

# **The fossil energy, that pollute, costs more of clean energy**

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In this article, I explain the reasons why, as a simple citizen, design engineer, installer of industrial, environmental energy plants and inventor, I no longer believe in science, politics and the world economy and I will continue to not believe in them until I will get satisfactory answers at least to the following question, which coincides, by pure chance, even with the start of Trump presidency:

**We have polluted and warmed the planet paying fossil energy more of clean energy?**

This question does not seek culprits but assumptions of responsibility by the leaders of the world's environment and energy. This question can not answer the leaders of the past, who have committed major errors, setting the economic development and fossil energy on treatment plants with activated sludge, which also would do less damage if they had been made of the right size in the right place, as described in several pages of SPAWHE (<http://www.spawhe.eu/energy-right-at-the-right-time/>, <http://www.spawhe.eu/european-environmental-competition/>, <http://www.spawhe.eu/the-role-of-biological-energy/>, <http://www.spawhe.eu/patent-drawings-synergic-plants/>, <http://www.spawhe.eu/patent-drawings-synergic-plants/>). In fact, at the time they were born first thermal engines, thermal power plants, water purifiers, it was also born hydropower and compressed air. But energy development focused only on the thermal sector, which has an average yield of 0.35 relative to the lower calorific value of the fuel. Even

nuclear energy is based on the use of the heat, but with disastrous results from an economic and environmental point of view. Although solar energy is based on the use of the heat but with low yields and discontinuous, not universal and not feasible in all parts of the world. Wind energy instead uses the wind force but to produce the pressure of 0.83 bar on wind turbines should be a wind traveling at 80 kilometers per hour. Therefore also this energy is cumbersome and discontinuous with low yields. After 150 years of wrong energy history, the undersigned that is a simple pensioner, has created the SPAWHE website, which was to be called only SP (synergy plants), because, dedicated to the cleaning of fossil energy and then to change the depurative system which were to accompany the production of energy for purifying water and air together. Unfortunately, the world responsible for the environment and energy did not like that a pensioner to look after these issues of their exclusive domain, and they never responded and agreed solutions, which are not the result of fantasies but a work of forty years industry and the environment. Since myself was and is also worried about ocean acidification, also it wanted to bring environmental solutions to be implemented directly in the seas, being inspired to the natural circulation of water, which in certain conditions, brings to the surface the organic sediment precipitates in the seabed, creating phytoplankton, which in turn creates zooplankton and marine food chain. In fact, for myself, it is possible to realize artificial water currents that not only raise the organic nutrients but also the dissolved carbonates in the deep sea and then, in addition to the creation of the food chain where do not exist, we can also increase the alkalinity and combat acidification. In this way is born the AW sector (artificial welling). All this is written in <http://www.spawhe.eu/patent-drawings-artificial-welling/>, <http://www.spawhe.eu/artificial-welling-files/>. Also in this case, the silence of the environmental authorities has been eloquent: pensioners should mind their own business without interfering in reserved matters only to them. However, even

these reflections and environmental proposals, made illegally, without observing the caste system, have led myself to investigate on the third unexplored world energy sector. Thus was born the third sector of SPAWHE: HE (hydroelectric energy with water recycling). In fact, the existence of ocean currents has opened the mind to myself of the opportunity to produce energy by recycling the water, because inside the volume of water accumulated you can harness the energy position of the water surface respect to water placed in the bottom, as long as there is content to use only the water specifically ducted from the surface, pulled down by a pump inverted, placed in the bottom, which feeds a turbine. This system does not exploit the hydrostatic pressure of the basin but the dynamic pressure that develops in the descent tube due to the rotation of the pump. The turbine, placed after the pump slows down the velocity of water in the descent tube, that would assume the value ( $V = \sqrt{2gh}$ ) increased by the force of gravity and by atmospheric pressure, that the pump would not be able to control by itself, producing hydroelectric energy instead of dissipating it as heat both in the downhill tube, both in the submerged outlet. The concept of energy of position without the hydraulic jump is understandable even by the drilling of a submerged water vein that spontaneously produces the water output from the subsoil to the effect of atmospheric pressure acting on the water surface of the basin that feeds the vein. In the compressed hydroelectric, we use the same energy principle, but replacing the atmospheric pressure with an artificial pressure, which can be thirty – forty times higher than atmospheric pressure, thereby producing an energy thirty – forty times higher. But to produce energy by recycling the water and without consuming the air cushion is necessary to circulate the water inside the pressurized tank one-way, not like the current autoclaves, where the water comes in and out by the same hole by expanding and compressing the air cushion. The expansion involves a loss of energy, because it requires a subsequent compression and therefore there is not an energy

