

Portable Hydroelectric Generator Lets You Take Your Power Station with You

Source: treehugger.com

Published: August 29, 2016



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Just add moving water for clean, quiet, offgrid energy.

For outdoor adventure folks, having a portable power source that can be recharged with [solar](#) or [wind energy](#) can make a big difference in our outings, as many of us like to bring a camera, GPS, lights, and maybe even a music player with us, but we don't want to run out of juice along the way. And now there's another option for powering gear while out in the backcountry, but this time the energy source is running water, so if you spend time on rivers or streams, then the Estream might be the gizmo you've been waiting for.

Currently (pun intended) in the middle of a successful Kickstarter campaign, the Estream, from the South Korean startup Enomad, is a small lightweight hydropower generator with an integrated battery, which is intended to be deployed in running water, where it can produce up to 5W of clean energy, even "in a weak current or behind your kayak." The team, which is now based in L.A., is already knee-deep into small-scale hydropower, as its first project was to [install mobile charging stations along a popular downtown stream in Seoul](#), powered by three mini hydroelectric turbines in the flow of the Cheonggyecheon.

The portable generator measures 9.7" long by 2.5" in diameter, and weighs in at 1.8 lb. The turbine blades, which are folded up for transport and storage, fold out to 8.5" in diameter to spin with the current, generating enough energy to charge the built-in 6400 mAh Lithium-ion battery in about 4.5 hours. Once fully charged, the device can be used to charge mobile gadgets via a standard USB port, or can be used as a lantern, thanks to its LED bulb with four lighting modes. The modular design allows the Estream's battery pack to be detached from the turbine and generator, in order to carry just the battery as a backup power source instead of the entire device.

Backers of the campaign at the \$180 level will receive one of the first Estream units when they ship (in January of 2017), which are said to eventually have a retail cost of about \$250. Along with the basic unit, backers will also receive a "duct" attachment that protects the turbine blades from rocks or floating debris, as well as a cable and peg for securing the Estream in the river while charging. Find out more at [Kickstarter](#) or the [company website](#).
