2010 ENERGY EFFICIENCY INDICATOR – INDIA: SUMMARY OF FINDINGS

Issue Brief

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September 2010

ABOUT THE 2010 ENERGY EFFICIENCY INDICATOR

Johnson Controls partnered with the International Facility Management Association (IFMA) to commission a survey of more than 2,800 decision-makers responsible for managing commercial buildings and their energy use across the world during April, 2010.

The Energy Efficiency Indicator (EEI) survey includes CEOs, CFOs, real estate leaders, and facility managers from organizations ranging from small businesses to global corporations across a variety of industry sectors. The respondent profile within India includes:

- The survey was completed by a total of 311 respondents in India.
- The respondents included c-level executives (18%), vice presidents and general managers (42%), and facility managers (30%).
- Respondents manage facilities and energy use in a variety of industry sectors including, but not limited to, information technology and telecommunications (25%), manufacturing (18%), construction (8%), finance and insurance (7%), consulting/legal services (6%), healthcare (6%), and education (4%).
- Respondents in India come from organizations of varying sizes. The largest segments come from organizations with less than 100 employees (20%) or with between 10,000 and 49,000 employees (11%).

The annual survey examines the attitudes, priorities, practices, and investment plans related to energy management among these decision-makers. Comparing results to those from 2009 provides an outlook on energy management trends and insight into how events from the past year have impacted energy efficiency activities.

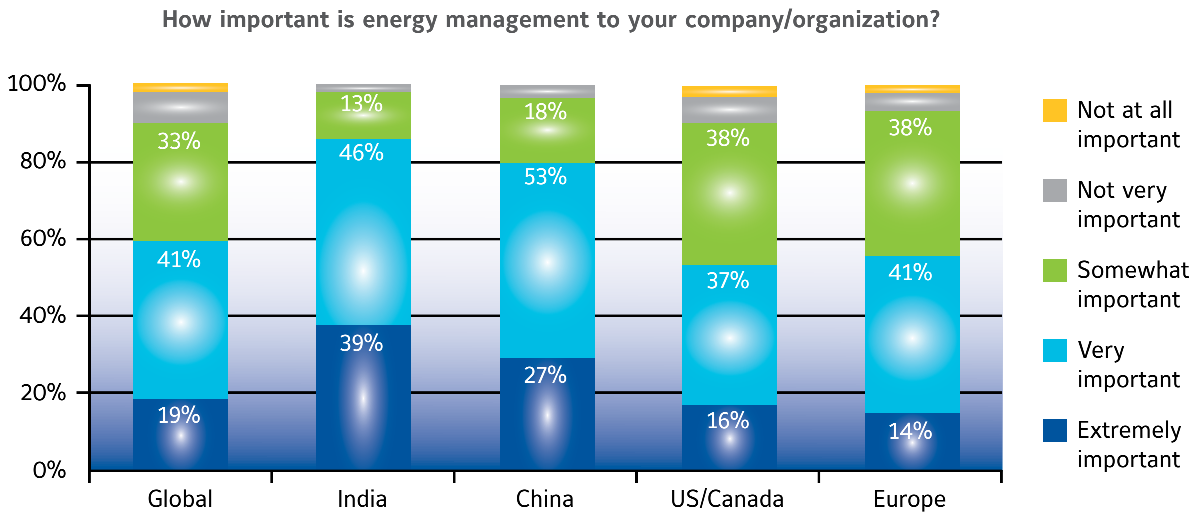
SUMMARY OF THE 2010 INDIA EEI FINDINGS

Energy efficiency is a strong and rising business priority

Decision-makers say that energy efficiency is rising in importance. Eighty-five percent of respondents in India say they are paying more attention to energy efficiency now than they were in 2009. In addition, 91% indicate that energy efficiency is a priority in planned new construction and retrofit projects.

As depicted in Figure 1, energy management is considered very important across India. Eighty-five percent of those surveyed in India consider energy management very or extremely important. This percentage is down from 94% in the 2009 survey, but significantly higher than in other parts of the world in 2010 – 52% in the U.S., 58% in Germany, 61% in the U.K. and 79% in China. Hence, respondents from India are more likely to consider energy management important compared with those in Europe and the United States.

