

1. Project name

## **GLOBAL URBAN ENVIRONMENTAL DEPURATION**

2. Explain your idea in a sentence

The global urban depuration is composed of vertical pits, in which they are conveyed the waste water and the fumes autonomously by means of compressed hydropower. Purified air comes out without CO<sub>2</sub> and almost purified and alkaline water.

3. Explain your idea in a paragraph

In the vertical depurative pits, very similar to the old Imhoff pits, oxidizing only the surface water while we produce energy by raising the water above an overflow tank that produces an artificial rain on calcareous material, also consuming the CO<sub>2</sub> powders that stratify in the lower layers of the atmosphere in a limestone greenhouse. The water returns by gravity to the ditch in an infinite cycle, purifying and energizing by touching over-water the purified and alkaline water that goes into the sewer together with rainwater. The anaerobic sludge are sent to the digesters.

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.

Current urban sewage is inefficient and does not purify air. To increase efficiency and purify air, we must distribute plants throughout territory and conceive them differently. It's necessary to modify chimneys bringing fumes back into limestone greenhouses and different management of wastewater and rainwater. It's necessary to insert near each condominium or factory, before the sewage system the vertical depurative pits of surface water, which through compressed hydroelectric, purify and lift water producing hydroelectric energy by exploiting the energy of the compressed air (without make it expand), which must pressurize an autoclave, where incompressible water circulates in one direction fed through low prevalence circulation pump, equipped with separate double supply until the impeller. One of these feeds must internally recycle autoclave water balancing the static pressures in suction and discharge of the impeller. The water coming out of the autoclave feeds a turbine producing energy and with the residual pressure reaches the overflow of a tank that, by gravity, produces an artificial rain in a calcareous greenhouse and returns back to the purifying pit, from which water comes out by overflow, feeding sewage system with partially purified and alkalized water. This system consumes only the wear machines since the energy is produced by exploitation of the principles of Pascal, Torricelli and Henry. Since compressed hydropower, designed differently, with higher operating pressures, can also replace the thermal powers of transport means, we can arrive at the global urban purification and subtract CO<sub>2</sub> from the environment, instead of introducing it.

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 both for the large amount of clean energy that it can produce, both for the beneficial environmental effects, and for the occupational development, which concerns all human activities. Pumps, turbines, electromagnetism of the motors and connected power generators are the heart of all the world's sustainable plants of the future, free from fossil and nuclear fuels. Science has forgotten that the energy that turns a turbine is produced by the flow, pressure and density of the fluid that flows through it. Science has also forgotten the principle of Pascal who asserts that the pressure expands in all directions and that of Torricelli who asserts that the speed of water exit from a pressurized tank is  $= \sqrt{2gh}$ , as he forgot that oxygen contained in the air dissolves in water proportionally to the pressure of the autoclave according to the principles of Dalton and Henry. However, the worldwide silence of science, politics, economists, legislators and international judges on these solutions hinder the protection of the environment and the possibility that young people find work. While the inventor proposing these solutions does not even recognize copyright, not being able to fight against patent offices that accuse him of violating the principles of energy conservation, adding legal fees to unsustainable taxes that should not be paid on patents public utility, which should be disseminated to the entire world community, unprotected, recognizing the inventor the rights of author, as happens with all the works of intellect.

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.

These projects can be tested immediately, existing already, pumps and turbines. The only thing that does not exist is the pumps with the double supply separate until impeller, which provisionally can be obtained by hand from existing existing pumps, simply having to change only the supply that must be divided into two or four distinctly separated flows, which must not be encountered before entering in the impeller. But it must be the public bodies worldwide that favor these solutions if they want to protect the environment and lighten the balance of payments due to the importation of fuels and the construction of obsolete purification energy works. But this does not happen because the world's public research bodies have failed the energy solutions in the water systems, the patent offices have declared them contrary to the principles of energy conservation, therefore, together with the multinationals boycott these sustainable solutions. This solution has not found public and private interlocutors because there is a strong link between public bodies and multinationals that also includes the sale of patents of public bodies to individuals. All they are interested to hide mistakes. In reality, thermal and nuclear energy should not even exist because any comparison of economy and technical and environmental efficiency would be merciless to them, while the solar and wind energy are discontinuous bulky and with low yields. The world would be better with compressed hydropower in place of all current energies, as it also dissolves oxygen in the water.

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.