

Alternative Energy: Confusion of understanding or understanding of confusion

Since many years we have been facing a problem of confusion in understanding the actual physical properties of so-called "alternative energy sources". General Physics teaches us that Energy is the cornerstone of the whole Nature, because it is a primary form of masses that surround us, and from whose material we are created. Best show ever-present Energy we can get through the treatment of AGP - Absolute gravity field (by Einstein), which is always something bigger than a recognizable Space, is connecting the entire Universe, and consequently it is recognizable also in endlessly big number of other Energy forms. So, the total mass of the Universe and everything is made of Energy apparently derived from the primary energy of the Universe - Gravity.

So, first of all let's see what "alternative energy sources" are in Nature and if they exist at all. After a short analysis we can see that basically it is always one and the same primary Energy that is manifested by the Gravitational force of our planet and in the second case which is formed on a basis of Sun's gravity due to the presence of Solar radiation. So, here is always Gravity and there are not existing any kinds of new or "alternative energy sources," but only **alternative methods** of exploitation of always the same (Gravitational) Energy, which directly or through the consequences of its action, has for long time been exploited by the traditional known methods.

In addition to conventional methods of converting Energy into electric power, which often carries environmentally harmful consequences, in the last decades a lot of efforts were made on the production of electric energy from the so-called "alternative sources". But actually in the Nature there is nothing like "new energy sources" but just different forms of always the same Energy. For such different forms of Energy we are forced to use new or alternative methods of "extraction" or generating electricity but in the fact, electric power we are receiving is always coming from the same energy source which is the base of the existence of our Nature in which we live. Therefore, the analysis below must first be granted in three groups – regarding the "nearest" Energy form which one we are transforming it to electric power:

1. Direct conversion of solar energy into electricity (photovoltaics),
2. Indirect conversion of solar energy on earth (through the creation and utilization of wind power) and through bio-technology,
3. The energy gained by the gravitational forces of the majority of the Earth gravity (through the movement of water masses).

In the first group we can find known photo cell systems for directly converting solar energy into electrical voltage. Due to the relatively low value of the total solar energy per square meter, low-efficiency of photovoltaic panels and their high prices kW hour of electricity supplied, is for many times more expensive than the price of conventionally produced electricity. In addition, its supply is not permanent (night / day, cloudy weather, etc.) and installation is visually quite unaesthetic.

In the second group are very expensive and environmentally and visually not acceptable windmills whose kilowatt-hour is nearly ten times more expensive than electricity from the grid. Their power supply is also quite irregular.

Bio-electric technologies will be really useful when will be in position to convert biological waste and garbage into electricity. Using it to convert to electricity any kind of potential organic food is unacceptable.

In the third group remains the cheapest electric power Energy that is obtained by means of gravitational movements of water masses.

Dealing with the third method for producing electricity we are always meeting a lot of mental errors from the classical education. It is a mistake when we think that electricity is actually obtained from kinetic (motion) energy of water. Due to the (many times) relatively small sizes of most river streams, it is giving us impression that from them we are finally limited to get any larger amounts of electricity.

Although we know that on every square meter of intersection of water stream, water is carrying a few hundred times more energy than wind at the same speed, it seems that relatively small quantity of water in the rivers is limited us to get more Energy. But in fact, we are limited only in the construction of large reservoirs like lakes and dams for which formal knowledge is teaching us that they are the only solution.

The problem is in misunderstanding of the Energy, which is obtained through the movement of water masses. On one way all we agree that moving of water is coursed due to Gravity. But at the same time, the most of us are forgetting what is a basic source: Gravitational Energy which can produce kinetic energy on any kind of mass or - water itself. Wrong understanding is even that kinetic energy of moving water masses is coming from water because it is coming from Gravitational Energy and water is only transmissions source. All understandings except that - are wrong.

Why? Total energy of a stream we can check measuring movement of water through the vertical section-cut of the riverbed. So, if the cross-section and water speed are smaller, according to both reasons the total energy of the stream will be smaller.

