

Conveyer foil foils.
by Ken Upton

4p cyberlifeboat

Most people do not understand basic advantage you get from a foil or, as it's better known, a wing. When energy in water or air flows over the two surfaces, the molecules are separated from their neighbours, and you get a reaction and a effect. Which can be used either way, if you know how.

Take for example: -A wing of a jet plane, which most people have seen while sitting in the plane. One side of the wing is curved (top) and the other is straight. The front (leading edge) is a wedge-like shape; this divides the flow over the wing section. Made by the forward movement of the plane through the air.

The molecules on the bottom have less distance to flow along the straight surface on the bottom of the wing and get to the back first. While going over the top is the long way. In the energy stream created by the forward movement in the air. This makes a gap between the two flows, which is called a vortex. Which you have also seen as a whirl- wind or the water going out of the drain plughole of your bathtub etc. This is a build up of energy created by different distances, pressures, etc. This hole then sucks the wing in.

So what does all this do? The action of the dynamic lift then moves the wing up into the low pressure side of the vortex, and this is what makes the plane fly. Force to move it forward through the air comes from the engine and a dynamic lift from the wing section shape. Together you get the result of flight.

On boats, like hydrofoils the effect is basically the same. But like most energy it can work either way. Put energy in and get lift or take out passing energy from a stream by using dynamic lift in the foil shape. This gives you energy that you can use elsewhere. Just the same as the oil energy you use in your boat, it came from elsewhere. Vice versa.

Now as you know, windmills have been around for thousands of years, but if you consider that water has density of about eight hundred times more than air. You are using the dynamic effect in a passive mode. This is similar to the lift balance factor of a sail and a keel. Which is about 35/1. There are other considerations like friction, design, temperature, but they are for the engineers to find the best design for where you are going to site your green power machine.

If you look at the dynamics (drawing) you will see that a wind turbine is always working along the wrong path. If you give a large angle of attack which you want for power, the foils (blades) bend with the bigger drag factor and hit the tower. Bonk!!! No wind mill. But if you have a foil moving along the correct path using the dynamic lift and drag together, you then can take the maximum renewable amount of energy out.

Think about this. When you get your bags of the airport luggage roundabout, that is a conveyer. So if all the suitcases, where the same size stood at regular intervals you would get a dynamic fan. Driven by a electric motor making it go around and around.

Now if you suspend the conveyer on a raft, over the water with the foils in the water and all the machinery out of it. So your pumps, generators etc do not have to work under water and make parasitic drag from their mass and pull your anchor out. The hydrofoils will collect the

passing energy as they move from the bow to the aft part of the conveyer track. Or around and around.

That's OK, but if the foils had to go back up to the bow in the water, you would lose all the energy that you have collected pushing them back up. And a bit more, from the drag from the mass of the foils. It would not work.

However, there is an easy way to make it work. That is to take advantage of the difference of the densities of air and water. The conveyer is above the floatation line, with only the foils in the water. Then as it turns, it lifts the foils out of the water stream of free energy. As they go back up to the bow in the air. Then you have the effect of going around and around to drive your generator. Which is an electric motor being driven. Vice versa.

The wind resistance, that may affect the foils. Can easily be overcome by turning the track 90 degrees so the foils are horizontal. Then putting a composite cover over them.

If you wish, you then have a good working surface for something else, or make it into a wildlife island. This way you would never have eyesores, like inefficient wind turbines that kill eagles etc in use today.

The load factor (power :- you want to take out) controls the speed of the conveyer which would be slow and most likely Dolphins would play games between the foils on the craft.

By using two opposing tracks in vee, at the correct power path angle. The craft then will find its own balance. Using the right foil section the dynamic advantage is several times more (up to 4.6 approx.)

As like many things, even us. We will look for the easy way out. If you only had one track the drag would take over and the track would line up with the flow, the foils going down it, with no dynamic lift effect. Like a sailboat going down wind or a water wheel.

On smaller 4p foil conveyers, they can be hung on an arm over your flowing stream and the path angle made by a tension device.

