

JOHNSON CONTROLS
Energy Efficiency Indicator Research – Final Report
April 18th, 2007

Background & Objectives

As the costs associated with energy use increase rapidly, Johnson Controls would like to develop a program that provides a strong tie between the Johnson Controls name and the energy efficiency of corporations.

CKPR recommended that Johnson Controls develop an Energy Efficiency Indicator to measure the relative energy efficiency of different industries, with a view to publishing the information in PR programs citing best corporate practices in energy efficiency.

Methodology

Initial qualitative research indicated that, while final decision makers for significant expenditures are at the C-level, other levels (including Facility Managers, Procurement personnel, and Energy Managers) are frequently involved in identifying appropriate energy management initiatives. As such, the survey was sent to executives and facility managers, and qualification determined by energy management responsibilities, rather than by job title.

Specifically, in order to qualify, respondents had to meet the following criteria:

- Their job responsibilities included 'reviewing or monitoring the amount of energy used by (their) company's facilities, or proposing or approving initiatives to make (their) company's facilities more efficient.'
- They had 'capital- or operations-related budget responsibility' for their company's facilities.

The survey was completed online and two cells of interviews were completed:

1. Interviews with company executives identified from an executive panel
2. Interviews with members of the International Facility Management Association (IFMA)

The responses of the two cells are reported in total and separately.

Interviews were conducted in March 2007.

Who Were the Respondents?

Respondent Profile

- The majority (68%) of respondents were facility managers, CEOs, VPs/directors of facilities, or general managers.
- The IFMA members were primarily facility managers and VPs/directors of facilities, while the executive panel covered a variety of executive titles.

<u>Position</u>	Executive		IFMA
	<u>Total</u> (1249) %	<u>Panel</u> (800) %	<u>Members</u> (449) %
Facility Manager	22	6	51
CEO	18	28	*
VP or Director of Facilities	16	9	30
General Manager	12	17	3
COO or VP/Director of Operations	9	12	2
CFO	7	11	-
VP or Director of Procurement	3	4	1
Other	13	13	14

- Taken as a whole, respondents were typically responsible for less than a half million square feet of facilities but IFMA members tended to be responsible for larger areas than executives:
 - Half the IFMA members were responsible for at least a half million square feet.

<u>Area of Responsibility</u>	Executive		IFMA
	<u>Total</u> (1249) %	<u>Panel</u> (800) %	<u>Members</u> (449) %
Less than 100,000 sq. ft	38	53	11
100,000 to 499,999 sq. ft	27	20	39
500,000 to 999,999 sq. ft	13	10	18
1 million to 1.99 million sq. ft	9	7	14
2 million to 4.99 million sq. ft	6	3	10
5 million or more sq. ft	6	5	8
Don't know	2	3	-

- IFMA members also tended to work for companies with a greater number of employees.

<u>Number of Employees</u>	Executive		IFMA
	<u>Total</u> (1249)	<u>Panel</u> (800)	<u>Members</u> (449)
	%	%	%
Less than 100	33	48	7
100 – 499	19	17	23
500 – 999	12	9	17
1,000 – 4,999	16	9	27
5,000 – 9,999	6	5	7
10,000 – 49,999	8	5	12
50,000 or more	6	6	5
Don't know	1	1	2

- More than half the IFMA members did not know their company's total revenue and similar was true for 30% of executives. However, respondents represented companies of a wide range of revenues and it appears that IFMA members were from somewhat larger companies. This is possibly a function of smaller companies not typically having a facility manager or director of facilities.

<u>Company Revenue</u>	Executive		IFMA
	<u>Total</u> (1194)	<u>Panel</u> (779)	<u>Members</u> (415)
	%	%	%
Less than \$100K	5	5	4
\$100K – less than \$500K	5	7	*
\$500K – less than \$1 million	4	5	-
\$1 million – less than \$5 million	12	16	4
\$5 million – less than \$10 million	5	10	*
\$10 million – less than \$50 million	10	12	6
\$50 million – less than \$100 million	5	5	4
\$100 million – less than \$500 million	7	5	11
\$500 million – less than \$1 billion	2	2	4
\$1 billion or more	8	6	11
Don't know	39	30	55

- A wide variety of industries were represented but there were some slightly different skews across the two cells:
 - Executives were more likely to be involved in manufacturing or service industries, while IFMA members were somewhat more skewed towards finance and banking, and government facilities.

<u>Industry</u>	<u>Total</u> (1249) %	Executive	IFMA
		<u>Panel</u> (800) %	<u>Members</u> (449) %
Manufacturing	14	16	9
Finance, insurance, and banking	11	8	16
Education	10	9	11
Service industry	9	11	5
Healthcare	7	7	6
Government and public administration	6	4	11
Retail	5	7	3
Construction	4	5	*
Communications	4	4	3
Real estate	4	3	5
Wholesale	3	4	1
Hospitality	2	3	1
Transportation	2	3	2
Other	20	16	27

- Consistent with that, about one-fifth of IFMA members were responsible for government facilities.

<u>Government or Private Sector</u>	<u>Total</u> (1249) %	Executive	IFMA
		<u>Panel</u> (800) %	<u>Members</u> (449) %
Private sector	88	92	81
Government	12	8	19

- Office space was, by far, the most common type of responsibility – especially for the IFMA members.
- Manufacturing, warehouse, and retail were also a key responsibility for at least 10% of respondents.

<u>Primary Type of Building</u>	Executive		IFMA
	<u>Total</u> (1249) %	<u>Panel</u> (800) %	<u>Members</u> (449) %
Office space	63	55	76
Industrial/manufacturing/plant	18	20	15
Warehouse/storage	18	17	20
Retail	10	11	7
Education campus	9	8	11
Research center/laboratory	8	5	13
Hospital/healthcare facility/clinic	7	8	6
Hotels/hospitality	5	6	2
Other	10	8	14

- One-fourth of respondents had responsibilities that stretched across multiple states. 6% had responsibility for all 50 states or the contiguous 48 states.

<u>Number of States Responsible In</u>	Executive		IFMA
	<u>Total</u> (1249) %	<u>Panel</u> (800) %	<u>Members</u> (449) %
One	72	73	69
More than one	27	25	30
All 50/Contiguous 48	6	7	5
Not answered	1	2	1

Summary

Current Use, Expectations, and Plans

- The vast majority of decision makers for energy-related issues believe that electricity and natural gas prices will increase significantly over the coming year:
 - 79% believe prices will increase in the next 12 months
 - The average expectation is an increase of 13.25%, with over half putting the increase in the 6%-20% range
 - Executive respondents are even more pessimistic, with an average expectation of a price increase of close to 15%.
- Consistent with these expectations, it is a majority of decision makers that expects to make investments in energy efficiency improvements in the next year:
 - Almost 60% expect to make improvements with capital expenditures and just over 60% expect to make improvements from operating expenditures
 - Facility personnel (IFMA members) have even higher expectations in this respect, as considerably more of them expect their companies to make improvements using both budgets in the next year.
- Those expecting to make investments anticipate investing a significant amount of their budgets:
 - Those anticipating making investments from capital budgets expect to invest an average of 8% of that budget and those making investments from operating budgets expect to invest an average of 6% of that budget
 - Although they are more optimistic about actually making energy efficiency improvements, facility personnel (IFMA) are less optimistic than executives about the proportion of capital and operating budgets they will invest.
- While decision makers expect their investments in energy efficiency to result in a reduction in the amount of energy they consume, the majority (61%) do not believe it will translate to a reduction in the dollar amount paid for energy per square foot of space:
 - The average expectation is that investments will reduce consumption by 8%, which is roughly consistent with the proportion of operating and capital budgets they expect to invest
 - However, only 38% expect this to result in a reduction of dollars paid in energy per square foot.