Measuring the flow value of total energy of a smaller river stream ca. 10 m before large mill wheel placed in the stream and ca. 10 m after mill wheel will give us very unusual but serious absurd: Although the mill wheel is propelling electric alternator that produces 10 kW of energy or more, the water flow value measured before the mill wheel is completely the same as measured after the mill wheel! This means that the kinetic energy of water masses before and after mill wheel remains exactly the same.

According to the laws of energy conservation, Energy can not be spent or nullified. It also can not be obtained from 'nothing'. So, Energy can only be transformed from one form to another - completely or partly.

So what we got: If the energy of water flow before and after the mill wheel is exactly the same, where the mill wheel is obtaining the energy for its rotation? If obtaining Energy from kinetic energy of water masses then velocity of water in the stream must be reduced, but exact measurements are confirming that this is not a case!

Opinion of even top experts on hydrodynamics saying that there is such small power consumption by the mill wheel that is not measurable, but they are wrong. Why? For

example, in the above-described small stream with some meters of distance between each other, we can put 10, 20 or even 100 mill wheels. If every one of them is propelling 10 kW strong generator we can obtain even higher total energy than exceeding the total energy of the stream. Even in that case, some meters behind the last mill wheel in the stream we measure the same quantity or flow, the same amount and velocity of water (i.e. the same energy of water) as we find it before the arrival of the water to first mill wheel. We can find described evidences in the concrete made channels for melioration, where are placed hundreds of smaller mill wheels with diameters and width of about 2 m and gaining total production of relatively high levels of electricity.

Speed of the water and its flow rate remains exactly the same before the first and after the last mill wheel! One Italian producer from Ravenna raises its mill wheels at a distance of ca. ten meters (see Figure 1) and in some cases of just 2 or 3 meters of distance from each other (see Figure 2). Despite all “classic” explanations, power received from each of them is exactly the same and water flow after the installations remains the same as arrival on the first mill wheel!



Fig.1-water wheels during maintenance



Fig. 2-water wheels in service

When I decided to transfer this title to the public, I was really disappointed when I realized that I would be forced to attach pictures and examples instead of only clear and clean mind. But, It is a case that – even for educated "experts" - only clear thought, calculations, or even physical interpretation - usually are not enough.

It is clear that between velocity of the stream and quantity of water on one side and mill wheel on another side, there are some reliable physical connections. It is also clear that, if energy of the water mass remains the same, mill wheel is actually getting Energy for its rotation – somewhere else.

Very similar to the encountered paradox we get even at big power plants (with lakes and dams), where under the assumption that the dam is not causing a water loss due to groundwater flow, measuring the river stream before entering the lake and after a lake and dam, we are measuring exactly the same energies of the river stream itself.

So, from which Energy power plant is producing so big electric power if kinetic energy of river stream remains the same?

The described paradox I discovered at the early beginning of designing SP devices. Hydrology and other water experts, and a plenty of literature offered me a lot of answers regarding possible calculations of various parameters and calculations of particular turbines. Indeed, understanding the paradox described above remains unexplained. Here and for the first time I met explanation that because of high water fall inside of dam and the fact that Energy can be potentially increased with much higher water speed (what is typical ability of Gravity field), I recognized that also all hydro power plants are using a water flow just as some kind of "compulsory source" or "source for transmission" because all Energy they are consuming from Gravity field and forces which are forming a fundamental background of our existence.

But for more than two millennium years known mill wheel, where the speed and energy of water remains the same, is nothing clear or we must accept the fact that the Law of conservation of energy - simply said – here is not valid!

However, let us stay on validity of Law of Energy conservation. To understand the paradoxes described above without resources, testing facilities and due to total ignorance from professionals being active with Physics, Hydrology or engineering, I was forced to find out the most important answers by my own. Fortunately, I meet the answers only through close observation and analysis of seen effects. I recognized a known fact that liquid water on arrival at the obstacle placed in the stream - rises in the upward direction. OK, it is logical because water is relatively non-squeezable media and is retreating in the direction of squeezable air, above water top level.

