institute for building efficiency
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2010 ENERGY EFFICIENCY INDICATOR – IFMA SUMMARY REPORT

JOHNSON CONTROLS INSTITUTE FOR BUILDING EFFICIENCY AND THE INTERNATIONAL FACILITY MANAGEMENT ASSOCIATION

Full Report

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According to new research from IFMA and the Johnson Controls Institute for Building Efficiency, investment in energy efficiency remains strong, despite the economic climate.

BACKGROUND

Launched by Johnson Controls and the International Facility Management Association (IFMA) in 2007, the annual Energy Efficiency Indicator (EEI) examines the attitudes, priorities, practices and investment plans related to energy management among decision makers across the world that are responsible for managing commercial buildings and their energy use.

During March and April of 2010, the Institute for Building Efficiency partnered with IFMA to conduct a survey of more than 2,800 executives and managers responsible for facilities budgets and energy use in commercial buildings across the world.

Comparing 2010 results to those from the prior three years provides an outlook on trends in energy management and insight into how events from the past year have impacted energy efficiency activities.

METHODOLOGY

An online survey was completed with energy management decision makers. Specifically, in order to participate in the survey, respondents had to meet the following criteria:

1. They must have capital- or operations-related budget responsibility for their organization's or customer's facilities, and
2. Their job responsibilities must include reviewing or monitoring the amount of energy used by their organization's facilities, OR proposing or approving initiatives to make their organization's facilities more energy efficient.

While the EEI has been conducted primarily in North America for the past three years, 2010 marks the first year the survey reached a significant number of respondents in Canada, China, France, Germany, India, Italy, Poland, Spain, United Kingdom in addition to the United States. Respondents across the world included executives and facilities professionals from a wide range of facility types, sizes and locations.

This report focuses on the responses of IFMA members from 2007–2010, but also includes the 2010 responses for the entire sample for comparison. A total of 491 IFMA members participated in the survey – compared to 418 in 2009, 338 in 2008, and 449 in 2007.

Throughout the report, 'Don't know' responses have been excluded from some questions. For questions in which a single response was required, the total of the responses for those questions may add up to less than 100 percent.

Where applicable, 2010 results are compared with those for 2007-2009. However, new questions or modifications have been made each year, so data is not available for all questions for the four-year period. Readers will notice that many of the charts contain highlighted boxes. These highlighted cells indicate a statistically significant difference at the 95 percent level when the responses of the two groups are compared side by side.

WHO WERE THE RESPONDENTS?

The majority of IFMA respondents (57%) are facility managers. Nearly one-fourth is at the vice president or director level. The IFMA sample differs from the total global sample, which includes a greater share of C-level executives, general managers and proprietors.

Position	IFMA				Global
	2007	2008	2009	2010	2010
	(449)	(338)	(468)	(491)	(2,880)
Facility Manager	51%	57%	56%	57%	18%
CEO	–	–	–	1%	17%
VP or Director of Facilities	30%	28%	29%	23%	13%
General Manager	3%	1%	2%	3%	15%
Energy Manager	–	–	–	4%	9%
COO or VP/Director of Operations	2%	2%	1%	1%	5%
CFO	–	–	–	–	3%
Other	15%	12%	12%	11%	20%

IFMA members typically have responsibility for considerably larger facilities compared to the global sample average, with almost one-third of IFMA respondents having responsibility for one million square feet or more.

Area of Responsibility	IFMA				Global
	2007	2008	2009	2010	2010
	(449)	(338)	(390)	(489)	(1,861)
Less than 100,000 sq. ft.	11%	12%	14%	14%	46%
100,000 to 499,999 sq. ft.	39%	36%	40%	37%	21%
500,000 to 999,999 sq. ft.	18%	21%	15%	18%	13%
1 million to 1.99 million sq. ft.	14%	13%	11%	13%	9%
2 million to 4.99 million sq. ft.	10%	10%	11%	10%	6%
5 million or more sq. ft.	8%	7%	9%	7%	4%
Don't know	–	–	–	1%	1%

The IFMA members who participated in the study work for organizations with larger headcounts than other respondents in the global sample. More than 50 percent of IFMA respondents work for organizations with over 1,000 employees, whereas 65 percent of the non-IFMA respondents work for organizations with less than 1,000 employees.

Number of Employees	IFMA				Global
	2007	2008	2009	2010	2010
	(449)	(338)	(416)	(487)	(2,873)
Fewer than 100	7%	7%	6%	8%	34%
100 – 499	23%	23%	23%	22%	14%
500 – 999	17%	16%	14%	15%	13%
1,000 – 4,999	27%	25%	26%	29%	19%
5,000 – 9,999	7%	7%	10%	8%	8%
10,000 – 49,999	12%	13%	12%	11%	7%
50,000 or more	5%	7%	7%	5%	4%
Don't know	2%	1%	2%	2%	1%

Of the 40 percent of IFMA respondents who knew their organization's approximate annual revenue, nearly two-thirds report they are from large organizations with revenues of US$100 million or more, while the global sample included a greater share of smaller organizations.

Company Revenue (in US dollars)	IFMA				Global
	2007	2008	2009	2010	2010
	(415)	(308)	(418)	(486)	(2,669)
Less than $100K	4%	4%	1%	1%	9%
$100K – less than $500K	–	1%	–	0.5%	7%
$500K – less than $1 million	–	–	–	0.5%	3%
$1 million – less than $5 million	4%	3%	2%	3%	8%
$5 million – less than $10 million	–	2%	2%	2%	4%
$10 million – less than $50 million	6%	8%	5%	7%	8%
$50 million – less than $100 million	4%	4%	3%	3%	3%
$100 million – less than $500 million	11%	9%	9%	8%	6%
$500 million – less than $1 billion	4%	3%	4%	4%	2%
$1 billion or more	11%	12%	13%	11%	5%
Don't know	55%	54%	61%	60%	45%

Nearly one-fifth of respondents from the IFMA sample are from government and public sector companies, compared to only 11 percent of the total sample.

