DANCING LEAVES

In the way a palm tree harvests sun energy through its leaves, the sculpture also is designed with the leaves as the core part of the concept.They are responsible for converting the renewable resources sun and wind energy into electricity. Following the palm tree as inspiration, the leaves are shaking in the wind to make the invisivle power tangible and let the sculpture come alive. The image of the dancing leaves is further pursued retracting them at night and allowing interaction during day.

ENERGY

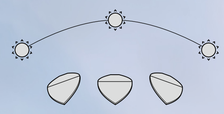
Material: CIGS thin Film Photovoltaic. 5/6 length of the leaf. Information per sculpture: Solar energy power generation 50.22MWh/a Cost:2100 USD.

Material: carbon fiber composite. 1/6 length of the leaf. Wind power generation 924.13 kWh/a Cost:379 USD

Total generation:51.14MWh/a Cost:2516 USD

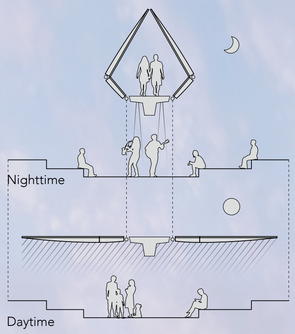
Average:3.3 USD/W

In order to maximize solar energy gains, all the leaves are automatically rotated by a solar tracking system, ensuring a perpendicular orientation towards the sun at any give time.



Rotation Angle

BIG LEAF



At nighttime the leaves retract and give away the view to the nightsky. Embedded OLEDs create a light tunnel which shines throught the flooring, reflecting the motion of people via the Tyndall effect under the bridge.

At daytime the leaves create shade allowing people underneath to stay in a comfortable atmosphere and watch the play of light and shadow as the leaves shake in the wind.

SMALL LEAF

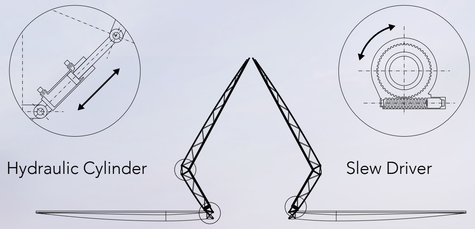
Educational Activity

The small sculptures offer an educational activity. Energy gain visualization depending on rotation angle of the leaf. It will then automatically resume optiumum angle.

Interactive Activity

Flexible flooring is connected via cables to the leaves which allows the transferring of motion energy from walking or running into the shaking of the leaves.

DETAILS



Hydraulic Cylinder

mechanical actuator used to give a unidirectional force from pressurized hydraulic fluid

Slew Driver

gearbox that can safely hold radial and axial loads, as well as transmit a torque for rotating