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Why Electricity May be the Biggest Opportunity on the

Inc. Magazine – Interview with Imergy CEO, Bill Watkins

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This Silicon Valley CEO says within 10 years anybody who wants to generate their own electricity off-the-grid will be able to do it for the cost of installing a swimming pool in California.



Apple's new spaceship-shaped headquarters--set to be completed in 2016--will be remarkable in a number of ways, not the least of which is that it will generate its own electricity completely [off the grid](#). In fact, if you look at the top 50 companies in the U.S., most of them are already doing it. That's according to Silicon Valley veteran Bill Watkins who was recruited out of retirement to take the helm of [Imergy Power Systems](#), a Fremont, California, company working on a unique kind of battery [technology](#) that he says is going to save the world. And not only is the utility [business model](#) going away, he says the electricity market will garner \$10 trillion in investments over the next 15 years, a prediction he believes is the opportunity of the century.

The Technology

The question of how to cost-effectively store [renewable energy](#) when the sun isn't shining or the wind isn't blowing is a long-standing one. Imergy Power Systems makes a flow battery with recycled vanadium from mining slag, oil field sludge, ash produced during the combustion of coal and other kinds of environmental waste, as opposed to using virgin vanadium, which is 40 percent more expensive. As a result, within a decade a person will be able to construct a micro-grid--with any combination of solar, wind, diesel or connection to the grid so as to buy electricity when prices are low--with a refrigerator-sized Imergy battery at the center of it all. And such a system will run less than about \$50,000, the price of a swimming pool in California.

"So the key is, with the advent of low-cost storage, it's the final leg in the stool that allows you as a person to be independent of the grid, or in cooperation with the grid," Watkins says. "But you now have a device that allows you to [store] excess energy and to deploy it when you need it. And my fundamental belief is that when that is economical for everybody, it changes the dynamics of the world."

The Demise of the Energy Utility Model

Similar to how places like India and Africa bypassed land line telecommunications and jumped directly to cellular, Watkins says they will do the same with electricity and adopt micro-grid technology much faster than the U.S. where the grid is highly reliable. Dependable it may be, but the highly regulated energy utility model is also a restrictive one that lets people install solar panels or wind turbines, merely buying the energy from them only to sell it back at a higher price.

Watkins likens his predicted demise of the utility model to what happened to the U.S. Postal Service: Commercial customers began dropping it first, moving instead to the FedExs and UPSs of the world because they could do delivery faster and cheaper than the government. It's the same with energy, he says. Enterprises are dropping the grid and once it's cheap enough for regular people to do it, they will too.

The Opportunity

Watkins says once energy is decentralized all sorts of peripheral kinds of businesses will be needed to maintain micro-grids, similar to how the cellular space flourished once AT&T was broken up. "Look at all of the innovation, all of the [new businesses](#) that evolved around the fact that you broke up the phone service," he says. "You would have never created the smartphones and all that under the old AT&T model. The same thing can happen in energy. Once we start breaking it up--the hold that the utilities have--[and] let us all to have access to that last mile to the home, all of a sudden you're going to create a lot of [innovation](#)."