

# KÖNIG GARDEN

## REFSHALEØEN ENVIRONNEMENT, TRANSPORTS AND ACCOMODATIONS



THE PORT VIEW



BOAT VIEW



TAXI BOAT STOP



URBAN GARDEN

König garden is design as a multi modal area, which generate his own energy and produce more than 180 000 Kwh by year electricity power. The main concept of this installation is built on the relationship between users and the elements: The sky, the water and the earth and give them the opportunity to experiment, play, educate and learn by themselves. The variety of uses is open and let everyone find its own spaces and uses. Beyond the user facilities, König garden is also a kind of a testimonial structure, connecting past and future in a same way and playing with a flat topography area. Located on the Refshaleøen Island, König garden is accessible by boat, foot, bike and car. This old boat repair area is now becoming a new neighborhood, close to the Danish art academy, the architecture school, the design center, the opera, the concert hall... Additional to the cultural activities, the Refshaleøen area is also a wonderful place for sports with the nordre refshale bassin to swim and a charming landscape for run and other outside activities like gardening. A second hand shop, many artists' studios and small coffee places also improves the quality of life. The water road krudtløbet on the south offer likewise a perfect entrance to the park. For this project, we choose to use mainly the wind forces, thanks to the creation of different turbine wall and kinetic sculptures combined to playground installations. The wind energy is convert into electricity and have the ability to store, transform and transmit the electrical power to the main grid or use it in the König garden for lighting and all electricity needs. A transformer and electrical equipment are provided in the main structure (number 1). For an average wind of 12 m / s, 1 wind turbine produces 200 watts of electricity. There are 361 (19x19), placed between 45 and 65 meters height to optimize their profitability. Wind turbines are an installation of 72 kilowatts, and for 2500 hours operating energy production is 180,000 kWh / year. Knowing that a citizen of Copenhagen consumes 1,300 kWh of electricity by year in 2010, so the structure covers the power consumption of 138 people that to say more than 50 houses with greater coverage in the winter because is more windy. Additional, kinetic elements will also accumulate the energy required for lighting in the evening and the surplus can be injected into the grid. The elements will be built in wood, in the same way than the other water playground in Copenhagen, painted with red stripes for the building 1 and the pediment sea in reference to the details of swimming areas already existing in the city. The buildings 7, 8 and 9 are also painted in red to imply entrance and exit points of the park. The integration of wind turbines is target on the building 5, on the upper part (45 to 65 meters). The creation of a panoramic floor in the building 1 offer a closed tempered place appreciable specially for the winter time and also an amazing view to the city and the little mermaid. The generator is hidden, with a secure access, in the basement of the building 1. Building 10 and 11 are placed in water.

### The sky as the main power

Over a millennium of windmill development and modern engineering, today's wind turbines are manufactured in a wide range of vertical and horizontal axis types. Most of the installations in König garden use the wind energy with different sort of turbines, fixed on the structures. The mostly turbine type is a modern HAWT, 68 meters of diameters, 200KW each, bringing its power by the earth to the generator trough the floor. The König garden is also a park and a playground compose with kinetic sculptures and kinetic elements on which you can play. The first signs of kinetic art from the 1910s in the Futurist movement and certain works of Marcel Duchamp. Later, the invented Alexander Calder mobile, son and sculpture formed metal parts that are set in motion by the movement of the ambient air. The term kinetic art was adopted around 1954 to describe works of art set in motion by the wind, spectators and / or a motorized mechanism.

Equipment conceivable: wind turbines, kinetic sculptures, kite, parkour equipment, children playground...

