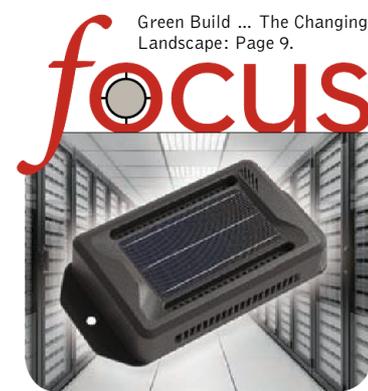


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## States Incentivize High-efficiency Biomass Heating Systems

By Jen Anesi  
Of *The NEWS* Staff

In the aftermath of a brutal 2013-2014 winter that included a widespread propane shortage and record high propane prices across much of the U.S., several states are introducing or expanding tax credits, rebates, financial assistance, and training to help promote biomass heating for both commercial and residential applications.

And while those familiar with biomass heating are acutely aware of its numerous benefits and versatile applications, others remain unfamiliar with the recent technological advances that have made biomass heating an efficient, viable option for many customers.

### Not Your Grandpa's Wood Stove

Though biomass heating is not practical in some regions, areas like New England, the Midwest, and the Pacific Northwest are increasingly turning to biomass as an affordable way to heat buildings during the colder months — especially as fossil fuel prices remain unstable.

But, as Biomass Thermal Energy Council (BTEC) executive director Joe Seymour noted, the biomass systems of today are a far cry from the wood stoves of yesteryear.

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An Oregon Department of Forestry employee tours the boiler room at the Enterprise School District in Enterprise, Oregon. By switching from heating oil to wood chips, the school saves MORE THAN \$70,000 per year in heating bills and creates a market for the byproducts of active management. (Photo courtesy of Oregon Department of Forestry, <https://flic.kr/p/gyFeHh>)

## fyi hvac briefs

### Price Increases

- **Lennox Industries Inc.** (Richardson, Texas) will increase prices 3-6 percent on residential and commercial equipment, accessories, and parts, effective Jan. 1, 2015.
- **Ingersoll Rand's** (Davidson, North Carolina) residential HVAC strategic business unit announced a price increase of up to 5 percent on select **Trane**, **American Standard**, and **Ameristar** residential HVAC equipment, effective Jan. 1, 2015.
- **Johnson Controls Inc.** (Milwaukee) will increase prices up to 7 percent on air distribution products, effective Jan. 2, 2015.

### Commercial Contractors

- **Affiliated Power Services** (Dallas) and **Holman Boiler Works** (Dallas) will merge under the **Cleaver-Brooks Sales and Service Inc.** name, effective Dec. 1. Both companies were acquired earlier this year by **Cleaver-Brooks** (Thomasville, Georgia).
- **Crockett Facilities Services Inc.** (Bowie, Maryland) ranked 454<sup>th</sup> in the *Engineering News-Record* Top 600 Specialty Contractor List.

Continued on page 4

## Massachusetts Maintains Status as Most Efficient State

WASHINGTON — Governors and lawmakers in state capitals across the nation continue to take major steps to lower energy costs, reduce pollution, and save consumers money by increasing their states' energy efficiency, according to the findings of the eighth edition of the State Energy Efficiency Scorecard, which was

recently released by the American Council for an Energy-Efficient Economy (ACEEE).

The report declared Massachusetts as the most energy-efficient state in the nation for the fourth year in a row, narrowly edging out California. Rounding out the top 10 are: Rhode Island, Oregon, and Vermont, which are all tied for third place; Connecticut; New York; Washington; Maryland; and Minnesota.

Arkansas; Washington, District of Columbia; Kentucky; and Wisconsin showed the greatest energy-efficiency improvements in 2014, according to the report. Arkansas pushed forward with strong utility programs as its budgets for electric efficiency programs increased 30 percent between 2012 and 2013, and electricity savings more than tripled. Washington, District of Columbia, and Wis-

consin also saw upticks in energy savings. Kentucky took notable steps to adopt a more efficient commercial building energy code.

