

2011 ENERGY EFFICIENCY INDICATOR: IFMA PARTNER RESULTS



Partner Results Summary



In the 2011 Energy Efficiency Indicator (EEI) survey conducted by the International Facility Management Association (IFMA) and the Institute for Building Efficiency (an initiative of Johnson Controls), building owners and operators all over the world showed strong interest in energy efficiency and identified key obstacles in their path toward improvement.

BACKGROUND

The annual EEI survey was launched in 2007 by Johnson Controls and IFMA. This unique research partnership examines building decision-makers' attitudes, priorities, practices and investment plans related to energy management. In 2011, its fifth consecutive year, the survey reached 3,886 decision makers around the world with responsibility for managing commercial buildings and their energy use.

Conducted in March and April 2011 by the Institute for Building Efficiency, the survey reached respondents representing many types of buildings on six continents. For the fifth year, IFMA served as a global partner on the survey; members provided the "frontlines" perspective of executives and managers responsible for facilities budgets and energy use in commercial buildings around the world.

Comparing 2011 results to those from the previous four years provides an outlook on trends in energy management and insights into the evolution of the energy efficiency marketplace in the face of prolonged economic uncertainty.

METHODOLOGY

The survey was administered through the Internet by independent provider survey.com. The respondents were energy management decision makers. Specifically, to qualify for the survey, respondents had to:

1. Have budget responsibility for their organization's or customer's facilities
2. Have job responsibilities that 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.

This was the second year the EEI survey was conducted globally, and it targeted significant numbers of respondents in Australia, Canada, China, France, Germany, India, Italy, Poland, Spain, United Kingdom and the United States. There were additional respondents in Brazil and South Africa, for a total of 13 countries with significant representation. The survey was administered in eight languages. 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 to 2011, but also includes the 2011 responses for the entire global sample for comparison. A total of 632 IFMA members participated in the survey, compared to 491 in 2010, 418 in 2009, 338 in 2008, and 449 in 2007.

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

Where applicable, 2011 results are compared with those for 2007-2010. However, because new questions have been added or modifications made each year, comparative data is not available for all questions for the five-year period.

WHO WERE THE RESPONDENTS?

The majority of IFMA respondents (60%) were facility managers, and another 22% were at the VP/director of facilities level. The global sample included a greater share of C-level executives and owners/proprietors than did the IFMA group.

Position	IFMA					Global
	2007	2008	2009	2010	2011	2011
	(449)	(338)	(468)	(491)	(631)	(3,857)
Facility manager	51%	57%	56%	57%	60%	24%
VP or director of facilities	30%	28%	29%	23%	22%	9%
Senior executive (CEO, CFO, GM)	3%	1%	2%	4%	3%	18%
Owner/sole proprietor	–	–	–	–	1%	23%
VP/director/manager of energy	–	–	–	4%	3%	6%
VP/director of operations	2%	2%	1%	1%	5%	6%
Other	15%	12%	12%	11%	7%	37%

IFMA members differed from the global average in that they were responsible for considerably larger facilities: 55% reported responsibility for 100,000 to 1 million square feet, and an additional one-third were responsible for one million square feet or more.

Area of Responsibility	IFMA					Global
	2007	2008	2009	2010	2011	2011
	(449)	(338)	(390)	(489)	(538)	(2,247)
Less than 100,000 sq. ft.	11%	12%	14%	14%	12%	37%
100,000 to 499,999 sq. ft.	39%	36%	40%	37%	33%	20%
500,000 to 999,999 sq. ft.	18%	21%	15%	18%	21%	14%
1 million to 1.99 million sq. ft.	14%	13%	11%	13%	12%	10%
2 million to 4.99 million sq. ft.	10%	10%	11%	10%	12%	8%
5 million or more sq. ft.	8%	7%	9%	7%	10%	5%
Don't know	–	–	–	1%	1%	2%

The IFMA members who participated in the study worked for organizations with generally larger headcounts than in the global sample. Fifty-seven percent of IFMA respondents worked for organizations with more than 1,000 employees, whereas 64% of the non-IFMA respondents worked for organizations with fewer than 1,000 employees.

Number of Employees	IFMA					Global
	2007	2008	2009	2010	2011	2011
	(449)	(338)	(416)	(487)	(630)	(3,851)
Fewer than 100	7%	7%	6%	8%	7%	33%
100 – 499	23%	23%	23%	22%	24%	20%
500 – 999	17%	16%	14%	15%	12%	11%
1,000 – 4,999	27%	25%	26%	29%	25%	16%
5,000 – 9,999	7%	7%	10%	8%	9%	7%
10,000 – 49,999	12%	13%	12%	11%	13%	8%
50,000 or more	5%	7%	7%	5%	8%	5%
Don't know	2%	1%	2%	2%	1%	1%

IFMA respondents tended to represent large organizations by approximate annual revenue: 44% reported working for organizations with revenues of US\$100 million or more (versus 23% in this category one year ago). The global sample included a greater share of smaller organizations.

Company Revenue (in US Dollars)	IFMA					Global
	2007	2008	2009	2010	2011	2011
	(415)	(308)	(418)	(486)	(595)	(3,779)
Less than \$100K	4%	4%	1%	1%	1%	12%
\$100K – less than \$500K	–	1%	–	0.5%	1%	9%
\$500K – less than \$1 million	–	–	–	0.5%	2%	6%
\$1 million – less than \$5 million	4%	3%	2%	3%	5%	9%
\$5 million – less than \$10 million	–	2%	2%	2%	3%	7%
\$10 million – less than \$50 million	6%	8%	5%	7%	10%	13%
\$50 million – less than \$100 million	4%	4%	3%	3%	6%	7%
\$100 million – less than \$500 million	11%	9%	9%	8%	12%	9%
\$500 million – less than \$1 billion	4%	3%	4%	4%	5%	3%
\$1 billion or more	11%	12%	13%	11%	27%	11%
Don't know	55%	54%	61%	60%	29%	15%

Both the IFMA sample and the global average were split roughly 3-to-1 between private companies and government ownership.

