**The Oasis:**

The oasis is an isolated vegetation zone in a desert. This occurs near a source of water or when a water table is close enough to the surface of the ground or sometimes on the bed of rivers coming to get lost in the desert. It is this rare and mysterious place; and it is already considered the heart of the desert because of its mental and physical role in the Arab culture.

We had as a task to find a work of art that represent the Abu D’habi, the desert, the Arab culture, and the MASDAR city, after a long reflection: what is the better representation of the source then the naturel source.

**The biomimétisme is the solution:**

 A bio formal inspiration of a real oasis.

To capture solar energy, we invented a palm tree with an artificial upper part this part consists of solar panels in the form of palm leaves to imitate the palm on the one hand and to capture the sun and create shade on the other hand, this upper part can follow the location of the sun in the sky by a rotary movement to maximize the energy gain.

The leaves of the palm trees can also move under the effect of the wind by producing electricity because of this movement.

since the place is near the sea so very wet and inspired by the beetle of Namibia; the trunk of the palm tree and covered with a microstructure (bumps and hollows) this microstructure itself covered with wax to capture moisture in the air and routed in the cercuit to feed the two lakes these two lakes create a microclimate for the emergence of fon and flora in the region, and give a charm to the place and make the clima more livable

**Power generation estimation：**

Solar panel energy production per square meter (calculate 9 hours a day）: 2.2 kWh / day

Total solar palm: 187 palm

Total energy output per day: 3050 kWh / day

Wind panel energy production per square meter: 0.7 kWh/ day

Total wind palm 187 palm

Total energy output per day: 970 kWh / day

Total solar, and wind power/ days 4020kWh/ day

Quantity of water generated ( humididty 60 % ): 17050 L/day

**The environmental impact:**

The idea of the project is to use the solar energy, the wind energy, and the humidity as a source to supply the city with electricity and to create water point, so this project will help reduce the conception of the electricity and water to preserve them for future generations.