KØBENHAVN SAILS
WIND FARM AND CITY SPOT

FLOW OF NATURE

In Denmark weather seems to be a part of society. Every weather condition shapes people's behavior in a particular way. Also, there is one thing that Danish people love to do. They cycle everywhere they go no matter what the weather conditions are.

Having this picture in mind weather was an obvious choice for this competition entry. So, what is the most essential aspect of the weather in Denmark? The answer is wind, the most powerful and already widely researched green power source. There are couple of questions coming to my mind when thinking of the wind and designing process. How to change appearance of wind turbine? Which wind turbine is the most efficient one? Usually wind farm are placed outside the urbanized area. How can we implement the wind farm to the city center then? Everyday practice shows that wind turbines towers get taller and taller. However, does it make sense to build such tall structure (125 meters from design brief)? Absolutely NO because that would destroy the whole landscape and negatively affect the surroundings. So, why not place several rows of smaller traditional horizontal axis wind turbines? Apparently the turbulences produced by wind turbines affect each other, as effect they can barely produce 2.5 W/m2.

NEW WAY

All these points show us that we have to change the way we see and think about wind turbines. Wind can be delightful such as sea breeze and dynamic such as hurricane. Is their possibility to show these differences by artwork? Sailing is age's long tradition of using wind for human needs. Sailing can be explained as language of wind, you need to adapt to changing conditions, and the wind has it certain beauty. Sails inspirations are well known in Denmark. Jørn Utzon, a widely recognized Danish architect explained his most notable design, Sydney Opera House, as a vision of sailboats over the horizon.

Knowledge based on Professor John Dabiri's research shows that vertical axis wind turbines are more cost efficient and can generate up to 9 W/m2, and they minimize turbulences. Placing this type of turbine in rows is not only possible, but it helps to generate greater energy profits. Vertical axis turbines are also simpler and maintenance is much easier.

Combining the 'sail like' design and vertical axis wind turbine is what this design proposal is trying to achieve.