

# **Also churches and associations should learn to design.**

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I think that if the environmental groups really want to protect the environment, create labor unions, churches restore the Canticle of the Creatures, must learn to design their own Full systems for sustainable protection of environment. It may sound strange but if I came to this sad conclusion is due to the difficulties I encountered in finding partners among the experts available to public and private reasoning a little more detail on environmental issues, current solutions and future. Everyone wants to direct me to some kind of financing, but learning that I am a pensioner, who only seeks partners to develop projects and patents on the global environment protection, the argument does not find offices, institutions, or companies concerned, because for operators worldwide and European global warming, although it is the most global of problems, should not be addressed through the design of systems that protect the global environment, both while producing consumer goods, both in services and purifying energy. For politicians and the experts the problems of which I speak must continue to be addressed through funding disconnected to the new energies are not competitive, energy savings for consumption, not production, not to ban obsolete plants and incomplete, that focused on one technology, the basic principles of conservation of matter produced only apparent environmental protection, at the expense of taxpayers, who do not find work, because all the cycles of transformation of matter are incomplete to create an immediate profit, not forward-looking. Even universities and research institutes are organized in this way: divided into faculties in the same university, with no common project. Yet, the

world, when he wanted to, the synergies between different sciences and different technologies has made. In fact, without synergies planes and the car high-speed trains, spaceships, with all comforts, would not exist. While for environmental protection and sustainable energy we stopped at the base of the smokestacks, the sewers that degenerate sewage. This means that only multinationals can afford to build complete systems based on synergies among men most prepared and the most advanced technologies. But multinationals realize synergies to win the competition with other multinationals commercially without common international environmental rules, which should be issued by public bodies over the parties as the United Nations and the governments of the five continents. Yet, in my experience, no one has ever questioned, a designer of industrial and environmental, it is easier to organize, from the environmental point of view, the territory of a region with millions of inhabitants, which organize the work of a 'industry that produces a thousand cars a day. The thing is obvious when you consider the number of technologies involved in the number of processing equipment, assembly, goods handling, automated warehouses and work rates calculated and timed to the hundredth of a second. Yet, in today's world we have many industrial automated to perfection for producing consumer goods and no one complete plant from an environmental perspective. The fault lies with everyone (politicians, scientists, engineers, intellectuals, trade unions, environmental and religious). I challenge anyone to state publicly a single industrial plant, purifying energy, agricultural, complete the environmental point of view. That is, it closes all the chemical and biological cycles involved, returning treated water and alkaline environment, clean air without even CO<sub>2</sub>, natural fertilizers. Obviously, I'm right, no current system can do these things. The technicians have surrendered, while politicians and entrepreneurs have convinced everyone that there can be no development without industrial pollution, but we must have confidence in them that they will try to minimize it in marketing purifying machines

more efficient. This is a cosmic mockery, to which all the world leaders, probably in good faith, until he can be acceptable the thesis that have not been advised of the possibility of protecting the global environment. In fact, even the environmental protection could be industrialized by multiplying the production capacity. It is only to widen the concept of industrial plant, purifying energy, agriculture, also including loops side that protect the environment. Of course, the inclusion of protective cycles of the environment would also result in the creation of jobs and a fairer distribution of wealth. These are not philosophical concepts but technical solutions plant made with industrial and environmental criteria at the same time, the published signed by November 2012, just filed patents. These patents, having been extended to the international level and not finding partners among public and private companies worldwide, have shown that there is no competition in environmental protection. The competition exists between companies using the environment for selling commercial machines. But the substance of environmental protection has made real progress since the Kyoto Protocol (1997) which should have been the watershed between the old and new environmental policies.

I think I have ended with discussions on LinkedIn. Besides, my speeches were always long monologues. I suppose that no one can speak freely as a retiree. It 'clear that those who must bring the money home, to tell the truth, has too much to lose. No one wants to deepen the arguments across to avoid dealing with the effects hidden to ordinary people. The experts prefer to carry depuration apparent, that move local environmental problems on a global level, where there are fewer, but they become more serious. Are silent especially those who have sweated on university scientific books. These, if they are lucky do researchers and deepen the problems in the same direction, or go to the factory and specialize in individual sectors. Those who commands them forces them to not go beyond the task assigned. It is not a constraint imposed by force,

but the organization of work, which rewards those who occupy the position for longer. In this way the great industry and research penalizes the creativity. Even industry patents focus on the details specialist, creativity industry is saved because the same work organization creates synergies among the various offices in order to improve productivity, quality. The launch of new models is entrusted to other specialists. Public creativity based above all on separate searches in the various scientific disciplines, not having common objectives, can not be helped even by the organization of industrial work. We are creating a world that looks more and more to that imagined a century ago by Franz Kafka in two novels: *The Process* and *The Castle* (built on bureaucracy, and so on alienation, frustration of man who can not be integrated, especially if it expresses concepts that go beyond the individual tasks, restricted, from specializations). We are witnessing the death of the great projects of public benefit only because they have been developed outside of a bureaucratic system, consisting of hundreds of thousands of people, where creativity has been completely forgotten. It could accept a bureaucratic system and computerized only for the ordinary but after checking that the technical solutions into the programs are the best ever. But at present, without efficient, solutions for purification and energy production they are fixed bureaucratic mistakes and has become even more difficult for to emerge solutions really valid.