Emphasis on Energy Management

- 15% of decision makers say that energy management is extremely important to their company and, on average, it is considered somewhere between somewhat and very important.
- Furthermore, three-fourths of those with construction or retrofit projects (or who expect to have such projects in the next year) say that energy-efficiency was (or will be) a priority in the design of those projects.
- And the importance of energy management to companies is clearly growing:
 - More than 60% believe that their company is paying more attention to energy efficiency today than it did 5-years ago.
- However, the growing importance of energy management has not yet translated to an across the board higher tolerance for a return on investments in it:
 - The average maximum payback period for such investments is just 4.3 years and 64% have a maximum of between two and five years. Only 16% will tolerate a payback period of six years or more
 - Just 18% believe that their company will allow a longer payback period today than it did 5-years ago.
- Cost savings are a considerably stronger motivation for achieving energy efficiency than is environmental responsibility:
 - Although only 6% say that the motivation is entirely cost savings, 46% say that it is mostly cost savings, or somewhat more cost savings
 - One-third says these two factors are equal motivators but only 13% cite environmental responsibility as the greater motivator.

Measures Already in Place

- A look at what companies have already done to improve the energy efficiency of their facilities, reveals that a number of measures have already been embraced but these tend to be measures that require little or no investment, or are relatively simple to do:
 - Educated staff and other facility users (70%)
 - Adjusted HVAC controls to reduce the time it runs (60%)
 - Switched to energy efficient lighting (67%)
 - Installed lighting sensors (46%)

Other measures included on the survey have been put in place by relatively few companies.

Differences across Subgroups

Responses were analyzed by three subgroups:

1. Size of responsibility (square footage responsible for)
2. Type of facility (offices, healthcare facility, educational campus etc)
3. Region (four census regions)

Size of Responsibility

- The larger the area of facilities, the larger the expenditure on energy, and the larger proportion of total expenses energy accounts for:
 - For those with at least half-a-million square feet, energy accounts for an average of 12% of their total expenses, compared to 7% for those with less than 100,000 square feet.
- Size of facilities does not appear to influence whether decision makers expect energy prices to rise, or by how much they expect them to rise. However, the likelihood of making energy efficiency improvements (using either capital or operation budgets) and the proportion of budgets they expect to invest in those improvements grows as the size of facilities grows:
 - About 80% of those responsible for 500,000 square feet or more expect to make energy efficiency improvements with capital expenditures, and 80% expect to make them with operating expenditures. This compares to just 35% (capital) and 46% (operating) among those with responsibilities under 100,000 square feet
 - Those with the largest area of responsibility expect, on average, to spend 9% of their capital budget and/or 7% of their operating budget on such improvements, compared to 7% and 5%, respectively, for those with the smallest responsibility.
- The larger the facilities, the greater the importance of energy management to a company:
 - 68% of decision makers with responsibility for 500,000 square feet or more consider energy management to be extremely (22%) or very (46%) important. This compares to just 35% of those with less than 100,000 square feet, and 53% of those with between 100,000 and 500,000 square feet.
- As a consequence, those with larger areas of facilities review their energy consumption data and their energy forecasts far more frequently than those with smaller facilities.
- The attention paid to energy efficiency does not appear to have increased for larger companies much more than it has for smaller companies but those with the largest facility areas will tolerate a longer payback period on their investment, and have become more tolerant of longer payback periods over the past 5-years:
 - Companies with 500,000 square feet or more will tolerate a payback of 5.1 years on average, which compares to only 3.7 years for the smallest companies. Perhaps more importantly though, is that 27% of the largest companies will tolerate a return of six or more years, compared to just 9% of the smallest companies
 - 26% of those with at least 500,000 square feet say their company's tolerance has relaxed relative to 5-years ago, compared to just 13% of smaller companies.
- The relative influence of cost savings versus environmental responsibility in energy management decisions does not change with facility size – the emphasis is always on cost savings, with environmental responsibility playing a secondary role.

Type of Facility

Some respondents were responsible for multiple facility types, so their responses appear under more than one type. Limited base sizes mean that any differences reported across types of facility must be considered only directional. Relatively few differences were noted across facility types.

- Energy expenses account for a somewhat higher proportion of total expenses in educational facilities than they do in other types of facilities. They account for an average of 12% of expenses for educational facilities and 9%-10% of expenses for other facilities.
- No significant differences were observed in expectations for energy prices in the coming year, across different facility types. Regardless of facility type, the vast majority of decision makers expect prices to rise.
- The majority of decision makers for all types of facilities expect to make energy efficiency improvements with capital and/or operating budgets in the next year but manufacturing, healthcare, education, and laboratories are somewhat more likely than offices, retail, or warehousing to do so.
- The majority of decision makers across all facility types expect their investments in energy efficiency to result in maintaining the energy cost per square foot, or for that cost to increase. However, those in healthcare are the most optimistic that their investments will result in an actual decrease in cost per square foot: 39% of those responsible for healthcare facilities expect investments to result in lower costs per square foot, compared to between 22% and 29% of those with other facilities.
- Those in healthcare, education, and laboratories appear somewhat more tolerant of longer payback periods on their investments in energy efficiency. These industries will tolerate an average of about a 5-year ROI, compared to about 4-years for other facility types.

Region

A regional analysis was completed and the data is included in the report. Some respondents were responsible for facilities across multiple regions and their responses are, therefore, included in the data for more than one region. There were remarkably few differences observed across regions.

- Decision makers across all regions expect energy prices to increase over the next year but those in the South are the most pessimistic about the size of the increase. The average expectation in the South is for an increase of just over 15%, which compares to about 13% in other regions.

Detailed Findings

Current Energy Use, Expectations and Plans

- A large number of respondents in both cells did not know the total amount their company spends on electricity and natural gas. Among those who knew, IFMA members tend to be employed at companies who have larger energy expenditures.

<u>Amount on Electricity and Natural Gas Last Yr</u>	Executive		IFMA
	<u>Total</u> (1207)	<u>Panel</u> (775)	<u>Members</u> (432)
	%	%	%
\$50,000 or less	20	30	3
\$50,001 - \$100,000	6	7	2
\$100,001 - \$500,000	13	9	19
\$500,001 - \$1,000,000	6	4	11
\$1,000,001 - \$5,000,000	9	4	16
More than \$5,000,000	5	3	9
Don't know	42	43	41

- Most frequently, electricity and natural gas expenses account for between 1% and 9% of total company expenses and on average they account for 9%.
- IFMA members are less likely to be able to provide this information than are executives.

<u>% of Total Expenses Electricity/Gas Accounts for</u>	Executive		IFMA
	<u>Total</u> (1249)	<u>Panel</u> (800)	<u>Members</u> (449)
	%	%	%
Less than 1%	11	9	13
1% - 4%	22	24	19
5% - 9%	21	26	13
10% - 14%	14	17	9
15% - 19%	7	7	7
20% - 24%	5	5	5
25% or more	6	3	10
Don't know	15	9	24
<i>Average</i>	<i>9%</i>	<i>9%</i>	<i>10%</i>

- About 80% of respondents in both cells believe that natural gas and electricity prices will rise over the next year.

