Windshape

03 / Setter technics

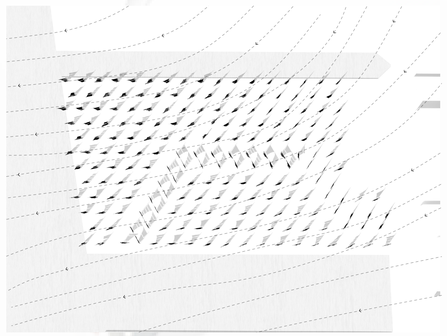
Severals factors justify the design of the voil. Analysing the wind, we had to find the good balance between strenght and lightness structure. The main inspiration for it was how windsurfing voil are made. A succesion of differents kind of layers (aramid fiber scrim and mylar protection) turn it very strong. The sails are designed as a real voil including nanofibers with *piezoelectric* properties which convert the kinetic energy into electricity. Because we wanted people to be part of the process, the dimensions of each sails panels is imagine in adaquation with human ratio.

The project produce energy in three different ways: Human action, *PiezoElectric textile system* and Dynamo System.
Each poles have a dynamo system to produce energy when the wind make them rotate.
On the pole there are differents horizontal arms, which can rotate in a autonomous way and are a support for sails which are made of *Piezoelectric* textile.
Effective 365 days a year, this system augment its profitability in winter when the wind blows stronger, longer and in a more irregular ways.
Using renewable materials and promoting new technology unknown by the major part of the public like *piezoelectric* system to produce a green energy is aim to make people try understand that their is plenty of way to harvest the surrounding element power.

This *piezoelectric* textile structure provides an estimate output power density in the range of 1.10–5.10 μW cm−2 at applied wind pressures in the range of 0.02–0.10 MPa.

As additional contribution the dynamo system have an estimate output power density in a range of 0-3.5W for a speed rotation between 0 and 7 km/h.

LED lights system are located in the poles and light softly the site area at night, make it visible form the other shore and become a reminder of the power of copenhaguen wind.



Shape of the project w ith a Est-Ouest wind