Very similar to described effect I have noticed in the moment of arrival of running water on mill wheel paddle - in the moment when paddle started to sink in to the water. This effect - very similar to described before is perfectly logical and not very interesting. But at the initial observation, I recognized something much more interesting and much more important: Local rise of water level when reaching obstacle was after them immediately turned back on the previous level. But reaching a paddle of mill wheel, water level remains to be higher for much longer time, actually for all the time when paddle was shifted beyond the vertical shadow of the entire mill wheel cycle! So, under the vertical shadow of complete mill wheel some kind of "dome" was formed on the top of the water and if there was place enough on the sides of the wheel, "dome" was lower but inside of very narrow canal it was even visually recognizable! So, I find out the fact that lifting of the water (to up) was not caused only from mill wheel paddle when started to sink in to the water but also for all the time until each paddle was under the water level ! Consequently, all that means that paddles of a mill wheel are temporary changing the gravitational trajectory of the part of the water masses lifting it (against Gravity) in to the vertical direction. Exactly this Energy which was needed for temporary lifting of water masses to up is the Energy which is propelling mill wheel inside of the water stream.

Soon after exiting the "vertical shadow" of the mill wheel, by act of Gravity, the water level suddenly dropped to the previous level and speed and energy of the total water stream remains the same - as they were before touching a first paddle (flap) of mill

wheel. So, where the mill wheel, draws energy for its rotation? Actually by the Energy of Gravity field of our Planet. How? Simply speaking, disturbing inertial (nearly horizontal) trajectory of water masses but not with trying to stop it but to redirect a part of water to move vertically - directly against main Gravity effect - weight. Energy spent for lifting water masses to up is equal to propelling Energy which the mill wheel is receiving for its rotation.

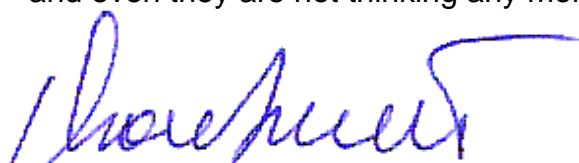
Described also means that the classic and for centuries known calculation (via kinetic energy of water) for the mill wheels is not correct at all, nor gives the correct result - unless you continue to defend the bizarre claim that according to completely unclear reasons, the mill wheel has only 12% of efficiency!

Everything described above was in my mind when designing the SP devices. But, it was too early for all explanations and I introduced SP units based on only classic calculations and explanations which can be found on my website <http://www.izumi.si> . In the meantime, regarding a knowledge of the actual causes of the described phenomena, I designed many other forms and structures which can increase efficiency even by mill wheels but specially by new designs of apparatus that will allow conversion of much greater GRAVITATIONAL ENERGY to electricity - of course **with the help of water stream** – and not by exploring or extracting energy **from water stream**

Described phenomenon as well as at least a few other and similar occurrences, we deal in hydro dynamics enables us to several other, very important insights. These findings are very important as they confirmed my assumptions that even in very slow moving rivers we can install adequate systems to generate huge and for many hundreds times larger amounts of electric power, which will definitely continue to be the basic form of Energy for the public and general use.

Why is recognition of realistic facts about Nature so important also in described case? Simply, because without knowing them, one average hydrologist or engineer will never even come to idea that from relatively very small rivers it is possible to “extract” many kW of Power - if complete kinetic energy of water stream is very small. But if we explain to them that water stream is only transmitting source and realistic Energy we are extracting from Gravity, maybe they will be also able to create unbelievable and new abilities.

All this would be possible only under the condition that the educated part of mankind would not blindly accept all classic known theories and explanations – especially if they do not understand them. Therefore, I salute those who were able to read and even to understand this article because with no matter of their formal education, they belong to less than 4% of whole human kind regarding which I believe that all what I am doing has certain sense. Other 96 % believe that they are clever enough, they know enough and since formal education process, they are not reading any more and even they are not thinking any more.....



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