

Renewable energy can now be collected in a new and efficient way from the flowing forces in tidal and river currents

This new concept by the British inventor Ken Upton could help solve many of our world energy needs when developed.

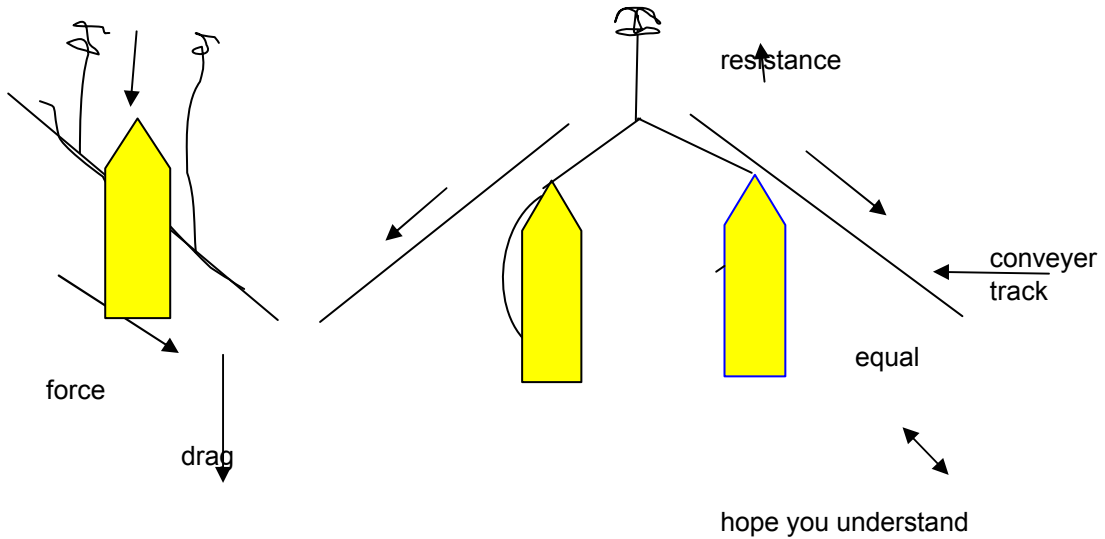
Foil power craft / systems are basically a conveyer belt fitted with hydrofoils at regular intervals along its length at right angles. The main frame, track and power take off are attached to floats above the surface of the water like a roadway on a pontoon bridge. The unit is anchored like a boat, in a good flowing stream (out of the way of shipping) in a estuary or river, or it can be suspended on a crane arm from the river bank, etc.

When water flows over the foils, the dynamic shape of the foils moves the continuous line of foils down and across the flow in a diagonal direction collecting this never ending source of clean green energy. At the end of the bottom side of the conveyer track, the foils then turn the corner and twist into the horizontal position to travel back to the bow end. The horizontal position keeps the wind drag factor to the minimum. As the foils come out of the flow they are cleaned by the flow itself (debris, seaweed, plastic trash, etc., are a major problem of extracting energy from this source and make other underwater turbines inefficient and difficult to clean and service).

When the foils are at the bow end they twist again and enter the flow in the vertical position and start to do useful work. The main advantage of the Upton system is that all the moving parts (generators, pumps, track wheels, cogs, etc.) are out off the water and easy to service. The units can be ganged up and can be used anywhere. There is no need to damage the river (dams), and many units could be used along a river's course, giving a better and more environment friendly way of using the energy potential in the river or tide.

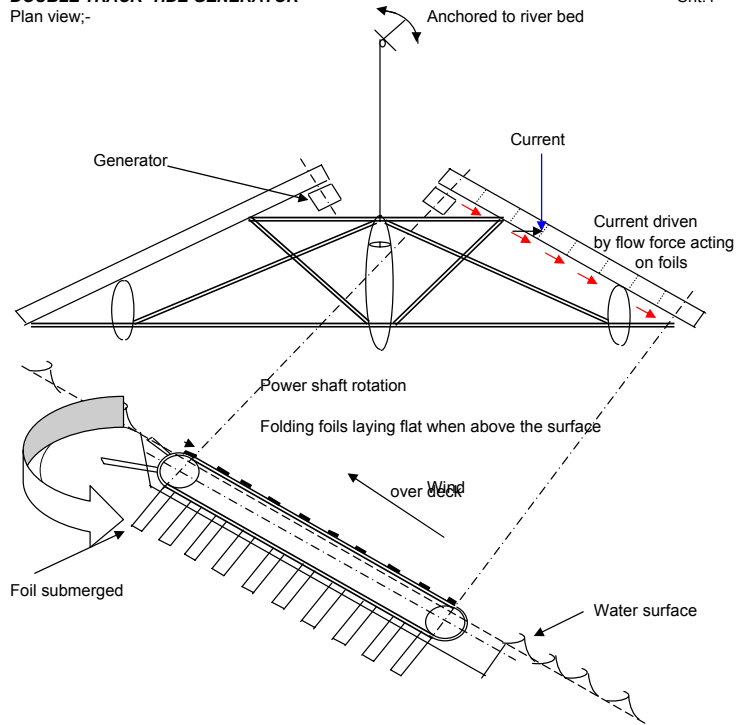
When developed, these systems could produce several megawatts and compared to wind turbines would be more powerful and cost effective.

