

Boilers Help Green the Market

By Joanna R. Turpin Of The NEWS Staff

Sustainability. Green. Environmentally sensitive. These are the latest buzz words that are routinely found in just about every industry these days. Indeed, numerous manufacturers selling everything from automobiles to windows to heating and air conditioning equipment are promoting products that feature some sort of environmental benefit or sustainable design.

According to the United Nations World Commission on Environment and Development, sustainable design "meets the needs of the present without compromising the ability of future generations to meet their own needs." These approaches result in an optimal balance of energy, cost, environmental, and societal benefits, while still meeting the mission of the agency and the function of the facility or infrastructure.

That may still seem a little ambiguous, but basically what it means is companies looking to "go green," or incorporate sustainable design into their facilities, want products that help them lower energy costs, reduce operating and maintenance costs, increase productivity, and decrease the amount of pollution that is generated.

The heating and air conditioning systems in a building can affect each and every one of those areas, which is why they're usually considered first when building owners and

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TOP: End users in commercial applications are interested in high-efficiency heating products, such as the Benchmark boilers shown here, primarily due to the rising cost of energy. **ABOVE:** The Super Boiler has been installed at several beta sites around the country, including Specification Rubber. Shown here with the Super Boiler are Bob Spiegel, research and development technician – Cleaver-Brooks, Tony Fischer, plant operations – Specification Rubber, and Tom Nyman, application and special engineering – Cleaver-Brooks. See sidebar story.

BOILER TRENDS

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managers look into making their facilities greener. Boilers, in particular, can help facility managers achieve their green goals, especially given that the newer equipment features lower emissions and increased efficiencies.

GREEN MOVEMENT A POSITIVE TREND

Various federal agencies and environmental groups are quick to point out that sustainable buildings provide financial rewards for building owners, operators, and occupants. The Department of Energy (DOE) states that sustainable buildings typically have lower annual costs for energy, water, maintenance/repair, and other operating expenses.

This desire for greener buildings is driving the current trends in the commercial boiler market, and manufacturers are responding with higher-efficiency equipment that releases fewer emissions. Dan

Willems, VP-product development, Cleaver-Brooks, Milwaukee, noted, "The industrial and commercial markets are both concerned with a reduction in greenhouse gases, because they see that as a way to help the environment.

"A second concern is fuel savings, especially given the current cost of energy. We spend millions of dollars each year on research and development, and our focus has really changed in the last couple of years to greenhouse gases and fuel savings."

Willems sees the trend toward greener products and facilities as being very positive for everyone involved. "It's the right thing to do. In most cases, technology is available to both reduce greenhouse gases and increase fuel savings, and those two things go hand-in-hand. If you have a boiler that's 80 percent efficient and another boiler that's 90 percent efficient, you're going to get a 10 percent reduction in fuel savings by going to the higher-efficiency boiler. You also get about a 10 percent reduction in greenhouse gas emissions, just because you're burning less fuel."

Mark P. Croce, director of marketing, AERCO International Inc. Northvale, N.J., agrees that end users in commercial applications are extremely interested in high-efficiency products, primarily due to the rising cost of energy. "They rely on their engineers to determine which products are truly most efficient, which is why we've seen a tremendous increase in the use of our condensing, high turndown, modulating boilers."

Boilers with low NOx and carbon emissions are also of interest in the commercial market, due to local government requirements as well as companies feeling the need to be environmentally responsible. "We feel strongly that this is a positive trend, so all of our recent product introductions incorporate low-NOx burners, as will all future new products," said Croce. "The vast majority of projects are retrofit or facility expansions versus new construction, so we see our high-efficiency, condensing, low-NOx products fitting readily into either retrofit or new construction scenarios."

PRODUCTS FOR LEED

Many building owners and managers are not content to just incorporate energy-efficient equipment into their facilities; instead, they want to have their buildings certified through the Leadership in Energy and Environmental Design (LEED) Green Building Rating System™, which is the nationally accepted benchmark for the design, construction, and operation of high-performance green buildings.

Boiler manufacturers are

ready to help these end users achieve LEED certification with various high-efficiency product offerings. "The use of high-efficiency, condensing, gas-fired boilers that incorporate high turndown, fully modulating air-fuel delivery systems and low-NOx burners will absolutely contribute to the ability of any building to achieve LEED certification," said Croce. "This is especially true when the hydronic heating system is designed to maximize the effect of this boiler technology with lower header and return water temperatures and 40°F-plus temperature differentials."

Willems noted that Cleaver-Brooks has been spending several months working on product offerings that can reduce a customer's fuel cost and greenhouse gas emissions. "We have a whole matrix of offerings, and we're putting together a strategy to bundle those together for

specific customers, so we can go out to the market and say, 'Cleaver-Brooks is behind you to comply with LEED or green buildings or low emissions or energy efficiency, and here's all the products we have to offer,'" he said.

The green movement isn't going away and will only gain momentum in the coming years. As such, it is incumbent upon contractors to obtain the necessary training in regards to green buildings and LEED certification if they are to remain competitive in the commercial market. Willems stated that there is a group of larger contracting firms that is currently leading the green effort, "but I see more and more seminars and conferences on LEED and green buildings specifically designed for contractors. Eventually, more of them will get onboard." ■