gain. Instead, the energy gain is obtained by circulating, in one way, a part of the water incompressible under the compressed air cushion keeping constant the two volumes inside the tank. Therefore, we only exploit the water that comes from the pressurized tank, as if it came from the overflow of a reservoir at atmospheric pressure, but since the pressure is much higher than atmospheric and replaces the height  $h$  in the formula ( $V = \sqrt{2gh}$ ), we have a multiplication of energy produced in the turbine that is proportional to the pressure of the air cushion, which does not lose its thrust because it does not expand, as it does not expand the atmospheric pressure on open basins. For this to happen, it is necessary that the amount of water that enters into pressurized tank is exactly equal to that leaving powering the turbine. This takes place by means of the pump with the double separate power supply up to the impeller, specially invented by myself, which has the power that has the power to recycle the water in two separate circuits aspirants, but with only one outlet placed in the pressurized tank. Therefore, the internal recycling circuit of the pressurized tank is balanced by the static pressure of the air cushion, which acts in the impeller of the pump suction and delivery, while the other power supply of the impeller, hermetically separated from the first, when the impeller rotates, makes enter in the pressurized tank also the water discharged into an open tank from the turbine. But the pressurized tank having already occupied the volume of water and the air cushion expels again the same amount of water which enters, with all its strength, without expanding the air volume, allowing it to enter back into the turbine, in an infinite loop. Obviously, this circuit can be realized in many versions and in many sizes to produce energy, fixed and mobile, in proportion to the pressure of the air cushion (which as is known has a critical pressure of 37.5 bar and a critical temperature of  $-140,6$  degrees Celsius), therefore, we could produce energy at very low cost, even at the north pole, in all seasons, for twenty-four hours a day and three hundred sixty-five days a year, since the advent of the

industrial age, saving spaces pollution and global warming. Indeed, since, proportionally, to the operating pressure, the water solubilize also the gases present in the air, being important only that the nitrogen percentage is neutral and oxygen, thanks to the latter, with this type of energy, we can practically eliminate the costs of depuration because producing energy with rainwater and waste, continuously, practically without energy costs, we arrive easily endogenous oxidation that consumes all organic substances in the water and if we create artificial rain of calcareous materials in covered environments, in the lower areas of the atmosphere, we can lower the quantity of CO2 in air producing alkaline water, which returns to the sea through rivers fighting acidification and melting glaciers. All this is written in many files:

<http://www.spawhe.eu/>,

<http://www.spawhe.eu/the-fossil-energy-that-pollute-costs-more-of-clean-energy/>,

<http://www.spawhe.eu/fighting-global-warming-extending-the-borders-of-perpetual-motion/>,

<http://www.spawhe.eu/pressurized-domestic-hydraulic-energy-system/>,

<http://www.spawhe.eu/the-potentialities-of-pressurized-hydroelectric-energy/>,

<http://www.spawhe.eu/defend-the-environment-and-the-territory-by-producing-energy/>,

<http://www.spawhe.eu/cop22-failed-international-crime-of-states-not-punished/>,

<http://www.spawhe.eu/marrakech-2016-is-there-a-conspiracy/>,

<http://www.spawhe.eu/two-environmental-and-energy-inventions-for-the-marrakech-summit/>,

<http://www.spawhe.eu/the-pressurized-submerged-hydroelectric/>,

<http://www.spawhe.eu/hydroelectric-power-auto-with-torque-peripheral-to-the-wheels/>,

<http://www.spawhe.eu/sustainable-desalination/>,

<http://www.spawhe.eu/the-energetic-miracles-of-pumps-with-separated-double-supply-until-to-the-impeller/>,

<http://www.spawhe.eu/the-sustainable-future-of-environment-energy-food-and-labour/>,  
<http://www.spawhe.eu/relativity-and-technology-in-the-new-hydroelectric-energy/>,  
<http://www.spawhe.eu/where-is-the-science-and-where-hope/>,  
<http://www.spawhe.eu/open-letter-to-mr-bill-gates-on-energy-miracle/>,  
<http://www.spawhe.eu/causes-of-failure-cop-21/>,  
<http://www.spawhe.eu/official-presentation-of-spawhe/>,  
<http://www.spawhe.eu/from-efficient-purification-to-sustainable-energy/>,  
<http://www.spawhe.eu/the-future-of-energy-is-hydroelectric/>,  
<http://www.spawhe.eu/the-perpetual-energetic-motion/>,  
<http://www.spawhe.eu/the-reasons-of-lack-protection/>,  
<http://www.spawhe.eu/also-churches/>,  
<http://www.spawhe.eu/hydroelectric-energy-files/>,  
<http://www.spawhe.eu/closing-the-anthropogenic-carbon-cycle/>,  
<http://www.spawhe.eu/open-letters/>,  
<http://www.spawhe.eu/expo-2015-and-spawhe/>,  
<http://www.spawhe.eu/spawhe-comes-from-below/>,

In the current state of the art in different parts of the world have been realized reversible machines (pumps, turbines) able to operate with good returns both as turbines in a direction of rotation and both as a pump in the reverse direction. But the implants made with these machines do not bring any energy advantage. For myself, only exacerbate the costs, having to carry two large basins, upstream and downstream of the machines. The only advantage that carry the reversible machine is the water recovery to produce energy by day and lift the water at night, when there is less absorption of energy from the networks. This small advantage involves high investment and higher energy absorption because the reversible machines have higher yields when operating as turbines and lower yields when working as pumps, lifting back the water to the upper reservoir. While, the hydro-power secret with the water recycling is to separate clearly the circuit that produces energy by means of dynamic pressure

ducted that feeds the turbine, from the circuit that recovers the water drained from the turbine, which must be lifted with very low cost to the upper basin. This is possible only if the hydroelectric plants are realized otherwise: recycling, instantaneously, the water that produces energy in the turbine passes through a very small gathering basin and by inserting it into the upper reservoir recycling circuit, just as small in size, always maintained at the maximum level, which drains the water that feeds the turbine from the overflow. In this way we eliminate completely the energy costs for water lifting and replacing them with the expenses for water recycling, which are hundreds of times lower. In fact, the recycling of 1000 L / s in a DN 800 one circuit with an equivalent length of one kilometer requires a prevalence of the pump about 1.5 m, with a relationship of convenience between recycling and lifting of 1 to 666 (1000 / 1.5), which can become even more convenient by increasing the pipe diameter and less convenient by reducing the diameter. But to enter the water of the basin in the bottom of the upper reservoir recycling circuit is required to the invention of the subscribed called "double pump with separate power supply until to the impeller", which, with only a suction side of the recycle of the water basin upper, balancing the pressure upstream and downstream of the pump impeller while with the second suction mouth, hermetically separated from the first, in the same impeller, introduces the water of the lower basin. So not only we have to change the hydro power plants but also the water lifting pumps.

