



Michael Glenn-Lewis, director of research and development, adjusts a control data logger at EDC Technologies in Sebastopol.  
CHRISTOPHER CHUNG / The Press Democrat

## Sebastopol's EDC Technologies develops device that helps building owners cut natural gas use, costs

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THE PRESS DEMOCRAT

Take a basic idea: Programming thermostats on commercial hot-water boilers to reduce natural gas use.  
Add new technology: Modems to control individual thermostats remotely and transmit data over telephone lines.

Improve on it: Link the properties into a network and control them through a wireless Internet connection.  
Over two decades, EDC Technologies has developed and enhanced this hot-water controller technology, helping owners of apartments, hotels and other residential complexes save energy costs. Sales have surged the past several years, in part because of soaring gas costs.

"There's a demand for what we're doing. It feels good," said Terry Pfaff, founder and president of the Sebastopol company.

EDC is an old player in this new conservation era as new entrepreneurs seek commercial potential for energy-saving products.

The company's innovative technology and sound business model won it a first place in the inaugural California Clean Tech Open, the nation's largest competition recognizing environmentally sustainable business ventures.

"The market was always there, but the technology needed to catch up. They were in the right place, listened to their

customers, saw the opportunity and made it happen," said Chris Vargas, a top judge in the competition and the owner of a clean-tech venture capital company in Silicon Valley.

EDC has placed its hot-water controller technology in apartments, hotels, dormitories, senior living facilities and other properties across California. Company officials would not give the number, but did note apartment owners are the major customers and the average complex has about 120 units.

The technology is based on the programmable thermostat, which dates back three decades. But this is a very sophisticated one - nothing you can buy at the local home improvement store.

"What makes us different is we monitor it 24/7 on the Internet," said Jim Seidel, EDC vice president of marketing.

The controller ensures boilers heat water based on actual demand. Through the Internet connection, programming of boiler water temperatures can be fine tuned up to each half hour on a weekly cycle.

Remote monitoring is done by EDC employees in the Sacramento area and Southern California.

Property owners can monitor their boilers on the Internet. There are graphs on water temperatures, how hot boilers run, the amount of water sent back to be reheated, natural gas use and gas run times.

The controllers also can reveal system problems, such as power blackouts, pump failures, leaking boilers or broken pipes.

"Our technology tells you have a problem often before the customer recognizes it," Seidel said. "It provides a huge benefit to them because the conservation they contract for is sustained."

No two installations are the same and each runs \$700-\$1,000 per boiler depending on the number and size of each boiler. Utilities will pay rebates to property owners for qualified projects.

Each controller reduces gas use 15-40 percent per boiler, according to the company. For each \$1 spent, customers save \$3-\$5 a month in natural gas costs. The range

depends on boiler system age, condition and other variables, Pfaff said.

Energy cost savings can boost economic growth, as well as create environmental sustainability, Vargas said. "The solution immediately reduces natural gas consumption with little or no noticeable diminish in the quality of life for

the customer. They still have hot water, when and where they need it," he said.

"That has clear environmental and economic benefits. It encourages economic growth by allowing the user to use the capital they save in other areas."

Pfaff would not disclose revenue or other financial information about EDC, but expressed optimism. "Obviously we can do a lot more. We're just going to grow at our own pace and do it right," Pfaff said. EDC has not strayed far from its roots as a "garage operation," Pfaff said. It employs 15 people.

A self-described tinkerer and entrepreneur, Pfaff, then living in San Jose, ran a company that made turbo-charging and fuel-injection systems for cars when he began work on the hot-water controller technology. He learned of the concept through a friend who sold a competitive product used on much larger commercial boilers. Pfaff sought to develop a less expensive design with smaller applications and a quicker payback in cost savings.

"It looked like a good opportunity," he said. "We've never looked back."

Pfaff and a few engineering colleagues developed the first unit in 1985 and incorporated as EDC in 1987. He moved the company to Sebastopol in 1989.

Each controller is assembled in a two-step process. A Rohnert Park contractor does the initial work and Pfaff and several employees complete final assembly inside a 1,500-square-foot shop on his Sebastopol property.

Production is expected to keep pace with sales, which he said have been surging despite little advertising. "I figured there would be a long market for this and saving energy is not a bad thing to do."

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