oxygen VERTIGO

electricity · green areas · community · oxygen · culture

We wanted our design proposal to become a place, not an object.
A place capable of generating clean energy from renewable sources, but also a place with the ability to create new social and cultural connections, providing Copenhagen with new oxygen and new life.

We chose wind among other renewable energy sources, because of its value in relation to the local environmental potential.

- area subjected to high speed winds (45km/h*1)
- CPH plan 2025

- only 1540 h*2 of sun a year
- low average radiation

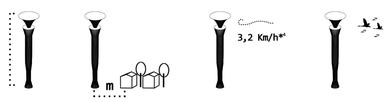
- low velocity streams
- interference with sailing flow

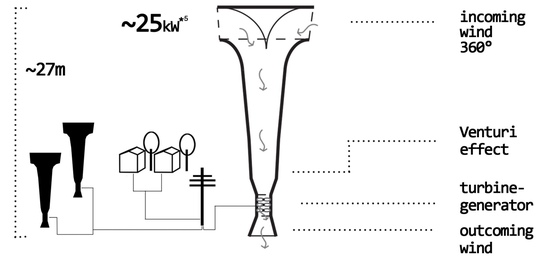
The proposed wind technology uses simple physical principles: the wind is collected on the top of the tower from all directions and channeled down towards the turbines. Before reaching the turbines, the air flow is accelerated by shrinking the duct, according to the the Venturi effect.
A similar technology was introduced in 2010 by an American company called Sheerwind. The company research was used as a base to develop an evaluation analysis of the expected energy production.
This technology has some advantages compared to traditional wind turbines.

CPH 2025
+100*3
new wind turbines

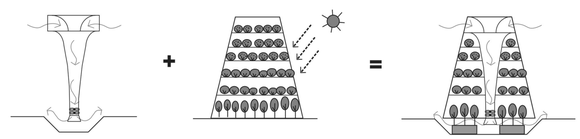
HORIZONTAL AXIS WIND TURBINE ✘

WIND TOWER ✓



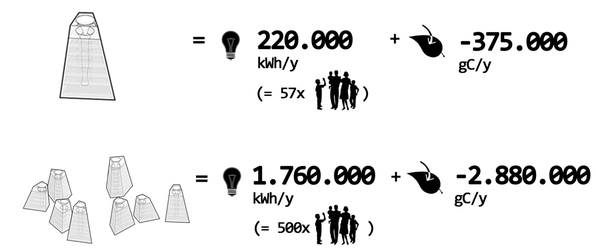


The wind tower was interpreted as the core structure for a vertical farm, integrating the technological element with an ecological and social function.



DATA

ENERGY



*1 http://www.weatherbase.com
*2 http://www.climatedata.eu
*3 https://www.subsite.kk.dk
*4 http://www.pacificwind.co
*5 http://www.sheerwind.com
*6 http://www.shrinkthatfootprint.com
*7 http://www.lessco2.es

VERTICAL SECTION