Not be heard by the authorities of environment, energy, scientists, entrepreneurs, the media, the network, it is not the tragedy of a pensioner, but the tragedy of the whole world, which has not investigated rationally and scientifically, in the environmental and energy problems. That is, without vested interests, but by using the right technology at the right place and the right size. Not thinking only to produce energy, but also to save resources and to

purify water with the same process, closing the air and water cycles together, without going that far away purifiers.

With hydropower pressurized further increases the power of the plants and diminish the overall pressurized water power and the fossil becomes merciless. Suffice it to say that a system of domestic energy production, pressurized to 4 bar with no visible space is equivalent to a traditional hydroelectric plant that uses the energy that would produce a reservoir height of 40 m. While an implant mounted on a car, pressurized to 40 bar without bulk produce the energy of a tank to 400 m in height. Suppose you create with the same flow rate of water, 7.5 L / s, these two systems.

In domestic plant, assuming the turbine efficiency 0.6, applying the formula  $P_u = \eta * 1000 * Q * H_u / 102$ , we have an energy output of 1.76 kW ( $0.6 * 1000 * 0.0075 * 40/102$ ). Assigning to the pump a prevalence of 0.5 m and a yield 0,6, the power absorbed by the same, which leads a double flow of that which passes into the turbine, calculated by the formula  $0.5 * 1000 * 0.015 / 102 * 0, 6 = 0.122$  KW. While the additional circulation pump (3.4), with a flow rate equal to half, suppository with the same yield and prevalence absorbs half of the energy calculated for the double feed pump (0.061 kW). In this case the ratio between the energy expenditure and yield is 9,61 ( $1,76 / 0, 183$ ). The net energy produced between the two systems side by side is  $(1.76 \text{ to } 0.183) * 2 = 3,154$  kW, which may further increase by increasing the pressure of the air cushions or the revolutions of the motors driving the pumps. If the relationship between energy expenditure and yield divide it by the average efficiency of thermal energy to have the relationship of convenience between the compressed hydropower and thermal energy that equals **27, 45** ( $9, 61 / 0, 35$ ).

In the plant mounted on the car, assuming the turbine efficiency 0.6, applying the formula  $P_u = \eta * 1000 * Q * H_u /$



102, we have an energy output of 17,6 kW ( $0.6 * 1000 * 0.0075 * 40/102$ ). Assigning to the pump a prevalence of 1,0 m and a yield 0,6, the power absorbed by the same, which leads a double flow of that which passes into the turbine, calculated by the formula  $1,0 * 1000 * 0.015 / 102 * 0,6 = 0.,244$  KW. While the additional circulation pump (3.4), with a flow rate equal to half, suppository with the same yield and prevalence absorbs half of the energy calculated for the double feed pump (0.122 kW). In this case the ratio between the energy expenditure and yield is 48, 08 ( $17,6 / 0,366$ ). If the relationship between energy expenditure and yield divide it by the average efficiency of thermal energy to have the relationship of convenience between the compressed hydropower and thermal energy that equals **137, 39** ( $48,08 / 0,35$ ).

These two relationships of convenience exclude the cost of fuel, the greater complexity of the heating installations, charges for the filtration of the fumes, etc. So, in both cases, the relationship of convenience between fossil energy and pressurized waterpower can even double. Not worth it to extract coal, oil, gas from underground but we are doing it for at least 150 years. Not worth it to continue to build thermal plants and engine and nuclear power plants. Not worth it to build and install wind turbines and solar panels that fail to reach even the fossil energy yields. It is worthwhile to rebuild the entire industrial society producing hydroelectric energy with water recycling with or without pressurization in all versions shown on <http://www.SPAWHE.eu>, and others, not yet developed, because these solutions, in addition to being the cheapest, are also protective of the environment. They will also help to have the sustainable desalination of saline waters. All you will save in energy costs, purification, repair the damage caused by drought and floods, will be used to support the poor, built hospitals, social institutions, strengthen the houses and the works of art against earthquakes.

These are facts, arising from design, not words that spring from abstract philosophical concepts, and desires for a better world, equally abstract, which express environmentalists who do nothing to support the truly alternative designs, continuing to choose the lesser evil and donations for their campaigns that do not lead anywhere. Today it is ridiculous to think that those who have public and private resources has experienced all kinds of bombs to make the wars and all kinds of pumps to lift water against the gravitational force, but does not pull out a few thousand Euros to experience the pumps with double separate power supply, to circumvent the gravitational force and create universal clean energy, with a small footprint, can also be used on transportation.