Possible that modern society manages to bureaucratize everything, and think independently only philosophers and writers, who for all practical purposes, are not capable of producing wealth and jobs? At least, philosophers and writers do not do damage to the environment, rather denounce them, also being powerless. Instead, the engineers that open and not close cycles anthropogenic produce more damage to the environment of the eco-mafia. But it is legal, because they respect the regulations, which can not be updated and made more severe because the state of the art facilities will not

allow it. In fact, the cycles of transformation of matter, chemical and biological processes that do not close in the plants produce local and global pollution. The Italian multinational ENI after reviewing patents on global treatment, he wrote that it is not interested to apply it already meets the regulations. But how they can improve regulations if they refuse to experiment with solutions that recover heat and produce alkaline water at the expense of today emit CO<sub>2</sub> in the atmosphere? The German multinational Siemens, after examining for two to three months the patent environment and energy, he wrote that while not questioning the validity of my solutions, is not interested for reasons that they are not required to explain. Are too comfortable answers like that where large private companies refuse social responsibilities and the public do not take even a responsibility to respond, by going around in circles the inventor in the maze of bureaucracy, created specifically to evade responsibilities. I suppose that, for individuals, the reason for the lack of interest, and above all, because the solutions are little commercial; Furthermore, in anticipation of many years existing regulations would face even bureaucratic difficulties in interfacing with public places to protect the environment, which continue to produce contract specifications with the copy and paste of typed pages of at least thirty years old. What is written on <http://www.spawhe.eu> it sounds like science fiction but are simple plant applications exist for the world put together in a more coherent way. In the world there is something that looks like the smokestacks that capture the CO<sub>2</sub>; the sewers and water purifying urban air; there is the combination of purifying chimneys, towers and heat exchange geothermal wells, which would allow us to have high output of heat exchange and air purification, which would allow us to have air conditioning all year, eliminating external drives of conditioners that contribute to global warming and the spread of urban particulate matter; ponds biological superimposed consuming the nutrients that could produce biomass but may also desalinate large quantities of water making circular

perforated baskets containing small spheres of ion exchange resins; greenhouses agricultural production overlapped with mechanized systems of internal transport and industrial circulating water irrigation with total recycling; Linear digesters that enable the production of biomethane in dozens of standalone workstation recovering wastewater from thermal plants; small and large greenhouses limestone produce alkaline water consuming CO<sub>2</sub>; submerged energy production with low costs would produce energy and oxygenation of polluted seabed; the vertical urban, which combined with the water distribution, with less bulk and at constant costs would produce a quantity of energy five times greater than the solar; ocean colonization through floating pumping stations, which would raise the nutrients and dissolved CO<sub>2</sub> from high pressure, simply and effectively fighting acidification, melting glaciers and the fight against hunger and unemployment. All these things do not exist because they do not know how to put together systems although there are technologies to do so.

It was too convenient by industry and environmental authorities, take advantage of the monopoly of environmental design and energy, not accessible to small businesses and professionals, to pretend to try to solve environmental problems and employment, but stopping in front of technical problems not insurmountable, even banal. But <http://www.spawhe.eu>, blatantly contradicts them, it is true that the entire design, unfortunately remains in their hands, because small and medium-sized plant engineering companies do not have the strength and ability to partner effectively but only formally. In addition, living, especially of sub contracts, if they want to continue to work must simply remain silent. They have to be silent even employees, bound to company loyalty. With existing technology it is possible to properly close all anthropogenic cycles, but these, because they are cycles shall be closed at the right place, at the right time. In addition, living, especially of sub contracts, if

they want to continue to work must simply remain silent. They have to be silent even employees, bound to company loyalty. With existing technology it is possible to properly close all anthropogenic cycles, but these, because they are cycles shall be closed at the right place, at the right time. The suspicion that they were wrong and inefficient not enough to challenge them. It was necessary alternative solutions, because they would say that between saying and doing is half the sea. After the publication of SPAWHE, based on the illustrated solutions, everything can be questioned on the technical and scientific fields. But the changes have to be imposed from outside the system. Especially by non-profit organizations, associations and unions, who today have no design skills. I am pleased that a famous person like Al Gore travel the world to talk about the fight against global warming, but what are the alternative projects and detailed proposing the organization that supports it? It 'obvious that Al Gore does not know that it is possible to design an alternative to public bodies and multinationals, he seeks only to raise awareness, not getting great results, except those media. We know that the media chasing celebrities, whatever they say. Something more concrete has made Bill Gates that has financed local alternative systems, such as water purification. But even he can not imagine that the alternative is not to be occasional and local. It 'need to change the whole world environmental policy, so that the minerals come back to earth carbonates to the seas, and where we produces energy it has to do with side effects that protect the environment, not destroy it (like thermal power plants fossils) nor they are neutral (as the current biological renewable solar, wind). Until SPAWHE will be unknown by celebrities such as those mentioned, for different reasons and by the authorities moral world, it will be ignored by the media, trade unions and environmental groups. It's nothing new that everyone wants to help the winners. Waiting for something to happen, I say that those who design industrial facilities, environmental, energy, has responsibilities far beyond politicians, economists, philosophers, writers, religious,