Industry	IFMA					Global
	2007	2008	2009	2010	2011	2011
	(449)	(334)	(390)	(458)	(458)	(3,814)
Private sector	81%	78%	82%	80%	74%	81%
Public/government-owned	19%	22%	18%	20%	26%	19%

The survey touched a wide range of industries, reaching nearly 20 sectors. The IFMA sample had a distribution similar to the global sample, except that it showed relatively high representation in the finance and government sectors.

Industry	IFMA					Global
	2007	2008	2009	2010	2011	2011
	(449)	(338)	(418)	(491)	(628)	(3,852)
Service industry	5%	4%	3%	1%	6%	9%
Finance and insurance	16%	13%	17%	15%	15%	6%
Manufacturing	9%	11%	13%	10%	7%	10%
Retail	3%	2%	2%	2%	1%	4%
Real estate	5%	4%	5%	2%	7%	8%
Education	11%	7%	6%	6%	8%	10%
K-12	–	4%	2%	2%	3%	3%
Higher education	–	3%	4%	4%	5%	7%
Health care	6%	5%	6%	5%	3%	5%
Government and public administration	11%	14%	15%	13%	14%	6%
Construction	–	–	1%	2%	3%	9%
IT/communications	3%	4%	3%	6%	5%	7%
Wholesale	1%	1%	–	1%	–	2%
Hospitality	1%	2%	2%	2%	2%	2%
Transportation and logistics	2%	3%	1%	1%	1%	2%
Consumer products	–	1%	1%	2%	2%	2%
Nonprofit/religious	–	–	–	5%	5%	2%
Life sciences/pharma	–	–	–	3%	2%	1%
Other	27%	29%	26%	24%	11%	5%

Office space was the most common building use: Nearly four-fifths of IFMA respondents indicated that they were responsible for office buildings.

Primary Type of Building	IFMA					Global
	2007	2008	2009	2010	2011	2011
	(449)	(337)	(417)	(487)	(628)	(3,849)
Office space	76%	74%	75%	76%	77%	57%
Industrial/manufacturing/plant	15%	20%	18%	15%	15%	21%
Hospital/health care facility/clinic	6%	6%	6%	8%	6%	10%
Hotels/hospitality	2%	4%	3%	4%	4%	7%
Retail	7%	7%	7%	7%	7%	13%
Education campus	11%	9%	8%	11%	11%	14%
Research center/laboratory	13%	12%	11%	12%	13%	10%
Warehouse/storage	20%	23%	21%	19%	17%	16%
Residential	–	–	–	–	9%	16%
Other	14%	16%	13%	15%	12%	6%

IFMA respondents were more likely than the global sample to manage multiple buildings. Half of the IFMA respondents managed either a single building or a campus, while an additional 40% had a state, regional or national emphasis.

Facility Oversight	IFMA					Global
	2007	2008	2009	2010	2011	2011
	–	–	–	(491)	(631)	(3,845)
Single building	–	–	–	27%	20%	39%
Single campus	–	–	–	28%	30%	25%
Single state/province	–	–	–	13%	23%	13%
Subnational region	–	–	–	19%	14%	9%
National	–	–	–	8%	7%	9%
International region	–	–	–	3%	3%	2%
Global	–	–	–	2%	3%	3%

This year's EEI study targeted 13 countries: Australia, Brazil, Canada, China, France, Germany, India, Italy, Poland, Spain, South Africa, United Kingdom, and the United States. Smaller numbers of responses came from numerous other countries.

Countries Represented	IFMA	Global
	2011	2011
	(632)	(3,868)
United States	455	1481
Canada	69	211
Afghanistan	-	1
Angola	1	2
Argentina	-	2
Australia	-	155
Austria	-	1
Bahamas, The	1	1
Barbados	2	2
Belgium	6	7
Bermuda	2	2
Brazil	-	103
Brunei	1	1
Cayman Islands	1	4
China	1	428
Colombia	-	1
Czech Republic	1	1
Egypt	1	1
El Salvador	-	1
Fiji	-	1
France	-	100
Germany	1	157
Ghana	2	2
Greece	1	2
Guatemala	-	1
Hong Kong	14	21
Hungary	-	1
India	4	450
Indonesia	-	1
Ireland	2	2

Countries Represented	IFMA	Global
	2011	2011
	(632)	(3,868)
Italy	3	125
Japan	-	2
Kuwait	2	2
Macau	1	1
Malaysia	-	1
Mexico	-	5
Netherlands	2	4
New Zealand	1	1
Nigeria	17	17
Norway	-	1
Paraguay	-	1
Peru	-	1
Philippines	3	4
Poland	-	105
Portugal	1	3
Qatar	1	1
Russia	1	2
Saudi Arabia	1	1
Seychelles	-	1
Singapore	4	5
South Africa	1	77
Spain	7	116
Switzerland	7	7
Taiwan	1	1
Thailand	-	1
Trinidad and Tobago	4	4
Turkey	1	1
United Arab Emirates	8	9
United Kingdom	-	225
Vietnam	1	1

RESULTS SUMMARY

Current Emphasis on and Motivations for Energy Efficiency

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

The facility management professionals responding to the 2011 Energy Efficiency Indicator survey revealed a growing emphasis on energy in organizations around the world. This section presents selected highlights from the IFMA responses. Detailed tables are included in the following section.