SPAWHE did not violate any principle of conservation of energy, as some would have you believe, to continue to produce the current, inefficient energy, current purifications, Desalination plants, water distributions. In fact, SPAWHE was born mainly from the observation of natural systems that rely on the use of the energy of surface water location that exploit the principle of communicating vessels and atmospheric pressure, such as artesian wells, which, if observed carefully, they could direct towards this type of energy since the advent of the industrial age. In fact, in artesian wells, the water ducted makes a one-way street spewing from underground, using the geodetic difference in level between the surface of the upper reservoir to the hole that intercepts the water vein, located below, plus of the cushion pressure of atmospheric air without it expands, being the same all over the planet. If atmospheric pressure is double on departure basin respect to the outlet hole, the water would rise to 10.33 m more, if it was triple, would rise to 20.66 m more. If the water outlet hole instead of the riser tube install a hydraulic turbine with alternator, we would produce an energy corresponding to the total height hydraulic, without the hydraulic jump, which is exploited in systems using the hydraulic reservoir located at the top In artesian wells the

one way flow creates the drilling of water submerged vein which is located in a lower geodetic level. But the energy production takes place until you empty the upper basin, as in the hydraulic jump. In pressurized systems artificially to create the continuous flow, one-way with water recycle, is required a pump for movement and to retain the air cushion, that is not infinite as the atmospheric pressure and is not produced by the hydraulic system (and therefore cannot be considered a force that violates the principles of conservation of energy), it is necessary to maintain a constant volume of water inside the pressurized tank. This we may obtain only creating a stream of water to one-way in the pressurized tank, by means of a pump with the dual separate supply until to the impeller, so that the water that enters is perfectly equal to that leaving to feed turbine. Consequently, we have to collect the water drained from the turbine in a small tank of disconnection and instantly insert it again into the pressurized tank by means of one of the two feeds of the pump, while the other supply facilitates the operation by recycling the water inside the tank and balancing the hydraulic pressures at the entrance and the exit of the impeller. Not even the pump does not respect the principles of conservation of energy, as the current pumps because all pumps create a small vacuum inside the impeller, which allows the inclusion of water from the outside, especially if they work under a positive pressure. The feed division in input to hermetically separate impeller and oblique to the profile of the rotor itself (which is applied with clean water), does not prevent the normal operation of the pump, even if each of the pump sector receives water with a hydrostatic pressure of different power. In fact, the rotation of the impeller uniform the flow rates and pressures exiting the outskirts of the impeller, therefore, the output of the pump have a single flow and a single pressure (according to the principle of Pascal). But in the pressurized system, the water that comes from the circuit does not only depends on the circulation pump, but above all, by the hydraulic resistance which opposes the

turbine outlet of the water, by the pressure of the air cushion and the control of the maximum and minimum water level inside the pressurized tank. In fact, if the turbine opposes little hydraulic resistance, the air cushion tends to expand, lowering the water level and decreasing the pushing force. Therefore, to restore balance in the system, we increase the turns of the circulation pump, which puts a greater amount of water from the outside (although at the same time also increases the internal circulation to the tank with the second feed, this does not influence the level of internal water tank). If, instead, the hydraulic resistance of the turbine increases, the cushion of air tends to compress, and to increase the strength of the water thrust, while the water level increases. Therefore, to restore balance in the system, we decrease the rpm of the circulation pump, which puts a minor amount of water from the outside (although at the same time also decreases the internal circulation to the tank with the second feed, this does not influence the level of internal water tank). The pressure of the air cushion is a system design pressure that is set by a pressure switch with minimum thresholds and maximum pressure, regardless of the water level. Therefore, from the above, the pump with the double separate supply does not serve to circulate the water outside of the pressurized tank but only within and to introduce the water that comes out, because it is ejected from the air cushion (which free works acting as a compression spring). The division of tasks between the pump (conceived otherwise of existing pumps on the market), and the air cushion (otherwise exploited by current autoclaves, where the air cushion expands and compresses) is the key to understand the energy gain calculated for household and the plant mounted on the car. I would like to ask the science that has already shamefully silent for too long about this, after which has favored for 150 years, the pollutant fossil fuels and renewable energies hundreds of times less efficient, what would represent the circulation of only 7,5 L / s in a volume of 50 liters of water accumulated pressurized to 4 or 40 bar? If the

pressurizing surface corresponding to a section Dn 300 it is of 706.5 cm<sup>2</sup>, while the surface of the outlet hole 65 is Dn of only 33,16 cm<sup>2</sup>. This is only a small internal current to the accumulated volume, to which the pressure of the air cushion can not oppose because the water is not compressed. The air cushion can only expel it with all his strength from the submerged outlet hole. As would occur in an artesian well, while other water enters into the pressurized reservoir by means of the pump with the double separate supply, consuming little energy, because the water is introduced through the internal recycling of a corresponding flow rate. This is more efficient clean energy than fossil, but the science of the past and the present has chosen the latter.