<u>Believe Price of Gas & Electricity Will...</u>	Executive		IFMA
	<u>Total</u> (1249)	<u>Panel</u> (800)	<u>Members</u> (449)
	%	%	%
Increase over the next year	79	79	79
Decrease over the next year	3	4	2
Not change significantly	18	17	20

- Relatively few expect energy prices to rise more than 20% in the next year but IFMA members are more optimistic than executives:
 - On average, executives anticipate a 14%-15% increase in prices, while IFMA members anticipate prices to increase 10%-11%.

	<u>Total</u> (973) %	<u>Executive Panel</u> (627) %	<u>IFMA Members</u> (346) %
<u>Anticipated Increase</u>			
1% - 5%	20	16	26
6% - 10%	30	30	30
11% - 20%	23	26	16
21% - 40%	7	7	5
More than 40%	3	3	1
Don't know	18	16	22
<i>Mean anticipated increase</i>	<i>13.25%</i>	<i>14.64%</i>	<i>10.56%</i>

- Close to 60% expect to make energy efficiency improvements funded from capital expenditures in the next year. Facility personnel (IFMA members) are rather more optimistic than executives in this respect.

	<u>Total</u> (1249) %	<u>Executive Panel</u> (800) %	<u>IFMA Members</u> (449) %
<u>Expectations – Capital Budget</u>			
Expect to make energy efficiency improvements with capital expenditures in the next year	57	52	66
Do not expect to make improvements with capital expenditures in the next year	26	28	24
Don't know	17	20	10

- Most frequently, companies expect to invest between 1% and 9% of their total capital budget in energy efficiency measures, and on average companies expect to invest 8% of their capital budget in such measures.

	<u>Total</u> (712) %	<u>Executive Panel</u> (415) %	<u>IFMA Members</u> (297) %
<u>% of Capital Budget Expect to Invest</u>			
Less than 1%	10	6	14
1% - 4%	28	27	29
5% - 9%	26	30	22
10% - 14%	14	16	12
15% - 19%	7	8	4
20% - 24%	4	5	4
25% or more	4	4	3
Don't know	7	4	10
<i>Mean expectation</i>	<i>8%</i>	<i>9%</i>	<i>7%</i>

- Just over 60% expect to make energy efficiency improvements funded from their operating budget in the next year. Facility personnel are again more optimistic.

<u>Expectations – Operating Budget</u>	Executive		IFMA
	<u>Total</u> (1249) %	<u>Panel</u> (800) %	<u>Members</u> (449) %
Expect to make energy efficiency improvements with operating expenditures in the next year	64	60	70
Do not expect to make improvements with operating expenditures in the next year	21	22	18
Don't know	16	18	12

- Companies most frequently expect to invest up to 9% of their total operating budget on energy efficiency measures, and on average companies expect to invest 6% of their operating budget in such measures.

<u>% of Operating Budget Expect to Invest</u>	Executive		IFMA
	<u>Total</u> (791) %	<u>Panel</u> (481) %	<u>Members</u> (310) %
Less than 1%	16	12	21
1% - 4%	36	36	37
5% - 9%	23	25	20
10% - 14%	10	11	8
15% - 19%	4	6	1
20% - 24%	3	4	1
25% or more	1	1	-
Don't know	7	5	12
<i>Mean expectation</i>	<i>6%</i>	<i>7%</i>	<i>4%</i>

- Companies most commonly expect to use between 1% and 9% less energy as a result of their anticipated investments in energy efficiency. On average they expect to use 8% less energy.

<u>Anticipated Resultant Consumption Reduction</u>	Executive		IFMA
	<u>Total</u> (1123) %	<u>Panel</u> (716) %	<u>Members</u> (407) %
Less than 1%	7	7	6
1% - 4%	27	24	33
5% - 9%	28	29	27
10% - 19%	16	19	11
20% - 29%	4	5	4
30% or more	2	3	*
Don't know	15	14	18
<i>Mean expectation</i>	<i>8%</i>	<i>9%</i>	<i>7%</i>

- Even though most companies expect to invest in energy efficiency measures, remarkably few (26%) expect the investments to result in an actual decline in the dollars paid for energy per square foot. Rather, they see the investment as a way to maintain the cost per square foot, or to reduce the increase.

	<u>Total</u> (1249) %	Executive <u>Panel</u> (800) %	IFMA <u>Members</u> (449) %
Dollars paid per square foot will increase	35	38	31
Dollars paid per square foot will decrease	26	27	26
Dollars paid per square foot will not change significantly	38	36	43

Company's Emphasis on Energy Management

- Few companies (15%) consider energy management to be *extremely* important but one-third currently regard it as *very* important and a similar number consider it *somewhat* important. On average, companies consider it somewhere between *very* and *somewhat* important.

<u>Importance of Energy Management to Company</u>		Executive		
		<u>Total</u>	<u>Panel</u>	<u>IFMA</u>
		(1249)	(800)	(449)
		%	%	%
Extremely important	(5)	15	13	19
Very important	(4)	36	34	40
Somewhat important	(3)	38	40	33
Not very important	(2)	9	11	7
Not at all important	(1)	2	3	1
<i>Mean</i>		<i>3.53</i>	<i>3.43</i>	<i>3.70</i>

- Monthly is the most common frequency for companies to review energy consumption and on average companies review consumption just over once a month.
- However, IFMA members (facility managers and directors of facilities) believe their companies review energy consumption more frequently, with almost half believing the consumption is reviewed monthly and on average they believe it is reviewed a little less than twice a month.

<u>Frequency of Reviewing Consumption Data</u>		Executive		
		<u>Total</u>	<u>Panel</u>	<u>IFMA</u>
		(1249)	(800)	(449)
		%	%	%
Daily	(265)	3	2	5
Weekly	(52)	6	7	4
Monthly	(12)	40	35	48
Quarterly	(4)	19	22	15
Twice a year	(2)	7	9	4
Annually	(1)	14	13	14
Less than once a year	(0.5)	8	8	8
Don't know		3	3	3
<i>Avg. times per year</i>		<i>17.1</i>	<i>14.6</i>	<i>21.6</i>

- Companies also commonly review their energy use forecasts monthly or quarterly but as many review forecasts annually. Thus, on average, forecasts tend to be reviewed less frequently than actual energy use. On average, forecasts are reviewed about 8 times per year.

<u>Frequency of Reviewing Forecasts</u>		Executive		
		<u>Total</u>	<u>Panel</u>	<u>IFMA</u>
		(1249)	(800)	(449)
		%	%	%
Daily	(265)	1	1	*
Weekly	(52)	3	5	2
Monthly	(12)	20	8	24
Quarterly	(4)	25	26	22
Twice a year	(2)	10	11	9
Annually	(1)	25	23	28
Less than once a year	(0.5)	9	11	6
Don't know		7	6	9
<i>Avg. times per year</i>		<i>8.1</i>	<i>8.9</i>	<i>6.9</i>

- Companies are paying more attention to energy efficiency than they were a year ago:
 - 23% of respondents said they are paying *a lot more* attention and 39% said they are paying *a little more* attention than they were 12 months ago.

<u>Attention Paid to Energy Efficiency Vs. Year Ago</u>		Executive		
		<u>Total</u>	<u>Panel</u>	<u>IFMA</u>
		(1249)	(800)	(449)
		%	%	%
Paying a lot more attention now	(5)	23	21	27
Paying a little more attention now	(4)	39	41	35
Paying about the same attention	(3)	33	32	34
Paying a little less attention now	(2)	2	2	2
Paying a lot less attention now	(1)	*	*	-
Don't know		3	3	2
<i>Mean</i>		<i>3.86</i>	<i>3.84</i>	<i>3.89</i>

- Most companies (two-thirds) have a tolerance of between two and five years for a return on their energy efficiency investments. The average tolerance is 4.3 years.