The report also found the five states most in need of improvement on energy efficiency in 2014 are North Dakota, Wyoming, South Dakota, Mississippi, and Alaska. A total of 23 states fell in the energy-efficiency

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# Opportunities in Building Automation

## Trend Toward Integration Creates Opportunities, Challenges for Contractors

By Kimberly Schwartz  
Of The NEWS Staff

According to a recent IHS Technology report, “As countries, companies, and individuals try to curtail CO<sub>2</sub> emissions and further reduce the consumption of energy, building automation systems (BAS) continue to increase in importance.”

And, as a result, those who understand BAS and are able to improve their clients’ overall energy efficiency are finding opportunities for growth.

### Increasing Integration

Ross Nelson, general manager of Harris Controls, St. Paul,

Minnesota, said his company is proof of this. Harris Controls’ parent company, Harris Cos., has expanded and opened BAS offices in Salt Lake City; Washington, District of Columbia; and Phoenix during the last eight years. The company typically establishes a mechanical office in the new location, and subsequently opens a BAS office.

As Harris grows, Nelson said the company is determined to stay on the leading edge while the traditional HVAC controls market shifts toward greater integration.

“There’s a fracturing of our industry between normal HVAC control and the world of system integration and, specifically, the

continued expansion of the system integrator role in complexes of all different sizes and types,” Nelson said. “I’ve grown to feel very strongly that the organizations that limit their roles to HVAC control will eventually find it very difficult to grow and will face commoditization of their services.”

On the other hand, he said, “Organizations that can bridge into enterprise-level integration, and especially be able to connect into business processes, are going to thrive in the future. Integration of not just mechanical systems but also other building systems is becoming the new frontier for our industry.”

Trevor Palmer, vice president, products and marketing, Distech



Integrated facilities that connect all enterprise systems, from lighting to HVAC to security and more, are the future of the building automation market, according to Ross Nelson, general manager of Harris Controls. Shown here is the control system wiring for an integrated facility. (Photo credit: Ken Merrill)

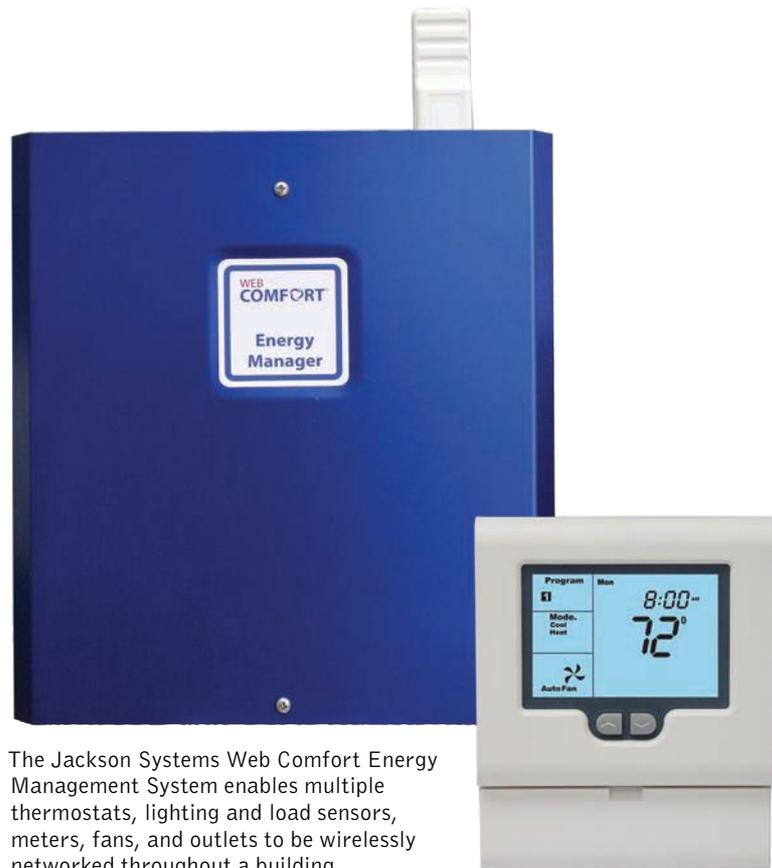
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The Jackson Systems Web Comfort Energy Management System enables multiple thermostats, lighting and load sensors, meters, fans, and outlets to be wirelessly networked throughout a building.

Controls, also stressed the entire building automation market is trending toward integration.

