窗体顶端

***Art of Wind***

窗体底端

***Rebuild the Melbourne coastline:***

When we see the sea, we sometimes find distant cities and mountains like a huge art work. This is the natural deconstruction of the environment. Although each person has different views on art, different ways of understanding satisfy people's personality needs. We think about how to deduce the generation of energy and its relationship with the environment in a complex field, stimulate people's interest, tell the essence of the generation of clean energy, encourage and promote and respond to the goal of Melbourne's plan to achieve zero carbon emissions in 2020.

Our goal is to respect ST KILDA beach under the existing historical environment, make the appropriate response in into the existing environment at the same time to form a new marker and a visual focus, which can drive it when walking on the long coastline can have different aesthetic feeling, like a mirage general, can inspire to the environment and their own thinking.

Ocean itself contains a huge amount of energy, the coast is the product of two sea and land forces, we in view of the coastline project base, puts forward a realistic and abstract art interaction of the conceptual art device like a mirage, through the form of lens distortion, the city and the ocean from reality, to form a utopian vision, and is trying to art and the sources of energy, projects and establish a direct dialogue and relations between people.

Due to the influence of the cold wind from the Indian Ocean at the same time, the weather conditions in Melbourne where the temperature difference is large (more than 10°C) are more common, resulting in a specific heat tolerance of the ocean and land. Therefore, in the daytime, when the land temperature is higher than the seawater temperature, the air will flow from the ocean to the land. At night, the seawater temperature is higher than the land temperature, and the air flows from the green land to the sea. With this phenomenon, the water can be continuously and continuously generated during the day and night. To produce clean energy.

"Art of Wind" huge and appear a picture form, when people are watching the commemorative experience of a kind of dream, to see the sea and land reverse reflection to form a blend of landscape atmosphere. Disturbances in the breeze, the beach landscape around the distortion in front like a kaleidoscope, kaleidoscopic scenery is fragmentary, lively and at this time has the vitality, the observer as if harmony of heaven and earth, thus forming a kind of floating feeling, was full of quiet and touching stories.

**Design**

Along Melbourne's long coastline, an arc is drawn to depict and enrich Melbourne's beautiful coastline. It is composed of series vertical rotation distortion of modular dynamic abstract painting of wind power generation device, looks like a pearl necklace or curtain, abound change of surreal created a revealing and visual experience. What we need for each family to provide a energy generator, each unit respectively constitute the whole picture of different colour unit, this project as a artistic landscape/environmental generator, break the monotonous form of power plant equipment and the sense of distance, make project appears in the form of art and to interact with people, both can produce sustainable clean energy and can stimulate the participation of people.

The “Art of Wind” refractions Melbourne’s coastal scenery from its reality by reflecting light films, reconstructing the beautiful landscape of Melbourne’s coastline, and forming a monumental spatial vocabulary that allows its viewers to have a wonderful visual experience.

**Power production and project construction**

The ocean has a steady stream of kinetic energy. We are trying to convert this kinetic energy into sustainable clean energy. Based on the study of Melbourne's unique climate, we have chosen wind power-based power generation devices. Through the alternation of the air flow between the ocean and the land during the day and night, we have broken the meteorological limitations and truly realized all-weather sustainable energy. According to data from the past few years, the average annual wind speed of Melbourne cities is 3-5 (m/s). The position of the coast is more optimistic and can fully meet the operational requirements for small wind turbines. Due to the instability of the coast wind direction, we use small vertical axis wind turbines that can accept wind from any direction.

The project consists of 5,200 high-1 m, 0.5-meter-wide helical energy generation units, fixed in a 180\*30\*1m frame of arc zinc steel material. Each component by 5 mm twisted into the shape of the leaves made of high strength aluminum alloy plate, both sides with against sunlight refraction effect is covered with film, reflects the surroundings at the same time, the wind turns the blades, again through the end of the growth machine will increase the speed of rotation, to make generator to produce electricity. At the top of the blade is a metal ball with a diameter of 50mm and a built-in light-emitting diode (OLED), whose brightness depends on the intensity of the energy produced, and darkens under the most adverse energy conditions. The inside of the component is connected to a charging controller, battery pack, inverter, etc., from the top to the bottom. By high and low pressure difference of land and ocean intersection of air blowing current produced by the rotation of turbine constantly, and promote the propeller components present a distorted and dynamic visual effects, the inherent logic of energy generation, let people see energy generation and art interaction.

**Energy efficiency**

Due to the control of the coastal micro-climate, the system can be operated in a sustainable 24H. The power of each energy generating unit is 3.0kw/h. We set an energy conversion rate of 80% and each metal blade can generate 2.4kw/h of electricity. With 5,200 spiral blades, the annual energy output is 109,325 mWh, and the entire project can meet the electricity demand of 5590 households.

**Environmental impact statement**

The modular structure facilitates transportation and installation and reduces the carbon footprint. For the Marine environment, the vertical plate structure reduce the occupied area of the sea, to the stable device fixed on the beach, the sea bottom in the foundation and the main structure was buried, will not change the sea natural water depth, maximum maintain and rich nature of the bottom. Use of recycled concrete for Marine life and provided new reef fish habitat, bring positive influence. Transmission cables are buried beneath the seabed, weakening the electromagnetic field. As the whole system depends on the natural wind and the rhythm of the waves, it will not affect the living environment of Marine life.

**revelation**

We responded to the beautiful natural environment of ST KILDA Beach through this device, and fixed the time and space in a fantastic coastal scroll. While protecting the integrity of the entire landscape system, we responded to the propositions of energy and environment with an artistic language. It is believed that this project will bring more people into the ambitious plan of the government, promote the government's plan to be realized as soon as possible, and look forward to the realization of this project to bring surprises and encouragement to people.