journalists, because these categories produce words that express concepts that have important values only for some categories of persons, while designers of plants produce food, consumer goods, energy, purifications, labor and real wealth. But they also have enormous social responsibilities. In fact, if they plan to complete plants (closing all cycles) also create social justice, creating more jobs and a fairer distribution of wealth. If, instead, design subsystems, creating social injustice, damage the environment and future generations. I think that no philosopher has ever made these considerations and no designer of systems have seen their job in this respect so important. The fault is the division of labor that prevents the formation of technical eclectic taking in the consciousness of the importance of their work, which is updated continuously, learn to put together different technologies and have the courage to propose solutions also untested. The intelligent people competent, if they exist, including that great ideas do not need but handmade prototypes of pilot plants, not to the scope of the inventors. Faith is a serious matter, I do not ask the Catholic Church to have faith in myself but to present a world leader on the environment and energy, as STATE VATICAN representing also the other religions that do not have a state to represent them , with question marks, which is hope, not certainties, the environment and labor, on which to investigate. Not starting from zero but from projects already developed in the main lines, and they can not go further if they are not supported even by the churches and associations. Despite the state of the Vatican is the smallest state in the world is also the most morally authoritative. No one can refuse to answer when they have concrete projects and competent. Indeed, those who have no done their jobs well, at least for professional pride, is committed more to do better.

“Look at the birds of the air: they neither sow nor reap nor gather into barns; yet your heavenly Father feeds them. Maybe not you are worth more than they? Do not worry, saying, “What

shall we eat? What shall we drink? What shall we wear? "How much can still go on this passage of the Gospel with desertification advancing at a rate of 12,000 km<sup>2</sup> per year, poor people fleeing poverty and tribal warfare can not be met by the industrialized countries that lay off workers, replaced the robot, while the population will start to exceed nine billion?

It 'true that the churches must have faith in God, Mohammed, Buddha, but it is also true that men have made too many mistakes, wars, environmental disasters to continue to be left without moral guidance in the application of economics, science, energy , environmental.

Even the churches can do much more than simple appeals we hear in sermons. Morality can not be an abstract concept and culture, reserved for people outside the world of economics and technology. Without morality can not be produced production plants, urban and technological complete in terms of ethical and environmental, so the moralists must also become designers, at least to allow the adaptation of international standards to establish the criteria to be observed in the designs and parameters to control the management of the facilities. It is not enough to denounce child labor, unemployment, equal pay for men and women. The words do not cost anything to those who utter them. Proposals range cost years of study, research and reflections. It is no secret that among the religious there are many people with degrees in scientific disciplines relevant to the protection of the environment, and that many lay people would collaborate willingly with entities that pose no financial gain and the temporal power among their priorities. Mine is not an invitation to revolution but to the cooperation with the powers that be, who are men, that can go wrong. Churches such as associations, trade unions should not replace professionals, but do only by consultants, probably unwanted, but preparing briefs, not slogans and even protests and

appeals. The United Nations, governments. The European Community may trash, projects of a pensioner, not those of organizations that represent a large part of society. Churches devote a share of revenue to the economic design alternative, forming technical released by party interests, able to go into details, to suggest how governments can create wealth and jobs, not precarious but enduring, also linked to the natural cycles of industrial chemistry physics and biology. To be in step with the times if pollution is produced industrially also environmental protection must have the same potential.