<u>Tolerance for ROI on Energy Efficiency Investment</u>		Executive		IFMA
		<u>Total</u>	<u>Panel</u>	<u>Members</u>
		(1249)	(800)	(449)
		%	%	%
1 year or less	(1)	8	9	4
2 to 3 years	(2.5)	34	33	35
4 to 5 years	(4.5)	30	30	30
6 to 9 years	(7.5)	10	8	13
10 to 15 years	(12.5)	5	5	5
More than 15 years	(17.0)	1	1	*
Would not require ROI		3	4	2
<i>Average Maximum ROI period</i>		<i>4.3 years</i>	<i>4.2 years</i>	<i>4.5 years</i>

- Around half the companies have not changed their level of tolerance for a return on their energy efficiency investments compared to five years ago. However, 18% believe their company will allow a longer payback period today, than it would have allowed five years ago, suggesting that management is relaxing its expectations in this respect.

<u>ROI Tolerance Compared to 5-Years Ago</u>	Executive		IFMA
	<u>Total</u>	<u>Panel</u>	<u>Members</u>
	(1249)	(800)	(449)
	%	%	%
Company will allow longer payback period today	18	18	19
Allowable payback period has not changed	45	47	42
Company allowed longer payback 5-years ago	10	10	10
Don't know	26	25	29

- Emphasizing the importance of energy efficiency to companies, three-fourths of those with current or planned retrofit or new construction projects believe that energy efficiency is (or will be a priority in the construction design.

<u>Consideration of Efficiency in Construction Projects</u>	Executive		IFMA
	<u>Total</u>	<u>Panel</u>	<u>Members</u>
	(664)	(344)	(320)
	%	%	%
Energy efficiency was/will be a design priority	77	72	83
Energy efficiency was not/won't be a priority	18	22	13
Don't know	5	5	4

- Cost savings are a considerably greater motivation for achieving energy efficiency than is environmental responsibility, however the environment is usually at least partly the reason:
 - 46% of respondents believe energy efficiency is mostly or somewhat more for cost savings but few believe it is entirely for cost savings
 - About one-third believe environmental responsibility and cost savings are equally behind decisions to improve energy efficiency.

		Executive	IFMA
	<u>Total</u>	<u>Panel</u>	<u>Members</u>
	(1183)	(753)	(430)
	%	%	%
100% cost savings	(7) 6	7	5
Mostly for cost savings	(6) 24	26	22
Somewhat more for cost savings	(5) 22	21	24
50% cost savings/50% environmental	(4) 35	34	36
Somewhat more for environment	(3) 7	7	8
Mostly for environmental responsibility	(2) 5	5	5
100% environmental responsibility	(1) 1	2	*
<i>Mean</i>	<i>4.68</i>	<i>4.72</i>	<i>4.62</i>

Energy Management Measures Already in Place

- Education of staff and other facility users is a very commonly implemented tool for increasing energy efficiency – around 70% of companies appear to do this.
- However, IFMA members are more likely to have taken the additional step of attending (or having staff attend) energy management seminars. About half of the IFMA members have done this, compared to only 22% of executives.
- IFMA members are also more likely than executives to have hired an energy consultant to help them find ways to improve energy efficiency

<u>Staff-Related Measures Adopted</u>	<u>Total</u>	<u>Executive</u>	<u>IFMA</u>
	(1249) %	Panel (800) %	Members (449) %
Educated staff or other facility users on what they can do to reduce energy use	70	69	72
Attended or sent staff to energy management seminars	31	22	48
Hired an energy consultant to find ways to improve energy efficiency	20	14	29
Hired an energy manager	9	9	10
None	17	20	11

- Companies have also frequently taken the step of adjusting HVAC controls to reduce the time that heating or AC runs. IFMA members are even more likely to have done this.
- Half the IFMA members have installed variable speed (or variable frequency) drives.
- About one-third of companies have increased PM schedules, increased their consumption monitoring schedule, or upgraded their EMS.

<u>Equipment and Monitoring-Related Measures Adopted</u>	<u>Total</u>	<u>Executive</u>	<u>IFMA</u>
	(1249) %	Panel (800) %	Members (449) %
Adjusted HVAC temperature controls to reduce time that heating/AC runs	60	52	75
Increased preventive maintenance schedules	34	34	33
Increased frequency of monitoring consumption	31	27	37
Upgraded existing energy management system	31	24	43
Replaced inefficient equipment even though it was not due for replacement	28	26	32
Installed variable speed/frequency drives (VSD/VFD)	28	14	52
Installed an energy management system	23	19	30
Other	6	2	12
None	12	16	5

- It appears that a majority of companies has switched to energy efficient lighting, and close to half have installed lighting sensors so that lighting is used only as needed. Others have installed or adjusted time clocks to limit the hours that lighting is used.

<u>Lighting-Related Measures Adopted</u>	<u>Total</u> (1249) %	Executive	IFMA
		<u>Panel</u> (800) %	<u>Members</u> (449) %
Switched to energy efficient lighting	67	60	79
Installed lighting sensors so lights come on and off as needed	46	36	63
Installed or adjusted time clocks to turn lights on/off at specified times	35	26	52
Other	4	2	7
None	15	21	6

- Relatively few have installed energy-saving glass in facility windows, or re-roofed buildings with white shingles to reduce heat gain.

<u>Building Design-Related Measures Adopted</u>	<u>Total</u> (1249) %	Executive	IFMA
		<u>Panel</u> (800) %	<u>Members</u> (449) %
Installed energy-saving glass in windows	28	29	26
Re-roofed with white shingles to reduce heat gain	13	11	17
Other	7	4	12
None	60	62	56

- Around one-third of companies have negotiated energy contracts with energy suppliers but relatively few have put energy price hedging strategies in place, are capturing waste energy produced by operations, self-generating power in demand peaks, or have converted to using alternative fuels.

<u>Energy Supply-Related Measures Adopted</u>	<u>Total</u> (1249) %	Executive	IFMA
		<u>Panel</u> (800) %	<u>Members</u> (449) %
Negotiated energy contracts with suppliers	36	29	48
Put energy price hedging strategies in place	14	11	20
Captured waste energy generated by operations	11	13	9
Self-generate power to use during demand peaks	10	9	11
Converted to using alternative fuels	8	10	6
Other	2	1	4
None	47	51	39

Carbon-Reduction Goals

- Relatively few (11%) companies currently have a stated carbon reduction goal.

	<u>Total</u> (1249) %	<u>Executive Panel</u> (800) %	<u>IFMA Members</u> (449) %
Have stated carbon-reduction goal	11	12	10
Don't have stated carbon-reduction goal	76	78	71
Don't know	13	10	19

- Of those that do have a stated carbon-reduction goal, the goal is equally as likely to have raised their expected ROI as it is to have had no impact on their expected ROI.

	<u>Total</u> (141) %	<u>Executive Panel</u> (98) %	<u>IFMA Members</u> (43) %
<u>Carbon-Reduction Goal Has...</u>			
Raised our expected ROI	29	35	16
Lowered our expected ROI	18	26	2
Not had any impact on expected ROI	31	27	40
Don't know	22	13	42

Detailed Findings By Subgroups

-

Size of responsibility
Type of facility
Region

Current Energy Use, Expectations and Plans – by Size of Responsibility

- Not surprisingly, the larger the area of responsibility, the larger the expenditure on energy.

