**Description**

We are delighted to present *The Cloud.* *The Cloud* is a simple yet bold imagination of what sustainable energy production should look like. It deals with these keywords: Art, Energy, Micro-Climate, and Oasis Making.

It is first of all an art piece, a gigantic one at that. The intention is for it to be the element of surprise, the mind-blowingly sized, shaped and colored object, floating amongst the buildings. So big yet so light. It is meant to be something that no one can take their eyes off of. A remarkabley iconic urban art insertion.

The idea of the cloud has been very intriguing for us. It symbols some of the most important processes happening on Earth. The water cycle, where water from its source vaporize and becomes cloud. Cloud feeds the land with rain, which then forms streams and rivers, keeps feeding the land until they join the ocean again. It is also, of course, a symbol of what is driving this important cycle - the natural energy input from the sun.

So energy. Solar energy has really been the most essential and fundamental source of energy that drives everything on this planet since the beginning. It is natural for us to look at "Return to Source" and think of solar as the form of energy to really celebrate. Of course the fact that it has been one of the most readily available energy product commercially helped too, and we have also realized how effective it is in climates such as Abu Dhabi

Traditionally solar energy takes space. Lots of space. Efficiency of energy conversion dictates that to get enough power, one need more than enough space. And the efficiency is not changing overnight.

Except if it floats in the air.

This becomes one of the biggest presumptions we want the project to change. Massive solar energy production doesn't have to be wasting land. The good thing is solar technology has come to the point where it is flexible enough to be fitted to a form of our choosing, and be light enough to float. And once it floats, it can adapt to all kinds of urban context, even beyond this particular site, but really any site that has good solar coverage. And it made sure that we can capture almost as many square meters assigned in this site, and put all of them to work to produce energy.

The other thing to prove wrong is that renewable energy lives at spaces tucked away and hidden. Of course the purpose of making renewable energy art is to make it stand out. But the questions we ask is if there are other purposes it serve other than just art itself.

The answer laid in the original cloud.

Cloud provides shade. A climate like Abu Dhabi's needs shade for people to spend any time at all in the day outdoors. At night, cloud keeps the ground warmer when it reflects radiation back. Cloud is the best natural gift to mediate heat.

*The Cloud* plans to do exactly this. In addition to the artistic attraction, it actually will make spaces usable by mediating outdoor temperature. During the day, while the solar modules takes in solar energy, it also blocks the burning sun from reaching the ground, making the spaces underneath relatively cool. Being much closer to the ground than natural clouds, this piece of art will also help create a comfortable sense of enclosure. Its energy production will make sure whatever events are happening under its shade, they will have sufficient power supply. At night, the unique light installation, also feed by its stored energy, will give the space a even more unique sense of place, attracting tourists and local residents alike to visit.

And last but not least, "going to the 'source' of the problem" takes more than just taking the assumptions at face value. *The Cloud* won't just produce energy, its shade will greatly cut the energy load of adjacent buildings.

**Title**

*The Cloud*

**Characteristics of the Design**

Iconic urban art insertion

Makes full use of available space to produce energy

Creates unique and comfortable places for people to use

Reduces building energy use

**Technology Used**

Solar energy

Readily available technology of lightweight, flexible solar panels

**Annual KWH**

1,788,500 KWH

**Metrics**

Maximum volume: 45000 M3

Maximum Lift Available (He): 45 tons

Empty Weight: 13 tons

Weight with Solar Panels: 26 tons

**Primary Materials Used**

Lightweight, Flexible Solar Panels

Semi-Transparent Polyester Fabric

LED Lighting

**Environmental Impact Statement**

We have assessed the potential direct and indirect impact of the proposed project. The evaluation is generally qualitative, except for energy production figures which are quantitative. It is conducted at the level of detail commensurate with the artistic nature of this project.

The potential for energy harvest itself are largely dependent upon the eventual scale of the project. Based on the current design, it would yield an annual KWH of 1,788,500 KWH at the cost of roughly USD 0.7/Watt, excluding the flotation base. The base material is a total of 50,000M2 Semi-Transparent Polyester Fabric, which should preferably be sourced from recycled polyester fabric or recycled plastics to minimize environmental impact. It is advisable that given the amount of material used, the art piece to be placed on a longer term exhibition. Because of the fact that the piece is inflatable, efforts should be made to extend its service by moving it to other locations when its term at one location is concluded.

The indirect impact of the piece mainly existed in the form of micro-climate adjustment. Primarily, by casting shade, the temperature will be lower than without shade, and energy load of adjacent buildings will be reduced as a result. Such energy load can also be further reduced if the shade is casted directly on a otherwise non-shaded facade of buildings.