

a vicious circle between global warming & storms & hurricanes on the earth

Problem
Exploration
&
Concept
Development
&
Story
Board



1 The hurricane and tsunami led to numerous damages, casualties and asset losses all round the world these years. These disasters are urgent and can not be avoided. They will cause economic and social threats like the poverty, infectious diseases and environmental degradation, so how to prevent this natural disaster is an urgent task. The only method is to establish effective warning mechanisms to deal with the global crisis.



2 The reason causes the hurricane is the increasing sea temperature, because the hurricane will get the energy from the hot and wet air over the sea surface. In fact, because of the global warming and the increasing sea temperature, tropical storm, hurricane and the tsunami will be more intensive.

An ocean research company named Almocean has reached the scientific conclusion that: as every 1F sea temperature decreased, the power of the hurricane will be decreased by 5%. If the wind force is decreased from 120 miles/hour [about 193km/hour] to 110 miles/hour [about 117 km/hour], the damage will be decreased by 23%



3 Facing the disasters like the hurricane and the tsunami, and the vicious cycle of natural disasters caused by global warming, we cannot sit still. Reasonable effects can not be reached only by reducing emitting the greenhouse gas. Globally, more and more companies and people brought up the concepts such as "Low Carbon", "Green".

To a designer, these are not only the simple slogans. Therefore, we should make full use of our wisdom, utilize the natural power, "Let the nature conquer the nature" and accelerate the consumption of the greenhouse gas so that we can control the effects of the greenhouse gas, hurricane and tsunami. We should cool the sea which will cause hurricane and tsunami and move at once!

