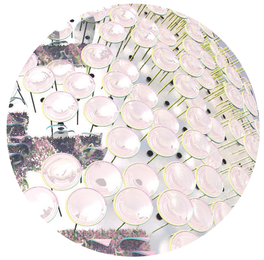
The water system is composed from a main piping geometry, that works as network distribution and vaporizator, and a secondary frame such as the direct-irrigation system.

A network of water vaporizers, sprinklers and drip irrigation is in charge of watering the plants of the vegetal skin, cooling the cells of the solar skin, and controlling the temperature of the surroundings of the pavilion through evaporative cooling effect.

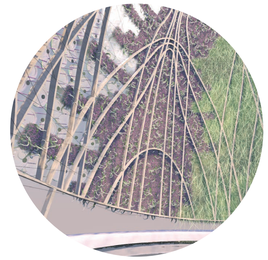


Facing north the translucent textile skin is covered by Fresnel lenses and photovoltaic cells attached to the fabric. These Fresnel lenses redirect and concentrate sunlight on the monocrystalline photovoltaic cells behind enhancing their efficiency.
The forest glades or clearings ensure no shadow casting on the photovoltaics.

Effciencies are estimated around 40% of the solar radiation (considering an average of 4,1 kwatts/m2 the system would generate close to 1,6 kwatt/m2).

Facing south-east and south-west the skin is covered with wind catcher devices. These are the areas where the geometry of the domed structure generates higher wind pressure. These devices are big leaf-shaped translucent plastic wings, connected to dynamos/resistances at the base, and attached to the skin.

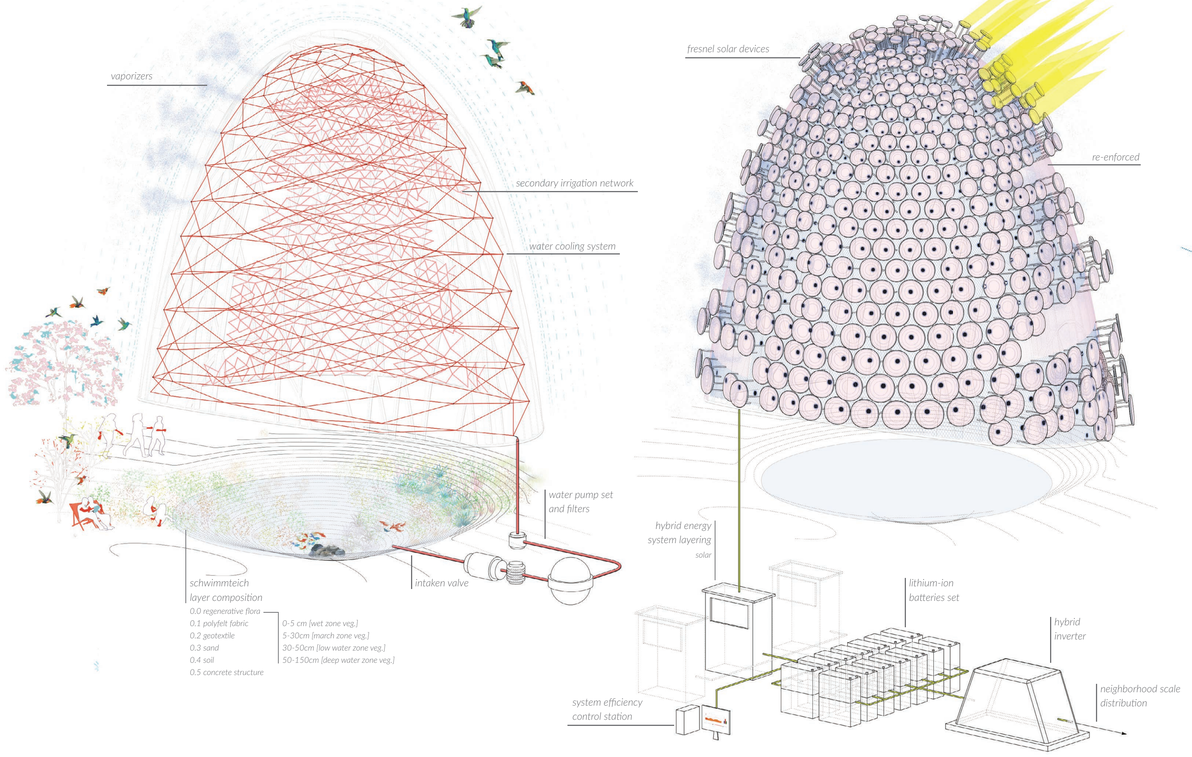
The wind-leafs are installed on the edges of the vegetal skin, producing an uncanny superposition of natural and artificial forms of "vegetation".



Plants produce organic matter, at roots level, with sunshine that is used to their own grow. The plant only use approximatly 40% of it, however, the rest disappears into the soil. With Plant Microbial Fuel Cell technology this organic matter is converted into electricity.