Industry	IFMA				Global
	2007	2008	2009	2010	2010
	(449)	(334)	(390)	(458)	(2,723)
Private sector	81%	78%	82%	80%	89%
Public/Government-owned	19%	22%	18%	20%	11%

Both the IFMA and total sample include a wide variety of industries, but the IFMA sample has the greatest representation from the finance, manufacturing and government sectors. The global sample draws more from the healthcare, manufacturing and communications sectors.

Industry	IFMA				Global
	2007	2008	2009	2010	2010
	(449)	(338)	(418)	(491)	(2,882)
Service industry	5%	4%	3%	1%	5%
Finance and insurance	16%	13%	17%	15%	6%
Manufacturing	9%	11%	13%	10%	12%
Retail	3%	2%	2%	2%	4%
Real estate	5%	4%	5%	2%	3%
Education	11%	7%	6%	6%	5%
K-12	–	4%	2%	2%	3%
Higher education	–	3%	4%	4%	2%
Health care	6%	5%	6%	5%	12%
Government and public administration	11%	14%	15%	13%	4%
Construction	–	–	1%	2%	7%
IT/Communications	3%	4%	3%	6%	9%
Wholesale	1%	1%	–	1%	2%
Hospitality	1%	2%	2%	2%	2%
Transportation and logistics	2%	3%	1%	1%	2%
Consumer products	–	1%	1%	2%	3%
Nonprofit/Religious	n/a	n/a	n/a	5%	2%
Life sciences/Pharma	n/a	n/a	n/a	3%	1%
Other	27%	29%	26%	24%	21%

Respondents from both the IFMA sample and the total sample have responsibility primarily for office space, but a wide range of other facility types are also represented.

Primary Type of Building	IFMA				Global
	2007	2008	2009	2010	2010
	(449)	(337)	(417)	(487)	(2,829)
Office space	76%	74%	75%	76%	58%
Industrial/Manufacturing/Plant	15%	20%	18%	15%	25%
Hospital/Health care facility/Clinic	6%	6%	6%	8%	16%
Hotels/hospitality	2%	4%	3%	4%	7%
Retail	7%	7%	7%	7%	12%
Education campus	11%	9%	8%	11%	9%
Research center/Laboratory	13%	12%	11%	12%	10%
Warehouse/Storage	20%	23%	21%	19%	15%
Other	14%	16%	13%	15%	6%

When comparing the two sets of results, it is apparent that IFMA respondents are more likely than the global sample to manage multiple buildings. Almost 90 percent of both sample sets have responsibilities for a subnational region or less. Only two percent of respondents surveyed are responsible for a global portfolio of facilities.

Facility Oversight	IFMA				Global
	2007	2008	2009	2010	2010
	n/a	n/a	n/a	(491)	(2,882)
Single building	n/a	n/a	n/a	27%	43%
Single campus	n/a	n/a	n/a	28%	24%
Single state/province	n/a	n/a	n/a	13%	7%
Subnational region	n/a	n/a	n/a	19%	14%
National	n/a	n/a	n/a	8%	8%
International region	n/a	n/a	n/a	3%	1%
Global	n/a	n/a	n/a	2%	2%
Not answered	n/a	n/a	n/a	0.2%	1%

This year's EEI study reached a broader sample than in prior years, targeting new countries including China, United Kingdom, Germany, Spain, Italy, Poland and France.

Countries Represented	IFMA	Global
	2010	2010
	(491)	(2,882)
Canada	61	63
United States	352	1,395
Afghanistan	0	1
Armenia	1	1
Australia	1	1
Austria	2	2
Belgium	6	6
Cayman Islands	2	2
China	1	321
Côte d'Ivoire	1	1
Egypt	1	1
France	0	101
Germany	1	1
Greece	1	1
Hong Kong	12	15
India	4	311
Ireland	2	2
Italy	2	103

Countries Represented	IFMA	Global
	2010	2010
	(491)	(2,882)
Kenya	1	1
Malaysia	1	1
Nigeria	10	10
Pakistan	1	1
Panama	1	1
Poland	2	102
Portugal	2	2
Qatar	2	2
Saint Kitts & Nevis	1	1
Saudi Arabia	3	3
Singapore	1	1
Spain	6	111
Sudan	1	1
Switzerland	2	2
Trinidad and Tobago	1	1
Ukraine	0	1
United Arab Emirates	6	6
United Kingdom	2	154

RESULTS SUMMARY

Current Emphasis on and Motivations for Energy Efficiency

Note: IFMA member respondents tend to represent larger organizations with bigger facilities, larger revenue, and more employees. Some of the observed differences between their responses and the total sample averages may be a function of organization size.

- Decision makers say that energy efficiency is rising in importance. Nearly three-fourths of IFMA members believe their organization is paying more attention to energy efficiency now than it did last year. The remaining one-fourth believes their organization is paying the same amount of attention.
- The importance of energy management remains strong among IFMA members – sixty-five percent of them consider energy management to be extremely or very important to their organization.
- For the vast majority of organizations (85%), energy efficiency is a design priority in new construction and retrofit projects. This percentage dropped since 2009 (95%). IFMA members are more likely to consider energy efficiency a priority than the total sample.
- Energy cost savings is the most significant factor motivating energy efficiency investment among IFMA members – 81 percent say cost savings is very or extremely important, and 99 percent of IFMA members say it is at least somewhat important in making energy management decisions. Enhancing public image and reducing greenhouse gas emissions are the next most important motivating factors among IFMA members.
- Two-fifths of respondents believe energy prices will increase over the next year, while nearly one-third believe energy prices will not change significantly. On average, IFMA members are anticipating an increase of about 6 percent, compared to a 9 percent increased expected by the global sample.
- Thirty-one percent of IFMA members feel that climate change is a very or extremely significant influence on their energy efficiency decisions, continuing to rise over the period from 2008 to 2010. Nearly one-fourth of IFMA member organizations have a publicly-stated carbon reduction goal. The most commonly selected top strategy for reducing greenhouse gas emissions is improving energy efficiency in buildings (51%).