“Elements that had previously been treated in silos are now being brought together. For example, as opposed to treating lighting and blinds as separate elements from HVAC control, the market is now fully integrating these components into building automation. This trend will continue to gain momentum as the industry experiences the savings — particularly energy savings — and increased occupant comfort that a synergis-

tic approach can offer.”

Nelson noted additional examples of integration include tying in security/card-access systems, elevator and escalator systems, and manufacturing processes that are specific to the facility. Plus, he said, a significant benefit of an integrated approach is the elimination of redundant systems.

“If we think of building and managing buildings as little, small, independent systems, then we’re building and managing and maintaining our buildings without this broader concept of how they inter-

relate — and where we're putting in redundant infrastructure," he said.

Often, he said: "Contractors install Ethernet or cabling systems that support each of their systems without thinking about the fact they all could use common networks or common backbones. So, we end up putting in all of these redundant systems with their own software packages and their own servers and their own technologies ... when we could connect them, make them easier to use, and allow a building owner to essentially manage one system instead of five or six."

Eliminating redundancy also ties into the trend of environmental responsibility that is contributing to the adoption of building automation. "In our world today, most people want to be responsible," Nelson said. "They are looking for both the energy savings and financial savings ... and many are starting to ask questions about the visualization of that."

According to Nelson, this has resulted in visual scorecards for how a building is operating such as a kiosk located in a building foyer.

## Sectors for Growth

Nelson said his company finds most of its work in the government and corporate sectors. While other experts agreed there are opportunities in the municipal and government market, they noted there are additional sectors poised for growth.

Palmer said building automation and advanced HVAC controls are becoming more popular in the



Harris Controls aided the Minneapolis-St. Paul International Airport in becoming an integrated facility. Shown here is the final building automation testing performed at the site. (Photo courtesy of Ken Merrill)



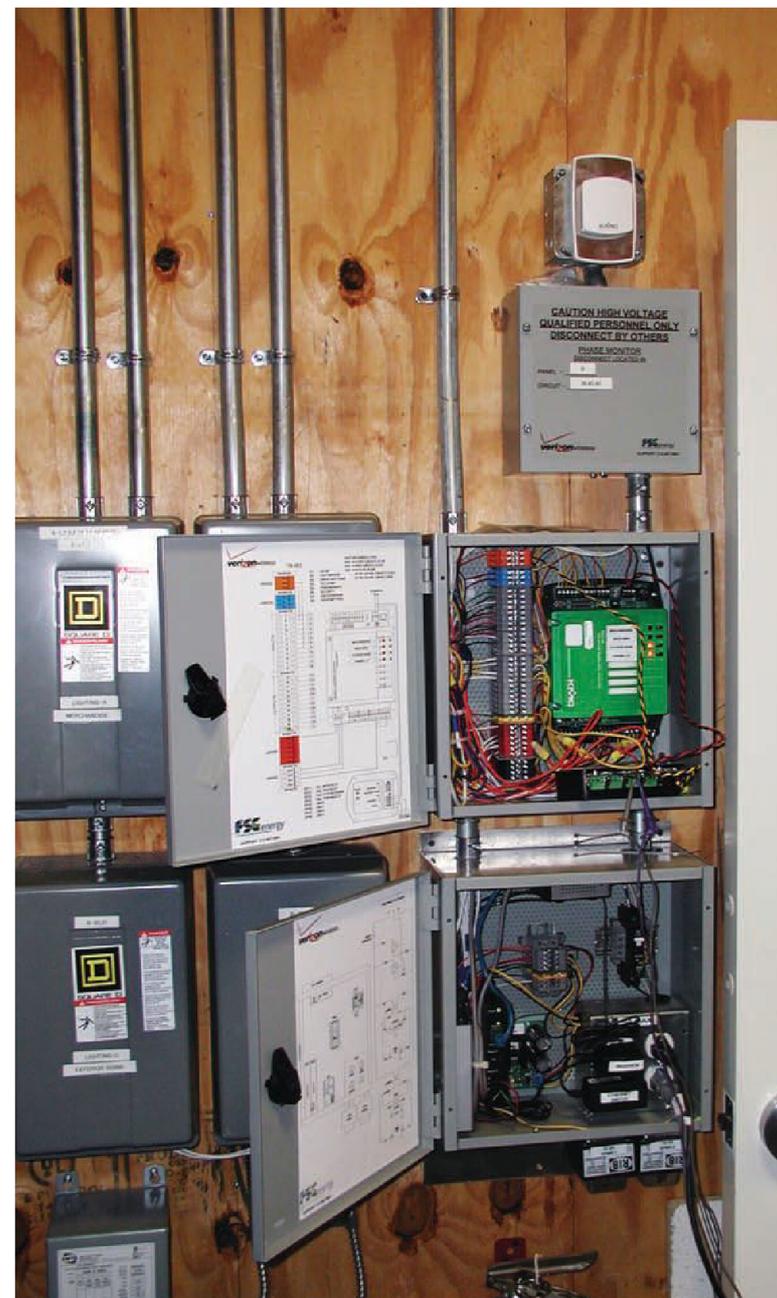
Magnum Energy's Datacenter Detective measures relative temperatures and humidity levels in any area of a data center.

