



Transcript of Joe Holden Video From PlanetCPR.org Homepage

What is a “2 stage turbine”?

Uses the water twice to create energy. All other turbines do not do this, they just use it once and it is thrown to waste. There is a tremendous amount of energy in the water that could be absorbed. Therefore, if you can use all the energy you increase the efficiency of the fluid for generating energy. 100 kw would run about 30 homes. Don't need a Dam, dams are millions of dollars going down the river for no use. The turbine can scale up to whatever size required. You can even do 100 mw.

Can you explain what is meant by “Efficiency”?

Looking at efficiency, and how it is determined. To me it is

Efficiency is how much energy you can obtain from the mass that is applied to it. We can get 90%, 95% or better if we do it the same way. When the velocity of the water and its mass spins the turbine at very close to mass and the velocity of the water, they are approaching 100% efficiency. You will never get 100%, there are always losses.

So, where do they measure efficiency? Anytime you put a load on the turbine by the medium that is applied to it you are reducing the revolutions but the same mass applies. A prime example is when 2 vehicles following each other with 1 doing 20 mph and 1 doing 10 mph; one at back runs into the one in the front, there is only a 10 mph impact. The efficiency is only half of what the maximum (20 mph). Anytime you put a load on the turbine, you are reducing the RPM. When rpm is reduced 100% efficiency can not be obtained. This turbine is done completely different. We can give you the exact operating pressure on the turbine that is transmitted into the shaft and give you calculated energy. We only need 3 things: flow of the medium being applied, the pressure to calculate out to its velocity which will tell us exactly the mean effective pressure by the registered revolutions per minute of the shaft. We are 100% proof mathematically right the way down the line to the end product that you can put out from there. There is no ifs, no Buts, no maybes. It's there. When we say it is there, it is positive there. The only thing we have to take into consideration is what is the resistance in the bearings are in the turbine. That is our only losses. All the rest is fully operations with maximum energy. If we are running at 100 psi and our turbine will rotate on 2 psi immediately we are 98% efficient. Immediately.

Do the “economics” factor into “efficiency”?

There is another way of measuring efficiency and that is on the economics. The generator or whatever piece of machinery you want to put up to it. All the other turbines run at a fixed revolution. No other turbine can give you variable flow and variable pressure and can handle AC and DC, 50 cycles or 60 cycles or whatever you want. This one can. This turbine can run off any type of water: from a dam we can stick these turbines at the back or inside another dam that is silted up and extract more energy from it. We can take it from river with flowing water, a water fall, a sewage disposal plant.

Do the various applications play into the economics?

We take the cost of the unit into consideration. If we can make one turbine with multi-applications that will cover virtually every field. No other turbine can do this. Obviously there's the economics, we have one that you can put anywhere for any energy that you want to extract from any liquid or gas medium.

How about operational/manufacturing economics?

With this unit in different applications, just from one unit that can be used in a multitude of applications, this makes it very efficient in cost. If you look at the manufacturing because of its simplicity and mass producing that reduces the cost. It is a sealed unit, all the others are an open unit. This is sealed, the water that goes in has got to come out. What goes in comes out. 100% in, 100% out. There is no losses with splashing and doing everything. When you look at all this and look at the cost and return on investment.....try and beat it.



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Can you elaborate on the different mediums?

The unit can be used on sewer, chemicals, salt water. It can be modified to operate on gas or steam.

Is this a Cross-Flow, Impulse or Reaction turbine?

This unit is 3 systems all in one inside which is a cross flow impulse and reaction. All other turbines are singular, not combined. All have got their advantages and disadvantages. When I put all of these together as a unit, which is a completely different design of conventional turbines, now I have gotten rid of all the disadvantages. All I have left are the advantages bringing it up to maximum efficiency.

Does the Holden turbine produce AC or DC power?

This turbine can be fixed or variable flow. We have a single control valve on the intake on the manifold. We can control that so the turbine can operate at any energy that we wish to extract from the medium being applied. All we need is the pressure gage and the RPM. Now we can tie in and set it to whatever revolution to give us the cycle. If it is on an AC or DC, then we run it through an inverter which will convert it back to AC and put it back in the mains.

Can you explain what's meant by "variable flow"?