Energy Efficiency Investment Plans and Financial Criteria

- Despite the economic climate, IFMA members are planning to make investments in energy efficiency this year.
  - 67 percent of IFMA members expect to make capital investments in energy efficiency and plan to spend 9 percent of capital budget to do so over the next 12 months. IFMA members are more likely to be planning energy efficiency capital investments during 2010 than the global sample.
  - 72 percent plan to make operating expenditures in energy efficiency over the next twelve months and expect to allocate about 6 percent of their operating budget to do so.
  - 36 percent of IFMA members have invested less, 20 percent have invested at historic levels, and 26 percent have invested more in energy efficiency due to the recession.

- The key barriers to capturing energy savings that IFMA members cite are a lack of capital availability and an inability to find projects with a sufficient ROI. The maximum allowable payback for efficiency investments, on average among IFMA members, is 3.8 years.

Energy Management Practices and Technologies

- Eighty-six percent of IFMA members review their energy use on at least a monthly basis.
- IFMA members have implemented a number of measures to manage or improve the energy efficiency of the facilities *over the last 12 months*, including:

  Staff-related: Many have trained facilities staff and facility users on ways they can reduce energy use. They have attended or sent staff to energy management seminars.

  Equipment and Systems: As previous years, many have adjusted their HVAC controls set points or schedules. Other popular measures are upgrading the building management system, replacing inefficiency equipment before the end of its useful life, and installing variable speed/frequency drives.

  Lighting: Seventy-five percent of IFMA members have completed lighting retrofits over the past year, and more are installing sensors and or lighting control systems.

  Energy Supply: Two-fifths of IFMA members and the global sample have negotiated energy contracts with energy suppliers, 20 percent have validated utility bills, and 20 percent participated in demand response programs this year.

  Building Design: Two-thirds of IFMA members have not adopted any building envelope improvement measures, compared to 40 percent of the global sample.
- Nearly one quarter of IFMA members have at least one green-certified building and one-half have buildings with green elements. In comparison, fewer respondents within the global sample manage certified buildings or buildings with green elements.
- Thirty-six percent of IFMA members are targeting green building certification for new construction, down from 42 percent in 2009. However the percentage targeting certification for retrofit projects has increased from 18 percent to 21 percent.
- When asked to select up to three clean energy technologies they expected to have the greatest improvement in performance relative to price over the next ten years, respondents identify lighting, smart building and solar photovoltaic technologies as most promising. IFMA respondents are far more likely to have selected smart building technologies in comparison to the rest of the total global sample.

DETAILED FINDINGS

Current Emphasis on and Motivations for Energy Efficiency

Nearly three-fourths of IFMA members and the total global sample say they are paying more attention to energy efficiency than they were one year ago.

Attention to Energy Efficiency vs. 12 mo. Ago	IFMA				Global
	2007	2008	2009	2010	2010
	(449)	(338)	(418)	(491)	(2,875)
Paying a lot more attention now (5)	27%	33%	35%	29%	30%
Paying a little more attention now (4)	35%	36%	39%	40%	41%
Paying about the same attention (3)	34%	28%	23%	27%	25%
Paying a little less attention now (2)	2%	1%	2%	2%	2%
Paying a lot less attention now (1)	–	–	–	1%	1%
Don't know	2%	1%	1%	1%	1%
Average	*3.89*	*4.03*	*4.12*	*3.92*	*3.95*

Energy management continues to be important to 96 percent of the IFMA group, although its importance has dropped slightly since 2009.

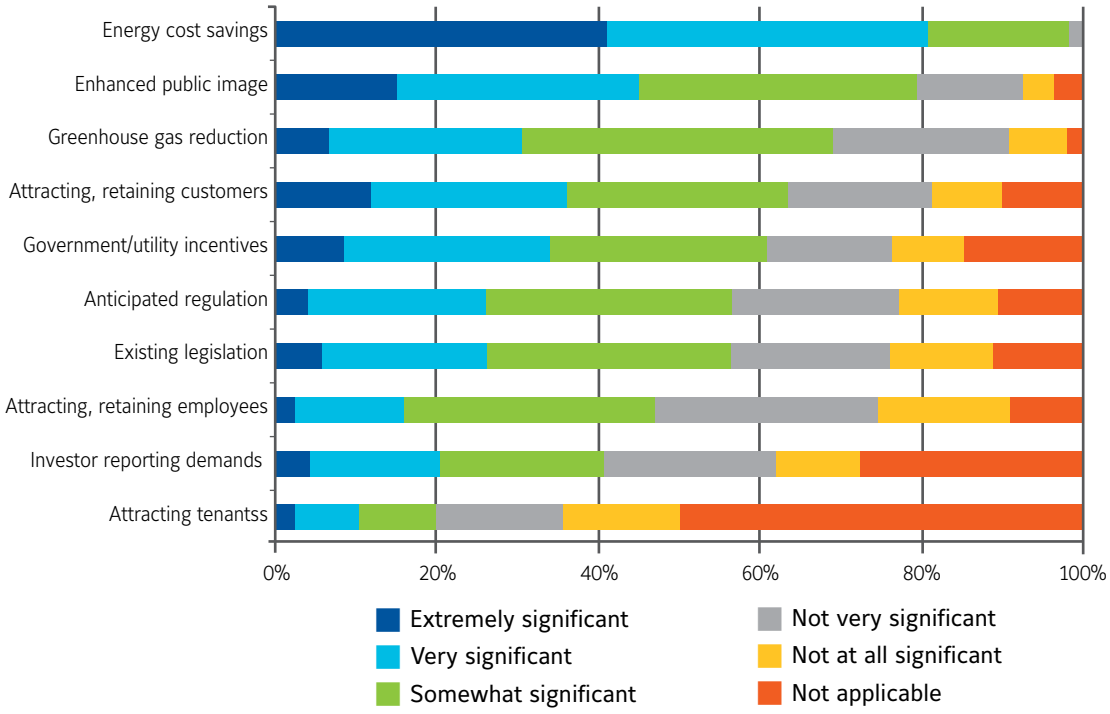
Importance of Energy Management	IFMA				Global
	2007	2008	2009	2010	2010
	(449)	(338)	(418)	(491)	(2,815)
Extremely important (5)	19%	22%	23%	22%	19%
Very important (4)	40%	43%	50%	43%	41%
Somewhat important (3)	33%	30%	25%	32%	33%
Not very important (2)	7%	5%	3%	4%	6%
Not at all important (1)	1%	–	3%	–	1%
Mean	*3.70*	*3.82*	*3.84*	*3.82*	*3.69*

