This Device Uses the Power of Waves to Make Ocean Water Drinkable

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Off the coast of North Carolina, two friends are developing a new way to desalinate water–a notoriously high-energy, high-cost process. Their solution: use the power of the ocean itself to clean the water of its impurities.

Justin Sonnett and Chris Matthews first came up with the SAROS desalination buoy while at the University of North Carolina at Charlotte. They've since set up a company and worked on their floating prototype for more than two years. Now, they're looking for support on Indiegogo.

"By replacing the need for electricity with wave energy, not only do we make water much cheaper, desalination also becomes affordable to communities that couldn't access it before," says Sonnett.

Click here to watch "SAROS - Turning Waves into Fresh Water":
https://youtu.be/0hI9YGvHBcw

The buoy contains an onboard pump that takes in water and sends it on-land, where it's pressurized and pushed through a reverse osmosis process–a fine permeable membrane that takes out viruses, bacteria, salt, and sand. The pump is fully ocean-powered and requires no additional electricity, the founders say.

Sonnett and Matthews are on their second version of the prototype and hope to use funds from the campaign to set up a full pilot near their home in Wilmington, North Carolina. The round buoy will send water to a shed that stands atop the local pier.

The SAROS is designed for off-grid places that either lack drinking water or rely on imported fuel to keep desalination going (or both). That includes Caribbean islands that ship in oil to run desalination plants.

“The places that have to desalinate water also tend to have very expensive power, and because it requires a lot of energy, it also makes desalination very expensive,” Sonnett says. “By coupling the buoy with this renewable, constant source of energy from waves, we can completely cut out the need to pay the power bill associated with desalination.”