Those who are truly sensitive to environmental issues and especially the world's institutional agencies, places the protection of the environment and the pursuit of sustainable energy should be interested in ascertaining the truth researching this article and the many articles that preceded it. The truth can be established only if world leaders respond honestly to the following question, without taking shortcuts ridiculous as that of perpetual motion:

Have or not have we polluted and warmed the planet paying fossil energy a hundred times more of clean energy? Unfortunately, for myself, the answer is yes, as demonstrated by the two energy calculations shown above, which could develop from the time they were born in the first heat engines and the first steam boilers, if someone had also sought in the right direction. Anyone can disagree, but can not do so in silence. Those who have the economic means to demonstrate sample plants the truth that for myself, is already evident, must act in the interest of all if they are public agencies. But if public agencies, for unknown reasons are not involved, even private entrepreneurs can do it, obtaining a fair profit. How they have invested in solar panels, wind turbines, the existing pumps, the current turbines, they may also invest on

the hydroelectric plants with water recycling, especially pressurized, before the decay patents, reducing investment risks and increasing profit margins. Fossil fuels pollute and costs more than clean energy

No need for large investments to ascertain the truth. Unfortunately, today, the biggest expense is one that should be supported by the inventor to protect intellectual property, which is an inequitable spending, and unjust, that inventors should not even pay for many reasons:

1) Why the World Intellectual Property Organization (WIPO) combines in a single regulation the intellectual property regarding inventors and industrial property which covers entrepreneurs.

2) If the inventor produces the invention as an employed capacity can match the intellectual and industrial property. Therefore, the invention owner is the employer, unless otherwise agreed.

3) The private inventor can give up intellectual property by selling the invention to a contractor.

4) The private inventor, who uses the intellect to produce the invention is similar to a writer, a painter, a musician. Therefore, the inventor should be able to provide the entire world community the invention without any time limit, receiving a small percentage of the profits from those who use the invention on an industrial scale and profit from it.

Of the four points mentioned above, only the first three are real. The fourth point does not exist and this seriously damages the private inventors that deal with environment and energy, the advancement of the state of technology and science. Today, the private inventor is forced to pay for the intellectual protection, and annual maintenance fees, such as industrial although the invention is not achieved by anyone. In fact, both public agencies that private business owners

know that a private inventor has no money and the industrial capacity to carry out the invention, and even the huge sums to pay maintenance fees of patents. Therefore, with the current laws, for the immense global public entities and large private companies that manage the environment and energy is easy to isolate a private inventor, even without recognizing the intellectual property, which if it had recognized, separately from the property industrial, as for other private intellectual, with affordable cost and without time limits, would also allow small businesses to invest and collaborate, without the current monopolies in the positive management of the environment and sustainable energy production.

This perverse alliance between the large public agencies and large multinational organizations, above all, in the world of environment and energy has prevented the formation of technicians and private inventors, who are free from the constraints of corporate guidelines, produce cross inventions to the various business skills, such as those proposed by me and published in <http://www.spawhe.eu>. This is the only way to extract from science and technology solutions with no vested interests that hamper the good intentions. But how many inventors, designers, scientists are willing to work against the current, without being paid, and wasting, in addition to work, even their savings? Personally, not know no one and certainly, I would not have dared to throw me in this venture if I had not reached retirement.

In fact, for myself, the reasons for which, today, environmental protection can not happen is due precisely to the absence of complete solutions that no one receives the order to seek. These solutions do not belong to any scientific or technological specialization in particular but to rationally design of their global installations. This should be obvious, because producing energy that interacts positively with the environment, in addition to exploiting the energy, also exploiting the side effects, which in the case of

hydropower pressurized are many: The energy saving in the production phase due to exploitation compressed air, water savings due to recycling of water, saving of water treatment costs due to the oxygen dissolved in the water The purchase savings of fuel. Therefore, the energy issue is not only technology, but above all organizational criteria according Tayloristic organization of labor, which can not be simply delegated to energy producers. The organization of work would have caused the world to study public institutions, and based on these studies legislate the basic principles of industrial development, urban, agricultural, transport and fishing, but they did not. It has done a pensioner after 150 years of history and the electricity of the wrong purification systems, publishing everything on <http://www.spawhe.eu> website, but all the public and private leaders, pretend not to understand, supported by shameful silence of science, who has missed the most powerful and clean energy source on the planet Earth. So, the world is not necessary miraculous energy, as proposed by Bill Gates, but only the rationalization of energy and water treatment systems that must live together and be interactive, but now are separated, as demonstrated by SPAWHE, through many patent applications related to each other, that have not been taken into account by public and private entities. In this field, above all, the public science and world universities, have worked compartmentalized, not even taking into account the positive experiences of the industrial Taylorism which allowed the increase in productivity thanks to the organization of work. In fact, SPAWHE, in addition to proposing new environmental and energy inventions, proposes environmental Taylorism. But the global public bodies continue to produce obsolete disciplinary race, hindering the harmonious development of society. In fact, large and small companies working in the public sector do not do research, but live all contracts and sub contracts. While, in the private sector, the research focuses on commercial solutions, which can only achieve partial cycles that help to warm the planet. As thermal engines, that may be substituted with compressed



hydro engines and air conditioners that may exchange heat with the water accumulated in geothermal wells, producing energy and purifying the water at the same time, instead of heating the urban centers with air exchangers' air. It should be clear that less chemical and biological thermal cycles are opened, easier it is environmental protection. Spawhe has shown that if the plant had been designed correctly, even the thermal cycles could properly close, producing alkaline water and air free of CO<sub>2</sub>, while on mobile systems it is impossible to do so. For this reason they are born pressurized hydro motors that do not open cycles that can not be closed in a narrow space. But all of these solutions have been ignored, to the detriment of citizens and in favor of a system that hurts everyone from the point of view of the health of the environment and the economy, favoring a few people, but only economically, because they breathe the same air and they get sick of the same illness. The undersigned has been an employee of private companies. He has never been able to develop complete projects, he was paid only to develop the details. But the details that have could never develop were those linking a plant and the other, between the water and air purification and separation of sludge from water sewage systems, where they could produce alkaline waters that go towards the final purifiers, instead of water degenerated by hydrogen sulphide, sulfuric acid and ammonia nitrogen. No one asked him to develop these details because they do not exist in any purification and biological energy system and of course, in no text of World Universities. He has decided to develop these details as retirement, which have gone beyond the rationalization of biological purification systems. But he wasted his time and his own savings to deposit patents, because even the scientific world and the scientific press, have pretended not to understand.