Figure 1. Importance of Energy Management, by Global Region



Cost savings, greenhouse gas reduction, and public image are strong motivators

Cost savings is the most important driver for energy efficiency investment in India, considered very or extremely significant to over 80% of decision makers in India and considered at least somewhat significant to 97%. Other motivating factors include reducing greenhouse gas emissions (94%), enhancing public image (90%), and attracting or retaining customers who prefer green, energy efficient suppliers (89%).

Figure 2. Motivating factors for energy efficiency

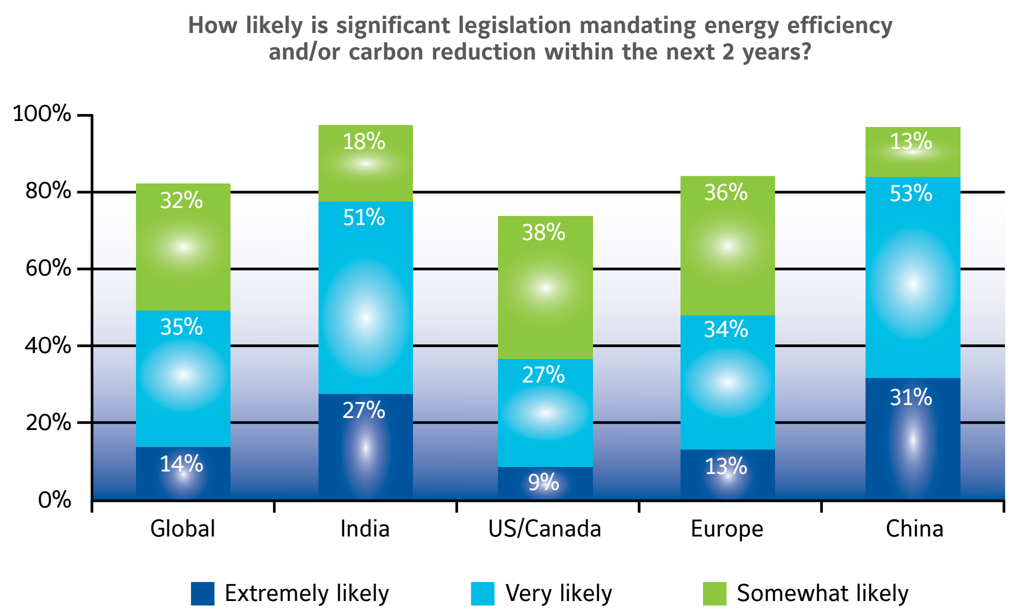
Executives believe energy prices will climb faster in 2010 than in 2009

It's not surprising that energy cost savings is such a strong motivator. Nearly 80% of Indian respondents expect energy prices to climb in India during 2010. On average, respondents anticipate a 17% increase in energy prices over the next twelve months, compared to a 7% expected increase among those surveyed in 2009. This expected increase is higher than any other region surveyed, including North America (7%), Europe (8%), or China (12%).

Energy and climate regulation is expected

Nearly all of Indian decision-makers (96%) believe legislation mandating energy efficiency and/or carbon reduction is likely within the next two years. More than three quarters of respondents believe such legislation is very or extremely likely.

