

Waveyard

Once a shipyard, Refschaleoen is now transforming into an experiential hybrid art garden that generates electricity from wind. Waveyard sits on a 9.8-acre site, which is located across from the Kastellet and just north of the cultural hub of Christianshavn.

The concept of waves influences the various forms of the site. The wave gesture derives from the physics definition of wave or a disturbance of oscillation that travels through space and matter, accompanied by the transfer of energy. The design calls for engaging three layers of the site: water, landform, and air.

The ground promotes the spatial experience on foot. Upon arriving to the site one will notice that there are several undulating mounds or strips, which conceal and reveal space around the site. The layout of the mounds and their overall shape resemble waves washing onto a beach. The mounds create elevated viewsheds and direct the flow of wind. The strips represent the gridded form of the surrounding urban fabric. It is as if the flow of urban energy comes up and meets the site and is then transferred into wave-like forms before actually entering the water.

The form of air presents itself through the Dual Wing Generators, which undulate like waves above the visitors' heads. The upward and downward movements created by the wind reflect the feeling of bobbing on top of the waters surface. At night the wings light up on the ends to create a new visual experience. Through our calculations, the overall energy produced is 121.8 kilowatts/hour. This powers 240 homes.

As the city continues to grow and urbanize it will need more energy and spaces for recreation, especially along the shorelines that were once industrial real estates. The design transforms the site into an events ground, water sports center, play, exercise, and beach for all those to enjoy.