Other turbines are not for a variable flow. They are on a fixed power output. 99% or greater are attached to a generator. Those generators are fixed to give different amounts of cycles. 50 cycles, 60 cycles, or what it is on an AC current that can easily be transmitted into the mains. With a variable flow, we can not only have it as a fixed if we want to but now with variable flow we can use a DC generator. From the power from the DC generator, because we got a fluctuation of pressure and volumes of water, we can now transmit into an inverter putting it back into the frequency that is required and back into the main. So now we have variable flow. If we want it fixed on the intakes, the feed to the manifold, there is a pressure gage on the manifold and from the pressure gage we know exactly what pressure is going in there. We can put a flow meter in the intake that tells exactly what the flow rate is that is passing into that turbine. Now we can calculate exactly how much energy is operating in the turbine. Now we can go back now into the generator - how much energy is coming out of the generator immediately. Now we can find out now what the losses are between the 2 systems. We already know what it is on the turbine, but now it is going to prove that if they turn around and say that the generator is at this efficiency and their numbers don't come out right; somebody got a problem to solve.

Does the volume of water need to be consistent?

The variation created by weather patterns, water that is in the dams, they are up and down. They have a limited range they can operate. They have about a 5% range they can operate the conventional turbines in and then they have to shut them down because they will come out of phase driving the generator. The water gets down to low, then they shut it down. We can run through ours, we can do what we like and where applicable we can generate AC power and put it back in and if the water still keeps going down; we can run on DC power - run it through an inverter thus making it much much better to operate from the maximum to minimum amount of water that is available.

Do you really NOT need a dam with this turbine?

All generating hydro electric needs a dam to hold the water. What about if we come along and say we don't need a dam anymore? All we need is a pipe in the water that will give us the flow that is required and run it into our turbine. Why spend billions of dollars making the dam, taking thousands and thousands of acres out of production, disrupting people when there is no need to anymore. It is eliminated using this system. Now we come on to the economics. Put that into your economics systems and have a look see how the bottom line comes out.



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What motivated you to develop this technology?

We can go back to when I was child when I lost my parents. I was orphan at 12 years of age over in England. I learned at a very early age that I had to do something to make it better so those others couldn't have control of me and the people who want their independents. And that's been with me all the time. And today everything I do is for the benefit of the environment and future generations, and that's where it goes because without either of those we have lost our future.

Who can benefit from this unique technology?

Let's see who benefits. Everybody in the world can benefit. It can be installed anywhere provided it's within the weight limits. It can be put in by air transport or a helicopter. It can be put into a place in the mountains, in the jungle, even in the middle of a city. It can be put there. The machine we have now is no bigger than a washing machine. Here we are we can generate that and all that you got is no more size than a dog kennel, who can benefit!!!!!!

Can you give some specifics on the turbine?

The size of this turbine is just like a washing machine that you have in your house. It's no more than that, but it's a damn site quieter, it don't make no noise whatsoever. It will be the generator that makes any noise. There is no vibration with it. Power output – the one we have now it's peak of maximum pressure will produce up to 100 kw and that's for working on a high pressure. The next one down will be from medium to low pressure when you decrease the pressure you got to increase the volume. The greater volume and lower the pressure the machine gets bigger. It takes a certain mass velocity to generate a certain amount of energy, this has to be calculated.

How much power output can be expected?

On the 100 kw unit, which is the smallest one now, you are looking on depending upon 20-30 homes in the USA, keeping them under a given size. In a 3rd world country, could supply 75 to 100 homes that it could supply. There is more than enough there to run any farm that you would want to and if you bring it down to a homestead of about 2000sf home, then you are looking at minimum of 30 homes you could supply. If you got a battery in there, we could charge batteries 24/7 then they have a backup that is charging all the time. When it is not charging it can be pumped back into the grid - with the necessary permits to do this and hook it onto the system. These are all the economics you got to look at.

What do you mean by "pumped back into the grid"?

When the unit is running 24/7, you are not going to run at maximum output in your house. Surplus requirements if you are connected to the grid and have the necessary permits, then it can be pumped back into the grid and maybe the utilities will pay you for your electricity you put into the grid. This is a matter of your local authorities accepting all this.

What sizes of the turbines are available?

There will be a total of 5 different sizes taken from the maximum megawatts that you can put in down to the small one. In those 5 you got to have high pressure and low volume and vice versa. There will 10 models and that will cover anything in the world. Move them in the back of your car, or on a pickup for the small ones. Use them for firefighting, for pressure relief valves, anywhere generates energy and anyway you want too. Helicopter transportable. The largest ones with the high pressure will go up to a max of 30megawatts and will roll on and roll off a flat bed truck.



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How about accessibility to the electronics and parts?

This unit is 100% mechanical. If you want to hook electronics up to it you can do that, but it is 100% mechanical all the way down. You can read the pressure gages, the flow meter and the RPM, and the energy output. That's all you got to do. You don't need a computer screen. All you need is a pencil and paper. Everything will be off the shelf parts. The bearings, the seals; they are all external. There is no internal bearings or seals. There is no chance whatsoever of any pollution going into the medium. It is all external and you can exchange them externally without stripping the unit down and without using a lifting tackle. That's how simple the maintenance is.