	Total	<100,000	100,000 –	500,000+
	(1207)	sq. ft	499,999 sq. ft	sq. ft
		(456)	(331)	(398)
<u>Amount on Electricity and Natural Gas Last Yr</u>	%	%	%	%
\$50,000 or less	20	40	9	7
\$50,001 - \$100,000	6	9	5	3
\$100,001 - \$500,000	13	10	25	7
\$500,001 - \$1,000,000	6	2	13	7
\$1,000,001 - \$5,000,000	9	1	6	20
More than \$5,000,000	5	*	3	12
Don't know	42	39	39	46

- As the amount of facility space grows, so does the proportion of total expenses that electricity and natural gas accounts for. For smaller companies, in more than 50% of cases energy accounts for between 1% and 9% of total expenses. For the largest companies, they frequently account for 10%-14% of expenses and, on average, 12%.

	Total	<100,000	100,000 –	500,000+
	(1249)	sq. ft	499,999 sq. ft	sq. ft
		(469)	(340)	(415)
<u>% of Total Expenses Electricity/Gas Accounts for</u>	%	%	%	%
Less than 1%	11	15	11	6
1% - 4%	22	28	20	17
5% - 9%	21	26	19	18
10% - 14%	14	11	14	18
15% - 19%	7	5	9	9
20% - 24%	5	2	6	7
25% or more	6	2	6	10
Don't know	15	11	16	16
<i>Average</i>	<i>9%</i>	<i>7%</i>	<i>10%</i>	<i>12%</i>

- Regardless of size of responsibility, around 80% of decision-makers believe energy prices will increase over the next year.

	Total	<100,000	100,000 –	500,000+
	(1249)	sq. ft	499,999 sq. ft	sq. ft
		(469)	(340)	(415)
<u>Believe Price of Gas & Electricity Will...</u>	%	%	%	%
Increase over the next year	79	78	82	76
Decrease over the next year	3	2	2	5
Not change significantly	18	20	15	18

- The anticipated increase in energy prices appears to be fairly consistent across all facility sizes.

	Total	<100,000 sq. ft	100,000 – 499,999 sq. ft	500,000+ sq. ft
	(973)	(364)	(276)	(313)
<u>Anticipated Increase</u>	%	%	%	%
1% - 5%	20	18	18	23
6% - 10%	30	28	36	28
11% - 20%	23	23	20	24
21% - 40%	7	8	6	6
More than 40%	3	2	2	4
Don't know	18	21	18	15
<i>Mean anticipated increase</i>	<i>13.25%</i>	<i>13.55</i>	<i>12.31</i>	<i>13.66</i>

- The larger the area of responsibility, the greater the likelihood that the decision-maker expects to make energy efficiency improvements with capital expenditures in the next year. Almost 80% of those with responsibility for at least half a million square feet expect to make improvements from capital expenditures.

	Total	<100,000 sq. ft	100,000 – 499,999 sq. ft	500,000+ sq. ft
	(1249)	(469)	(340)	(415)
<u>Expectations – Capital Budget</u>	%	%	%	%
Expect to make energy eff. improvements with capital expenditures in the next year	57	35	63	79
Do not expect to make improvements with capital expenditures in the next year	26	41	23	13
Don't know	17	24	15	8

- Of those that do expect to make energy efficiency improvements using capital expenditures, in the majority of cases they expect to allocate between 1% and 9% of the total capital budget to those improvements.

	Total	<100,000 sq. ft	100,000 – 499,999 sq. ft	500,000+ sq. ft
	(712)	(165)	(212)	(328)
<u>% of Capital Budget Expect to Invest</u>	%	%	%	%
Less than 1%	10	14	10	8
1% - 4%	28	29	30	25
5% - 9%	26	32	23	26
10% - 14%	14	10	15	16
15% - 19%	7	5	4	9
20% - 24%	4	1	5	6
25% or more	4	4	4	3
Don't know	7	5	9	6
<i>Mean expectation</i>	<i>8%</i>	<i>7%</i>	<i>8%</i>	<i>9%</i>

- The larger the facilities, the more likely decision-makers are to make energy efficiency improvements with operating expenditures too. Smaller facilities are more likely to make improvements from operating expenditures than they are from capital expenditures.

	<u>Total</u>	<100,000 <u>sq. ft</u>	100,000 – <u>499,999 sq. ft</u>	500,000+ <u>sq. ft</u>
<u>Expectations – Operating Budget</u>	(1249)	(469)	(340)	(415)
	%	%	%	%
Expect to make energy eff. improvements with operating expenditures in the next year	64	46	67	80
Do not expect to make improvements with operating expenditures in the next year	21	31	18	11
Don't know	16	22	14	9

- Regardless of size, companies most frequently expect to invest up to 9% of their total operating budget on energy efficiency measures, which is similar to the proportion of capital budget they expect to spend in this area.
- Those with the largest responsibilities expect to spend, on average, a slightly higher percent of their operating budget on these improvements.

	<u>Total</u>	<100,000 <u>sq. ft</u>	100,000 – <u>499,999 sq. ft</u>	500,000+ <u>sq. ft</u>
	(791)	(218)	(227)	(332)
<u>% of Operating Budget Expect to Invest</u>	%	%	%	%
Less than 1%	16	21	17	11
1% - 4%	36	40	36	34
5% - 9%	23	23	22	24
10% - 14%	10	5	11	13
15% - 19%	4	3	3	5
20% - 24%	3	2	2	4
25% or more	1	*	*	1
Don't know	7	5	9	7
<i>Mean expectation</i>	6%	5%	5%	7%

- And, while they expect to spend between 1% and 9% of both budgets on energy efficiency improvements, decision-makers also expect those expenditures to result in a 1% to 9% reduction in energy consumption. This is consistent across facility sizes.

	<u>Total</u>	<u><100,000</u> <u>sq. ft</u>	<u>100,000 –</u> <u>499,999 sq. ft</u>	<u>500,000+</u> <u>sq. ft</u>
<u>Anticipated Resultant Consumption Reduction</u>	(1123)	(387)	(309)	(404)
	%	%	%	%
Less than 1%	7	11	6	4
1% - 4%	27	27	25	30
5% - 9%	28	25	32	29
10% - 19%	16	15	15	18
20% - 29%	4	2	5	7
30% or more	2	2	*	2
Don't know	15	18	17	10
<i>Mean expectation</i>	<i>8%</i>	<i>7%</i>	<i>8%</i>	<i>8%</i>

- Even though most companies expect to invest in energy efficiency improvements, across facilities of all sizes, relatively few expect the investments to result in an actual decline in the dollars paid for energy per square foot.

	<u>Total</u>	<u><100,000</u> <u>sq. ft</u>	<u>100,000 –</u> <u>499,999 sq. ft</u>	<u>500,000+</u> <u>sq. ft</u>
	(1249)	(469)	(340)	(415)
	%	%	%	%
Dollars paid per square foot will increase	35	35	34	37
Dollars paid per square foot will decrease	26	24	28	28
Dollars paid per square foot will not change significantly	38	41	38	35

Company's Emphasis on Energy Management – by Size of Responsibility

- The larger the area of facility space, the greater the importance of energy management to a company. Almost 70% of those with 500,000 square feet or more consider energy management extremely or very important.

