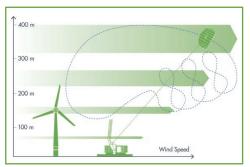


# UNLEASHING THE TRUE POTENTIAL OF WIND POWER

## High-altitude wind is an enormous pool of energy that has so far remained untapped.

Whereas surface friction reduces wind speeds closer to the ground, the air can move uninhibited at higher altitudes.

SkySails Airborne Wind Energy Systems (AWES) for the first time allow to harness the powerful and steady wind in several hundred meters. They therefore generate high yields while consuming little material. AWES are an economic, reliable and ecofriendly solution that can profoundly alter wind energy's impact in achieving the global energy transition.



Wind energy potential is influenced by the boundary layer and can be significantly higher above 200 meters

AWES offer a new perspective not only for off-grid applications. They can also alter the so far lenghtly and costly windfarm development in Europe. SkySails AWES offer decisive advantages by opening up new sites, not yet considered for wind turbines. The units perfectly work in windfarm arrangements. Since the ground stations can be placed less than 400 meters apart from each each other, AWES windfarms offer high yields with optimum space usage.

#### **CLEAN ENERGY FOR EVERY NEED**

The SKS PN-14 onshore system provides clean electricity wherever it is required:

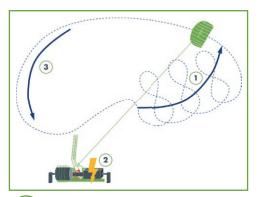
- as a reliable island solution in remote areas lacking a stable grid connection
- as an economic and independent power solution for industry, agriculture, tourism or telecommunication infrastructure
- as an eco-friendly supplement for mini grid hybridization

#### **POWER SOLUTION AVAILABLE ANYWHERE**



Since the SKS PN-14 harnesses the more powerful and steady wind in altitudes of up to 400 meters, it achieves a high amount of full load hours, exceeding other renewable sources like wind or solar. The system is safely employable in typhoon regions, as it is easily retrieved and stowed away before these natural disasters occur. Thanks to its simple transportation and installation requirements, the SKS PN -14 can also be installed in places that are difficult to access.

#### **HOW IT WORKS**



- The power kite unwinds a tether of 800 m length from a winch.
- The tractive force drives a generator inside the winch that produces electricity.



Once the tether has reached its maximum extension, the autopilot steers the kite into a position with minimal drag and lift. While consuming only a fraction of the energy generated during the power phase, the generator now acts as a motor and reels-in the tether.

The system continuously repeats this process, flying the kite at an altitude of 100 to 400 meters. Energy generated by the Airborne Wind Energy System can be fed into the grid, stored, or directly consumed.



SkySails PN-14 system in Northern Germany

#### **COMPONENTS OF SKS PN-14**

(1) Kite

- **5** Tether guiding
- 2 Control pod
- Tether
- **6** Ground station with winch and generator
- Launch & landing
  - 7 Tripod with ring mount



Nightflight of SKS PN-14

### **TECHNICAL DATA SKS PN-14** (<sup>1</sup>depending on site specific configuration)

Average cycle power / rated power <sup>1</sup>	80-200 kW
Kite size (laid out) <sup>1</sup>	90-180 m <sup>2</sup>
Operating wind range	4-25 m/s
Tether length	800 m
Tether diameter	14 mm
Ground station	30 ft container

Sounds interesting? Contact us!



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