All those who are silent are accomplices perverse alliance among experts for public and private works, they would like to move to a new, cleaner phase of environmental management and

energy production, hiding the huge mistakes of the past. But this, for myself can not do because the energy-efficient and simultaneously purifying are born from the correction of errors of the past, following the pollution, step by step, going into all the details of human activities. Only in this way it is possible to produce biological and hydropower interactive with the environment. The biological, the perverse allies, have pretended not to understand and patents have already fallen world, without anyone having made even a small prototype. But hydropower is even more powerful than the biological one, because of less space, reduces installation costs and improved yields. In fact, with the pressurized water power, having energy costs tens of times lower than with fossil and side effect the dissolution of oxygen in the water, having to produce energy for twenty-four hours a day and three hundred sixty-five hours a day, we can easily get to 'endogenous oxidation of waste water and rainwater and to alkalization of the same in the same sewer system, realizing it vertical limestone and purifying greenhouses with artificial rain, consuming the urban CO<sub>2</sub>. If we turn also to the hydro motors mounted on means of transport, the next 150 years of industrial economic development, could bring the amount of CO<sub>2</sub> in the environment to the value it had in the late nineteenth century. To find the necessary funds for the scrapping of current energy and water treatment systems, and the elimination of internal combustion engines, would be enough money to pay for that today we waste fossil energies that do not serve.

In public and private companies the strategic decisions are up to the managing directors. All employees are expected to comply with company policy, can not even comment publicly on the SPAWHE solutions that change all the purifying and global energy systems, not by saving almost no one, but saving much of the technology developed. In fact, the systems are wrong, not technologies.

The current organization of public and private companies, are structured vertically. They decide a few people who can not get into the details of the solutions and above all the side effects that all decisions entail. Therefore, always it takes more technological refinement of the product, but no one questions the choices made at the origin of industrial systems, when it was possible to develop for each product marketed and above all, for energy, an alternative technology with positive side effects for the environment. Scientists and technicians specialized in pumping and hydroelectric production systems have not carefully observed circulations without water pipes of natural systems to save energy in the recovery of the water and therefore have not developed alternative hydroelectric industrial systems, which are powerful fossil energy, not having to turn the matter, but only, exploit physical principles conducive to energy saving and others to the transformation of potential energy into kinetic, taking advantage of the energy of position of surface water and artificial pressure, instead of the simple hydraulic jump. . This would enable the production of clean energy in every corner of the earth, even lifting the water that instead, today, a few times, require pumps with great powers powered high voltage motors (6,000 volts). But the perverse alliance between public and private entities, in this case too, pretends not to understand these solutions involving the radical modification of the plant, pumps, motors and turbines. These are the reasons why are never been studied real alternatives to steam boilers, heat engines, to treatment plants with activated sludge, and for myself, would have to be matched by other systems to complete the cycles or even changed radically. Today, environmental protection does not advance because no one has the courage to question public and private strategies established in 150 years of industrial development and environmental purification. But everyone has the courage to be silent shamelessly on inventions of a pensioner who has spent his life working and also the pension to find the yarn ends of scientific and technological hanks,

woven artfully, so that the protection of the environment can not occur. Public right hand does not know what the left hand is, while large private companies have only one hand: the one to catch. Certainly, public companies have imposed on private developers catalytic converters anti particulate filters, air bags, but these are palliatives in the face of real alternatives. If we consider the millions of public persons involved in science, management, and environmental legislation, it can be said that huge mountains have given birth to tiny mice. Who can dispute these systems are not the CEOs of each sector, they think only to partisan strategies, but who is able to go into the details of the depurative and global energy cycles, without partisan interests. . Today we need to fight the specializations and the choking of the work of the men and companies, or at least, create public structures of super technicians able to coordinate them. It is necessary that someone in the world learn to design globally for all, which means not superficially, but completely, according to the end even the side effects of the tying product. If we do this we eliminate 80% of the pollution of water and air without purifiers. The industrial Taylorism teaches, that one and the best way to produce thousands of cars a day in a single establishment: choosing the right solutions at the right place at the right time with maximum automation. All car manufacturers use the same system and perfect it every day. Too bad that all were wrong the engine to be mounted on the car, which is polluting. Today, manufacturers of internal combustion engines and cars, prefer to copy each other, in order not to completely change technology. This depends not only on car manufacturers, who say they comply with environmental regulations. Public science, instead of haggling on the amount of emissions, emitting complacent regulations, should have the ability to study and really impose alternative solutions, as the compressed hydroelectric engine, which in a few years of experimentation may become as small as the heat engine, due to the high pressures reached by the compressed air. But the