			<100,000	100,000 –	500,000+
<u>Importance of Energy Management to Company</u>		<u>Total</u>	<u>sq. ft</u>	<u>499,999 sq. ft</u>	<u>sq. ft</u>
		(1249)	(469)	(340)	(415)
		%	%	%	%
Extremely important	(5)	15	10	13	22
Very important	(4)	36	25	40	46
Somewhat important	(3)	38	44	39	28
Not very important	(2)	9	16	7	4
Not at all important	(1)	2	4	1	*
<i>Mean</i>		3.53	3.21	3.57	3.85

- Companies with larger facility areas also review their energy consumption more frequently. Those with the largest areas review their consumption a little more than twice a month.

			<100,000	100,000 –	500,000+
<u>Frequency of Reviewing Consumption Data</u>		<u>Total</u>	<u>sq. ft</u>	<u>499,999 sq. ft</u>	<u>sq. ft</u>
		(1249)	(469)	(340)	(415)
		%	%	%	%
Daily	(265)	3	*	3	6
Weekly	(52)	6	2	5	11
Monthly	(12)	40	33	40	47
Quarterly	(4)	19	21	18	19
Twice a year	(2)	7	9	8	5
Annually	(1)	14	18	17	7
Less than once a year	(0.5)	8	13	7	3
Don't know		3	3	3	2
<i>Avg. times per year</i>		17.1	7.7	16.8	28.3

- And those with the most square feet of facility space also review their energy forecasts more often. Those with the most facility space review their forecasts a little more than once a month on average, while those with the least space tend to review them quarterly.

<u>Frequency of Reviewing Forecasts</u>	<u>Total</u> (1249)	<100,000		100,000 – 500,000+	
		<u>sq. ft</u> (469)	<u>sq. ft</u> (415)	<u>sq. ft</u> (340)	<u>sq. ft</u> (415)
	%	%	%	%	%
Daily (265)	1	*	1	1	1
Weekly (52)	3	1	3	7	
Monthly (12)	20	10	21	29	
Quarterly (4)	25	19	24	31	
Twice a year (2)	10	10	13	8	
Annually (1)	25	33	26	16	
Less than once a year (0.5)	9	18	6	2	
Don't know	7	9	6	5	
<i>Avg. times per year</i>	<i>8.1</i>	<i>3.9</i>	<i>7.6</i>	<i>13.2</i>	

- Companies of all sizes are paying more attention to energy efficiency than they were one year ago. However, the largest companies are the most likely to be paying *a lot* more attention now.

<u>Attention Paid to Energy Efficiency Vs. Year Ago</u>		<100,000		100,000 – 500,000+	
		<u>Total</u> (1249)	<u>sq. ft</u> (469)	<u>sq. ft</u> (340)	<u>sq. ft</u> (415)
	%	%	%	%	
Paying a lot more attention now (5)	23	19	23	29	
Paying a little more attention now (4)	39	37	40	40	
Paying about the same attention (3)	33	36	33	29	
Paying a little less attention now (2)	2	3	2	1	
Paying a lot less attention now (1)	*	1	-	-	
Don't know	3	4	1	1	
<i>Mean</i>	<i>3.86</i>	<i>3.74</i>	<i>3.85</i>	<i>3.99</i>	

- Regardless of the total area of their facilities, more than 65% of companies have a tolerance for an ROI on energy efficiency investments of 5-years or less. The average tolerance is higher for those companies with the largest area of facilities and one-fourth of companies in this size range will tolerate a 6-15 year payback. However, the average tolerance even for these largest companies is still around 5-years, which is only somewhat higher than for smaller companies.

		Total	<100,000 sq. ft	100,000 – 499,999 sq. ft	500,000+ sq. ft
<u>Tolerance for ROI on Energy Eff. Investment</u>		(1249)	(469)	(340)	(415)
	%	%	%	%	%
1 year or less	(1)	8	11	5	6
2 to 3 years	(2.5)	34	34	40	30
4 to 5 years	(4.5)	30	28	33	31
6 to 9 years	(7.5)	10	6	7	16
10 to 15 years	(12.5)	5	3	4	10
More than 15 years	(17.0)	1	*	1	1
Would not require ROI		3	5	2	2
<i>Average Maximum ROI period</i>		<i>4.3 years</i>	<i>3.7 years</i>	<i>4.1 years</i>	<i>5.1 years</i>

- Those companies with the largest area of facilities are the most likely to have relaxed their tolerance for ROI relative to 5-years ago.

	Total	<100,000 sq. ft	100,000– 499,999 sq. ft	500,000+ sq. ft
<u>ROI Tolerance Compared to 5-Years Ago</u>	(1249)	(469)	(340)	(415)
	%	%	%	%
Company will allow longer payback period today	18	13	16	26
Allowable payback period has not changed	45	44	47	45
Company allowed longer payback 5-years ago	10	9	10	12
Don't know	26	34	27	17

- Companies of all sizes will tend to consider energy efficiency in new construction or retrofits. However, those with the largest facilities are the most likely to do so.

	Total	<100,000 sq. ft	100,000 – 499,999 sq. ft	500,000+ sq. ft
<u>Consideration of Efficiency in Construction Projects</u>	(664)	(133)	(207)	(315)
	%	%	%	%
Energy eff. was/will be a design priority	77	64	80	82
Energy eff. was not/won't be a priority	18	29	17	14
Don't know	5	7	3	4

- The relative influence of cost savings and environmental responsibility in energy management decisions are consistent across companies of all facility sizes. Environmental responsibility is a factor but cost savings is the primary motivator for achieving energy efficiencies.

		<100,000	100,000 –	500,000+
	<u>Total</u>	<u>sq. ft</u>	<u>499,999 sq. ft</u>	<u>sq. ft</u>
	(1183)	(436)	(332)	(394)
	%	%	%	%
100% cost savings	(7)	6	7	4
Mostly for cost savings	(6)	24	26	21
Somewhat more for cost savings	(5)	22	21	25
50% cost savings/50% environmental	(4)	35	35	36
Somewhat more for environment	(3)	7	5	9
Mostly for environmental responsibility	(2)	5	5	4
100% environmental responsibility	(1)	1	1	1
<i>Mean</i>		4.68	4.77	4.60

Current Energy Use, Expectations and Plans – by Type of Facility

- Most frequently, total electricity and natural gas expenses account for between 1% and 9% of total company expenses and on average they account for 9%. In fact the average is consistently between 9% and 10% across all facility types, with the exception that energy expenses account for a slightly higher percent of expenses in education facilities.

<u>% of Total Expenses Electricity/Gas Accounts for</u>	<u>Total</u>	<u>Office</u>	<u>Plant</u>	<u>Health</u>	<u>Retail</u>	<u>Edu-</u>	<u>Rsrch/</u>	<u>Ware-</u>
	(1249)	(779)	(228)	Care (90)	(122)	cation (112)	Lab (103)	house (224)
	%	%	%	%	%	%	%	%
Less than 1%	11	13	7	13	13	4	15	10
1% - 4%	22	22	23	18	21	17	18	24
5% - 9%	21	21	22	17	14	22	13	21
10% - 14%	14	13	15	18	15	18	18	15
15% - 19%	7	7	7	12	12	11	2	6
20% - 24%	5	3	6	4	6	8	8	4
25% or more	6	6	9	6	7	10	5	6
Don't know	15	15	12	12	11	11	21	14
<i>Average</i>	9%	9%	10%	10%	10%	12%	9%	9%

- Across all facility types, the feeling is that natural gas and electricity prices will rise over the next year.

