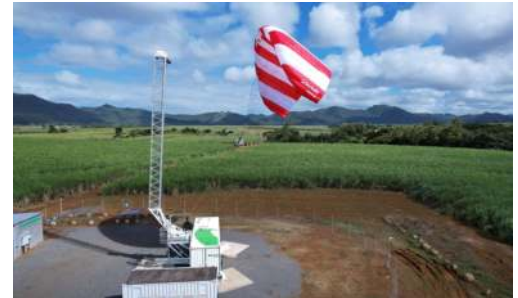
SkySails started out to operate kites for propulsion in 2006 and is developing Airborne Wind Energy (AWE) systems since 2016. Now, SkySails Power has managed to move from single operations of R&D systems to permanently installed AWE sites.

The systems in Klixbüll (Northern Germany) and Mauritius have launched operation in 2019 and 2021 respectively. Both feed produced energy into the local low voltage grid. The systems are operated between 1-3 shifts per day and used for research and development as well as endurance operation.

This is a major milestone for the entire industry as the technology is no longer in an experimental stage but has gathered experience and data from long-term operation. SkySails has learned to improve logistical processes, train local technicians, improve the spare parts supply chain and operate within the guidelines of local grid requirements.

During this presentation, SkySails will provide insights into the learnings of continuous operating AWE sites with regards to:

- Technological findings and advancements [1,2]
- Grid connection [2]
- Social acceptance [3]
- Operator training
- 3-shift operation
- Collaboration with local authorities.



SkySails Power System operating in Mauritius since 2021.

References:

- [1] IEC 61400-1, Wind energy generation systems – Part 1: Design requirements.
- [2] IEC 61400-12-1, Wind energy generation systems – Part 12-1: Power performance measurements of electricity producing wind turbines.
- [3] Schmidt, H.; Leschinger, V.; Müller, F.J.Y.; Vries, G. de; Renes, R.J.; Schmehl, R.; Hübner, G.: How do residents perceive energy-producing kites? Comparing the community acceptance of an airborne wind energy system and a wind farm in Germany. *Energy Research & Social Science*, **110**, 103447, 2024. doi:10.1016/j.erss.2024.103447.
- [4] Glossary – Airbornewindeurope, 10/2023. <https://airbornewindeurope.org/glossary-2/>