Several key indicators tested in the EEI survey show that energy was on the minds of decision-makers. Out of the 632 IFMA members that responded:

- 66% reported that energy was “extremely important” or “very important” to their organization
- 60% were paying more attention to energy than one year ago
- 97% had taken actions to reduce energy use during the past year
- 96% had invested in energy projects
- 36% had at least one green certified building in their organization’s portfolio
- 45% had a goal to reduce energy use

Why are IFMA members so interested in increasing energy efficiency and finding other ways to reduce consumption? The survey asked respondents to evaluate the significance of several possible motivations for energy efficiency, including economic, environmental and other considerations. Table 1 shows the top drivers for IFMA members and how they compared to the global averages. Both groups shared an emphasis on energy cost savings, while IFMA members were slightly more interested in enhancing public image than in securing rebates and incentives – the opposite of the global result.

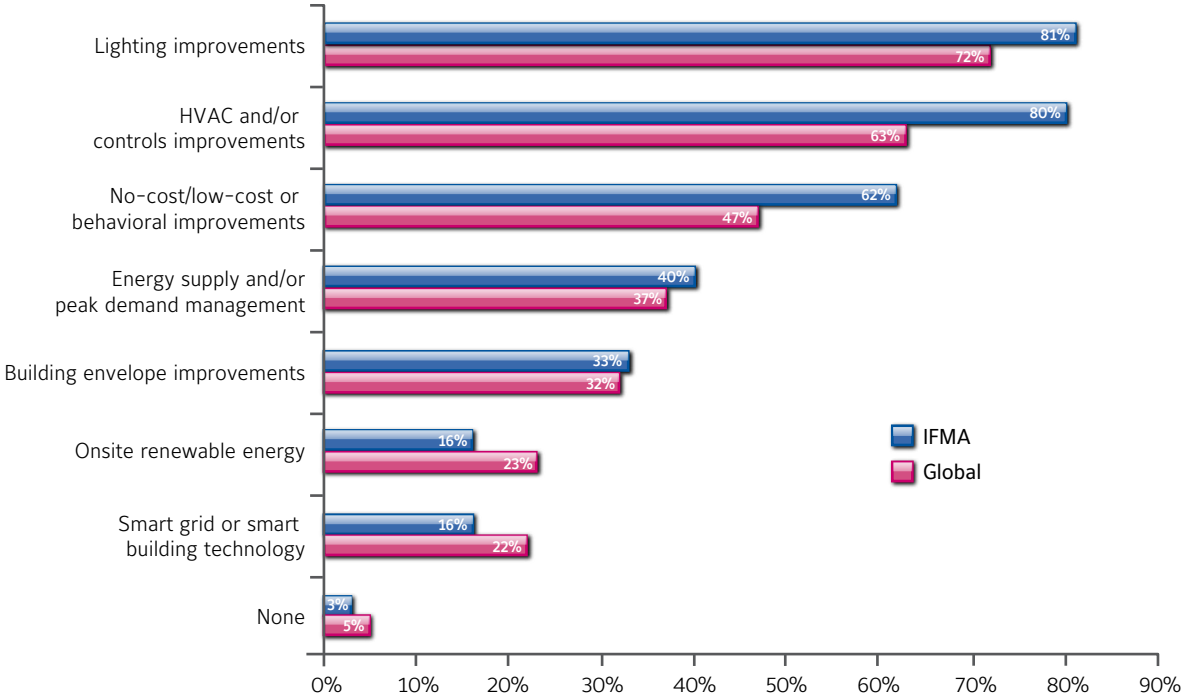
Table 1. Drivers for Energy Efficiency Decisions

Drivers of Efficiency	IFMA	Global Average
Energy cost savings	1	1
Enhanced brand or public image	2	3
Government/utility incentives/rebates	3	2
Greenhouse gas footprint reduction	4	4
Existing government policy	5	6
Pending/anticipated government policy	6	8
Increasing energy security	7	5
Customer attraction/retention	8	7

Cost savings was the top driver in each of the previous four years, as well. Part of the reason may be the expectation of rising energy prices: IFMA members expected the combined price they pay per unit of energy to rise by 6% on average in the coming year.

IFMA members appeared to be very experienced in dealing with the “low-hanging fruit” of energy efficiency. As shown in Figure 1, IFMA members were more likely than respondents from other organizations to have implemented lighting, HVAC, controls and no-cost/low-cost improvements.