<u>Believe Price of Gas & Electricity Will...</u>	<u>Total</u>	<u>Office</u>	<u>Plant</u>	<u>Health</u>	<u>Retail</u>	<u>Edu-</u>	<u>Rsrch/</u>	<u>Ware-</u>
	(1249)	(779)	(228)	Care (90)	(122)	cation (112)	Lab (103)	house (224)
	%	%	%	%	%	%	%	%
Increase over the next year	79	79	77	73	82	86	75	75
Decrease over the next year	3	2	5	9	2	2	2	4
Not change significantly	18	19	18	18	16	13	23	21

- Decision-makers for all types of facilities typical expect energy prices to rise between 1% and 20%. Those with healthcare or retail facilities anticipate somewhat higher increases than those with other types of facilities.

<u>Anticipated Increase</u>	<u>Total</u>	<u>Office</u>	<u>Plant</u>	<u>Health</u>	<u>Retail</u>	<u>Edu-</u>	<u>Rsrch/</u>	<u>Ware-</u>
	(973)	(610)	(174)	Care (64)	(99)	cation (96)	Lab (73)	house (168)
	%	%	%	%	%	%	%	%
1% - 5%	20	21	23	11	16	18	18	19
6% - 10%	30	31	24	30	28	33	30	27
11% - 20%	23	22	30	23	18	29	16	22
21% - 40%	7	7	3	9	7	5	8	8
More than 40%	3	2	6	6	8	1	3	4
Don't know	18	18	14	19	22	14	26	20
<i>Mean anticipated increase</i>	13.25%	12.63%	15.42%	18.51%	18.58%	12.14%	13.84%	15.02%

- Regardless of facility type, more than 50% of decision-makers expect to make energy efficiency improvements with capital expenditures in the next year. Those in healthcare, education, laboratories, and manufacturing are even more likely to do so.

<u>Expectations – Capital Budget</u>	<u>Total</u> (1249)	<u>Office</u> (779)	<u>Plant</u> (228)	<u>Health</u> <u>Care</u> (90)	<u>Retail</u> (122)	<u>Edu- cation</u> (112)	<u>Rsrch/ Lab</u> (103)	<u>Ware- house</u> (224)
	%	%	%	%	%	%	%	%
Expect to make energy efficiency improvements with capital expenditures in the next year	57	57	66	76	53	71	69	55
Do not expect to make improvements with capital expenditures in the next year	26	27	22	11	29	19	17	31
Don't know	17	16	12	13	18	11	14	14

- On average, companies expect to spend about 8% of their capital budget on energy efficiency improvements. However, this number is anchored by offices, which actually expect to spend a little less than other types of facilities..

<u>% of Capital Budget Expect to Invest</u>	<u>Total</u> (712)	<u>Office</u> (442)	<u>Plant</u> (150)	<u>Health</u> <u>Care</u> (68)	<u>Retail</u> (65)	<u>Edu- cation</u> (79)	<u>Rsrch/ Lab</u> (71)	<u>Ware- house</u> (123)
	%	%	%	%	%	%	%	%
Less than 1%	10	13	7	9	5	1	7	9
1% - 4%	28	28	21	22	25	30	21	24
5% - 9%	26	27	31	25	25	23	34	27
10% - 14%	14	12	18	18	22	16	15	19
15% - 19%	7	6	7	9	9	9	7	7
20% - 24%	4	5	5	3	6	9	3	4
25% or more	4	2	4	10	6	6	6	5
Don't know	7	7	7	4	3	5	7	7
<i>Mean expectation</i>	<i>8%</i>	<i>7%</i>	<i>9%</i>	<i>10%</i>	<i>10%</i>	<i>10%</i>	<i>9%</i>	<i>9%</i>

- Close to 80% of healthcare and education facilities, laboratories, and manufacturing plants expect to make energy efficiency improvements funded through operating budgets in the coming year. Offices, retail, and warehousing are less likely to do so but still 60% or more of these facilities intend to.

	<u>Total</u> (1249)	<u>Office</u> (779)	<u>Plant</u> (228)	Health <u>Care</u> (90)	<u>Retail</u> (122)	Edu- <u>cation</u> (112)	Rsrch/ <u>Lab</u> (103)	Ware- <u>house</u> (224)
<u>Expectations – Operating Budget</u>	%	%	%	%	%	%	%	%
Expect to make energy efficiency improvements with operating expenditures in the next year	64	62	75	79	61	76	75	60
Do not expect to make improvements with operating expenditures in the next year	21	20	15	13	25	14	15	26
Don't know	16	17	10	8	15	10	11	13

- The anticipated percentage of total operating budget to be invested in energy efficiency improvements is fairly consistent across facility types. The average is 6% of that budget.

	<u>Total</u> (791)	<u>Office</u> (484)	<u>Plant</u> (170)	Health <u>Care</u> (71)	<u>Retail</u> (74)	Edu- <u>cation</u> (85)	Rsrch/ <u>Lab</u> (77)	Ware- <u>house</u> (134)
<u>% of Operating Budget Expect to Invest</u>	%	%	%	%	%	%	%	%
Less than 1%	16	19	12	14	11	12	19	15
1% - 4%	36	37	41	20	32	35	31	35
5% - 9%	23	24	19	25	31	27	25	25
10% - 14%	10	8	12	20	7	8	10	11
15% - 19%	4	3	5	7	10	6	3	4
20% - 24%	3	1	5	6	3	1	1	3
25% or more	1	*	2	3	3	2	4	1
Don't know	7	8	5	6	3	8	6	6
<i>Mean expectation</i>	6%	8%	6%	9%	8%	6%	6%	6%

- And regardless of facility type, companies most frequently expect their energy efficiency investments to result in a consumption reduction of 1% to 9% (8% on average). Healthcare facilities expect a slightly higher reduction in consumption (10%).

<u>Anticipated Resultant Consumption Reduction</u>	<u>Total</u> (1123)	<u>Office</u> (697)	<u>Plant</u> (211)	<u>Health Care</u> (85)	<u>Retail</u> (108)	<u>Edu- cation</u> (107)	<u>Rsrch/ Lab</u> (96)	<u>Ware- house</u> (193)
	%	%	%	%	%	%	%	%
Less than 1%	7	7	4	7	8	5	5	5
1% - 4%	27	28	32	24	29	27	26	25
5% - 9%	28	28	36	31	31	31	38	34
10% - 19%	16	15	15	15	13	21	9	12
20% - 29%	4	4	3	11	4	4	2	6
30% or more	2	1	2	4	6	2	4	3
Don't know	15	16	9	9	9	8	15	16
<i>Mean expectation</i>	<i>8%</i>	<i>8%</i>	<i>8%</i>	<i>10%</i>	<i>9%</i>	<i>8%</i>	<i>8%</i>	<i>9%</i>

- And healthcare facilities are the most optimistic in terms of expecting their investment to result in an actual decline in the dollars paid in energy per square foot. However, even for these facilities the majority expects to see no change, or an increase in the energy cost per square foot.

	<u>Total</u> (1249)	<u>Office</u> (779)	<u>Plant</u> (228)	<u>Health Care</u> (90)	<u>Retail</u> (122)	<u>Edu- cation</u> (112)	<u>Rsrch/ Lab</u> (103)	<u>Ware- house</u> (224)
	%	%	%	%	%	%	%	%
Dollars paid per square foot will increase	35	34	39	33	39	33	31	36
Dollars paid per square foot will decrease	26	25	25	39	22	25	29	24
Dollars paid per square foot will not change significantly	38	41	36	28	39	41	39	41

Company's Emphasis on Energy Management – by Type of Facility

- Office, retail, and warehousing tend to place slightly less importance on energy management, although across most types of facilities, energy management is considered at least somewhat important.

