

1. Project name

## **WATER RECYCLING HYDROELECTRIC STATIONS FOR ARTIFICIAL WELLING**

2. Explain your idea in a sentence

While the world population is going to grow exponentially the ability to create food from the oceans is declining but we can increase with artificial welling which is a mechanical and hydro-electric engineering system with water recycling

3. Explain your idea in a paragraph.

This project uses the floating desalination, energy production, nutrient extraction and carbonate techniques designed by myself together with the technology used for the creation of hanging gardens to create floating islands completely autonomous from the point of view of energy and food. The main work activity will be fishing increased by the Artificial Welling that has never been realized but is inspired by the natural welling that unfortunately only happens near the coastal areas that represent only 5% of the total ocean surface. Increasing the food productivity of the sea is essential for the next growth of the world population.

4. Explain why your idea is innovative in the context and in the country where it will be implemented. Alternatively, if your idea is based on an existing concept, explain how your idea differs from this.

This idea is innovative and important for the survival of human. In fact, the areas where it is possible to hypothesize life on the oceans they are those far from the coasts where, as there are no up welling phenomena, there are not even aquatic life forms sufficient to guarantee the life of man or even that of fish species. These areas, far from the continents, represent almost 83% of the ocean surface, they are twice large as the earth's surface. There is a wide choice of areas to exploit, after probing what is beneath the surface and at what depth. We can even think of doubling the current world population without major food and environmental concerns, if we rationally exploit the resources of calcium and carbon solubilized in the ocean depths in billions of years. As described in other pages of competition, an unsinkable floating system is needed for deep water extraction system that reaches at least 4,000 meters deep, where carbon and calcium are solubilized in water and where, by the venturi effect, we can suck small percentages of water, which are inserted in the flow of water that goes back up to the top increase the percentage of calcium and carbon on the

surface, fighting acidification at the same time and favoring the formation of plankton that triggers the food chain of fish species.

5) Explain how your idea will allow young people to fully participate in a changing economy and how you would use a location-based approach.

This idea can have huge impact worldwide for large quantities of materials that will be used on land and marine shipyards, for the work that will be created, and food that will be produced. Suffice to say that all that is needed to realize these activities today does not exist. but there are immense spaces where lifting nutrients can create life and well-being much easier than continents that have to fertilize the land, work it, sow it, protect crops from pests and from the weather. While in the sea realizing the artificial welling, it will only need to fish and freeze the fish. Obviously, if calcium and carbon are taken to the surface, the acidification of the oceans is also fought, which have already lost more than 30% of alkalinity. Oceanic acidification is one of the most serious problems of our time and can only be solved by producing a greater quantity of carbonates in fresh and marine waters and decarbonising the world energy. The Venturi system, is a great resource for humanity because mechanical systems can not work at the deepest depths. The only way to let the carbon and calcium-rich waters enter the deep water recycling is through the venturi hole in the bottleneck of the water passage section where increasing the water velocity decreases the pressure ( $P * V = \text{constant}$ ) therefore the external water enters the bottleneck. These plants are great works of engineering having to be necessarily suspended from water surface.

6) Explain how you will design and test the idea with potential users to develop it in a sustainable project over the next three years.

Initially expected to be accomplished only a few infrastructure around Marine floating pumping stations for artificial welling, to ensure the degree of functionality of the system Soon after, it will be possible to build permanent homes for fishermen and tourists vertical desalination ion exchange with circulation of polyethylene spheres, greenhouses with overlapping biological ponds and food production greenhouses heated, conditioned and purified throughout the year with the compressed hydroelectric system, without consuming energy but producing it for the needs at all hours of the day and night. For the production of hot and cold, the exploitation of compressed hydropower and the low enthalpy energy contained in seawater will suffice. To create plant food in the middle of the sea, the production greenhouses conditioned for the whole year with pressurized hydropower are sufficient. While the water purification would take place with domestic pressurized hydroelectric

purifiers, external wells and overlapping biological ponds. The sludge produced by vertical wells could be digested and filtered in mini digesters and feed the stoves of any gas cookers, otherwise the methane can be transformed in  $CO_2$ , continuing endogenous oxidation and using it as fertilizer in greenhouses. In these islands we could carry out complete energy and purification cycles that have not been made on earth because there are no competent environmental authorities for legislators and judges who claim that science is applied globally. Public research institutions have never developed these solutions. They sell incomplete patents to multinational companies, which obviously make incomplete fixed and mobile installations.

7. Explain how you will grow your idea in the future so that it can reach more people or be replicated by other people across Europe.

I confirm what I wrote in the previous point. For this reason, I created the website <http://www.spawhe.eu> where all the industrial, environmental and energy solutions that are not realized by research institutions and multinationals are published. In many cases, as in this case, accused by the Italian and European patent offices of violating the principles of energy conservation. I believe that, in order to create sustainable development, it is necessary above all a correct and transparent scientific information. Which in the absence of economic means, can also be done by publishing logical reasoning based on the experience of those who have worked in industry and the environment for a lifetime. I think that especially young people must learn global scientific reasoning, which goes beyond single scientific and technological specializations. Today, above all, in hydraulic and hydroelectric plants, science makes correct hydraulic calculations, but realizes wrong plants not applying synergistically the basic principles legislated by the fathers of science.

8. What do you hope to learn from participating in the competition?

I hope to learn that in public bodies worldwide there are also people able to reason with their own heads. Because in eleven years of work as an inventor of sustainable depurative and energy solutions I have not even met one. I only collected silences and over three thousand six hundred silent contacts on LinkedIn.