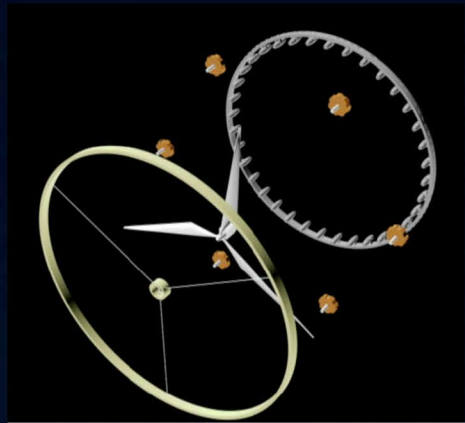


South Elevation



Exploded Axo



Assembled Structure

Wind Wheel is an architectural project that aims in harnessing the natural potential power of the wind and transforms that energy to electricity. There are indeed various means for producing energy from the wind. The wind turbine is the most ancient strategy and is used in this project for two reasons; producing energy and creating a visual practical movement that serves the purposes of a ferris wheel (ex. london Eye, Beijing Star...). The wind turbine palms rotate in a clock work fashion whereas the turning wheel rotates in the opposite direction, hence allowing the people in the privates « cabinets » to visualize the wind movement in an increased manner, as the turbine rotates 5meters away from the giant wheel. Both of these structures are assembled together so as to create a unique architectural object. One that produces its own energy and uses it exclusively to serve the needs for the ferris wheel. This wheel is supposed to rotate at 3km/h (controlled speed), whereas the wind turbine has a varying speed between 40 and 70 Km/h depending on the wind conditions in Resfshaleoen. The structure rises to 125 meters, allowing the wind turbine to produce an average energy of 5000 kWh, thus harnessing enough electricity to run the attraction throughout the year.

In operation, the ferris wheel revolves about a horizontal axis, and the riders are alternately lifted and then lowered as they are carried around the wheel in a circle. In this case, the axis is transferred to the other standing wheel (wind turbine structure), for the ferris wheel uses a mechanism of 5 cogs to which it is attached and thus is allowed to turn infinitely around the bigger fixed wheel structure. From the wind turbine energy is transferred to the cogs, which uses the electricity produced to run the ferris wheel.

Most of the existing wheels have their structure embedded within the frame of the construction, in this project, the structural configuration aims at optimizing the ground surface to establish a matrice of tensed wires that holds the main frame to stand correctly. This way, the space inside the ferris wheel is free for another use, production of energy. This proposition actually changes the perspective of the design site because the whole surface has been spatially harnessed. A structure as important as the one proposed needs the right materials to ensure its perennality and practical energy production. Because of the unique design of a ferris wheel, most of the component parts are fabricated by manufacturers. Steel is the most common raw material and is used to make the trailer chassis, wheel support towers, wheel spokes, and tyrants. A variety of structural steel shapes are used as well including square tubing, round tubing, angles, channels, and wide-flanged beams. Aluminum diamond tread plate is used for the entrance and exit walk-ways and for the operator's platform.

In order to find the right ground-matrice for stretching the tyrants to the gigantic 125meters main structure, various forms can be applied but the most perspicacious configuration is that of a web, a spider web. Indeed, the structural form of the spider web permits a rigid establishment of the metallic tyrants and a firm assemblage while allowing a better use of the space given below the wheels. People are invited to roam around the Lagi site as well as using the wind power for an attractive amusement program; a ferris wheel within a wind turbine, Wind Wheels.