school market.

Mike Holscher, senior product engineer, Jackson Systems LLC, agreed, noting, "We are seeing exten-

sive growth in building automation in the K-12 and university markets."

Nate Kehr, marketing manager, KMC Controls, also reported seeing



A KMC Controls general-purpose controller paired with a NetSensor controlling HVAC and lighting systems in a retail store.

"increased interest" from schools, health care facilities, and retail. Overall, he said, "Energy management needs, and the desire for reduc-

tion in utility costs, continue to drive building automation projects."

Large buildings are "reaching saturation with regard to automation and energy efficiency," according to Peter Dickinson, CTO, BuildingIQ. As a result, more opportunities for automation can now be found across all building types.

"Small-to-medium buildings is a market we have seen steady growth in as owners look for automated demand management solutions that can be easily implemented and don't require extensive labor hours to operate," Dickinson noted.

Summing it up, Cory Vanderpool, business development director, Magnum Energy Solutions, said, "The adoption of smarter building technologies, both controls and automation, can be seen across a multitude of verticals, including K-12 schools, universities, hotels, commercial office buildings, residential complexes, and even historic buildings."

## Opportunities and Challenges

With so many sectors holding the potential for increased automation and controls services, there is ample opportunity for HVAC contractors that want to work in this field. However, the increasing technology and rapidly developing

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markets require more contractors with specialized skillsets.

“The customers are there — it’s finding the right people that’s singlehandedly the biggest challenge,” Nelson said. “It’s really difficult to find someone that’s mechanically savvy and IT [information technology] savvy.”

According to Kehr, it’s very valuable for contractors to have “a working knowledge of IT infra-



BuildingIQ’s Portfolio dashboard displays individual buildings with new notifications that change color and style.



Distech Controls’ Smart Room Control is an integrated solution for HVAC, lighting, and shades/sunblind control.

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structure and basic IT processes.”

And Palmer noted the trend toward integration requires contractors to have an ever-broadening base of knowledge.

“Gone are the days when an integrator’s sole focus is HVAC. The industry now asks these same professionals be well versed in areas such as lighting, blinds, and access control. In addition, these HVAC contractors are also now largely expected to go beyond the traditional building management system to understanding and offering solutions that converge with the IT infrastructure of a building,” he said.

Specifically, Palmer said HVAC contractors need to understand all functions of a building management system (BMS); IT infrastructure/IP [Internet protocol] networks; programming; energy management calculations; and how external factors such as sun, wind, etc., influence BMS performance.

Holscher also pointed out the competition in the market can be tough on newcomers who are not as familiar with controls systems.

“There are many specialty controls companies in the marketplace that have been installing these types of systems for years, so the competition can be a challenge, depending on the specific market,” he said. “The other challenge facing contractors is getting educated on how these systems work and how to spec and install them. There are many opportunities to learn these systems through organizations such as ASHRAE or through product manufacturers.”

Yet, despite the challenges, Vanderpool urged contractors to investigate the building automation market.

“It’s high time that contractors move more into a role of controls contractor, if they are so inclined. Someone with a strong HVAC mechanical background could easily seek additional education and information about building automation,” he said. “Like anything related to technology, there are challenges, but, thankfully, the market for building automation, smart buildings, intelligent buildings, the Internet of Things, and a desire to reduce energy consumption in buildings is absolutely here and here to stay.”