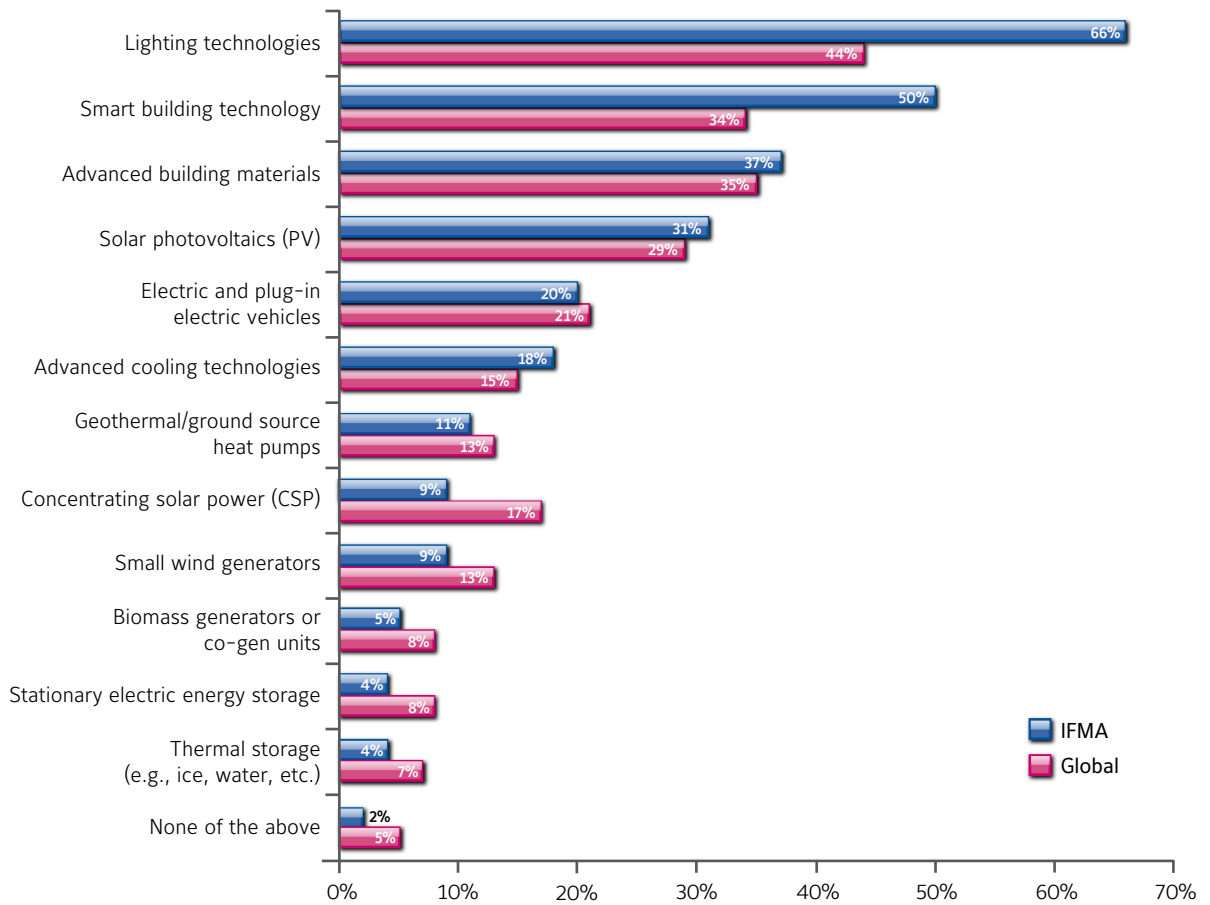
Figure 1. Energy Efficiency Measures Implemented in the Past Year



Specifically, IFMA members reported having switched to energy efficient lamps and ballasts (76%), adjusted HVAC control setpoints and schedules (66%), installed occupancy or photo-sensors for lighting (58%), increased awareness of occupants (53%), educated operators (47%), upgraded and improved control systems (44%) and replaced inefficient equipment (44%). The complete list of the 52 specific improvement measures adopted by IFMA members is included in the detailed findings section below.

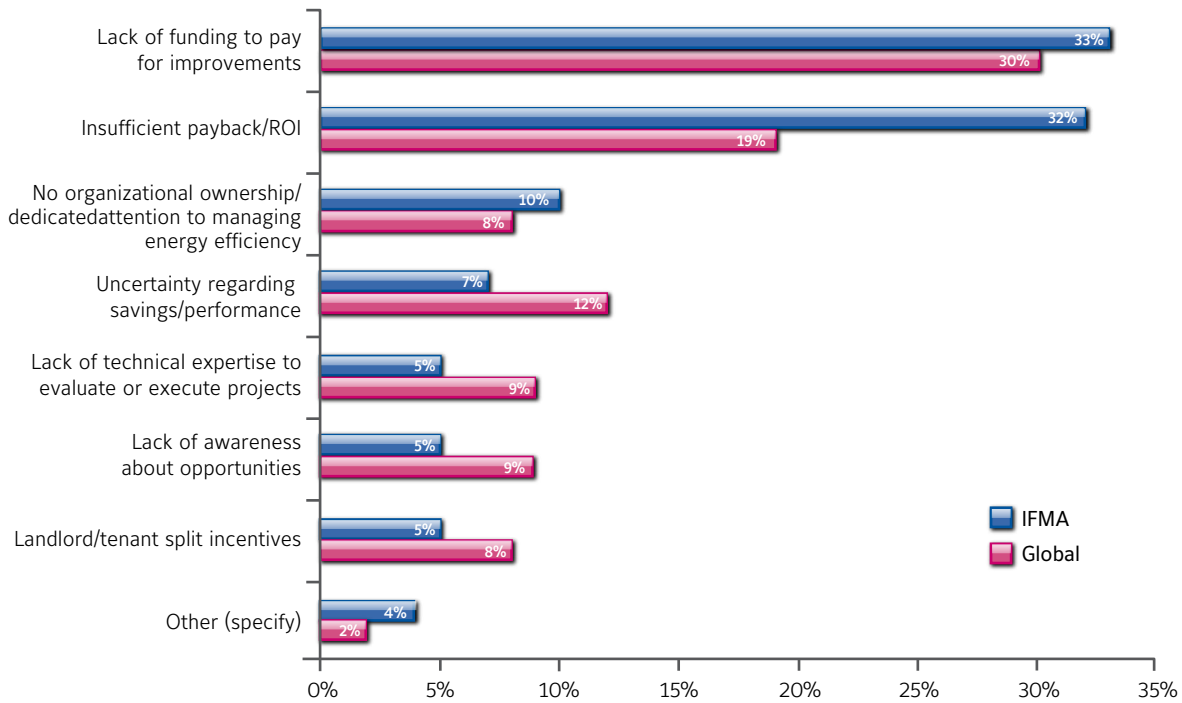
While they appeared to be relying mainly on well-known efficiency options in their facilities, IFMA members also seemed to be monitoring the advancement of new technologies and looking forward to a more efficient future. Figure 2 shows the on-site technologies respondents expected to have the largest increase in market adoption over the next decade. IFMA members stood out in their interest in new lighting technologies and smart buildings.