For the vast majority of organizations, energy efficiency is a priority in their current or planned construction and retrofit projects, although the percentage affirming energy efficiency as a design priority has dropped 7 percent since 2009. IFMA members are more likely to consider efficiency a priority compared to the overall sample average.

Consideration of Efficiency in Construction Projects	IFMA				Global
	2007	2008	2009	2010	2010
	(320)	(238)	(253)	(292)	(1,671)
Energy efficiency was/will be a priority	83%	88%	95%	88%	85%
Energy efficiency was not/won't be a priority	13%	11%	5%	10%	12%
Don't know	4%	2%	–	1%	3%

Among facility professionals, energy cost savings is clearly the most significant factor motivating energy efficiency investment, with 99 percent saying cost savings is somewhat, very or extremely important. Enhancing public image and reducing greenhouse gas emissions are also important motivating factors, as eighty percent of IFMA members say that enhancing public image is a significant motivator for making energy efficiency improvements.

How significant an influence are the following in your organization's energy efficiency decisions?
(Among 488 IFMA respondents)



For IFMA members, as for other respondents, cost savings is a more influential motivator for achieving energy efficiency than is environmental responsibility.

Relative Influence of Cost Savings/Environment	IFMA				Global
	2007	2008	2009	2010	2010
	(430)	(332)	(416)	(490)	(2,874)
100% cost savings (7)	5%	2%	5%	4%	7%
Mostly for cost savings (6)	22%	20%	21%	21%	22%
Somewhat more for cost savings (5)	24%	19%	21%	22%	21%
50% cost savings/50% environmental (4)	36%	42%	36%	35%	32%
Somewhat more for environment (3)	8%	13%	11%	9%	10%
Mostly for environmental responsibility (2)	5%	4%	5%	7%	6%
100% environmental responsibility (1)	–	1%	1%	2%	2%
Mean	*4.62*	*4.44*	*4.54*	*4.50*	*4.57*

About 60 percent of IFMA members expect energy prices to rise this year, whereas 69 percent of the global sample expects to pay more.

Believe Price of Energy Will...	IFMA				Global
	2007	2008	2009	2010	2010
	(449)	(338)	(418)	(491)	(2,882)
Increase over the next year	79%	79%	59%	59%	69%
Decrease over the next year	2%	4%	11%	10%	9%
Not change significantly	20%	17%	29%	31%	22%

As stated earlier, the majority of the respondents believe energy prices will rise rather than fall. IFMA members are more optimistic than the balance of the sample as to how much energy prices will rise this year. On average, IFMA participants expect an increase of around 5 percent, compared to 9 percent predicted by the full sample of participants.

Anticipated Energy Price Change in 12 months	IFMA			Global
	2008	2009	2010	2010
	(265)	(418)	(491)	(2,882)
Increase unknown	21%	13%	13%	10%
Increase more than 40%	-	1%	1%	4%
Increase 21% - 40%	3%	3%	2%	6%
Increase 11% - 20%	14%	7%	6%	15%
Increase 6% - 10%	18%	16%	17%	20%
Increase 1% - 5%	23%	19%	20%	15%
No Change	4%	11%	10%	22%
Decrease 1% - 5%	2%	8%	11%	2%
Decrease 6% - 10%	4%	10%	6%	2%
Decrease 11% - 20%	4%	6%	5%	1%
Decrease 21% - 40%	-	2%	2%	1%
Decrease more than 40%	-	-	-	-
Decrease unknown	7%	4%	7%	2%
Mean anticipated energy price increase	*7.0%*	*4.7%*	*4.7%*	*9.0%*

Thirty-one percent of IFMA members feel that climate change is a very or extremely significant influence on their energy efficiency decisions, compared to 40 percent of the total sample. The importance of climate change appears to be growing among IFMA members over the period from 2008 to 2010, as the average has climbed from 2.77 to 3.02 on a 5-point scale.