Figure 3. Expectations for Climate/Energy Legislation, by Region

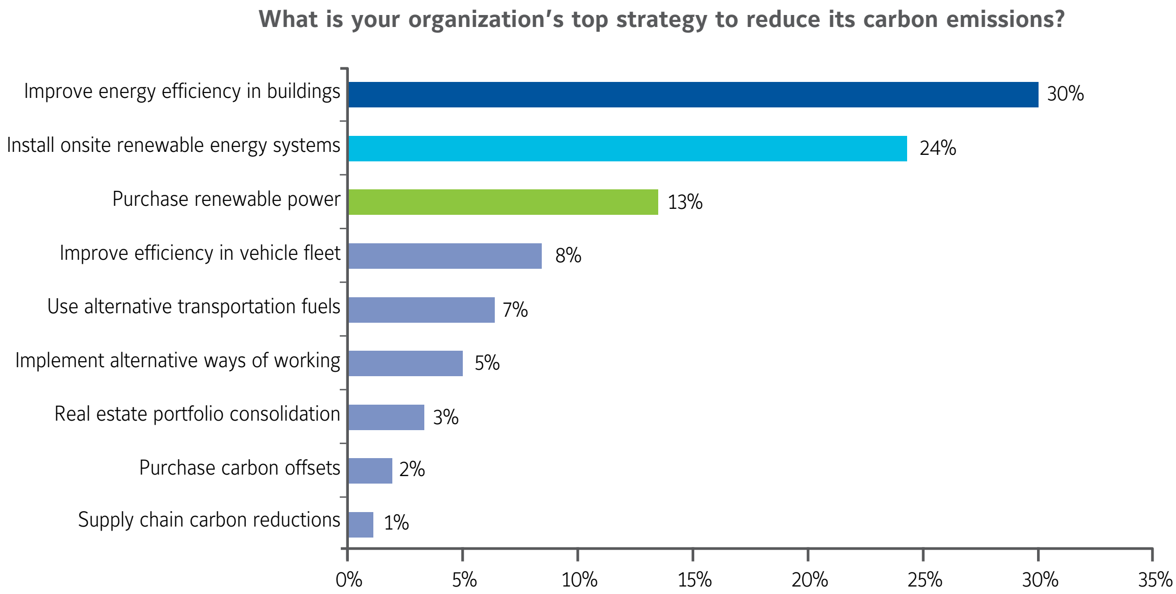


While decision-makers expect energy and climate legislation, do they welcome it? Thirty-seven percent of Indian respondents view climate change legislation equally as both a risk and a business growth opportunity. Forty-seven percent view climate legislation as more of a risk, while 16% view it as more of an opportunity.

Building efficiency is the top priority for those seeking to decrease their carbon footprint

When asked how organizations plan to reduce their greenhouse gas emissions, 30% select "improving energy efficiency in buildings" as their top solution. Other leading strategies include installing onsite renewable energy systems (24%), purchasing renewable power (13%), and improving fleet efficiency (8%).

Figure 4. Top Carbon Management Strategies



The economic recession has had a surprisingly mixed impact on efficiency investment

India business leaders have varied in their response to economic conditions. Somewhat surprisingly, 41% of respondents say they have invested the same or more in energy efficiency over the last 12 months compared to historical levels due to the recession. Efficiency investments are a fast and low-risk way to cut operating costs.

In India, planned capital and operating budget investment in energy efficiency is very strong for 2010. Nearly all respondents in India are planning to make capital (87%) and operating (93%) investments in energy efficiency over the next 12 months, up from 64% and 72%, respectively, in 2009. Globally, a smaller percentage are planning to make capital (63%) and operating (70%) investments in efficiency compared to India.

Figure 5. Trends in planned energy efficiency investment in India

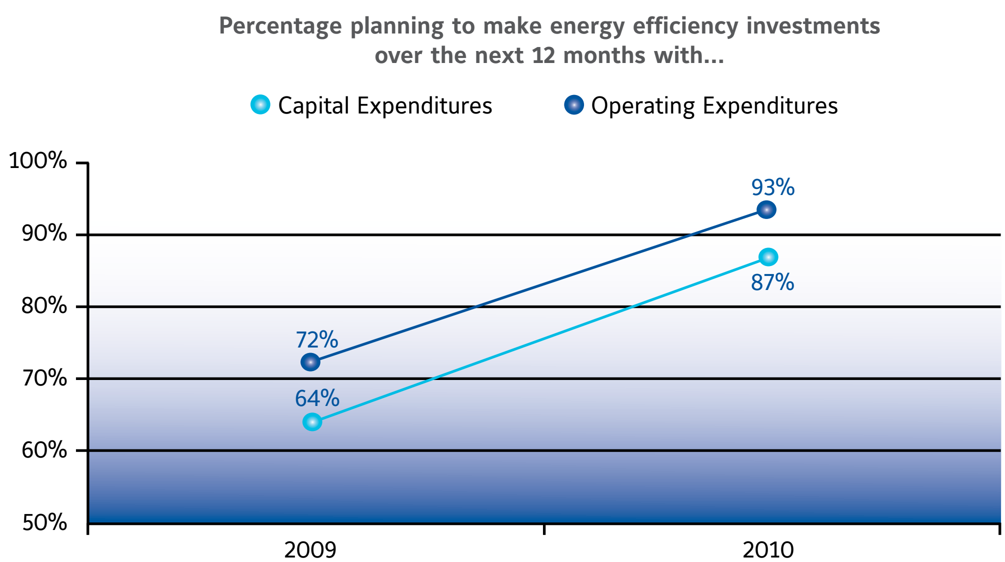
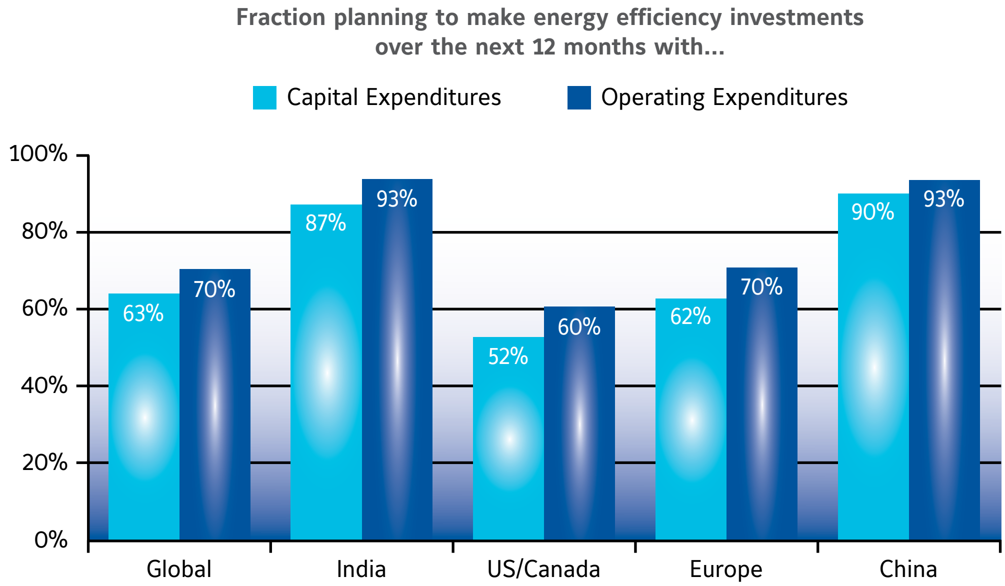