Figure 2. Technologies expected to have the greatest increase in market adoption over the next decade



The survey results contain substantial evidence that IFMA members are emphasizing energy efficiency. However, they also cited barriers impeding their organizations from achieving all the savings they would like. When asked to identify the top barrier to energy efficiency at their organizations (Figure 3), a majority of IFMA members pointed to financial concerns: lack of funding to pay for projects (33%) and insufficient payback or return on investment (32%). The large difference in the second barrier, "Insufficient payback/ROI," indicates that identifying savings opportunities that meet internal hurdle rates is a major challenge for IFMA members.

Figure 3. What is the top barrier to energy efficiency at your company/organization?



DETAILED FINDINGS

Current Emphasis on and Motivations for Energy Efficiency

Energy was certainly on the minds of IFMA members: 60% reported that they were paying more attention to energy efficiency than one year ago.

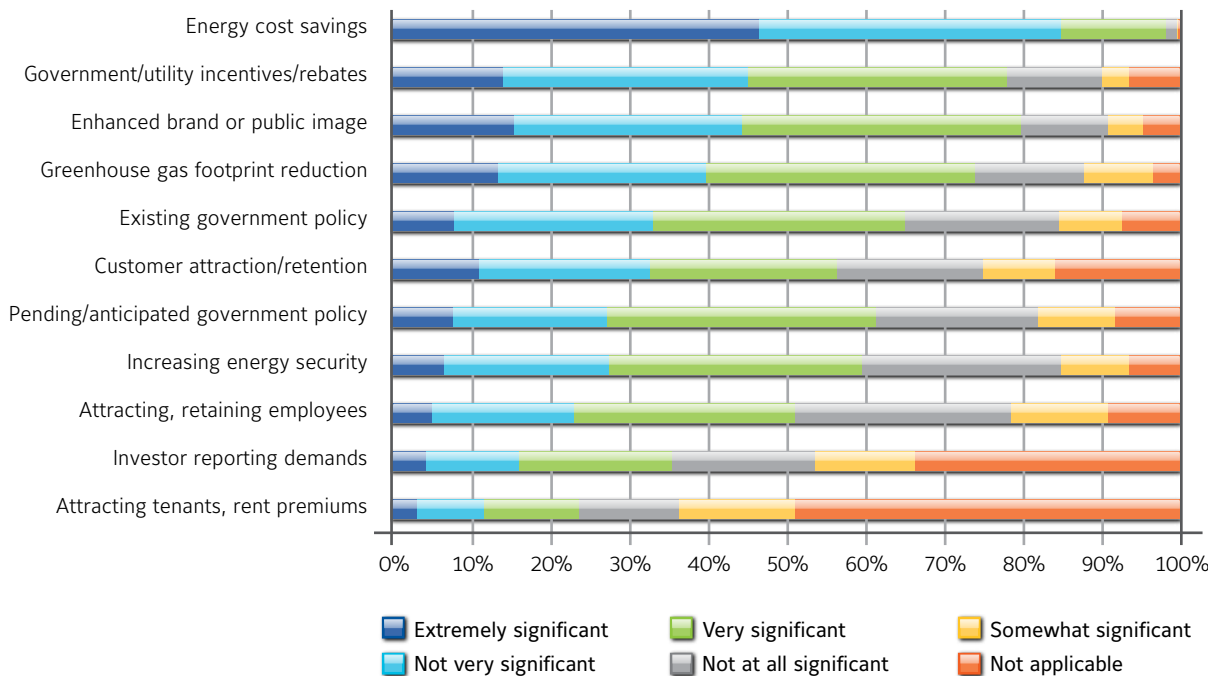
Attention to Energy Efficiency vs. 12 Month Ago	IFMA					Global
	2007	2008	2009	2010	2011	2011
	(449)	(338)	(418)	(491)	(631)	(3,849)
Paying a lot more attention now	27%	33%	35%	29%	25%	36%
Paying a little more attention now	35%	36%	39%	40%	35%	37%
Paying about the same attention	34%	28%	23%	27%	37%	24%
Paying less attention now	-	-	-	1%	2%	1%
Don't know	2%	1%	1%	1%	1%	1%

After a slight drop in 2010, the importance of energy management to IFMA members held fixed, with 66% rating energy as extremely or very important. This is somewhat less than the global average of 70%.

Importance of Energy Management	IFMA					Global
	2007	2008	2009	2010	2011	2011
	(449)	(338)	(418)	(491)	(630)	(3,846)
Extremely important	19%	22%	23%	22%	24%	27%
Very important	40%	43%	50%	43%	42%	43%
Somewhat important	33%	30%	25%	32%	29%	25%
Not very important	7%	5%	3%	4%	5%	4%
Not at all important	1%	–	3%	–	–	1%

Figure 4 shows the significance of several motivations for the 621 IFMA members responding. Facility professionals identified energy cost savings as the clear frontrunner among motivations for energy efficiency investment – 98 percent said cost savings was an important factor. Attracting government and utility incentives, enhancing public image and reducing greenhouse gas emissions were also significant motivators for making energy efficiency improvements.