Influence of Climate Change on Energy Efficiency Decisions	IFMA			Global
	2008	2009	2010	2010
	(336)	(418)	(487)	(2,856)
Extremely/very significant	**21%**	**22%**	**31%**	**40%**
Extremely significant (5)	7%	5%	7%	12%
Very significant (4)	15%	17%	24%	28%
Somewhat significant (3)	33%	35%	38%	34%
Not very significant (2)	31%	25%	22%	16%
Not at all significant (1)	10%	12%	7%	7%
Mean	*2.77*	*2.76*	*3.02*	*3.23*

Forty-four percent of IFMA members believe it is *extremely* or *very likely* that significant legislation mandating energy efficiency and/or carbon reduction will be passed in the next two years. This represents a significant decrease from 2009 when nearly two-thirds expected such legislation. The global sample has similar but slightly higher expectations on average for energy and climate legislation compared to IFMA members.

Expectation of Significant Legislation Mandating Energy Efficiency or Carbon Reduction in Next 2 Years	IFMA			Global
	2008	2009	2010	2010
	(334)	(416)	(488)	(2,871)
Extremely/very likely	**41%**	**62%**	**44%**	**49%**
Extremely likely (5)	10%	17%	14%	14%
Very likely (4)	32%	45%	34%	35%
Somewhat likely (3)	39%	29%	32%	32%
Not very likely (2)	14%	8%	15%	12%
Not at all likely (1)	2%	1%	1%	3%
Don't know	–	1%	3%	3%
Mean	*3.35*	*3.69*	*3.38*	*3.47*

While most decision makers certainly expect energy and climate legislation, do they welcome it? In a new question added to this year's EEI survey, nearly half of IFMA members consider climate legislation an equal risk and opportunity, while one-third consider the legislation more of a risk and 20 percent consider it more of an opportunity. There is a similar distribution of perceptions regarding legislation among the total global sample.

Perceive Climate Legislation as...	IFMA				Global
	2007	2008	2009	2010	2010
	n/a	n/a	n/a	(484)	(2,886)
Primarily a risk	n/a	n/a	n/a	14%	15%
A slightly greater risk	n/a	n/a	n/a	19%	24%
An equal risk and opportunity	n/a	n/a	n/a	45%	44%
A slightly greater opportunity	n/a	n/a	n/a	13%	12%
Primarily an opportunity	n/a	n/a	n/a	8%	6%

Tracking the results over a four-year period shows a trend of more organizations adopting a publicly-stated carbon reduction goal. Nearly a quarter of IFMA member organizations have one, as does 30 percent of the total sample.

	IFMA				Global
	2007	**2008**	**2009**	**2010**	**2010**
	(449)	(336)	(418)	(488)	(2,869)
Have a publicly stated carbon-reduction goal	10%	15%	23%	24%	30%
Don't have a stated carbon-reduction goal	71%	67%	65%	66%	61%
Don't know	19%	18%	11%	10%	8%

More than one-half of IFMA members identify improving energy efficiency in their buildings as the top strategy for reducing their organization's greenhouse gas emissions footprint in 2010, compared to 34 percent of the global sample. About 28 percent of IFMA members and the overall sample don't know what their top carbon reduction strategy is or have not yet prioritized strategies. Other top strategies among IFMA members include alternative workplace strategies such as telecommuting (6%), installing onsite renewable energy systems (4%), and purchasing renewable power (4%).

Top Strategy to Lowering Carbon Emissions	IFMA		Global
	2009	**2010**	**2010**
	(98)	(488)	(2,877)
Energy efficiency in buildings	49%	51%	34%
Telecommuting, virtual meetings	n/a	6%	5%
Onsite renewable energy	5%	4%	11%
Renewable power purchases	8%	4%	7%
Energy efficiency in vehicle fleet	4%	2%	6%
Real estate portfolio consolidation	n/a	2%	2%
Carbon emission offset purchases	5%	1%	1%
Supply chain carbon reductions	n/a	1%	2%
Use of alternative transportation fuels	2%	–	4%
No prioritization among strategies	16%	18%	18%
Other/Don't know	10%	11%	10%

One-third of IFMA members believe incentives from utilities or government entities are extremely or very influential on their energy efficiency decisions, down from nearly one-half who said so in 2009 – on the heels of the passage of several economic stimulus appropriations across the world that included energy efficiency incentives. The global respondent sample is more likely than IFMA members, on average, to consider utility or government incentives as influential in their energy efficiency decision making.

Influence of Utilities/Gov. Incentives on Energy Efficiency Decisions	IFMA			Global
	2008	2009	2010	2010
	(337)	(418)	(487)	(2,854)
Extremely/very influential	**40%**	**48%**	**34%**	**41%**
Extremely influential (5)	11%	16%	9%	13%
Very influential (4)	29%	32%	25%	28%
Somewhat influential (3)	34%	33%	27%	30%
Not very influential (2)	16%	12%	15%	13%
Not at all influential (1)	6%	5%	9%	7%
Don't know	–	2%	15%	9%
Mean	*3.24*	*3.43*	*3.12*	*3.29*

ENERGY EFFICIENCY INVESTMENT PLANS AND FINANCIAL CRITERIA

Approximately two-thirds (60%) of IFMA members are either currently or planning to undergo new facility construction or facility retrofits in the next 12 months. A greater fraction of IFMA members and overall global respondents are planning retrofits (38% and 39%, respectively) compared with new construction projects (33% and 29%, respectively).

Currently or Planning New Construction or Facility Retrofits in Next 12 Months	IFMA		Global
	2009	2010	2010
	(418)	(491)	(2,882)
Currently or planning new construction	36%	33%	29%
Currently or planning facility retrofits	39%	38%	39%
No new construction or retrofits in next 12 months	37%	37%	37%
Don't know	3%	3%	5%

Two-thirds (67%) of the IFMA respondents expect to make capital investments in energy efficiency improvements over the next twelve months, down from 70 percent in 2009. IFMA members are more likely to be planning efficiency capital investments than the global sample.