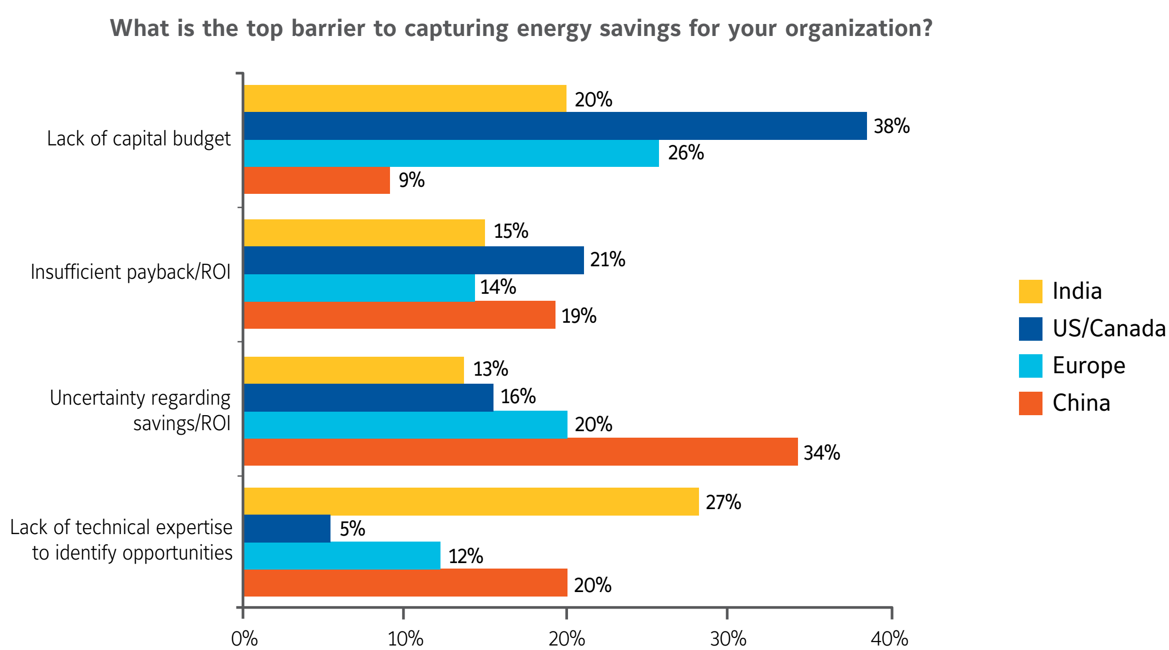
Figure 6. Planned energy efficiency investment, by region



A lack of technical expertise in India constrains energy efficiency investment

While enthusiasm for energy efficiency is high, building executives point to several barriers in the way of their energy use reduction goals. Notably, the top barrier among Indian respondents is a lack of technical expertise to identify opportunities (27%), followed by limited capital availability (20%). In contrast, North America and Europe cite capital availability as the most important barrier.