Figure 4: How significant an influence are the following in your organization’s energy efficiency decisions?



Three quarters of IFMA members expected energy prices to rise in the next year, an increase from 59% in last year's survey. This falls in line with the global sample and appears to reflect a general trend toward widespread expectation of price increases.

Believe Price of Energy Will...	IFMA					Global
	2007	2008	2009	2010	2011	2011
	(449)	(338)	(418)	(491)	(632)	(3,868)
Increase over the next year	79%	79%	59%	59%	75%	81%
Decrease over the next year	2%	4%	11%	10%	5%	4%
Not change significantly	20%	17%	29%	31%	20%	15%

The expectations of IFMA members about energy prices varied widely. Their average expectation was that energy prices would increase by 6.1% in the next year – higher than in recent years but significantly lower than the global average.

Anticipated Energy Price Change in 12 Months	IFMA				Global
	2008	2009	2010	2011	2011
	(265)	(418)	(491)	(632)	(3,868)
Increase unknown	21%	13%	13%	14%	11%
Increase more than 40%	–	1%	1%	–	4%
Increase 21% - 40%	3%	3%	2%	2%	7%
Increase 11% - 20%	14%	7%	6%	58%	60%
Increase 6% - 10%	18%	16%	17%	–	–
Increase 1% - 5%	23%	19%	20%	–	–
No Change	4%	11%	10%	20%	15%
Decrease 1% - 5%	2%	8%	11%	3%	2%
Decrease 6% - 10%	4%	10%	6%		
Decrease 11% - 20%	4%	6%	5%		
Decrease 21% - 40%	–	2%	2%	–	–
Decrease more than 40%	–	–	–	–	–
Decrease unknown	7%	4%	7%	1%	–
<i>Mean anticipated energy price increase</i>	<i>7.0%</i>	<i>4.7%</i>	<i>4.7%</i>	<i>6.1%</i>	<i>10.9%</i>

In 2011 there was a slight decline in the percentage of IFMA members who considered it *extremely* or *very likely* that significant national legislation mandating energy efficiency and/or carbon reduction would be passed in the next two years. This year's survey also asked about expectations for state and local legislation. Both IFMA and global respondents viewed new carbon or energy policies as more likely to come from the national level than from other levels.

Expectation of Significant Legislation Mandating Energy Efficiency or Carbon Reduction in Next 2 Years	IFMA				Global
	2008	2009	2010	2011	2011
	(334)	(416)	(488)	(613)	(3,761)
Extremely/very likely	41%	62%	44%	41%	53%
Extremely likely	10%	17%	14%	13%	25%
Very likely	32%	45%	34%	28%	28%
Somewhat likely	39%	29%	32%	37%	27%
Not very likely	14%	8%	15%	15%	13%
Not at all likely	2%	1%	1%	3%	5%
Don't know	–	1%	3%	4%	3%

Despite the decline in expectations for new government policy, more IFMA organizations said they were setting carbon reduction goals. For the first time, the 2011 survey asked about both publicly disclosed and internal goals. Nearly half of the IFMA respondents said they had a publicly stated goal (21%) or an internal goal (21%) to reduce carbon emissions.

Carbon Reduction Goals	IFMA					Global
	2007	2008	2009	2010	2011	2011
	(449)	(336)	(418)	(488)	(632)	(3,868)
Have a publicly stated carbon-reduction goal	10%	15%	23%	24%	21%	26%
Have an internal carbon-reduction goal	–	–	–	–	21%	28%
Don't have a stated carbon-reduction goal	71%	67%	65%	66%	52%	41%
Don't know	19%	18%	11%	10%	5%	5%

IFMA members continued to identify improving energy efficiency in their buildings as the top strategy for reducing their organizations' greenhouse gas emissions footprint. Fifty-five percent – the highest ever – rated that as the top strategy, versus 39 percent of the global sample. Other top strategies among IFMA members included alternative workplace strategies such as telecommuting (7%), installing on-site renewable energy systems (5%), and consolidation of the real estate portfolio (5%).

Top Strategy for Lowering Carbon Emissions	IFMA			Global
	2009	2010	2011	2011
	(98)	(488)	(512)	(3,287)
Energy efficiency in buildings	49%	51%	55%	39%
Telecommuting, virtual meetings	–	6%	7%	8%
On-site renewable energy	5%	4%	5%	10%
Renewable power purchases	8%	4%	4%	8%
Energy efficiency in vehicle fleet	4%	2%	4%	6%
Real estate portfolio consolidation	–	2%	5%	4%
Carbon emission offset purchases	5%	1%	1%	2%
Supply chain carbon reductions	–	1%	2%	5%
Use of alternative transportation fuels	2%	–	2%	4%
Switch to environmentally friendly refrigerants	–	–	–	2%
No prioritization among strategies	16%	18%	12%	8%
Other/Don't know	10%	11%	4%	2%

Nearly half of IFMA members said incentives from utilities or government entities were extremely or very influential on their energy efficiency decisions. This figure is back to a five-year high for both IFMA members and the global sample. This may reflect the continuing availability in 2011 of government economic stimulus appropriations across the world that included energy efficiency incentives.