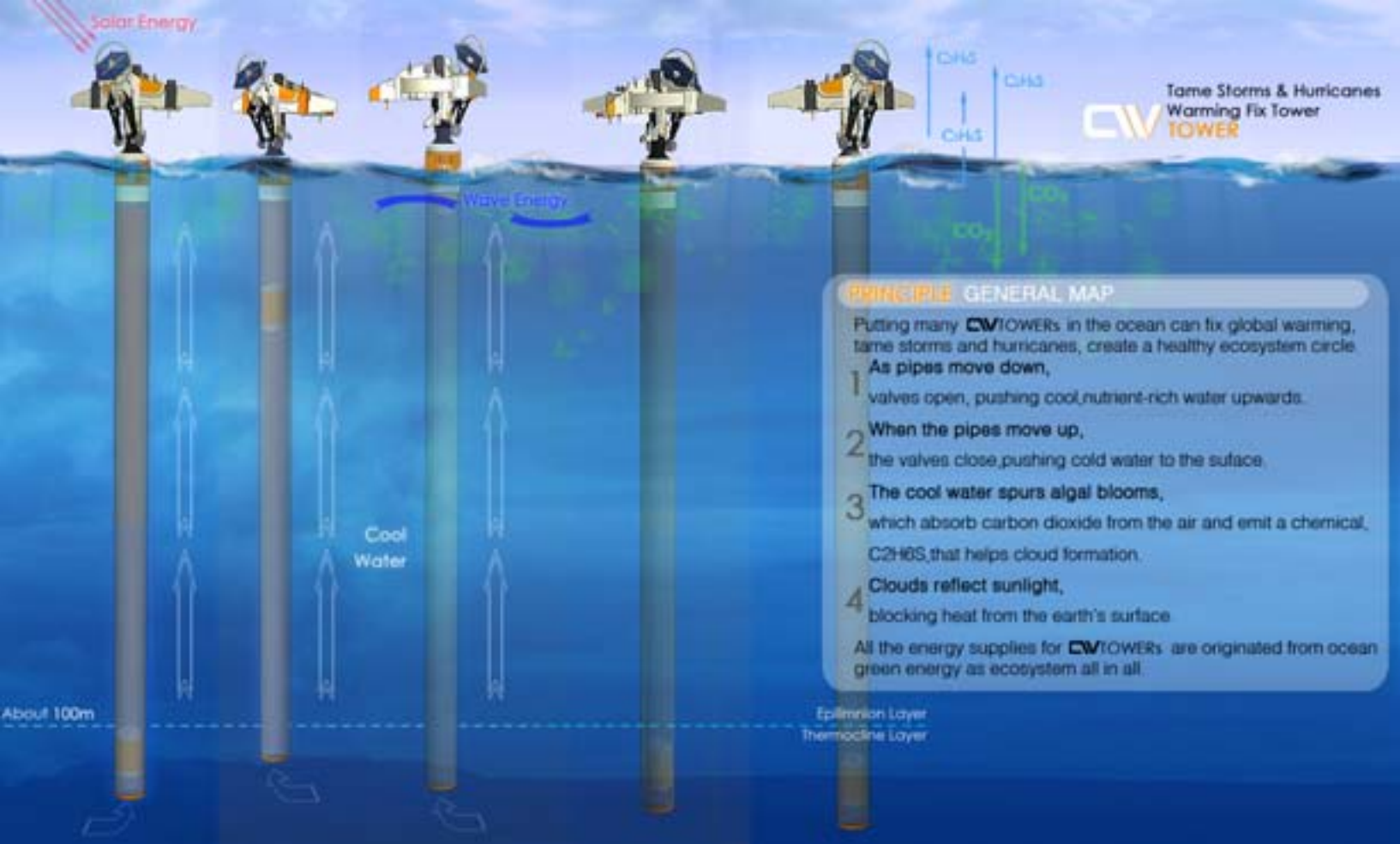


4 to create a health ecosystem circle in the sea

My proposal is a unidirectional pipe in the ocean (shown in manuscript). By the vertical drift of the maglev cylinder inside the pipe, the nutrients and cold water in the deep sea can be transported to the shallow sea to stimulate the photosynthesis of the marine plants such as algae so that more greenhouse gases can be absorbed and the carbon-absorbing ability of the ocean is enhanced. Meanwhile the outlet water can accelerate the heat exchanging to reduce the atmosphere temperature. The energy in the whole process is supplied by two sources: sea wave and solar cells. For the sea wave, more turbulent the wave is, the colder the sea water pumped is, the higher the temperature drop of surface sea water is, and the stronger the ability of repressing the hurricane is. The solar cells whose directions are controlled by the microelectronic circuits are fixed on the whole system. Due to the two sources, no fuel will be consumed and no extra greenhouse gas will be generated. In this design, a new idea is proposed to alleviate and stop global warming so that the hurricane and tsunami can be depressed. By this active and innovative defensive measure, the loss can be reduced to the lowest level and the earth will become better.

KEYWORDS

Global warming
Hurricanes
Storms
Tsunami
Temperature
Sea/Ocean water
Low Carbon
Green



CW

Tame Storms & Hurricanes
Warming Fix Tower
TOWER

PRINCIPLE GENERAL MAP

Putting many CW TOWERS in the ocean can fix global warming, tame storms and hurricanes, create a healthy ecosystem circle.

- 1 As pipes move down, valves open, pushing cool, nutrient-rich water upwards.
- 2 When the pipes move up, the valves close, pushing cold water to the surface.
- 3 The cool water spurs algal blooms, which absorb carbon dioxide from the air and emit a chemical, $\text{C}_2\text{H}_6\text{S}$, that helps cloud formation.
- 4 Clouds reflect sunlight, blocking heat from the earth's surface.

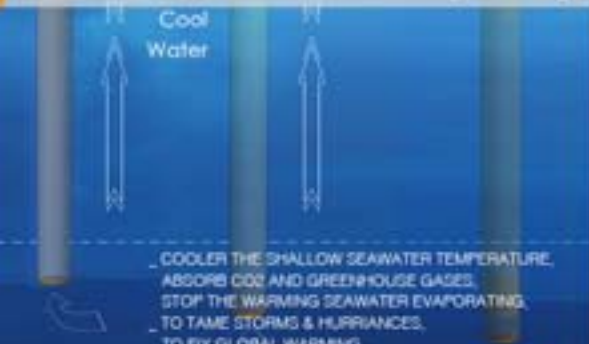
All the energy supplies for CW TOWERS are originated from ocean green energy as ecosystem all in all.