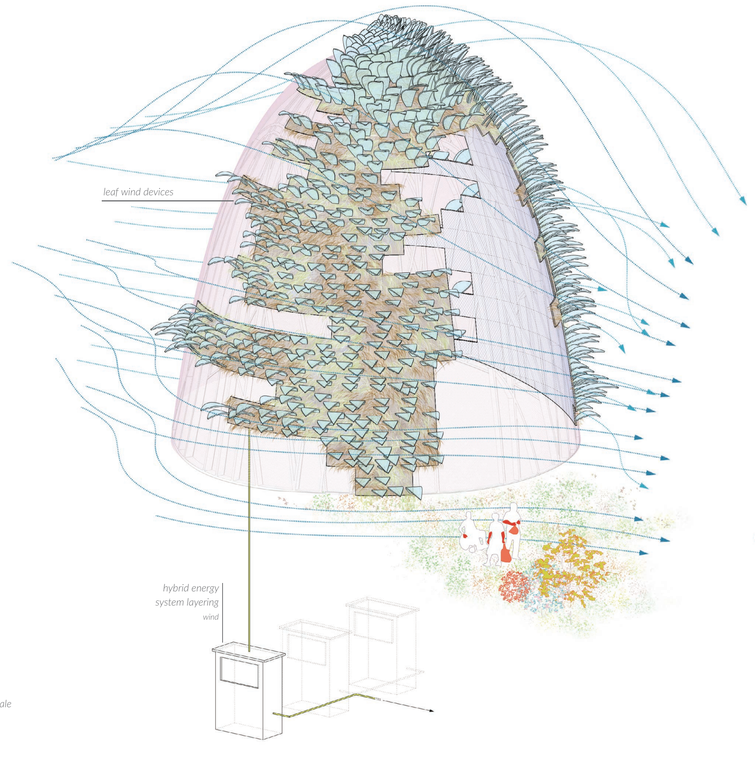
The average production of these systems is 3.2 watts/ m2. Furthermore, the vegetation growing in this green skin aids in the production of organic nutrients and local biodiversity, and they help in softening temperatures and protecting from the south winds.

s1.
Water skin

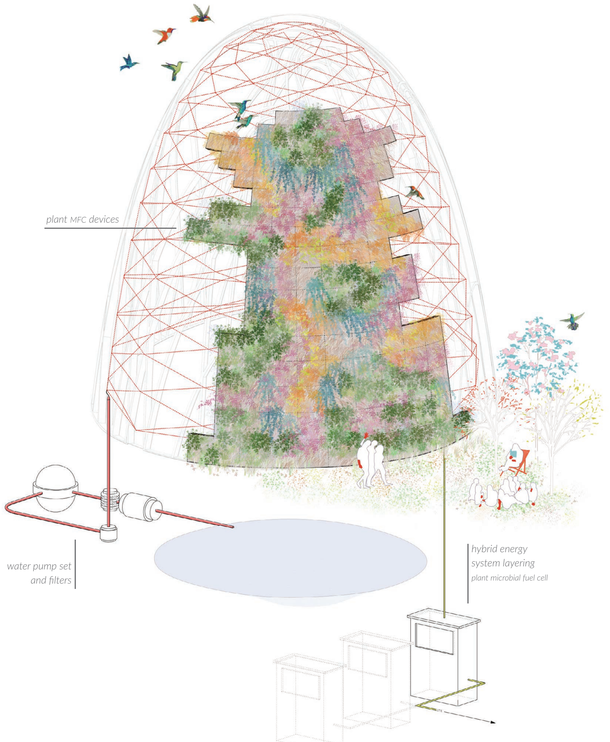


s2.
Solar skin

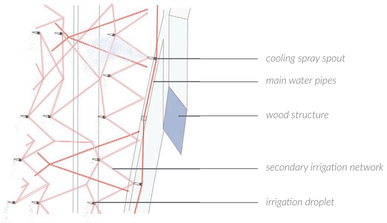
s3.
Wind skin



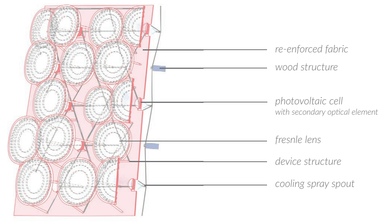
s4.
Vegetal skin



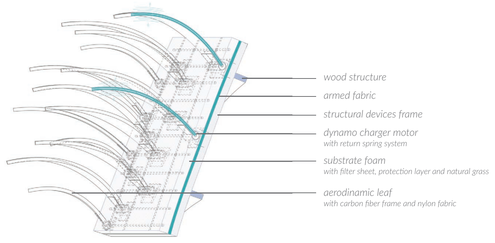
Water skin detail
scale 1:20



Solar skin detail
scale 1:20



Wind skin detail
scale 1:20



Vegetal skin detail
scale 1:20