Figure 7. Barriers to energy efficiency, by global region



Decision-makers in India require a more rapid payback than other regions

Over 60% of Indian respondents require less than a three-year simple payback when making significant energy efficiency investments. On average, the maximum allowable payback for efficiency measures among India leaders is 2.8 years, compared to an average of 3.1 years among the global sample, 3.2 years in the U.S., and 3.4 years in China.

Lighting retrofits and staff education are most popular measures implemented in India over last 12 months. A relatively high number made building envelope improvements.

Energy efficiency measures with low first cost were most likely to have been implemented by respondents over the last twelve months. The most popular measures adopted include:

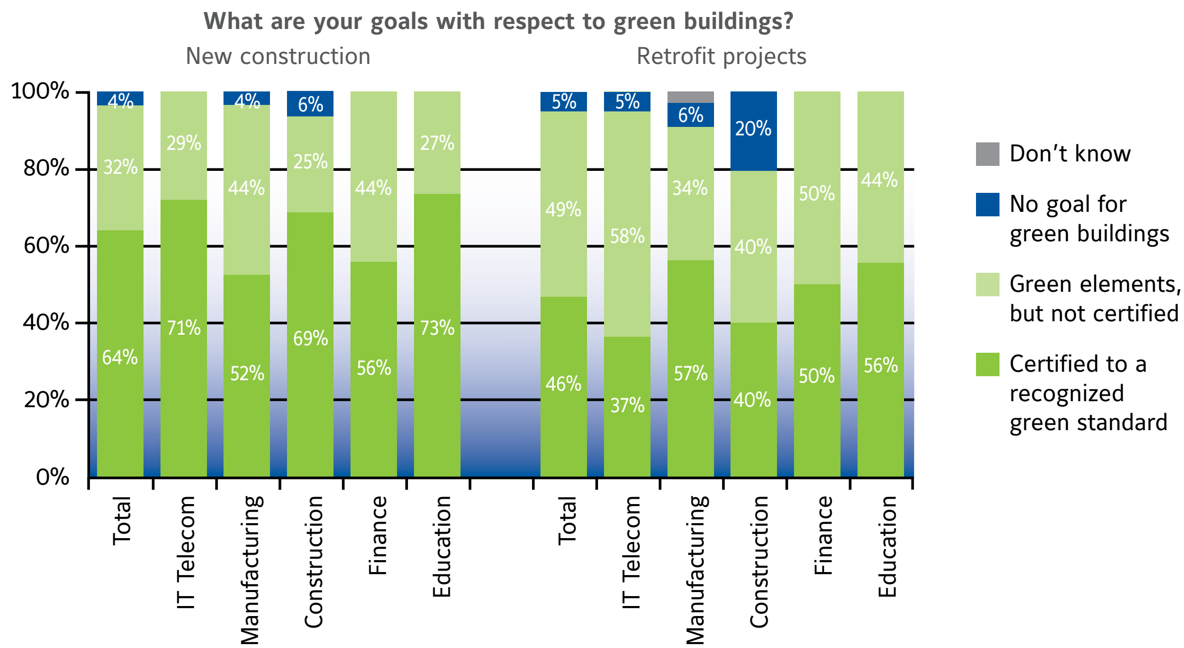
1. Switched to energy efficient lighting (81%)
2. Educated facilities operations staff (75%)
3. Increased building occupant awareness to save energy (69%)
4. Installing energy saving glass in windows (55%)
5. Installed renewable energy systems (50%)
6. Installed occupancy or daylight sensors (48%)
7. Installing variable speed drives (48%)
8. Installed reflective white roofs to reduce heat gain (46%)
9. Self generate power during peak demand (46%)
10. Adjusted HVAC controls set points or schedule (44%)
11. Upgraded building management system (44%)
12. Installed or adjusted lighting time clocks (37%)
13. Sent staff to energy management seminars (39%)
14. Increased building insulation (37%)
15. Replacing inefficient equipment before the end of its useful life (34%)

A surprisingly high number of respondents in India that have installed energy saving windows (55%), renewable energy systems (50%), cool roofs (46%), and onsite generation during times of peak demand (46%), compared to 32%, 21%, 21%, and 16% respectively, among the global sample included in the survey.

