**S-BEDU**

S-BEDU is a new gathering place that takes you to the heritage of the area. An oasis of palm trees makes you feel the atmosphere of the Bedouins and how they lived under the tents and shaded by the burning sun of the desert. These tents and palms are not meant for shading only but have a different use. With a layer of flexible solar panels adapted to the shape of the tents. And its palms are columns for the carrying of tents. It acts as a load point or acts as a collector for rainwater and long of it ends with an turby wind turbine. All of this pure electric energy is directed to lighting the park and feeding the surrounding residential complexes in hopes to be applied in all green areas in Masdar City. So as to give it autonomy in terms of electric power

**Inspiration**

"As an architect, I designed for the present, with the perception of the past, for an essentially unknown future." Sir Norman Foster

So the idea of the project was inspired by the heritage of this place. Where Bedouin tribes were known to live in tents. Grazing camels, producing dates and vegetables in oases, fishing and diving looking for pearls on Abu Dhabi coast

The term nomads are used for deserters whose livelihoods depend on raising livestock and living a mobile life in search of food and water. Bedouin life is an Arab cultural tradition specifically

**Components**

Square mesh with 20m Length and width on each module

tents

48 tents with a total surface of 15000m²

Artificial date palms

37 support date palms

15 wind turbine date palms

15 rainwater recovery date palms

**Structure**

Use stainless steel tubes for this following reasons:

Durable thanks to its resistance to corrosion

Easy to use and place

Resistant to extreme temperatures

with three different sizes depending on the overloads,

tube 1 (principal columns) R:300 mm/ thik: 20 mm/ Lt: 1675 m/ 233682.34 kg

tube 2 (principal beams) R:200 mm/ thik: 10 mm/ Lt: 3840 m/ 181764.01 kg

tube 3 (secondary beams) R:100 mm/ thik: 5 mm/ Lt: 7680 m/ 90882.00 kg

**Energies**

**Solar Energy**

Use flexible photovoltaic panels that are lightweight, easy to install, have the ability to fold and take the shape of a winding surface of the tent

Annual Power Generated 1370Mwh

**Wind Energy**

Turby wind turbines is a brand of vertical-axis Darrieus wind turbine. The three vertical airfoil blades have a helical twist of 60 degrees, similar to Gorlov's water turbines. One of his benefit its independent from the wind direction also can start working from 2m/s wind speed. use this energy in park lighting

Annual Power Generated 270Mwh

**Rainwater recovery**

Use the shape of the tent to collect rainwater into its lower point and stock in a stainless steel tube to reuse it in the summer to dampen the atmosphere

1125000 liter/yr

**Battery**

Use a flexible Lithium-ion battery at the bottom of the palm wrapped around the stainless steel tube

**Total Generated Energy**

1640Mwh / All construction will cost 4M$/ 9$->1watts

**Materials**

the columns: use the stainless steel

The artificial date palms: use recycle materials

The tents solar panels: use silicon

**Environmental impact summary**

In Abu Dhabi, the summers are long, sweltering, oppressive, arid, and partly cloudy and the winters are comfortable, dry, windy, and mostly clear, so integrate some environmental solutions is so necessary such as:

Green spaces are a great benefit to our environment. They filter pollutants and dust from the air, they provide shade and lower temperatures in urban areas, and they even reduce erosion of soil into our waterways.

**Improved air quality.**Trees, shrubs and turf remove smoke, dust and other pollutants from the air. One tree can remove 26 pounds of carbon dioxide from the atmosphere annually, equaling 11,000 miles of car emissions. One study showed that one acre of trees has the ability to remove 13 tons of particles and gases annually. 2,500 square feet of turf absorbs carbon dioxide from the atmosphere and releases enough oxygen for a family of four to breathe

Blue spaces can directly reduce psychological stress and improve ²²mood and increase the humidity

The tent is an ancient cultural heritage that defies the beauty of modern architecture and contributes to protecting the person from the hot sun

Use rainwater recovery for reuse in the summer to cool the atmosphere

Renewable energy is very important in protecting the environment as clean and non-polluting energy. Expanding their use will reduce the use of conventional energy (known as its harmful effect on the environment). The cost of generating electricity from renewable energy is decreasing and therefore the possibility of achieving sustainable development.

The Palm is the symbol of altruism, tenderness and continuity. It represents the gift of one generation to another. It is the spirit, the promise and the gift. It is fruit, food, medicine, drink and sweets.