Influence of Utilities/Gov. Incentives on Energy Efficiency Decisions	IFMA				Global
	2008	2009	2010	2011	2011
	(337)	(418)	(487)	(600)	(3,699)
Extremely/very influential	40%	48%	34%	45%	53%
Extremely influential	11%	16%	9%	14%	21%
Very influential	29%	32%	25%	31%	32%
Somewhat influential	34%	33%	27%	33%	28%
Not very influential	16%	12%	15%	12%	10%
Not at all influential	6%	5%	9%	4%	4%
Don't know	–	2%	15%	7%	6%

ENERGY EFFICIENCY INVESTMENT PLANS AND FINANCIAL CRITERIA

When asked how they planned to fund energy efficiency and/or renewable energy investments, the most common approaches for the vast majority of IFMA members were internal operating budgets (74%) and internal capital budgets (67%). Thirty-eight percent planned to fund projects using grants or tax credits. IFMA respondents were less likely than their counterparts in the global sample to have used or to be considering new financing models such as on-bill financing (OBF), power purchase agreements (PPA), shared savings agreements or property assessed clean energy (PACE) financing.

Options for Funding the Up-front Cost of Energy Efficiency and/or Renewable Energy Projects	IFMA		Global	
	Previous 24 months	Next 24 months	Previous 24 months	Next 24 months
	(604)	(537)	(3,697)	(3,451)
Internal capital budget	66%	67%	50%	46%
Internal operating budget	75%	74%	58%	51%
Grants, rebates, or tax credits	38%	38%	34%	32%
Energy or climate specific set-asides	12%	15%	22%	23%
Project financing from a financial institution	5%	5%	18%	18%
Project financing from the sale of a bond	4%	5%	15%	16%
Power purchase agreement (PPA)	14%	16%	23%	23%
Shared savings agreement	11%	13%	21%	21%
Utility on-bill financing	4%	4%	18%	16%
Property assessed clean energy (PACE) loans/tax lien financing	1%	1%	2%	3%
Environmental upgrade charge	1%	1%	11%	12%
Other	1%	2%	2%	2%
Not applicable	5%	5%	13%	14%

Among IFMA members, the median maximum allowable payback period for energy efficiency investments was close to four years. About 60% of IFMA members expected to see efficiency investments pay back in less than four years.

Maximum Allowable ROI for Energy Efficiency Investments	IFMA				Global
	2008	2009	2010	2011	2011
	(338)	(417)	(490)	(632)	(3,855)
Less than a year (0.5)	1%	3%	2%	2%	6%
1 but less than 2 years (1.5)	14%	13%	12%	16%	17%
2 but less than 3 years (2.5)	20%	26%	25%	22%	22%
3 but less than 4 years (3.5)	19%	15%	18%	19%	18%
4 but less than 6 years (5.0)	23%	21%	22%	20%	18%
6 but less than 10 years (8.0)	10%	10%	11%	11%	9%
10 years or more (10.0)	4%	4%	3%	5%	3%
Would not require ROI	2%	1%	1%	2%	2%
Don't know	–	7%	5%	3%	5%
<i>Average maximum ROI period</i>	<i>3.7 years</i>	<i>3.6 years</i>	<i>3.8 years</i>	<i>4.0 years</i>	<i>3.7 years</i>

For IFMA members, the top barriers preventing their organizations from capturing potential energy savings were 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 barriers.

Top Barrier to Capturing Energy Savings for the Organization	IFMA			Global
	2009	2010	2011	2011
	(414)	(488)	(607)	(3,764)
Lack of internal capital budget/funding to pay for improvements	37%	31%	33%	31%
Insufficient payback/ROI	31%	26%	32%	20%
Uncertainty of savings	–	15%	7%	12%
Lack of buy-in from senior leaders	9%	9%	–	–
Lack of technical expertise	3%	5%	5%	9%
Lack of dedicated attention, ownership	9%	5%	10%	8%
Landlord/tenant split incentives	5%	4%	5%	8%
Lack of credit rating, collateral or balance sheet debt capacity to secure financing	–	0.5%	–	–
Lack of awareness about opportunities	–	–	5%	10%
Other	5%	5%	4%	2%

ENERGY MANAGEMENT PRACTICES AND TECHNOLOGIES

Energy data is emerging as a central part of modern facility management. Over the first four years of the survey, the frequency with which IFMA members reviewed their energy consumption increased: By 2010, more than 80 percent reported doing so on at least a monthly basis.

Frequency of Reviewing Consumption Data	IFMA			
	2007	2008	2009	2010
	(449)	(338)	(418)	(491)
Sub-hourly	–	–	–	7%
Hourly	–	–	–	3%
Daily	5%	4%	4%	9%
Weekly	4%	5%	8%	4%
Monthly	48%	54%	59%	63%
Quarterly	15%	11%	12%	6%
Twice a year	4%	5%	5%	4%
Annually	14%	12%	6%	
Less than once a year	8%	6%	2%	
Don't know	3%	3%	3%	4%

In 2011, respondents were asked separately about the frequency with which their organizations measured and recorded energy data, as opposed to the frequency of reviewing and analyzing energy data. Among both the IFMA respondents and the global sample, there were substantially more organizations recording data at least weekly than reviewing/analyzing data at that frequency.

Frequency of Reviewing Consumption Data	2011			
	IFMA	Global	IFMA	Global
	Measure & Record		Review & Analyze	
	(449)	(3,857)	(418)	(3,855)
Sub-hourly	8%	5%	6%	15%
Hourly	7%	6%		
Daily	10%	18%		
Weekly	5%	14%		
Monthly	55%	40%	40%	43%
Quarterly	6%	7%	26%	24%
Less than quarterly	5%	5%	18%	13%
Don't know	4%	5%	9%	5%

IFMA members were actively pursuing opportunities to reduce energy consumption in their facilities. Out of 52 possible types of projects, more than three-fourths had switched to efficient lighting equipment, while smaller numbers had upgraded building envelopes or installed renewable energy systems.

