

SOLAR AQUA LENS

Solar Aqua Lens (SAL) is an artistic vision with sustainable design and engineering in Masdar, the world's first zero carbon city.

Considering the Energy policies in Masdar City and it's surrounding nature, solar energy is the most suitable option for generating clean electricity.

This land art generator is designed as an attractive public space for the city in harmony with the historical and cultural elements of the region.

Generally, The SAL is a two-Shelled object. The first shell is placed on the ground like a miniature of the beautiful Arabian desert in the middle of the city, and the second shell -inspired by Bedouin Tents- placed on the top with a light structure.

The Tent (Upper Shell) with transparent material, OPVC (thin film organic photovoltaic cell) , has two parabolic shaped hollows, which by water filling them we create two large Aqua Lenses.

These large Aqua Lenses focus the sunlight over two areas of the lower shell as a collector.

By using high-heat materials such as Molten salt for these energy collectors, The obtained energy can be used even after the sunset which transfer heat to water to run a steam turbine.

By calculating the land area and using these two methods of using Solar energy [thin film organic photovoltaic cell and solar aqua lens (thermal concentrated)] we estimate of 2000 kWh generating electricity per year.

By having two special pools and the unique space between these two shells, In addition to generating clean electricity, SAL can be considered as an attractive urban space.