Expectations – Capital Investment in Efficiency	IFMA				Global
	2007	2008	2009	2010	2010
	(449)	(338)	(418)	(491)	(2,882)
Expect to make energy efficiency improvements with capital expenditures in the next year	66%	75%	70%	67%	63%
Do not expect to make improvements with capital expenditures in the next year	24%	15%	19%	22%	22%
Don't know	10%	11%	11%	11%	15%

While slightly fewer IFMA members are planning capital investments over the next twelve months compared to 2009, those who are investing plan to spend a greater fraction of their capital budget on energy efficiency. On average, IFMA members that expect to make capital investments in energy efficiency plan to use 9 percent of their capital budget to do so, up from 8 percent in 2009 and compared with 10 percent among the global sample.

Percent of Capital Budget Investment Expectation	IFMA				Global
	2007	2008	2009	2010	2010
	(297)	(253)	(291)	(329)	(1,804)
Less than 1%	14%	8%	13%	8%	6%
1% - 4%	29%	26%	24%	27%	22%
5% - 9%	22%	23%	20%	22%	24%
10% - 14%	12%	15%	12%	9%	21%
15% - 19%	4%	5%	6%	8%	10%
20% - 24%	4%	5%	6%	5%	6%
25% or more	3%	7%	4%	6%	6%
Don't know	10%	11%	14%	15%	5%
Mean expectation	*6.1%*	*7.6%*	*7.8%*	*9.0%*	*10.0%*

Nearly three-fourths of IFMA members plan to make operating expenditures in energy efficiency in the next year, consistent with past years and the global sample.

Expectations – Operating Expenditures in Efficiency	IFMA				Global
	2007	2008	2009	2010	2010
	(449)	(338)	(418)	(491)	(2,882)
Expect to make operating expenditures on energy efficiency in the next year	70%	76%	75%	72%	70%
Do not expect to make improvements with operating expenditures in the next year	18%	13%	12%	19%	17%
Don't know	12%	10%	12%	9%	13%

IFMA members expect to commit less of their operating budget to energy efficiency improvements than they do of their capital budget – forty-five percent expect to commit less than 5 percent of their operating budget to the improvements. IFMA members planning operating expenditures are likely to spend a smaller fraction of their operating budget on energy efficiency (5.7%) compared to the average among those planning operating expenditures on energy efficiency programs within the global sample (8.4%.)

Percent of Operating Budget Investment Expectation	IFMA				Global
	2007	2008	2009	2010	2010
	(310)	(255)	(315)	(353)	(2,011)
Less than 1%	21%	8%	18%	14%	9%
1% – 4%	37%	36%	32%	31%	26%
5% – 9%	20%	24%	22%	22%	24%
10% – 14%	8%	11%	13%	12%	20%
15% – 19%	1%	4%	2%	4%	8%
20% – 24%	1%	2%	3%	1%	5%
25% or more	–	1%	–	1%	3%
Don't know	12%	14%	12%	15%	5%
Mean expectation	*7.8%*	*10.1%*	*8.9%*	*5.7%*	*8.4%*

A new question was added to this year's EEI survey to determine the impact of the global recession on energy management spending. It appears the recession had a mixed impact on energy efficiency investment for the study participants. Over the last 12 months, 36 percent of IFMA members have invested less in energy management programs and projects, 20 percent have invested at the same level, and 26 percent have invested more in energy efficiency as a result of the recession.

Impact of the Recession on Energy Efficiency Investment	IFMA	Global
	2010	2010
	(490)	(2,872)
Made no investment in energy management	18%	14%
Invested much less in energy management	16%	16%
Invested somewhat less in energy management	20%	14%
Invested at historically consistent levels in energy management	20%	25%
Invested somewhat more in energy management	22%	24%
Invested much more in energy management	4%	7%

When asked how they plan to fund energy efficiency and/or renewable energy investments, the vast majority of IFMA members (72%) report that they plan to use internal facilities capital budgets. In addition, 21 percent plan to fund projects using grants or tax credits, and 17 percent plan to procure efficiency improvements using energy savings performance contracts. A greater number of global respondents are considering new financing models such as on-bill financing (OBF), power purchase agreements or property assessed clean energy (PACE) financing.

Options for Funding the Upfront Cost of Energy Efficiency and/or Renewable Energy Projects	IFMA	Global
	2010	2010
	(487)	(2,872)
Facilities capital budget	72	42
Energy or climate specific set-asides within capital budget	11	19
Traditional debt financing	5	13
Energy savings performance contract	17	25
Capital or municipal lease	2	10
Grants or tax credits	21	18
Shared savings agreement	6	15
Utility on-bill financing (OBF)	3	10
Power purchase agreement (PPA)	11	15
Property assessed clean energy (PACE) loans/tax lien financing	1	9
Energy efficient mortgage	1	11
Other	2	1
None	17	20

Among IFMA members, the median maximum allowable payback period for energy efficiency investments is 3 to 4 years. About two-thirds of IFMA members and of the global sample expect to see efficiency investments payback in less than 4 years.

Maximum Allowable ROI for Energy Efficiency Investments	IFMA			Global
	2008	2009	2010	2010
	(338)	(417)	(490)	(2,876)
Less than a year (0.5)	1%	3%	2%	5%
1 but less than 2 years (1.5)	14%	13%	12%	8%
2 but less than 3 years (2.5)	20%	26%	25%	26%
3 but less than 4 years (3.5)	19%	15%	18%	18%
4 but less than 6 years (5.0)	23%	21%	22%	16%
6 but less than 10 years (8.0)	10%	10%	11%	7%
10 years or more (10.0)	4%	4%	3%	2%
Would not require ROI	2%	1%	1%	2%
Don't know	–	7%	5%	7%
Average maximum ROI period	*3.7 years*	*3.6 years*	*3.8 years*	*3.4 years*

Over two-fifths of respondents say ROI expectations have not changed over the past 5 years. About one in six IFMA respondents say their organizations will allow a longer payback on efficiency investments today than they would have five years ago.