global public institutions, not only do not study these solutions, even ignore them if they are presented by an ordinary citizen, because they co-operate with the winning and powerful citizens. What good public competitions, if not choose the best brains to invent new things in the public interest? Why not hire experts in industrial design to issue regulations that anticipate the industry? Why not experiment with their solutions offering private inventors like myself, who can not find partners? This would not happen if modern society was founded on true values. Just the silence of SPAWHE shows that the present society emphasizes more the performance of a player than the public utility inventions, that would change for the better all society in substance, not in appearances. If the values that are carry out are only apparent, in who serve the world's major public organizations? Compare objectively the productivity of a public researcher of success, even winning of the Nobel, with that of SPAWHE, which is the work of a pensioner who did not cost a cent to taxpayers. It 'obvious that the comparison can not be done because the powerful reward the work of the powerful, while the poor are not even organized to defend their own inventions. Today there is much discussion of Crowdfunding, but in Italy it seems that does not exist, and in any case, would require a collaboration of many specialists, while the inventor of SPAWHE has collected many sympathizers but none that give practical help to overcome the creative phase.

Even battery-powered cars are ridiculous technical and scientific palliatives. Possible that the public and private science, does not understand that the compressed air is a more economical energy storage, powerful and inexhaustible of lithium batteries? We must be able to use compressed air, without letting it expand, combined to water that is not compressed and circuits a little more reasoned than the current autoclaves, that expanding and compressing the air, have other functions, but to the energy store for long periods of time. In fact, the current autoclaves, pressurized with

compressed air, are used to mitigate the disturbance phenomena of unsteady flow and limit the number of start-up of the pump motors. Even the current water distribution systems must be overcome, as shown in many hydraulic diagrams of SPAWHE, because they must be made with water recycling becoming energy producers, with short routes that eliminate various disturbance phenomena.

The water to be lifted must be inserted in the recycling loop of upper basin in open vessel or pressurized. In other words, the water that is consumed must come out always and only by the overflow of the open basin or pressurized. Only in this case, the pressure acts as an accumulator of energy, which pushes always in the same direction on the water that is not compressed, increasing the hydrostatic pressure, which comes out of the basin to power turbines, which, as written above, produces the energy in the descent phase of recycled water. Of course, must be modified also the pumps and realized with the separate dual power tightly until to the impeller, to circumvent the gravity force and the hydrostatic pressure, in the phase of recovery of water. Who does not believe in these solutions which would change the distribution of water and the lifting of the waters, by large energy absorbers manufacturer, must not remain silent, but to deal with myself. It must get right to conclusions, such as violation of the principles of conservation of energy. You need to read the curriculum vitae available on <http://www.spawhe.eu/about-us/> and LINKEDIN to realize the amount of hydraulic lifting of all kinds made by myself.

If it is true that wrong we learn, it is also true that the undersigned has learned a lot from the mistakes he done along with other designers, installers. But all we can say, except that my inventions are the result of fantasies. They are the result of posthumous reflections that everyone should do if they do not keep up their mistakes. State of the art must always questioning whether you want to improve, because it is

not possible that in mechanical systems weights are lifted by means of hoists and inclined planes, while in hydraulic systems, only with direct pumping. Especially, the pump manufacturers must not underestimate the experience of designers and installers. Until proven otherwise, it is they who by inventing new plants down working conditions to which they must adapt the machines, including pumps to save energy. The pump manufacturers, have the merit of having created pumps with many types of impellers, for all liquids and with excellent mechanical workings that give good returns, but from the standpoint of plant engineering and energy, like everyone else, pretend not to understand the inventions the undersigned, showing the limits of the category. However, they are lucky that it is fairly easy to turn existing pumps with single suction power in the pumps with double separate power supply until the impeller. They are also lucky that the submersible pump in the water can work overturned to power turbines fitted into static waters and they are lucky that the multi-stage pumps are used as turbines to produce energy. It is precisely the multi-stage pumps with closed impeller, whose precision machining allows you to get to delivery pressures up to one hundred bars, to confirm that we can achieve the dual feed pumps with hermetic separation of supplies between the two inlet until the impeller (obviously when this is rotating). These pumps especially replace the multistage pumps, balancing the delivery pressure and in the half of the water inlet of the impeller section and allowing the water inlet to be lifted through the other half of the input section. There is no law of physics that prevents this operation because the water flows do not enter simultaneously, but in alternating sequence, in the center of the impeller in the depression area. Instead, there is the principle of Pascal, which favors the expansion of the greater pressure in the flow, allowing to have at the pump outlet the sum of the flow and the maximum pressure.

The perverse alliance between government agencies and large

private companies, including manufacturers of pumps, thermal engines, electrical big engines, large reservoirs, large dams, large turbines, large thermal power plants, large purifiers, solar panels, wind turbines, can not indefinitely delay these logical inventions, clean and protective of the environment, with which they can not compete.

If the undersigned had not filed the patent and paid the filing fees at national and international level, no one would believe this sort of global conspiracy between public and private entities builders, as he did not believe myself when filed patents. Knowing that he would hardly have seen the fruit of his work and of his savings, they were just the silences gathered to make him understand the importance of the work he was doing and to stimulate to move forward. Although he did not think of coming to perceive the pressurized hydroelectricity in basins, wells, domestic and mobile, SPAWHE's work, it would be valuable anyway. But the pressurized hydroelectricity is the icing on the cake with which will have to deal both those that produce energy and those that purify the water, and those that raise the water for distribution, both cases raising the waters for the defense of the territory, and those who make heating and air conditioning, which can exchange heat and cold with geothermal wells oxidized, even they, energy producers in the world, at any temperature.

