

# 1500 Walnut building takes on smart-grid technology

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While office landlords seek out ways to save money on energy costs, the owner of 1500 Walnut St. has taken it a step further and has become the first smart grid commercial building in Center City.

While universities and other institutions have begun to implement such a state-of-the-art measure, commercial

property owners have not, mostly because of the expense. However, as older buildings and dated HVAC systems need replacement, more landlords may seek out one of the latest ways to make a building more sustainable and energy efficient beyond having solar panels and lights that automatically turn on and off.

At 1500 Walnut, the landlord installed new chillers, ice tanks and other systems in the basement and put in software that allows the building to adjust

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its energy needs with demand as well as create a new revenue stream beyond tenant rents.

"What the smart grid is is the future," said Kevin Keenan of Tozour Energy Systems Inc., a King of Prussia com-

pany that helped assess and install new equipment in 1500 Walnut. "We're just using more and no one is building more power plants. Buildings, though, are flexible."

The push for greener new and existing buildings continues to grow and since office and industrial properties are large energy consumers, finding new ways to make them sustainable has also increased and smart grid technology is at the forefront.

The market for smart grid products is expected to exceed \$186 billion by 2015, according to a study released last November by SBI Energy, a division of MarketResearch.com. In 2009, the smart grid technology market stood at about \$69 billion, according to the study.

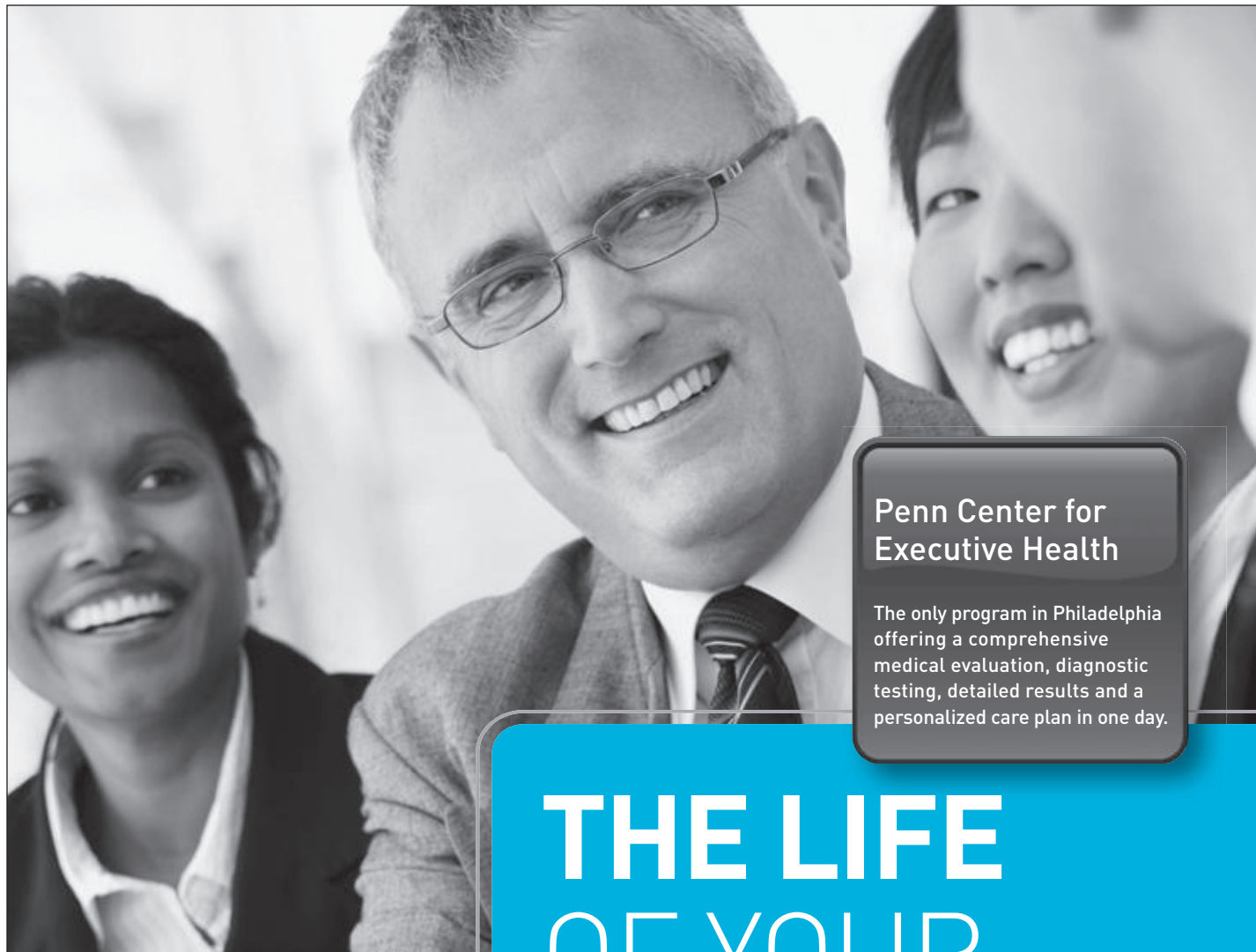
The U.S. government also sponsors smart grid projects and awarded last year to Peco Energy Co. \$200 million to come up with a smarter energy grid. The project will include issuing smart meters to 600,000 customers in southeastern Pennsylvania, upgrade communication infrastructure to support a smart meter network, develop "intelligent" substations, and accelerate deployment of more reliable and secure smart grid technologies that will reduce peak energy load and increase cost savings, according to a statement issued by Smartgrid.gov.

The 22-story, 270,000-square-foot building at 1500 Walnut was constructed in 1926 and its HVAC equipment was upgraded 25 years ago. The landlord, 1500 Walnut Associates LLC, decided it was time to upgrade its system and installed chillers, ice tanks and other equipment and software developed by Viridity Energy of Conshohocken, which also evaluated the building's energy use to devise a program for it. The software monitors the building's energy consumption, adjusts the supply of energy based on demand and when excess energy is available, it's put back on the power grid managed by PJM Interconnection in Lower Providence.

During energy emergencies, such as heat waves and other times when the power grid is stressed, buildings are required to reduce usage and in extreme cases, rolling brownouts are triggered. This set up allows 1500 Walnut to reduce its energy load without cutting off lights, computers and whole floors, which is the traditional way.

The new equipment and software will save 1500 Walnut roughly \$30,000 a year by being more efficient and will generate another \$30,000 as a new revenue stream, said H.G. Chissell, director of market and product development at Viridity.

"We're seeing this as a virtual power plant and that it's more than a building," Chissell said, noting that it can make a building more valuable by creating extra revenue beyond tenant rents. The cost of the equipment and software can be expensive but the payback, with savings and new revenue generated by it, can be achieved within two years, Chissell said.



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