Gone are the days of Galileo Galilei, when science was hampered by the Church. At least, in those days there was good faith. There were no powerful astronomical telescopes that allow you to study the movements of stars. Today the parties are reversed, the Church is relieved from temporal power, while science and technology are of parts. They belong only to those who finance them privately, while public funding, in the hands of politicians and bureaucrats, at least in the environmental and energy wasting resources by funding projects that hinder each other. Who said that the biological energy to be produced by simply turning farmers into energy producers? Why not pair it to heat recovery and other energy sources and for alkalizing water using the CO<sub>2</sub> that should not be released in the atmosphere? The biological energy present uncompetitive and neutral to the environment funded by politicians and bureaucrats, with the consent of science, could become protective of the environment as hydropower submerged, that does not even exist. The current owners, private and public, of environment and energy, so much careful to the costs and funding, also silent on the economic aspects of hydropower without hydraulic jump that has all the characteristics to become the cheapest energy in the world and it could be achieved immediately, as there are all the components. They must first write off bad investments? And the public sector that is accountable balance of payments why not respond? I sent and spun in my small network three useless

open letters to the Parliament and the European Commission without any response. Why should they answer? I'm just a pensioner who does not represent anyone. To propose many solutions together is obvious that work of fiction. No one can think of search on the net on how long propose solutions. They have become much after nine years of work and I talk about it more now because I have finished my work and every solution can be placed in the right. But no one has the patience to read it all, because in today's world or communicating with twitter, or deepen individual disciplines. The global issues they face only at the political level. Politicians, among the world's generic solutions that promise, of course, rely on technicians, who specialize in individual sectors, offering only what they do: energy production uncompetitive, never seeking synergies between existing technologies that are more efficient, as did myself who has had a lifetime of experience cross. To err is human, it would be evil to continue, but in front of a collective blindness, reality exceeds any possible fantasy.

To avoid waking this immense energy with simple pumps and turbines placed under the hydraulic head (pumps would win the state of inertia to turn the swing kinetic energy and turn the turbine into electrical energy), it prefers to continue to pierce the crust land and the seabed with more invasive techniques and pollutants. Or soak in mountain valleys and build dams to create the famous hydraulic jump without which, for science and technology, the hydraulic turbine can not operate. Who said that? Not is sufficient wake up the dormant energy with the help of a pump? Instead of importing oil and gas consuming a little energy to keep our local active hydrostatic head, in my opinion, we can produce all the energy you need. Over all, we would bring oxygen producing hydropower submerged in the depths of the seas and lakes polluted by water coming from all human activities. The air cleaners intercept only a very small percentage of the water to be purified. There was an urgent need someone to invent this

energy. But nobody believes it because the solution is too simple. I find only friends that although science graduates, are not technical and scientific reasoning. They invite me to be prudent, because if it was possible someone would have already thought. In my solutions there is a trick or a few mistakes but no one knows where they are. Instead, for in myself, there are not tricks and even conceptual mistakes, you just have to refine the prototype systems. No one wants to admit that the great inventions can also be simple. For months, I expect someone denies or someone else to help me support these patents internationally Having already bled economically to sustain alone the global patents on purification and protective energy by fossil and organic, that nobody understood or wanted to understand, worldwide.

The hydraulic pumps have been invented to lift the water, but what prevents us to use them in lakes, seas and large bodies to push the water down, taking advantage of the positive head in the same direction of the mass of water contained in the pipe above the pump, which is the potential energy ( $m * g * h$ ). When the pump turns, the water in the tube moves down towards the bottom and acquires a kinetic energy ( $1/2 * m * V^2$ ) which depends on the pump size (the size of the pump impeller, determines the flow rate and then the speed). But the prevalence of the pump and therefore the power absorbed depend on the characteristics of the plant, which are simple and do not occur under external atmospheric conditions to water. In fact, the power absorbed by a hydraulic pump is:  $P \text{ (kw)} = Q * H * \gamma / \eta * 10^2$ .

Where  $Q$  (l / S) is the scope;  $\gamma$  (kg / dm<sup>3</sup>) is the specific weight;  $\eta$  è pump performance;  $H$  (m) is the algebraic sum of the positive head on the suction of the pump ( $h$ ) and the load losses negative constituted by the resistances of the circuit  $Z$  (m) that comprise the load losses in the pipes, in the turbine and to the outlet of water in the seabed which depends on the output speed ( $V^2 / 2g$ ).

It 'important to note that the water that feeds the pump which, in turn, feeds the turbine, thanks to intubation, is separated from the surrounding water and can have its own specific hydrostatic pressure which is transformed into kinetic energy concentrated on the blades impeller as terrestrial plants. Therefore, the implants can be sized hydraulically with the principles legislated by the Bernoulli ". This is very important because without intubation of the pump that feeds the turbine would have had only a recycling of water around the pump and the turbine without the production of energy, since it would not have created a gravitational flow separated from the static mass of water of the basin, that part of the state surface of the water.

Obviously, to have a low electric absorption of the pump we must ensure that the value of "H" is close to zero, by installing the pump and the turbine to the depth equivalent to the value of "Z". In this way all the losses of load of the turbine, which produces the energy are absorbed by "h" and the pump absorbs only the energy necessary to produce the required flow rate with a very small head H, which for convenience we assume equal to 0, 2 m. n reality, in a diagram that leads on the ordinate the prevalences and on abscissa the flow , the pump curve that rises upwards and that of the circuit that drops to the increase of the flow, they meet in the exact operating point, that inevitably, slightly deviates from the nominal. Someone made to me the observation that when you stop the pump also stops the turbine, but this is normal. Even closing the gate that feeds a turbine with hydraulic jump, not circulating water does not produce more energy and when it ends the fuel also stop thermal power plants. I never said to have invented the perpetual motion, but only energy simpler, cleaner and more economical in the world that even now, small businesses can create any size.