ROI Requirements Compared to 5 Years Ago	IFMA				Global
	2007	2008	2009	2010	2010
	(449)	(336)	(412)	(478)	(2,815)
Will allow longer payback period today	19%	19%	17%	19%	25%
Allowable payback period has not changed	42%	43%	43%	41%	42%
Allowed longer payback five years ago	10%	11%	14%	12%	13%
Don't know	29%	27%	26%	28%	20%

For IFMA members, the top barriers that prevent organizations from capturing potential energy savings are a lack of internal capital to fund projects and the inability to identify projects with a sufficient ROI. Among the global sample, respondents were more likely to cite uncertainty of payback or lack of technical expertise as their top barrier, compared with IFMA members.

Top Barrier to Capturing Energy Savings by the Organization	IFMA		Global
	2009	2010	2010
	(414)	(488)	(2,877)
Lack of internal capital budget	37%	31%	29%
Insufficient payback/ROI	31%	26%	18%
Uncertainty of payback/ROI	n/a	15%	18%
Lack of buy-in from senior leaders	9%	9%	6%
Lack of technical expertise	3%	5%	12%
Lack of dedicated attention, ownership	9%	5%	4%
Landlord/tenant split incentives	5%	4%	4%
Lack of credit rating, collateral or balance sheet debt capacity to secure financing	n/a	0.5%	6%
Other	5%	5%	3%

ENERGY MANAGEMENT PRACTICES AND TECHNOLOGIES

Most of the EEI respondents review their energy consumption on a monthly basis if not more often. More than 80 percent of IFMA members review their energy use on at least a monthly basis. There is a gradual shift over time to monitor energy use on a more granular basis.

Frequency of Reviewing Consumption Data	IFMA				Global
	2007	2008	2009	2010	2010
	(449)	(338)	(417)	(490)	(2,873)
Sub-hourly	n/a	n/a	n/a	7%	3%
Hourly	n/a	n/a	n/a	3%	7%
Daily	5%	4%	4%	9%	16%
Weekly	4%	5%	8%	4%	14%
Monthly	48%	54%	59%	63%	43%
Quarterly	15%	11%	12%	6%	8%
Twice a year	4%	5%	5%	4%	5%
Annually	14%	12%	6%	4%	5%
Less than once a year	8%	6%	2%	4%	5%
Don't know	3%	3%	3%	4%	4%

Three quarters of IFMA members have made efforts to educate their building staff and their building occupants on ways to reduce energy use. IFMA members are more likely than the global sample to send staff to seminars or to hire an energy consultant. Only 10 percent of IFMA members conduct energy due diligence prior or leasing or purchasing new property.

Staff-related Measures Adopted Implemented	IFMA				Global
	2007	2008	2009	2010	2010
	(449)	(338)	(417)	(490)	(2,873)
Educated facilities staff on what they can do to reduce energy use	72%	77%	78%	75%	64%
Increased awareness of facility occupants on how to reduce energy use	–	–	78%	75%	62%
Attended or sent staff to energy mgmt seminars	48%	53%	52%	48%	30%
Hired an energy consultant	29%	29%	27%	29%	23%
Conducted energy-related pre-lease or pre-purchase due diligence	–	–	–	10%	17%
Hired an energy manager	10%	10%	13%	7%	13%
Other	–	–	–	11%	4%
None	11%	7%	6%	4%	11%

IFMA study participants have implemented a number of equipment and systems-related measures over the past 12 months, but the percentages have dropped slightly when compared to 2009 results. The most common measures are adjusting controls set points or schedules, upgrading or installing a building management system, replacing inefficiency equipment before the end of its useful life, and installing variable speed drives.

Equipment and Systems-related Measures Implemented	IFMA				Global
	2007	2008	2009	2010	2010
	(449)	(336)	(417)	(491)	(2,874)
Adjusted HVAC temperature controls set points/schedules	75%	75%	80%	74%	49%
Upgraded or improved an existing building management system	43%	53%	48%	47%	37%
Replaced inefficient equipment before the end of its useful life	32%	45%	44%	43%	37%
Increased frequency of monitoring consumption	37%	40%	43%	40%	34%
Installed variable speed/frequency drives (VSD/VFD)	52%	53%	47%	36%	26%
Increased preventive maintenance schedules	33%	38%	33%	29%	29%
Implemented computer and/or electronics power	–	–	28%	21%	23%
Installed a building management system where there was not one	30%	27%	25%	20%	21%
Re/retro-commissioned building systems and equipment	n/a	19%	20%	19%	16%
Implemented centralized system for tracking energy/GHG emissions	–	–	–	15%	12%
Captured waste energy (such as heat & steam)	n/a	12%	11%	12%	18%
Other	12%	12%	13%	6%	2%
None	5%	4%	5%	5%	12%

As in previous years, lighting retrofits are the most common measure implemented to reduce energy consumption. Some of the EEI survey participants are also installing sensors, dimmable ballasts and centralized lighting controls.

Lighting-related Measures Implemented	IFMA				Global
	2007	2008	2009	2010	2010
	(449)	(338)	(417)	(488)	(2,874)
Switched to more efficient lamps, ballasts or fixtures	79%	83%	81%	75%	73%
Installed lighting sensors so lights come on/off as needed	63%	67%	70%	57%	44%
Installed or adjusted time clocks to turn lights on/off at specified times	52%	52%	51%	40%	33%
Installed dimmable lighting	–	–	–	18%	24%
Employed centralized control system for lighting	–	–	–	16%	16%
Other	7%	5%	8%	5%	2%
None	6%	6%	5%	12%	10%

About two-thirds of IFMA members and 40 percent of the global sample have not adopted any building envelope-related energy efficiency improvement measures. Upon further analysis, it is interesting to note that survey participants in Europe, China and India are more likely to have installed reflective white roofs or vegetative green roofs compared to their North American counterparts.