Energy measures adopted in the past 12 months	IFMA	Global
	2011	2011
	(632)	(3,868)
<i>Lighting</i>		
Switched to energy efficient bulbs, lamps, ballasts, or fixtures	76%	61%
Installed occupancy or photo-sensors for lights	58%	39%
Installed or adjusted time clocks for lights	35%	30%
Delamped or removed fixtures in overlit areas	33%	29%
Installed dimmable lighting (e.g., bi-level switching, step-dimming, continuous dimming)	23%	24%
Employed centralized control system for lighting	19%	20%
<i>Heating, Ventilation, Air Conditioning or Controls</i>		
Adjusted HVAC control setpoints or schedules	66%	38%
Upgraded or improved an existing building management system	44%	29%
Replaced inefficient equipment before the end of its useful life	44%	36%
Installed variable-speed/frequency drives (VSD/VFDs)	42%	24%
Increased preventive maintenance schedules	29%	25%
Retro-commissioned building systems and equipment	25%	19%
Implemented computer and/or electronics power management	23%	23%
Installed a building management system where there was none before	20%	16%
Centralized software application for managing energy and GHG emission information	16%	14%
Captured waste energy (such as heat and steam) generated by operations	11%	13%
<i>No-cost/low-cost and Behavior</i>		
Increased awareness of facility occupants to reduce energy use	53%	37%
Educated facilities operations staff to reduce energy use	47%	30%
Performed energy audits of facilities or equipment	42%	26%
Conducted benchmarking of facility energy use against other facilities	32%	18%
Attended or sent staff to energy management seminars	29%	19%
Dedicated a staff member as an 'energy champion'	19%	16%
Hired an energy consultant to find ways to improve energy efficiency	18%	13%
Hired an energy manager	8%	6%
Conducted energy-related pre-lease or pre-purchase due diligence for new space	6%	8%

Energy measures adopted in the past 12 months <i>(continued)</i>	IFMA	Global
	2011	2011
	(632)	(3,868)
<i>Building Envelope</i>		
Increased building insulation, improved seals and weather stripping	21%	22%
Installed a white or reflective roof covering to reduce heat gain	14%	13%
Installed energy-saving glass in windows (e.g., dual-pane, low U-value)	13%	16%
Installed window film or tinting	12%	13%
Installed a green vegetative roof	3%	7%
<i>Energy Supply or Peak Demand</i>		
Negotiated energy contracts with suppliers	20%	18%
Implemented a system or service to validate utility bills	14%	14%
Participated in demand response programs through a utility (e.g., dynamic pricing, interruptible rate)	13%	12%
Participated in demand response programs through a service provider (e.g., capacity program)	12%	12%
Put energy price hedging strategies in place	8%	11%
Purchased 'green power' or renewable electricity	8%	11%
Self-generated power during demand peaks	6%	9%
Converted to using alternative fuels for heat and/or power generation	2%	8%
Installed a combined heat and power system (CHP)	2%	7%
<i>Smart Grid/Smart Building</i>		
Used a data system providing access to electricity usage information	9%	13%
Installed real-time or interval electricity meters	7%	11%
Integrated of facility systems with other internal software applications (e.g., portfolio management, accounting, human resources)	4%	8%
Programmed controls for automated response to signals from utility or grid operator	3%	9%
Integrated facility systems with outside data streams (e.g., weather)	3%	7%
Used a software interface showing price or event information from a utility or grid operator	2%	8%
<i>On-site Renewable Energy</i>		
Solar electric	10%	15%
Solar thermal	4%	11%
Wind	3%	5%
Geothermal (ground-source heat pumps)	2%	5%
Hydropower	0%	4%
Biomass	0%	5%
Biogas	0%	4%

Nearly one third of IFMA members had at least one green-certified building, and an additional 42% had buildings with green elements. The percentage of IFMA participants managing green-certified buildings has nearly tripled in three years (2008-2011). This year was also the first time more respondents were pursuing green certification for existing projects than for new construction.

Current Status Vis-à-Vis Green Facilities	IFMA				Global
	2008	2009	2010	2011	2011
	(336)	(416)	(486)	(629)	(3,848)
We certify all our buildings	–	–	–	7%	11%
Have at least one green-certified building	12%	20%	24%	30%	25%
Have buildings with green elements but no certification	59%	54%	49%	42%	32%
Have no buildings that incorporate green elements	25%	21%	24%	17%	23%
Don't know	4%	5%	4%	4%	8%

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 10 years, respondents identified lighting, smart building technologies and solar photovoltaic technologies as the most promising. IFMA respondents were far more likely than the global sample to select lighting and smart building technologies.

Greatest Expected Performance/ Price Improvements in 10 Years	IFMA				Global
	2008	2009	2010	2011	2011
	–	–	(481)	(481)	(3,838)
Lighting technologies	–	–	63%	66%	44%
Smart building technology (integration, demand response)	–	–	58%	50%	34%
Solar photovoltaic (PV) energy	–	–	45%	31%	29%
Electric and plug-in electric vehicles	–	–	24%	20%	21%
Concentrating solar power (CSP)	–	–	15%	9%	17%
Nuclear power	–	–	15%	–	–
Stationary electric energy storage	–	–	5%	4%	8%
Carbon capture and storage (CCS)	–	–	3%	–	–
Advanced cooling technologies	–	–	–	18%	15%
Thermal storage (e.g., ice, water)	–	–	–	4%	7%
Small wind generators	–	–	–	9%	13%
Geothermal/ground source heat pumps	–	–	–	11%	13%
Advanced building materials	–	–	–	37%	35%
None of the above	–	–	–	2%	5%

IFMA is the world's largest and most widely recognized international association for professional facility managers, supporting more than 20,000 members in 78 countries. The association's members, represented in 127 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.