The other advantages are, in all flowing streams there is weed and rubbish that tangles up and stops underwater rotating turbines. Conveyer is self-cleaning as the foil comes out the stream.

Weight on water is of no importance, so the craft can be made to mega sizes. a Moored and used in large rivers and tidal waters. Can be moved to anywhere you need RE or for servicing.

Maths.. Rivers are 24hrs.. Wind at its best is 30% and both are not constant.

Therefore dynamic advantage $35/1 = 35 \times 3.33 = 116.5$ approx. Tidal is about 60 % .

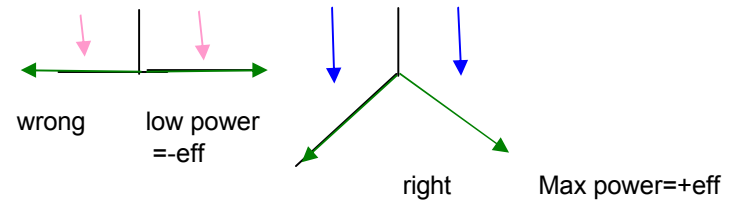
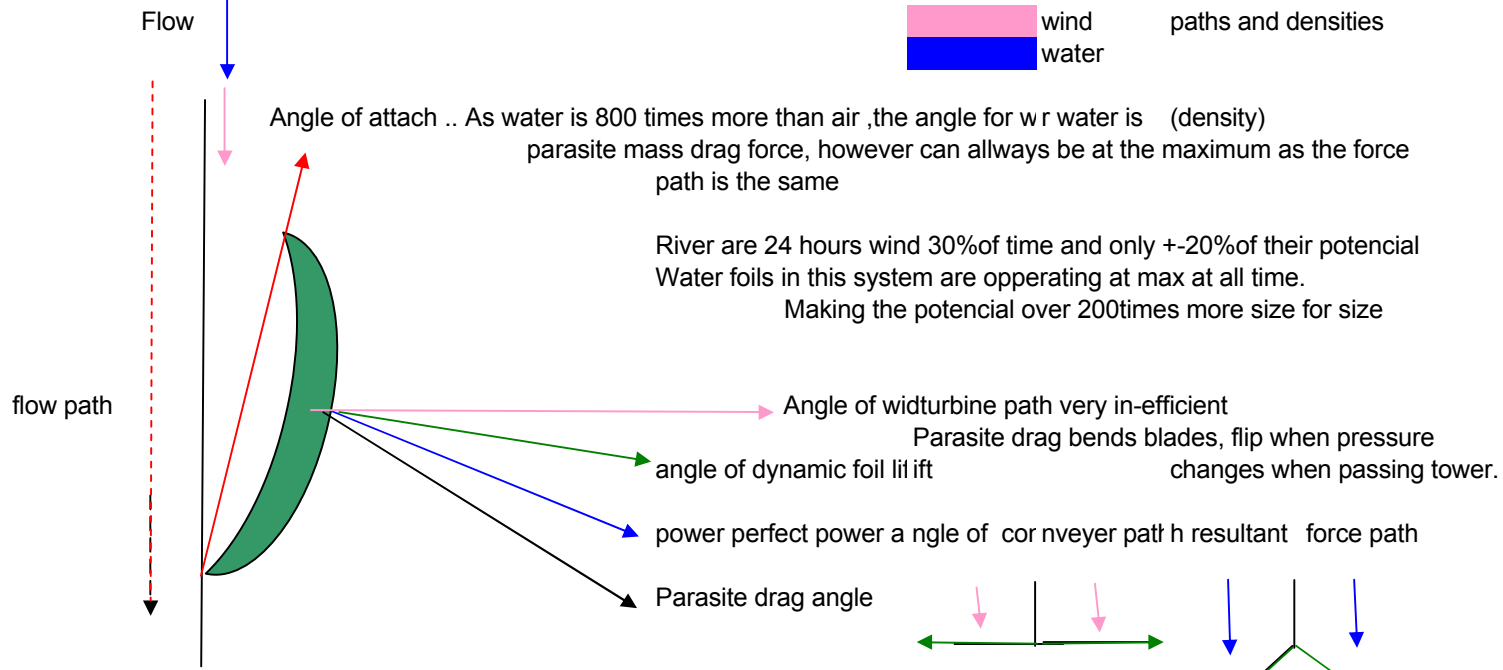
There is a small loss from greater machine friction, but as the conveyer will operate at the maximum lift and drag angles > There could be energy advantage v other turbines of over 100 times for the same inversion. Plus many other advantages. Which good computer studies will tell.

