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Water way to power communities



Anmar Frangoul | Special to CNBC.com
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Until we lose it, many of us take electricity for granted: for the past 100 years, the developed world has grown to expect a constant supply of power at the flick of a switch.

However, for many people across the globe, gaining access to a reliable supply of electricity is extremely difficult, if not impossible. While diesel generators can offer a solution, they are rarely completely reliable and, with their emissions, have an impact on the environment.

According to the International Energy Agency (IEA), "Access to electricity is particularly crucial to human development as electricity is, in practice, indispensable for certain basic activities." This is a major issue: the IEA's World Energy Outlook 2014 has reported that globally, around 1.3 billion people have no access to electricity.

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Germany based Mobile Hydro is an initiative attempting to empower the world's off-grid communities that have little or no access to reliable supplies of electricity.

Their big idea? A small, low cost, 'kinetic hydro power plant', called 'Rotor', that can be placed in rivers and generate clean, renewable electricity.

Installation artist Markus Heinsdorff came up with the initial design and concept for the Rotor. Mobile Hydro's first prototype was developed in collaboration with Technische Universität München.

"The technology is really simple," Mobile Hydro's Andreas Zeiselmaier told CNBC.com in a phone interview.

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Mobile Hydro

"The whole idea behind it is that you have a 'floaters' on top of the water surface. You can put the whole system into a river or any flowing waters," he added. The device is usually 'fixed' near a river's embankment with ropes, according to Zeiselmaier.

"You have a turbine below the floater which turns with the flow of the river. So, we are using the flow of the river to make the turbine turn and finally to run the generator, which produces power out of the flow," Zeiselmaier said.

According to Zeiselmaier, depending on the flow velocity of the water, the capacity of Rotor is roughly 300 watts.

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Mobile Hydro won a Siemens Empowering People Award in 2013. The team is currently preparing three pilot installations in Colombia, Bangladesh and Tanzania, where Christoph Helf, who focuses on strategic development and implementation for Mobile Hydro, is currently based.

Helf told CNBC.com that the initiative's aim is simply, "To empower as many people as possible," a sentiment shared by Zeiselmaier.

"Our goal is to provide the cheapest available source of energy for these regions, these off grid regions," Zeiselmaier said.

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