Green building certification targets increase dramatically

64% of those survey report their organization is targeting green building certification for new construction projects, up from only 17% in the 2009 survey. Organizations have green building certification goals across nearly all sectors, but the education, information technology, and construction sectors lead with the highest fraction seeking certification for new construction.

Figure 8. Green building goals, by industry sector



Renewable technologies are increasingly under consideration

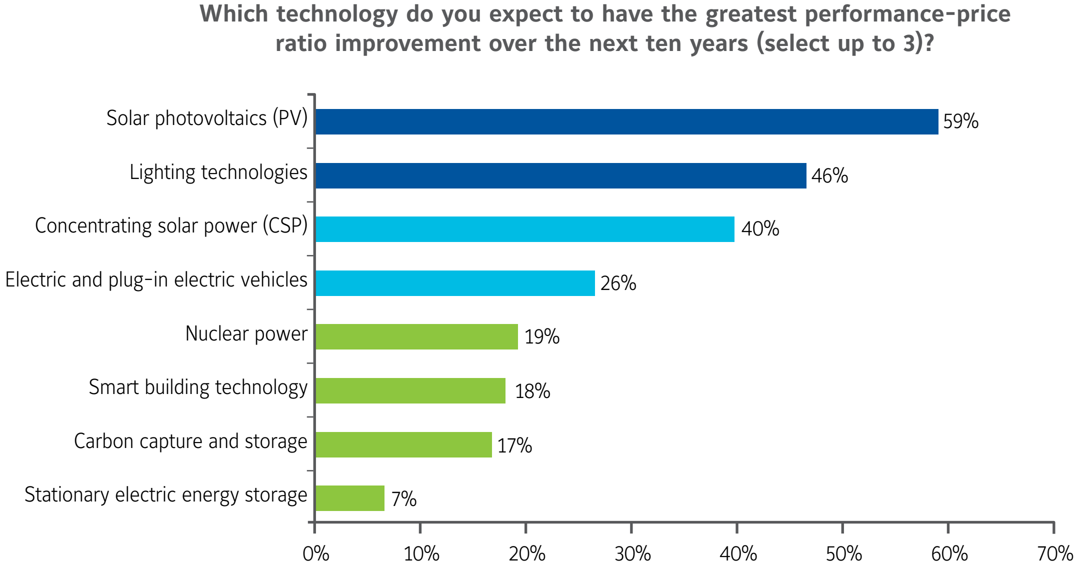
A large fraction of facility leaders in India are considering renewable energy technologies as part of their new construction or building retrofit projects, including:

- Solar electric (73%)
- Solar thermal (54%)
- Wind (41%)
- Geothermal (21%)
- Biomass (16%)

Greatest technological improvement predicted for solar and lighting technologies

Looking ahead, business leaders in India have varied expectations of technological improvement for clean energy technologies. When asked to select three technologies expected to see the greatest improvement in performance-to-price ratio over the next ten years, solar photovoltaic (59%) and lighting (46%) technologies were selected most often. Next came concentrating solar power (40%) and electric and plug-in hybrid vehicles (26%).

Figure 9. Technology performance/price improvement expectations



SUMMARY OF THE 2010 INDIA EEI RESULTS

Business leaders throughout India place greater importance on energy efficiency in their facilities than do those in any other major country, yet stated importance has dropped slightly since 2009. Planned investment in efficiency improvements is expected to be strong over the next 12 months, motivated primarily by concerns around cost reduction, climate change, enhancing public image, and taking advantage of government and utility incentives. Leaders expect energy prices to climb by 17 percent during 2010 and say improving energy efficiency in buildings is their most important carbon management strategy. While enthusiasm for and attention to energy efficiency remains high, leaders say lack of technical expertise is the greatest barrier to capturing energy savings.

The Institute for Building Efficiency is an initiative of Johnson Controls providing information and analysis of technologies, policies, and practices for efficient, high performance buildings and smart energy systems around the world. The Institute leverages the company's 125 years of global experience providing energy efficient solutions for buildings to support and complement the efforts of nonprofit organizations and industry associations. The Institute focuses on practical solutions that are innovative, cost-effective and scalable.

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