SPAWHE, has already shown that even the most enlightened ruling class, one that, in part, already realizes the recycling of industrial and organic waste materials, is not interested in the overall purification of water and air. Probably they realized that SPAWHE is right. In these sectors it has all to be redone. It 'better to be silent and wait like mature events. In fact, patents on the fossil energy cleaning and editing purification systems have already fallen and accessible to all countries of the world, but no one has made even a prototype, although in world cities the air is



unbreathable. No one has understood, or they all pretended not to understand, that the urban air is purified with the water in the same urban centers. Unfortunately, even environmental associations are opposed by choosing the lesser evil among the existing state of the art. Never enter in the design criteria. On the other hand, universities, who taught the environmentalists, have also trained public researchers and private planners. If universities around the world do not know how they should close organic and inorganic purifying cycles globally, the ruling elite and the opposition which would have to learn? The best way to design the plants globally is to follow the pollution, step by step, not waiting in distant purifiers, putting together water and air. Yours truly understood this only because, when he moved to take care of environmental systems already had a long experience of work organization and industrial manufacturing facilities. He could not to realize that, in one way or another, all the purification and power plants are incomplete. Probably, if the designers of the past had had the same experiences of the undersigned, would solve the energy and water treatment problems in a more rational way, by combining air and water energy, as did myself, creating energies interactive. Inevitably, they would reach to the depth of water on synergies incompressible and compressible air, which would lead to hydropower pressurized able to multiply the energy and purification performance, proportionally to the working pressure. This energy costs very little being realized with simple machines, small footprint, and with the power accumulated in the air who works as a compressed spring, without being consumed for their work, but for releasing the physical laws of Dalton and Henry, spontaneously, in proportion to the operating pressure, oxygen in the water. If energy is produced by the waters that purify, oxygenation can be increased with artificial rains of calcareous materials, reproducing in small natural carbon cycle, producing alkaline waters subtracting CO<sub>2</sub> to the environment, going towards the sea, fighting the 'ocean acidification and trigger a global

cooling process. The current world of environmental sciences and renewable are afraid of the environmental positions of US President Trump, which certainly put a lobbyist oil at the head of the EPA (US Environmental Protection Agency). But what did the EPA and other world national agencies do to be convincing? They do not even convince myself, that is more environmentalist of them and showed it by creating SPAWHE, that they have ignored and, of course, it will also be ignored by Trump.

However, for myself, it is better to confront the Trump positions that are very clear, and based only on simple economics, that the hypocrisy that hides behind the current renewable. Easy energy of President Trump, who denies the existence of global warming, from the point of force, currently incontrovertible, that you can not give up the oil for economic reasons, it can easily be demolished with little money and simple compressed hydroelectricity prototypes with water recycling. If it is shown that in the fixed installation investment costs are tens of times lower than those of fossil energy and management still cost less; and in the case of means of transport, which would use higher operating pressures, the cost of energy would become, even hundreds of times lower. Oil supporters, including President Trump, must take note that it costs more to extract, refine and commercialize coal, gas and oil, which produce clean energy fixed and mobile. Who must prove they are the organs of the United Nations and environmental agencies of individual countries. If they do not, as they always have done against the SPAWHE solutions, to their duties, committing the crime of omission of official act and contrary to Articles 1, 2, 15, 48, 54, 58 of the "Project coding on the responsibility of States for internationally wrongful acts", signed by almost all the one hundred ninety-six sovereign states, at the United Nations in 2001. With this, the undersigned would not claim that oil and derivatives are unnecessary resources that could be used in favor of environment and development, as described

above, to create artificial islands unsinkable oceanic plains, in view of the imminent growth of world population. Not because there is no place on earth. But because there are immense resources in the oceans to pull off and can be extracted only in safe areas away from terrestrial coasts and tsunamis. In fact, with these islands, we could produce a lot of work and wellbeing for construction activities today unknown, but also tourism, and above all, food production, because if we develop the artificial upwelling ([http://www.spawhe.eu/artificial-welling -files /](http://www.spawhe.eu/artificial-welling-files/)), the eating of natural fish replace meat of animals raised with systems that already, are not natural and therefore, of bad quality. If President Trump is less hypocritical of the fake environmentalists, it will include where and how to produce energy, and where and how to use oil. If, like its predecessors do not understand, we will continue to be in trouble, as before and more than before.

The following files are a few complaints and open letters without answers of world public agencies who commit lightly crimes that they themselves have legislated. In this list also goes this article, hoping that finally someone answers, if not for love of the environment, at least as intelligent men of business that they understand that it is better to produce clean energy at low cost than polluting energy with high costs. Side effects that protect the environment, are free. Even if the environment and energy authorities do not want them, they can not refuse them:

<http://www.spawhe.eu/european-environmental-competition/>,

<http://www.spawhe.eu/if-sector/>,<http://www.spawhe.eu/open-letters/>,

<http://www.spawhe.eu/expo-2015-and-spawhe/>,

<http://www.spawhe.eu/spawhe-comes-from-below/>,

<http://www.spawhe.eu/the-fossil-energy-that-pollute-costs-more-of-clean-energy/>

Best regard

Luigi Antonio Pezone