Assuming you make two "submerged hydroelectric" stations from a water flow rate of 4000 L / s, making a profit fall of 50 m,

we choose a submersible pump in a ducted pipe Dn 1400 and create the facilities for the installation of the pump at a depth of 50 m. With a flow rate of 4,000 L / sec,  $V = 2.6 \text{ m / sec}$ , the load losses in m / km calculated with the formula of Bazin ( $1.000 \cdot 4 \cdot V^2 / C^2 \cdot D$ ) where ( $C = 87 / (1 + 2g / \sqrt{D})$ ) and a roughness coefficient  $\gamma = 16$ , are 4,11 m/km, for total of 0.20 m. In the case of the use of the turbine to radial flow and external alternator, the loss of load localized reduction in the turbine inlet with  $D_2 = 700 \text{ mm}$  ( $V_2 = 10,4 \text{ m/s}$ ) are 2,75 m ( $0.5 \cdot V_2^2 / 2g$ ); the load losses in the 90 degree bend radius is ( $0,5 \cdot V_1^2 / 2g$ ) are 2,75 m, therefore the effective height is ( $H_u$ ) at the entrance of the turbine it becomes about 44,3 m. At the exit of the turbine have a pressure drop at the outlet  $V^2 / 2g$ , that in the case of a speed of 2 m / s is only 20 cm of water column. The sum of the losses of load are external to the turbine 5.9 m, therefore, the payload on the turbine is 44.1 m. Assuming that the overall performance of the machine is 0.87. The useful power delivered by the turbine will  $P_u = \eta \cdot 1025 \cdot Q \cdot H_u / 102 = 0.87 \cdot 1025 \cdot 4 \cdot 44.1 / 102 = 1,542 \text{ KW}$ . In the solution ducted vertical assuming that the yield is the same and that the turbine enters easily into the tube Dn 1500 (the pipe is more than 10 cm wide to contain the turbine), there are curves and we can consider the losses in the tube 0.1 m. Adding 0.2 m of pressure drop at the outlet, remain available to the turbine well 49.7 mt of positive head ( $H_u$ ), which are used integrally for the production of energy that will be superior: 1,737 KW. At these energies calculated we must subtract the energy required to run the pump, to which we give a prevalence of 0.2 m, equal to the pressure drop at the outlet and suppose a yield of 78% ( $4000 \cdot 0.2 / 102 \cdot \eta = 10 \text{ kw}$ ). No power in the world so cheap and no power plant is so easy to achieve, even if there are problems to achieve maintenance, which can be avoided by making simple systems fixed blades because the sea level is constant and the floating solution is not affected even the high and low tide.

In other words, the pump with a small power consumption up to speed, almost nothing, replaces the hydraulic jump. Obviously, at start up, the power absorbed by the pump is much higher, similar to a water pumping station, having to turn for a few minutes the pump and the turbine with only the electric current. But this current absorption is gradual, being, automatically, similar to the starting of the pump with the gate valve motorized valve closed, specially adjusted with delayed opening. In our case there is no need to adjust it to predict the increased mechanical load on the pump impeller in the initial phase. But technically these problems are not insurmountable.

What is important is the fact that we can produce energy without the hydraulic jump, that water is not lost and are not needed reservoirs and dams, which in many cases produce damage. Regardless of this energy system brings oxygen of surface water on the seabed, which generally are polluted and they need it, it is also produced another beneficial effect: the water sucked from above have a temperature higher than those of the bottom and also the energy dissipated at the outlet produces heat. So at the turbine outlet, the water tends to rise upwards until the temperature does not conform, therefore it generates a small current lift that leads to the surface of the nutrients and also increases the abundance of fish in lakes and seas.

When I studied this energy solution had a big doubt on the hydraulic pressure at the exit of the turbine that if it existed would have prevented this invention. Therefore, I have developed an alternative energy solution that would have circumvented any problem. Only recently I had the idea of going to see how they calculated the pressure drop at the outlet of the subsea pipelines sewage partially or not at all cleaned (I disagree, as a system, by proposing solutions to combat eutrophication, while the underwater pipelines favor it) But the way they compute the pressure loss at the outlet