### The water as a new urban garden

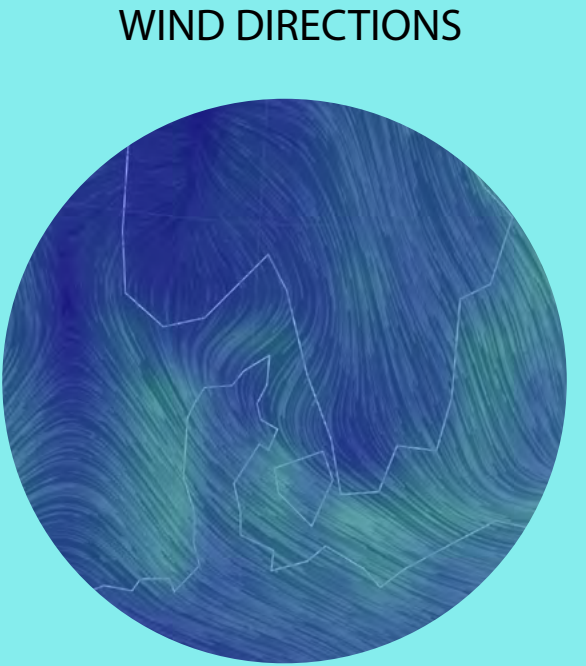
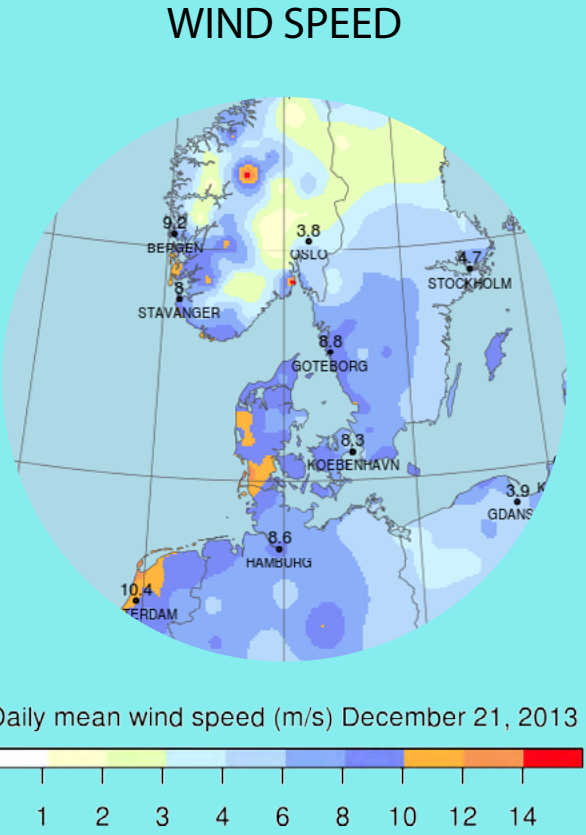
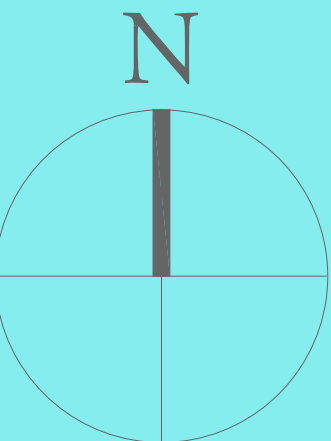
More than a water playground, König garden is also a place to stay and a new place for gardening. In addition to the garden box already on the site, a large water garden is provided with different plant species, ornamental and vegetable like cress, water chestnut, water mint, Eupatorium purpureum... More intimate areas were also provided on the north side of the park, to read, relax, be inspired. Building 10 and 11 offer a water playground area with especially canoe kayak doors.

Equipment conceivable: canoe kayak, swim stuff, water garden, gardenning stuff, parkour equipment...

### The earth as an heritage

In reference to the ancient architecture, as erected orthostates, parallelepiped stone blocks much higher than deep, like megalithic menhirs, the different elements of the König garden form some walls, opened and gigantic, drilled by narrow opening, for shelter from the wind and recreate a topography. Actually, the site is covered in local wild field grasses typical of urban brownfield environments. In Denmark, the forest covers close to 12% of the country; conifers, beech, oak and ash trees are predominant. There are also several varieties of ferns and mosses. In the König garden, the goal is to keep the actual wild grasses and add some endemic species like beech, oak and ash to built a vegetal barrier against the wind and to create more protected areas.

Equipment conceivable: bike, parkour equipment, park, children playground, urban garden...



- SMELL 10
- BOAT ACCESS
- ACTIVITIES
- BIKE, CAR, FOOT ACCESS
- WIND