All the technology is well known and proven, this is just a new way to put it together. That will give the cheapest kWh in the market today.

We are a small charity and looking for partners for the final R&D to exploit this new system to collect green energy.

Note to critics, This article in general terms for Joe Public, to understand there are some finer points missed. Russian Hydrofoil experts said in our calculations are very low.

Basic dynamic forces of WT and Conveyer energy collection paths



Note>> putting weight on top of a pole is not good engineering

"wind turbine"

weight on water is of no inportance,so mega size conveyer craft can be made

→ drag on all foils +- angle of attack_

→ dynamic lift on all foils . 90o to curve

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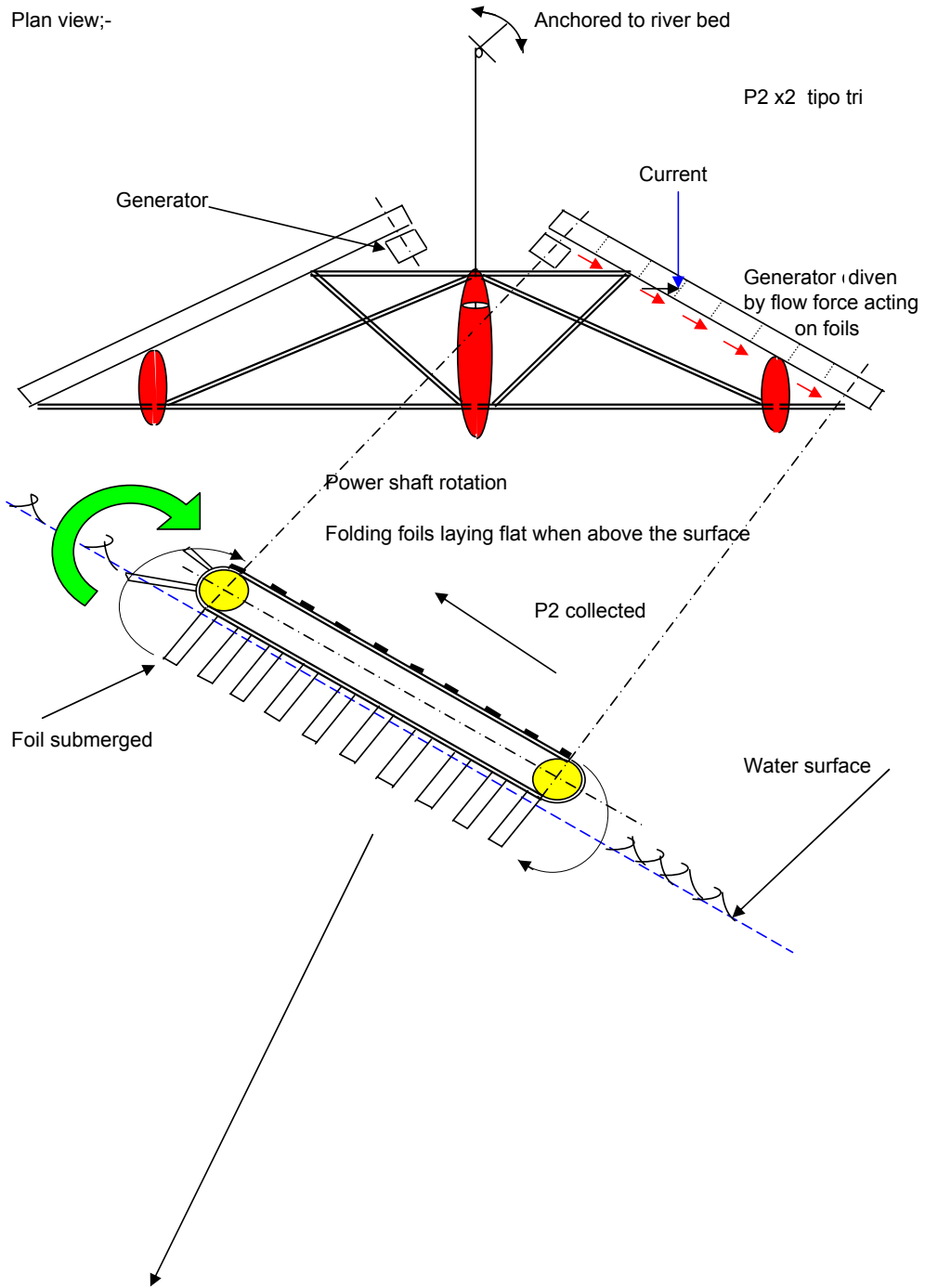
DOUBLE TRACK TIDE GENERATOR