Why did you make this turbine "100% mechanical"?

Why I put this all mechanical all the way down the line? I can't control a generator but on the turbine it doesn't matter what takes place. Electrical storms or what have you, this unit will not fail. I can't speak about earthquakes, tornadoes, or stuff like that but the regular run of the mill you will never have to shut it down. You will never have to worry about electrical storms, space craft....its mechanical all you need is pencil and paper and there is your answer.

How difficult is it to operate the Holden turbine?

The way this turbine works you don't need to know anything about it. If you can turn a wrench and grease gun, then that is all you need to know. You will need to know calculation if you want to know what all these outputs are, Otherwise you just don't need them.

Can the Holden Turbines be used in existing dams?

The turbine can be used in existing dams. We can remove the turbine they have in these dams not producing energy because not enough water (silted up). Put one of my units in there and connect it to the water supply, connect the wires to the generator, and you are back in business again.

Can the turbines be used in non-functional dams?

With a dam that is not operational anymore we can mount these at the back of the dam and put a pipe from the turbine over to the water on the other side of the dam (the ones that are in the dam don't have enough water or silt whatever is stopping that) 72 to 48 hours, we are pumping energy back into the grid.

Can these turbines be combined to increase output?

Problem on what is out there today and what we can do... we can daisy chain ours when you have a limited supply of water you can take because an environmental agency says you can only take a certain amount out. We can daisy chain ours, where they would have to run the minimum amount. We can daisy chain ours, we feed on the amount of water they will allow us to take the discharge on the turbine just by gravity. We run to another turbine down and down where we can use that same water. Depending on how many turbines we can put in there, we can increase the output from that amount of water. If that turbine is operating at its maximum (say 100%) and we can put 6 in there; that same amount of energy we are now improving output by 600%.

Are "cavitations" an issue with the Holden turbine?

From this turbine looking at the stages that are in there, it is done through zero cavitations because it is pressurized all the way through. Because it is pressurized all the way through within its box you can not get any cavitations, it is an impossibility. The more pressure you put to it the less chance of cavitations. Nearer you get it to atmospheric pressure, then you stand a chance of cavitations. A minimum of 5 lb of pressure, zero cavitations because it is perfectly balanced. What goes in has got to come out. So it is equal pressure between inlet and discharge of the turbine.



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What is the life span of the Holden turbine?

Longevity of this turbine can be multi years without any problem. The only thing you will have to do is the life expectancy of bearings. These are off the shelf bearings. The bearings are registered in operational hours and the loads that are applied to them. Bearings when maintained properly with lubrication and stuff like so without any problem last for 10 years before they have to be replaced. You can change both bearings and seals out in 4 hours and you are back production again. Do that on any other conventional turbine without major, major problems. The materials we will be using on this turbine should have no problem for 25 or 30 years depending on its application and purity of medium that goes in. Maybe 50 years no problem.

Why should EVERYONE consider a Holden turbine?

It's the only one that is multi stage, variable flow, AC and DC, variable frequency, off the shelf parts, very low maintenance, and can be used in so many different applications. It is no longer stuck where all the others are and people that work on turbines and are educated are programmed to work in a box. This is outside the box. That is what makes it revolutionary. If people didn't work outside the box, we would all be back in the stone-age.

What other Holden technologies are available?

The other technologies that will be available very shortly: wind generation with a new design of windmills. These have been tested in the Virgin Islands, gone thru hurricanes, and never quit operational all the time. There is one and another one coming down the road on the new solar power that can work without any light. You don't need sunlight to work it. There is other stuff as well for the marine industry and aerospace industries that are now coming available. We are starting out.....cause its got to go for the benefit of everybody on the face of the earth first.

How can we get access to the Holden technologies?

All of the Holden technologies is only available through Planet CPR. There are other people who have tried to use my name, but it's a fake. Don't be misled by other names that they say they are associated with my name. It is zero, they can only be done through here.

What is the state of your own personal health?

My health is in excellent condition but if I had stayed in that other state I was at before, none of this could have taken place because I would have been dead. And I thank where I am today. You made me healthy. Rumors going around that I am extinct, I have had a heart attack and I shouldn't be here. I don't know what they are scared of, I am here and I am healthy. I am going to be around for the next 20 plus years. I've got too much to offer the world. If I can make it better for everybody else, come and get in touch with us right here and make it better for you in more ways than just engineering and science.