Energy 21.co.uk is now seeking partnerships with governments, companies, etc. to develop this new patented idea.



DOUBLE TRACK TIDE GENERATOR
Plan view;-

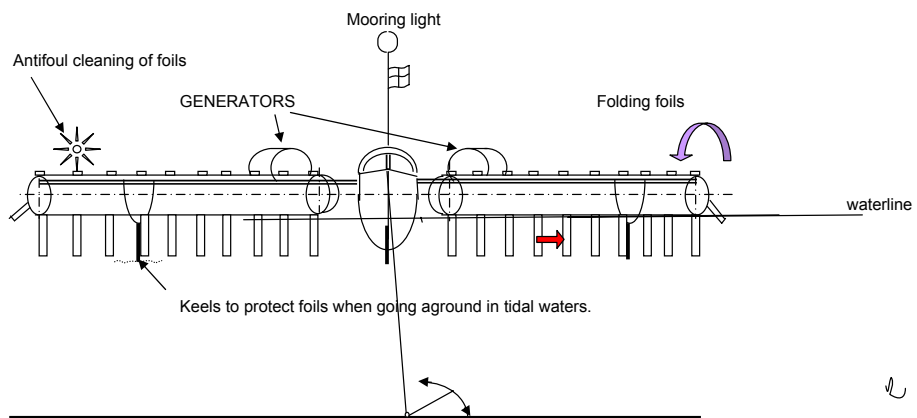
Sht.1



my teacher of excel drawing done this from my freehand ,

DOUBLE TRACK TIDE GENERATOR

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1

Ken

Good Morning!

8:17:14 A.M.

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**Introducing
KENAPE ROTORS**

"Circling kites gather more power"

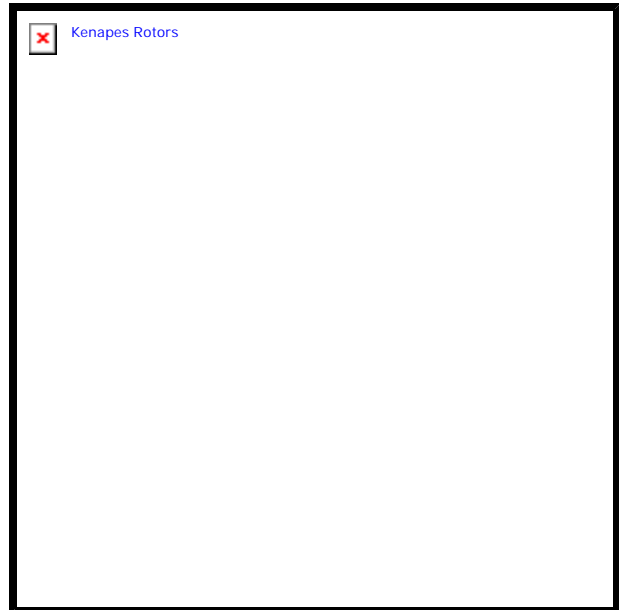
***A novel way of extracting energy from wind
and water saves cost by bending with the flow
instead of trying to stand up to it***

**Kenape rotors are lightly constructed
as compared with conventional windturbines.**

They trail in the wind rather than being forced to face it and are flexible to adapt in the event of high wind. These rotors work in very light and high speed winds. Which means much more effective worktime.



(EV. Kenape Charger Unit)



...and gather several times more energy size for size

Rotors constructed in the form of a series of tethered kites are able to extract energy from wind or water and flow with high efficiency at low cost. Being light

such rotors work in light winds, are highly efficient and are inherently flexible enough to bend to conform to stresses exerted by more severe conditions. The assemblages have been given the name "Kenape" rotors by the Inventor Ken Upton, stemming from his active membership of the Amateur Yacht Research Society. He describes the rotors as being based on flexible spoke wheels without rims.

Over the spokes is a cobweb-like net to which the kites are fixed.

The kite tethers allow just enough movement to allow the kites to find correct flight angles.

The rotors are supported on inclined tripod bases which allow the rotors to weathercock and align themselves with wind and other types of support.

Because the rotors trail in the wind, rather than being forced to face it, construction can be exceptionally light and simple. The driven areas are at maximum distance from the rotor hub, making best use of surface area. Because they conform to airflow, the kites also cause less turbulence than conventional wind turbines, working more efficiently and producing less noise. In the event of higher wind speeds, the rotors are to a large extent self regulating.

A series of prototypes have demonstrated the effectiveness of the principle of the idea over three years and the ability of the rotors to survive all weathers.

Send a donation for our R&D stating what email publication you want (i.e. Inventors Note Book no.1: KENAPES) and we will send it by email to you. - If you are in the 2nd or 3rd world it will be the minimum of 10, which = Postage,Printing,Paper,Package - 4P -

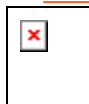
**For more Information you need the Inventors Notebook on KENAPES
KITE ENERGY ROTOR SYSTEMS**

**You can download it here. But please dont forget
to send a donation to 4P - Educational Technology Foundation:**

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(Charity Reg. Number and Patents pending)

contact with: KEN W. Upton



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