of the pipe resting on the seabed, confirms the above solution. The water outlet from the turbine is not affected by the hydrostatic pressure above it. It 'a simple pressure drop at the outlet submerged in an open vessel). But the way they compute the pressure loss at the outlet of the pipe resting on the seabed, confirms the above solution. The water outlet from the turbine is not affected by the hydrostatic pressure above it. It 'a simple pressure drop at the outlet submerged in an open vessel. But even in this case there is a significant energy gain that depends on the volume of the well. In fact, without prejudice to the previous solutions, the kinetic energy lost by the rise of water is proportional to the square of the speed ( $1/2 * m * V^2$ ), then, the greater is the section of the well, the lower the speed, the greater It is the energy gain. While the rate of descent that produces energy is much higher. But if we consider cases in which the water available is very little compared to the height of the hydrostatic level, such as a water tower of the aqueducts, or the water supply of an apartment building, one can use the alternative circuit with recycling of the water intubated, which it will be implemented also with small flow rates, using the powered pumps as turbines coupled current generators in place of the turbines. In this case we raise only a percentage of the water. In fact, if we make two separate circuits, one of which recycles water and the other renews the pressure, discharging a quantity of water at each revolution of recycling, to let the pressure of the hydrostatic level higher than in the pump body, we can produce energy with 100% of the flow rate and pressure. This is not to multiply the energy, as someone told me, referring to the famous perpetual motion, but to take a small amount of energy from the system without altering it. From the sea we can take all the energy that we want. But from a reservoir with limited capacity, if we do not want to consume the water capital, in one shot, we have to measure out the withdrawal maintaining a constant level with hydraulic systems, which absorb some of the energy produced. In other

words it is like living with bank interest produced by capital. A large capital of water produces high interest, a small capital produces low interest rates. But we will not go never at a loss as it does now with bad technical economists, politicians and passive spectators distributed throughout society, especially among those who should produce correct information, even placing question marks. Question marks can be resolved with constructive criticism and above all, with experiments, not with silence similar to the conspiracy of silence. The research is the deepening of the ideas of the scientists? It is right to fund research.

It 'has been foolish finance on a largescale energy not competitive, and neglecting to experience global purification systems, proposed by the undersigned, who have had to grow only virtually and now produces energy competitive, always virtual, that too, no one has financed.

Even hydropower vertical urban, certainly less efficient than submerged, can find many applications in urban centers connected to the water supply of drinking water, which would produce energy instead of absorbing it. Obviously the water systems will be enhanced because the water would produce energy especially when it is in the process of waiting to be consumed. But at least we will not have stagnant water in anticipation of consumption and will be eliminated unsanitary storage tanks and autoclaves private.

Assuming we want to dimension the circuit for the recycling of 1000 L / sec and with the renewal of 200 L / sec, we can, deflect the latter through a separator plate of horizontal scope) which delimits about 1/5 of the tube section of recycling, diverting the secondary turbine and to the lifting pump, which can be controlled through an inverter, which varies the engine speed, to further refine the amount of water renewal, in function of the overall energy efficiency of the system, since, water we raise has the greatest cost passive energy that we have to suffer. With this clear separation of

the flows we feed 75% of the section of the pump body with 800 L / sec, having the residual kinetic energy, the other 25% with 200 L / sec, coming from above. If there was not the rotating impeller (resting), the hydrostatic pressure would increase in all directions and the water would reach a static level common between the two circuits. But with the rotating impeller, the water recycle (800 L / sec) and those of renewal (200 L / sec) are forced to mix in the pump body, and to enter the main turbine with the maximum pressure, provided that the section of passage allows the transmission of the entire pressure of about 5 kg / cm<sup>2</sup> (= 50 m) to the entire mass of water in circulation. In fact, if we consider the flow rate of 1 m<sup>3</sup> / s as a mass which produces a 'kinetic energy according to Newton's law, we must multiply by the acceleration of gravity (m \* a): we obtain an energy of 9.810 kg \* m / s<sup>2</sup>. If this mass in circulation we want to apply the energy of pressure of 5 kg / cm<sup>2</sup>, we have to put in the connection tube in which circulates the water that feeds the pump with the tube in which there is the energy in pressure. The connecting surface must be at least 1.962 cm<sup>2</sup> (9.810 / 5). In our case this condition is verified being the pipe section Dn 1000 equal to 7850 cm<sup>2</sup>, therefore  $\frac{1}{4}$  of the tube section, for pure combination, is equal to this value (1.962 cm<sup>2</sup>). In the section after the pump pressure expands in the entire section exerting a total force of 39.250 kg, well above 9.810 kg necessary to the mass of 1 m<sup>3</sup> / sec, which serves to produce the energy in the turbine. In our case this condition is verified being the pipe section Dn 1000 equal to 7850 cm<sup>2</sup>, therefore  $\frac{1}{4}$  of the tube section, for pure combination, is equal to this value. In the section after the pump pressure expands in the entire section exerting a total force of 39,250 kg, well above 9.810 kg necessary to the mass of 1 m<sup>3</sup> / sec, which serves to produce the energy in the turbine:  $(1.000*1*V^2/C^2*D)$  where  $C=87/(1+2\gamma/\sqrt{D})$  and a roughness coefficient  $\gamma=16$ , are 1,5 m/km, Whereas water will flow at the most in 20 meters of pipe, we