Sht.1

Warning these designs and rights belong to 4p .Work with us.

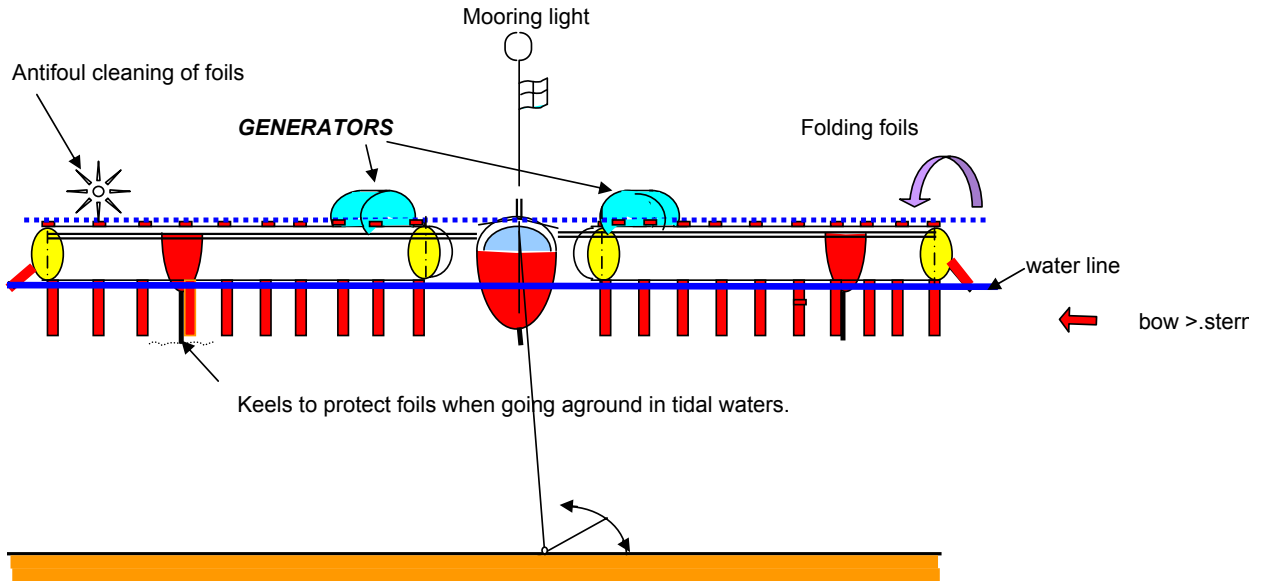
We think robbing of childrens rights is very negative and do want to give any -----
but you can have what ever you want +or_

Plan view;-



DOUBLE TRACK TIDE GENERATOR

Sht.2



patent pending 4p



ECOWING MK 2