

# NY startup aims to take on Tesla's Powerwall

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Italian entrepreneurs who migrated to Stony Brook University's energy incubator to form an innovative-battery startup are planning to take on the Powerwall of Elon Musk's Tesla Inc.

Their Stony Brook company, StorEn Technologies, is adapting vanadium-flow batteries—typically the size of shipping containers and found in utility or industrial settings—for light commercial or household use.

StorEn's battery units, about the size of a large, cylindrical vending machine, could be used as a backup in case of a power outage.

Chief executive Carlo Brovero said the entrepreneurs joined the Clean Energy Business Incubator Program at Stony Brook in 2016 after considering Northeast incubators from Boston to New York City. They founded StorEn the following year.

"It's very much focused on energy and energy storage," he said of the university's incubator program and Advanced Energy Research &

Technology Center.

The New York State Pollution Prevention Institute at the Rochester Institute of Technology and other partners are testing a StorEn prototype battery at the energy center to "validate" the technology, said David C. Hamilton, executive director of SBU's program and director of operations at the center.

The testing program is expected to help StorEn raise funds for additional development and marketing.

StorEn has raised \$659,824 through a now-closed crowdfunding effort on startengine.com, and Brovero said the company is in talks with additional unnamed investors, including some on Long Island.

Unlike Tesla's Powerwall, which uses solid-state lithium-ion batteries and is aimed at the home market, StorEn's batteries use liquid electrolytes that contain the metal vanadium in a solution.

StorEn's batteries "can easily last 25 years with no decay in capacity," while lithium-ion batteries decay at a much faster rate, Brovero said.

Tesla's warranty on the direct-current Powerwall 2 says it will retain 70 percent of its storage capacity 10 years after the initial installation.

The Powerwall 2, priced at \$6,700 per unit, can provide electricity at a lower cost per kilowatt, based on the expected price of a StorEn battery, Brovero acknowledged.

But StorEn's battery has a [longer life](#) and can run through many more cycles—when a battery is fully charged and discharged—without decaying, he said, meaning that the lifetime cost is lower. StorEn's pricing for home units has not been finalized, he said.

Like the Powerwall, StorEn's batteries can be

connected to solar panels as a backup power system.

Tesla officials did not immediately respond to a request for comment.

StorEn already has orders for three batteries, including one destined for installation at the Queensland University of Technology in Brisbane, Australia.

That order is scheduled to be shipped at the end of April.

Spearheading the company's research and development is chief technical officer Angelo D'Anzi, who sold a previous vanadium-flow battery company, Proxima, to a European utility company in 2015.

Two more of the five Italian founders continue to work at the company: Maurizio Tappi and Gianluca Piraccini, both senior engineers.

All of the founders are from Bologna except Brovero, who is from Turin.

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