Epilimnion Layer
Thermocline Layer



METHODS TO CREATE A VIRTUOUS CYCLE IN SEA

my proposal is to transport the cooler water and nutrients from the deep sea to the shallow sea by the cylinder pumps inside the CWTower. When forecasting the hurricanes' forming, the CWTower can release amounts of biodegradable oil film so as to stop the warming sea water evaporating. Through the two methods, it could form a virtuous cycle in the sea-shore in order to tame storms and hurricanes and fix global warming



COOLER THE SHALLOW SEAWATER TEMPERATURE,
ABSORBS CO2 AND GREENHOUSE GASES,
STOP THE WARMING SEAWATER EVAPORATING,
TO TAME STORMS & HURRICANCES,
TO FIX GLOBAL WARMING.



the vertical drift of the maglev cylinder pump inside the pipe of CWTower

cooler water in deep sea transported to the shallow sea surface

Put unidirectional pipes in the ocean. By the vertical drift of the maglev cylinder pump inside the pipe, bring up the deeper and cooler sea-water, the outlet water can accelerate the heat exchanging to reduce the temperature of sea surface in order to cut the energy supply to the hurricanes & storms

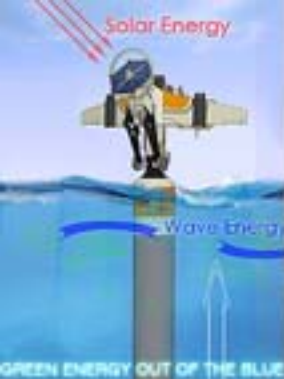
Meanwhile, the nutrients and cold water in the deep sea can be transported to the shallow sea to stimulate the photosynthesis of the marine plants such as algae so that more greenhouse gases can be absorbed and the carbon-absorbing ability of the ocean is enhanced so as to fix the global warming



When forecasting the hurricanes' forming, the CWTowers will release amounts of Biodegradable oil film to stop the warming sea water evaporating



nozzle of biodegradable oil film



GREEN ENERGY OUT OF THE BLUE

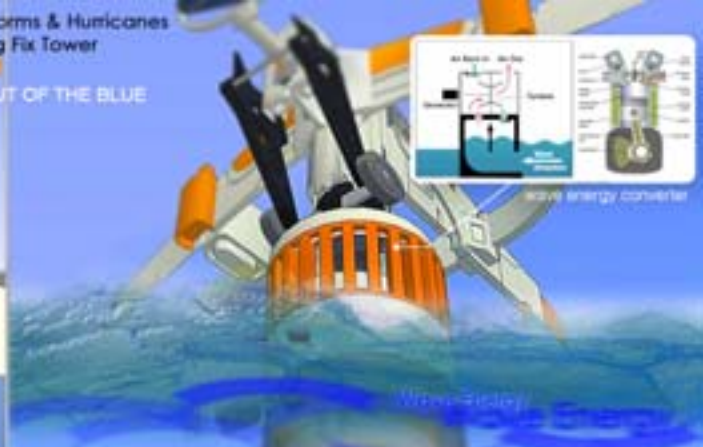
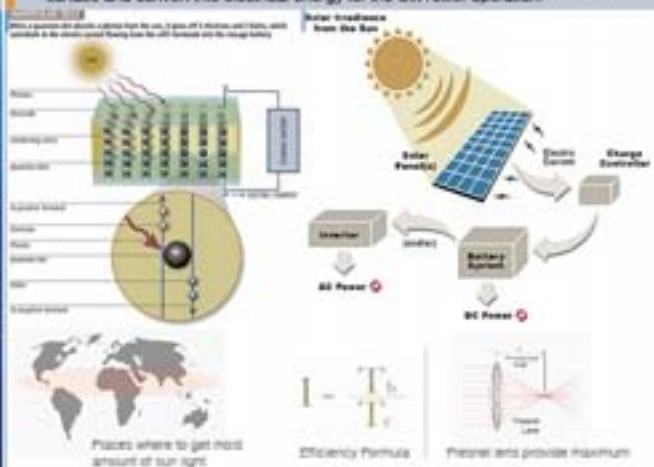
Due to the two sources, **SOLAR & WAVE Energy**, no fuel will be consumed and no extra greenhouse gas will be generated. Marine power is the newest form of **zero-carbon energy**.

- GENERATORS IN USUAL
- FULL ENERGY FOR CWTOWER
WHEN HURRICANES

About 100m



The **solar cells** which directions are controlled by the microelectronic circuits are fixed on the whole system, these panels collect the full solar energy over the sea surface and convert into electrical energy for the CW Tower operation.



The hydro-electric **wave power converters**, designed to capture the energy found in amplified surge forces in waves. The system consists of a simple steel Oscillating Wave Surge Converter, or pump. The generating power continuously in a wide range of sea-states in usual, and when emergency for hurricanes, full power for the CW Tower itself.