Building Envelope-related Measures Implemented	IFMA				Global
	2007	2008	2009	2010	2010
	(449)	(322)	(406)	(463)	(2,807)
Re-roofed with reflective white roof covering	17%	25%	24%	17%	21%
Installed energy-saving glass in windows	26%	28%	23%	15%	32%
Increased building insulation	n/a	17%	17%	13%	30%
Installed a green vegetative roof	n/a	3%	5%	5%	18%
Other	12%	7%	4%	5%	2%
None	56%	47%	56%	65%	41%

Negotiating energy contracts with energy suppliers is another means to manage energy costs. Results show that 40 percent of the IFMA respondents has negotiated contracts with suppliers within the past year. One fifth of respondents have implemented a utility bill validation system. Another 20 percent participated in demand response programs over the past year. The global sample, driven by survey participants in India and China, was more likely to have installed onsite renewable energy generation (21%), compared to IFMA members (11%).

Energy Supply-related Measures Implemented	IFMA				Global
	2007	2008	2009	2010	2010
	(449)	(324)	(407)	(473)	(2,815)
Negotiated energy contracts with suppliers	48%	41%	42%	40%	35%
Implemented system to validate utility bills	–	–	–	22%	18%
Participated in demand response programs	–	–	–	21%	22%
Put energy price hedging strategies in place	20%	17%	19%	12%	17%
Installed renewable energy systems (solar, wind, geothermal)	–	10%	13%	11%	21%
Self generate power during demand peaks	11%	10%	9%	7%	16%
Converted to using alternative fuels	6%	6%	5%	3%	16%
Other	4%	4%	4%	1%	1%
None	39%	40%	43%	32%	31%

Nearly one quarter of IFMA members have at least one green-certified building and one half have buildings with green elements. In comparison, the global sample has a smaller percentage of those with certified buildings or green elements. It is interesting to see that the percentage of IFMA participants managing green-certified buildings has doubled in two years.

Current Status Vis-à-Vis Green Facilities	IFMA			Global
	2008	2009	2010	2010
	(336)	(416)	(486)	(2,873)
Have at least one green certified building	12%	20%	24%	19%
Have buildings with elements but no certification	59%	54%	49%	40%
Have no buildings that incorporate green elements	25%	21%	24%	34%
Don't know	4%	5%	4%	7%

The percentage of IFMA members targeting green building certification for new construction has dropped to 36 percent from 42 percent in 2009; however, the percentage targeting certification for retrofit projects has increased from 18 percent to 21 percent. The global sample is more likely to seek certification, whereas IFMA members are more likely to target incorporating green elements but not building certification.

Goals for New Construction/Retrofits	New Construction Projects				Related Projects			
	IFMA			Global	IFMA			Global
	2008	2009	2010	2010	2008	2009	2010	2010
	(144)	(149)	(161)	(829)	(143)	(165)	(187)	(1,126)
To be certified to a recognized green standard	32%	42%	36%	51%	17%	18%	21%	32%
To have green elements but not green certification	50%	44%	48%	39%	59%	62%	66%	53%
No goal for them to be green buildings	15%	12%	14%	8%	20%	16%	12%	13%
Don't know	3%	2%	2%	2%	3%	3%	1%	2%

Adoption of renewable energies amongst the IFMA membership is still low, especially compared to the global sample. Solar electricity systems are the renewable technology being considered by the greatest percentage of those surveyed.

Renewable Systems Considered	IFMA			Global
	2008	2009	2010	2010
	(237)	(251)	(291)	(1,669)
Solar electric	24%	35%	37%	50%
Solar thermal	15%	22%	16%	42%
Wind	11%	17%	13%	26%
Geothermal	12%	21%	15%	21%
Hydropower	4%	4%	7%	15%
Biomass	4%	5%	5%	16%
None of these	48%	38%	40%	19%
Don't know	11%	10%	9%	4%

When asked to select up to three clean energy technologies they expected to have the greatest improvement in performance relative to price over the next ten years, respondents identify lighting, smart building and solar photovoltaic technologies as the most promising. IFMA respondents are far more likely to have selected smart building technologies in comparison to the rest of the total global sample.

Greatest Expected Performance/ Price Improvements in 10 Years	IFMA			Global
	2008	2009	2010	2010
	n/a	n/a	(481)	(2,847)
Lighting technologies	n/a	n/a	63%	46%
Smart building technology (integration, demand response)	n/a	n/a	58%	33%
Solar photovoltaic (PV) energy	n/a	n/a	45%	46%
Electric and plug-in electric vehicles	n/a	n/a	24%	28%
Concentrating solar power (CSP)	n/a	n/a	15%	26%
Nuclear power	n/a	n/a	15%	19%
Stationary electric energy storage	n/a	n/a	5%	7%
Carbon capture and storage (CCS)	n/a	n/a	3%	8%

IFMA is the world's largest and most widely recognized international association for professional facility managers, supporting more than 19,000 members in 78 countries. The association's members, represented in 124 chapters and 16 councils worldwide, manage more than 37 billion square feet of property and annually purchase more than US $100 billion in products and services. Formed in 1980, IFMA certifies facility managers, conducts research, provides educational programs, recognizes facility management certificate programs and produces World Workplace, the world's largest facility management conference and exposition. To join and follow IFMA's social media outlets online, visit the association's LinkedIn, Facebook, YouTube and Twitter pages. For more information, visit the IFMA press room or www.ifma.org.

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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