

Energizing the Power Industry

POWER INNOVATIONS' POWERWELL

By John Blodgett

POWER INNOVATIONS of Lindon has lofty expectations for its still-in-development PowerWell power generation technology.

"I think it's going to revolutionize the power industry," says Karen Gudmundson, the company's vice president of business development.

The company isn't saying too much about the technology behind the PowerWell, because of the ongoing patent process. What it will say is the product uses "recent breakthroughs" in thermoelectric generators to provide green, renewable, reliable power, either in conjunction with or independent of existing power utilities. Power will be generated by means of "temperature differentials" that take place within these generators.

If a PowerWell system is connected to the existing power grid, unused power can be sold back to the managing utility. If not connected, the unused power can be stored for future use. The key here is that the system can operate off the grid, allowing for power generation in remote locations far from the nearest utility—power that is generated by an individual, independent of a high-priced utility.

Right now, the company is focused on power management through three product lines differentiated by the size and environmental needs of the power systems they serve. System management and control is provided by a dedicated Web server and proprietary software that can run on a variety of systems, including NetWare, Linux and Windows.

Power Innovations lists Disney, Altiris, Flight Safety, Baker Hughes and Hill-Rom among its current customers. The company provided power and backup during the 2002 Winter Olympic Games in Salt Lake City, and Torino and Beijing have reportedly expressed interest in the same services when they host the Olympics in 2006 and 2008, respectively.

At the core of Power Innovations' product line is its patented Uninterruptable Power Quality™ (UPQ) technology, which ensures what the company calls "clean, consistent power."

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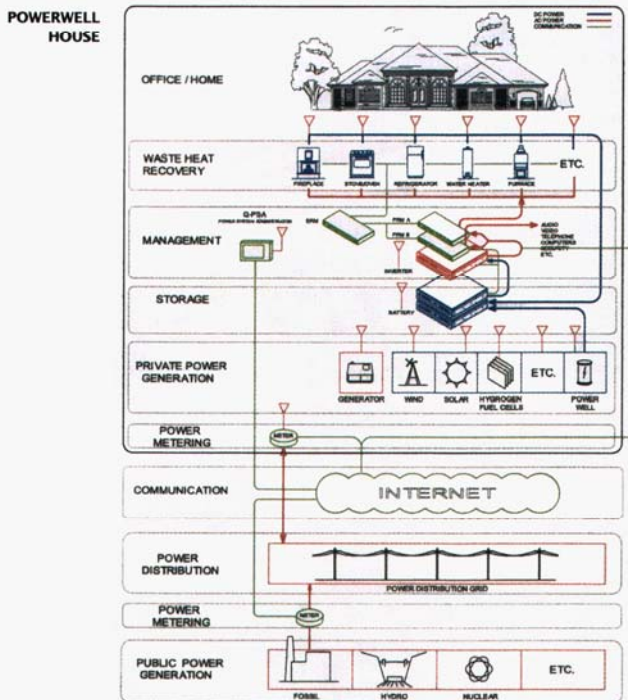
Gudmundson says we have "terrible" power coming into our homes right now, but just what is meant by "power quality"?

"We put out perfect sine waves regardless of the quality of the input or the force of the input," she explains, an important consideration given today's sensitive electronic equipment. "If you have a computer, and it's shutting down or getting blipped or losing data, those are power-related problems," she says.

Gudmundson says the PowerWell has been a long time coming.

"The present product line was developed in anticipation of the PowerWell," she explains, meaning that all products will be able to seamlessly integrate in a power generation and management system.

"Our timeframe depends on how much funding we get to finish it and get it ready for market," Gudmundson says. "That's the only thing slowing us down right now." Funding is needed primarily to make the technology more efficient, she says, because Power Innovations is working with newer materials and recent advances made in the field of power generation.



"Clean, Consistent Power"

Power Innovations was founded in 1997. Its mission, in part, "is to provide and manage continuous high-quality power in conjunction with or even independent of utility services worldwide," according to the company's Website.

Fueling Innovation

Thus far, Power Innovations has been funded by The Canopy Group, but to get the kind of money they need to introduce the PowerWell, Gudmundson says they need to do more sales. "To get the model ready, we have a goal of \$15 million," she says. "To get production going and get it to market would take more."

Mainly, Power Innovations wants to make sure they get it right. "When we come out with it, we want it to be really super efficient so it will beat everything out there to pieces," Gudmundson says.

The company's primary competition is solar power, with wind not far behind. One obvious and unavoidable limitation of both technologies is that no sun, or no wind, means no power. The advantage of the PowerWell, according to Gudmundson, is that it can produce power whenever there is a temperature difference. "That works all the time," she says.

Power Innovations is gearing the first models to homeowners and small businesses, but Gudmundson acknowledges the company has not yet done much formal marketing or market research aside from talking to a few potential clients. "We're too busy trying to keep sales up on other products," she explains. "We're small. Do we put our efforts in sales or raising more money to do the other thing? But everybody we've talked to is up for it. I had a builder in my home yesterday ask, 'You guys get that PowerWell released yet? I want to start installing it!'"

Early indications are, however, that Europe looks like the most promising place to start. Gudmundson says the company has been to Europe several times to show off one of two working models in existence. "Europe is more energy conscious than the US," she says. "We have two groups in Italy waiting for the business plan, and we have a large entity in Italy interested in funding it."

According to Gudmundson, one European water company has said it would buy 500 units of the PowerWell today if it were on the market—which highlights a difference the company sees between the European and United States markets.

"They're not looking at home use as much as commercial use," Gudmundson says. "Here in the US, we feel it would be easier to introduce in the residential market because people are frustrated with paying high bills and being captive to the utility companies."

Gudmundson says the physical dimensions of the product are less cumbersome than, say, a furnace or air conditioning unit. It comes in sections, with a dedicated computer system to run it and would typically be installed alongside the foundation. She says a typical home installation of the PowerWell is anticipated to run between \$10,000 and \$12,000—far less than a typical solar installation—and it could contribute significantly to the home's value. "If you don't have an electricity bill to pay every month, you're in a pretty good situation," she says.

John Blodgett is a longtime contributor to Utah Business magazine.

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