will have a total load loss of 0,03 m. In the case of the use of the turbine to radial flow and external alternator, the localized pressure losses in the reduction of entrance to the turbine calculated by the relation  $(0.5 * V_2^2 / 2g) = 0,05$  m; the load losses in the four curves of radius 1.5 D to 90 degrees radius  $(0,5 * V_1^2 / 2g)$  are 0,2 m, the loss of load at the inlet of the tube and in the same tube 0.1 m. The total load losses, equal to the prevalence we give to the pump, is about 0.4 m. In the solution with ducted turbine, the load losses in the recirculation circuit are still lower. Being such negligible pressure drop, we can consider that the entire hydraulic load it absorbs the main turbine.

Therefore, at the entrance of the turbine we will have a flow rate of 1000 L / sec and 50 m pressure.

Assuming you go out with a residual pressure of 10 m and that the overall performance of the machine is 0.80. The power output from the turbine will be supplied  $P_u = \eta * 1000 * Q * H_u / 102 = 0,8 * 1000 * 40 / 102 = 313,72$  KW. The energy expenditure from the electric pump to overcome the pressure losses in the circuit with a flow rate of 1000 L / s, whereas a yield 0,70 can be calculated with the following formula:  $1000 * 0.4 / 102 * 0,7 = 5,6$  kw. The energy produced by the secondary turbine with the residual energy of 10 m, the flow rate of 200 L / sec and a yield of 0.6 is equal to:  $0,6 * 1000 * 0,2 * 10 / 102 = 11,76$  Kw, while the energy used to lift the 200 L / s to the average prevalence of 45 m with performance 0,70 is  $200 * 45 / 102 * 0,7 = 126$  Kw. The total of Energy produced is 319,23 kw. The total of Energy consumed is 137,76 Kw. The difference is 181,47 kw, that represents the energy gain of 131,7 % respect to Energy consumed. We can not talk about efficiency because no machine or plant may exceed the return of 100%, if you do not take advantage of favorable external conditions, such as the withdrawal of the hydrostatic pressure from a higher level, but in quantity compatible, and

technological synergies that take advantage of the hydraulic principles of Bernoulli and Pascal, for not waste all with a simple hydraulic jump. This has nothing to do with the perpetual motion of pure mechanics.

Another strange silence takes place on the possibility of colonizing the oceans for food production and combat acidification. Nobody in the world has expressed its willingness to implement the upwelling artificially the phenomenon that occurs naturally in only 5% of the ocean surface and produce fish for the current world population. Certainly the current production will not be enough for the future population. The production of farmed fish based fertilizers is not natural and is pollutant. At least eighty percent of the ocean surface, away from the continental slopes without danger of earthquakes, and tsunami waves, could be colonized with floating pumping stations that would raise, by Venturi effect, nutrients and carbonates dissolved in the ocean depths. Both serve to produce sustainable food and stop global warming and ocean acidification.

The issue of environmental protection is above all moral. Who has moral power can not do generic appeals to environmental protection must go into the project, spending something to design alternative. It 's too easy to think that the solutions that are not parties, are not automatically valid. It might be true in reverse: the global economy does not reward the global solutions to protect the environment because even economists are specialists who can not conceive of a complete system, which must follow the laws of the market but by applying full cycles, which follow a common logic, over and above the interests of the nations and corporations. Before they had to be born global systems of environmental protection and energy protection of the environment described in <http://www.spawhe.eu> applicable in all human activities and then was to be born the global economy, which is another work unfinished ruling class worldwide.

With current economic systems productivity necessary in environmental protection it will never be reached, because industries prefer to supply the components business, do not take part, organize industrial systems, which worked in the manufacturing industry. If I allow myself to write these things just because I worked for twenty years of industrial systems, another two decades of environmental systems and are already nine years that I try to put them together, without the help of anyone Obviously, I did not think to find so much silent hostility. If I had known, probably I would not have started the business of environmental inventor, bringing these innovations. But once I started, it was mainly the silences collected convinced of the usefulness of my work. I had started this work to bounce back economically to a life based on learning more knowledge, than profit. It has become a duty. I continue to sow, without ever seeing the fruits of my work.

The fact that my first inventions have been ignored in Italy, Europe and the world, confirms my no confidence in the current management of the environment and the world economy. It was evident that if they ignored the basic inventions were ignored also subsequent ones. What was I supposed to do? Apologize to the teachers who do private consultations, not collegial; designers public and private, that make the projects and exceeded contract specifications, to farmers implementing the works and manage the systems thinking only bill.

