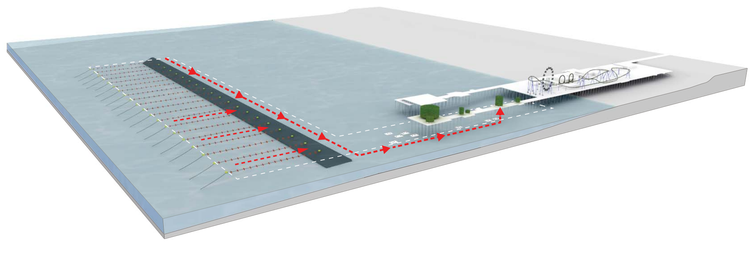
NOCTILUCALES

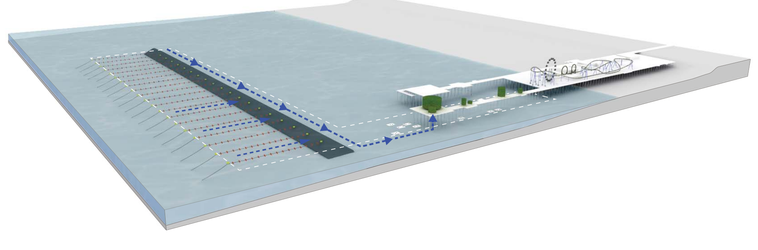
Open spaces are a form of escape, a place to get away from the chaos of the city. This is why we have concentrated our efforts on designing an installation that preserves the horizon line of the ocean.

Underwater LED lights will be placed on top of a network of moving plates, causing a submerged wave power system to glow at night. This way, the energy collectors will be seen as a field of lights, producing a bioluminescent effect similar to the one created by noctilucales in some parts of the world. The movement of the plates will enhance the dramatic display on the ocean surface. A reminder of the energy generated on the site.



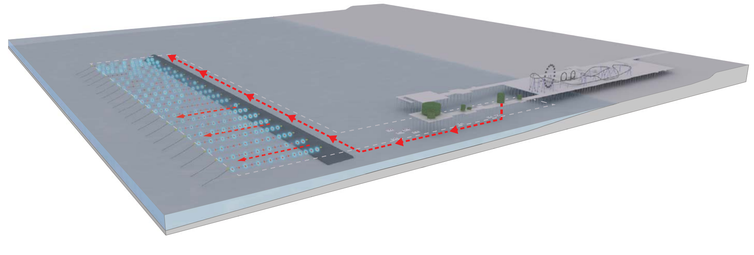
WAVE POWER SYSTEM

Energy is harvested when the waves roll along the steel wire, making the energy collectors to move back and forth and leading the pressurized water to an on-shore turbine for energy conversion.



FRESH WATER PRODUCTION

As we are converting the energy in the waves into pressurized water, we will use some of it to produce fresh water by desalination (reverse osmosis).



BIOLUMINISCENT NOCTILUCALES EFFECT

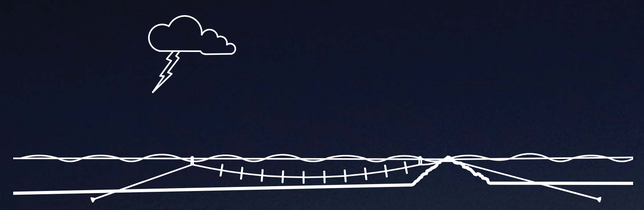
The system will supply electricity for the pier and the bioluminescent installation. Submersible LED lights attached to the pistons will make the ocean surface glow.

That clean and uninterrupted view, where the sea stretches out before you until it meets the sky, must be preserved. To compromise the horizon with an intrusive installation is to destroy the landscape.

We propose a wave power technology that consists in a network of moving plates, installed on steel wires, which convert the energy of the waves into pressurized water and finally into electricity. Its components are submerged in the ocean, making the system invisible.

A network with 200 energy modules, mounted on 20 strings, will produce an average of 4.200 MWh on an annual basis. That represents the average consumption of 512 houses.

Wave power system section - normal weather



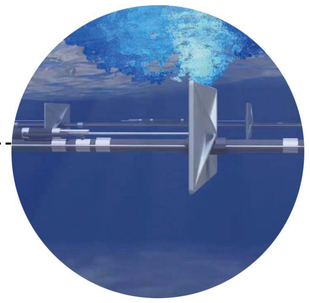
The wave power technology has an emergency system that makes the string sumerge when averse weather conditions

Nocticulales fields of lights

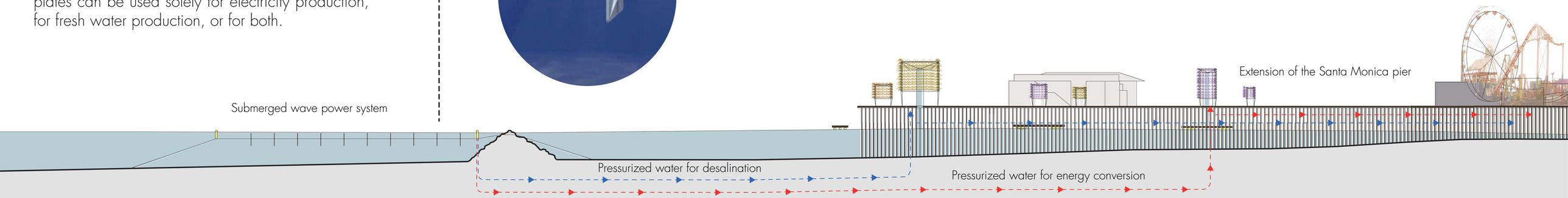
Night view from Santa Monica´s pier.

The system will supply electricity for the pier and the bioluminescent installation. It will be integrated to the grid, in order to supply its surplus.

The pressurized seawater generated by the moving plates can be used solely for electricity production, for fresh water production, or for both.



Underwater energy collector with LED light on top.



An extension of the Santa Monica pier will increase the surface of public space and provide a secure area for the turbine and a desalination plant.

A pipe will lead the pressurized water to a turbine station placed in a dry and accessible location on the new pier. The idea is to make the generator visible, so that people follow the conversion process.

View from Santa Monica´s pier extension