Nobody cares about what happens before and after the plants. All pretend not to know that the cycles purifying flue gas should continue over the chimneys and those cleansing must also include the alkalizing water. If everyone respects the rules, those who have to improve? I do not think I've had a brilliant idea to think, to cover cleaners, which can all be seen in aerial photos of "Google maps" for not emit CO<sub>2</sub> into the atmosphere also purifying waters. I do not think it was brilliant to think that CO<sub>2</sub> can be used to produce carbonates in the same chilling plants. Better still if we add water to

the depuration plants themselves. The formulas are written on all books about chemistry, biology and purification, because the plants are realized and are handled differently? If I had not changed virtually septic treatment plants, it would not be born even the biological energy in protecting the environment, even the artificial upwelling and hydropower submerged and vertical. In fact, every invention, working in practice or virtually, produces other inventions. As the state of the art advances, inventions are complicated and are necessary synergies between experiences in other sectors. My proposals show that in the field of environment and energy there was a transfer of ideas enough to advance the state of global and therefore the simple inventions that go in that direction, seem complicated.

All it takes to become global environmental planners is written on the site <http://www.spawhe.eu>. Just follow the step by step pollution and intervene at the right place, at the right time, with works that are both structural and technological, that interact with the available water resources in the area, both to protect the soil than atmosphere. They do not serve the current purifiers and even large energy production. The website and the projects described may serve as a starting point for the design alternative.

Contrary to what I knew, my patents on treatment globally are not fallen in all countries on May 19 last. For Europe and some countries will lapse on June 19. If it were possible I would save at least one main W02014 / 076726 Global synergy for depuration plants, biomass production and thermoelectric cogeneration (gspdptc). (Synergistic global purification plants, production of biomass and thermoelectric cogeneration). In 2017 there is a public tender: "Materials for clean air" (<http://ec.europa.eu/research/horizonprize/index.cfm?prize=clean-air>), to which I would like to participate with

European patents not fallen to the same topic. There is a prize of 3,000,000. Obviously they need the money for maintaining this patent before the deadline and possibly a company that I joined in the enterprise. It is about 4,500 Euros. They are small compared to those I have already paid but this time they will pour no public or private partners. What I wanted to prove I have already shown. There is no competition in environmental protection but only in the sale of commercial machines in the name of the environment. Environmental protection can not be delegated to isolated purifiers away from processes that do not grasp even a penny of pollution. Never mind that these systems have designed them with the participation of the most renowned universities in the world. It's not the dress that makes the Monaco. In terms of environment and energy are the results that count, not words, and even scientific texts if they do not know how to design the plants in practice. To achieve global environmental projects need many skills but, paradoxically, the only global environmental projects they have developed a pensioner, The United Nations, governments, corporations have not produced anything remotely resembling the system described at <http://www.spawhe.eu>, which, despite the Internet, it will take years to be known, whether to write and talk about it is just the same retiree. Those with expertise in technologies useful for the protection of the environment, today is not unemployed, but neither is able to choose the global environmental policy, in which their expertise can be used, being a simple piece of a huge mosaic. The environmental world policy must be changed by the outside because the institutional bodies responsible for protecting the environment if they understood their failure, only to preserve the dignity would have resigned en masse. They do not understand and continue to do damage. Without alternative projects can not be change anything but the projects must be submitted by moral authorities above all suspicion. Who raises money and is not organized to produce projects, but only slogans, marches and appeals for myself who works alone for

years, is already suspect. It 'like Pontius Pilate, who asked the people who could not understand the importance of choosing: who want Jesus or Barabbas? What to expect young school leavers, graduates and job seekers to learn how to design systems global, participating in competitions, presenting them to the municipalities by regions of residence, instead of reciting slogans below to politicians, trade unions and associations that have no plans to create well-being and work?

We need points of reference that only moral powerful organizations as the Churches can put together. They do a lot, but perhaps this would be the most important challenge to overcome the hypocrisy of the powerful and violent terrorism and make real progress towards peace, and the dignity of work they are entitled to all the people of the world. Probably, presenting these projects alone I sin of pride and presumption. But I have tried those who would give me a hand and found nothing, except Gien Varney Wong, who is not a technician, does not know my language, lives in South Africa and is of Buddhist religion. Yet we included perfectly. So who wants to comprehend understand. Those who think that I'm wrong in something cast the first stone, but I hope to do it with technical and scientific arguments and experiments conclusive. For the moment, despite, their importance, these projects are not cost one euro cent to any taxpayer. Even if I had done something wrong, they did not create any kind of damage. While the damage they have created the powers that allow the construction of production facilities, energy and environmental incomplete, are comparable to the wars in human, social and economic. The world leaders if they begin to ban the wrong plants and begin reconstruction means that they want to continue to do damage. There is no middle or the environment is protected globally or protects only apparently. SPAWHE, although, certainly, has limits and shortcomings, demonstrates this. I hope that at least the representatives of the churches be spared the shame of wrongful death against

human greed and the inability to carry out projects in the common interest. Appeals and the sermons are not enough.

Best regards

Luigi Antonio Pezone