<u>Importance of Energy Management to Company</u>		<u>Total</u> (1249)	<u>Office</u> (779)	<u>Plant</u> (228)	<u>Health Care</u> (90)	<u>Retail</u> (122)	<u>Edu- cation</u> (112)	<u>Rsrch/ Lab</u> (103)	<u>Ware- house</u> (224)
		%	%	%	%	%	%	%	
Extremely important	(5)	15	16	18	25	17	23	23	16
Very important	(4)	36	34	37	36	29	44	35	34
Somewhat important	(3)	38	37	40	35	39	26	31	41
Not very important	(2)	9	10	4	4	11	7	10	9
Not at all important	(1)	2	-	-	4	-	1	1	1
<i>Mean</i>		<i>3.53</i>	<i>3.52</i>	<i>3.69</i>	<i>3.80</i>	<i>3.44</i>	<i>3.83</i>	<i>3.70</i>	<i>3.55</i>

- Across all types of facilities, consumption data is typically reviewed monthly or quarterly.

<u>Frequency of Reviewing Consumption Data</u>		<u>Total</u> (1249)	<u>Office</u> (779)	<u>Plant</u> (228)	<u>Health Care</u> (90)	<u>Retail</u> (122)	<u>Edu- cation</u> (112)	<u>Rsrch/ Lab</u> (103)	<u>Ware- house</u> (224)
		%	%	%	%	%	%	%	
Daily	(265)	3	3	4	7	1	3	3	3
Weekly	(52)	6	5	7	12	8	9	7	3
Monthly	(12)	40	41	45	40	42	43	43	43
Quarterly	(4)	19	18	18	21	20	28	19	20
Twice a year	(2)	7	6	5	7	5	3	8	7
Annually	(1)	14	16	13	8	8	5	11	12
Less than once a year	(0.5)	8	9	5	4	11	7	7	11
Don't know		3	3	1	1	5	2	3	2
<i>Avg. times per year</i>		<i>17.1</i>	<i>16.8</i>	<i>22.1</i>	<i>30.2</i>	<i>13.2</i>	<i>18.6</i>	<i>18.0</i>	<i>15.3</i>

- And they review energy forecasts monthly, quarterly, or annually. This is again fairly consistent across all types of facilities.

<u>Frequency of Reviewing Forecasts</u>		<u>Total</u>	<u>Office</u>	<u>Plant</u>	<u>Health</u>	<u>Retail</u>	<u>Edu-</u>	<u>Rsrch/</u>	<u>Ware-</u>
		(1249)	(779)	(228)	Care (90)	(122)	cation (112)	Lab (103)	house (224)
		%	%	%	%	%	%	%	%
Daily	(265)	1	1	1	1	1	1	2	*
Weekly	(52)	3	2	7	6	4	5	-	3
Monthly	(12)	20	19	25	26	24	23	31	19
Quarterly	(4)	25	24	24	30	24	28	26	30
Twice a year	(2)	10	9	12	10	9	14	10	11
Annually	(1)	25	27	18	18	21	21	18	19
Less than once a year	(0.5)	9	11	7	6	10	5	7	11
Don't know		7	6	7	3	7	4	6	5
<i>Avg. times per year</i>		8.1	8.1	12.1	11.0	9.2	9.5	11.0	6.9

- All types of facilities are paying more attention to energy efficiency than they were one year ago.

<u>Attention Paid to Energy Efficiency Vs. Year Ago</u>		<u>Total</u>	<u>Office</u>	<u>Plant</u>	<u>Health</u>	<u>Retail</u>	<u>Edu-</u>	<u>Rsrch/</u>	<u>Ware-</u>
		(1249)	(779)	(228)	Care (90)	(122)	cation (112)	Lab (103)	house (224)
		%	%	%	%	%	%	%	%
A lot more attention now	(5)	23	24	27	19	20	30	22	26
A little more attention now	(4)	39	38	42	47	40	34	38	38
About the same attention	(3)	33	34	29	28	31	34	34	31
A little less attention now	(2)	2	2	*	4	3	2	5	2
A lot less attention now	(1)	*	-	-	-	-	-	-	*
Don't know		3	2	1	2	5	-	1	3
<i>Mean</i>		3.86	3.85	3.96	3.82	3.82	3.93	3.78	3.89

- Across all types of facilities around 60% or more expect a return on energy efficiency investments in two to five years, with an average tolerance of about four years. Healthcare, education, and laboratories are a somewhat more likely to tolerate a slightly longer period.

<u>Tolerance for ROI on Energy Efficiency Investment</u>		<u>Total</u>	<u>Office</u>	<u>Plant</u>	<u>Health</u>	<u>Retail</u>	<u>Edu-</u>	<u>Rsrch/</u>	<u>Ware-</u>
		(1249)	(779)	(228)	Care (90)	(122)	cation (112)	Lab (103)	house (224)
		%	%	%	%	%	%	%	%
1 year or less	(1)	8	6	10	6	13	4	8	7
2 to 3 years	(2.5)	34	37	41	26	31	25	40	39
4 to 5 years	(4.5)	30	29	30	34	27	33	25	28
6 to 9 years	(7.5)	10	10	8	20	8	17	15	10
10 to 15 years	(12.5)	5	4	5	11	7	8	5	4
More than 15 years	(17.0)	1	1	1	-	-	1	4	*
Would not require ROI		3	4	3	-	2	1	1	2
<i>Average Maximum ROI period</i>		4.3yr	4.2yr	4.1yr	5.3yr	4.2yr	5.2yr	4.8yr	4.1yr

- All types of facilities are becoming more flexible in their expectations for their ROI on energy efficiency investments.

<u>ROI Tolerance Compared to 5-Years Ago</u>	<u>Total</u> (1249) %	<u>Office</u> (779) %	<u>Plant</u> (228) %	<u>Health</u> <u>Care</u> (90) %	<u>Retail</u> (122) %	<u>Edu-</u> <u>cation</u> (112) %	<u>Rsrch/</u> <u>Lab</u> (103) %	<u>Ware-</u> <u>house</u> (224) %
Company will allow longer payback period today	18	18	22	24	21	23	26	21
Allowable payback period has not changed	45	46	52	47	45	34	42	44
Company allowed longer payback 5-years ago	10	9	9	13	11	8	17	10
Don't know	26	26	16	16	22	35	15	25

- In the vast majority of retrofit and construction projects, energy efficiency was or will be a consideration in project design, regardless of facility type.

<u>Consideration of Efficiency in Construction Projects</u>	<u>Total</u> (664) %	<u>Office</u> (406) %	<u>Plant</u> (133) %	<u>Health</u> <u>Care</u> (68) %	<u>Retail</u> (73) %	<u>Edu-</u> <u>cation</u> (81) %	<u>Rsrch/</u> <u>Lab</u> (77) %	<u>Ware-</u> <u>house</u> (125) %
Energy efficiency was/will be a design priority	77	80	80	75	68	85	84	74
Energy efficiency was not/won't be a priority	18	15	17	25	29	10	14	22
Don't know	5	5	3	-	3	5	1	4

- Cost savings are the primary motivation for achieving energy efficiency, for all facility types.

		<u>Total</u> (1183) %	<u>Office</u> (748) %	<u>Plant</u> (219) %	<u>Health</u> <u>Care</u> (85) %	<u>Retail</u> (113) %	<u>Edu-</u> <u>cation</u> (109) %	<u>Rsrch/</u> <u>Lab</u> (98) %	<u>Ware-</u> <u>house</u> (214) %
100% cost savings	(7)	6	6	9	5	8	6	4	7
Mostly for cost savings	(6)	24	24	24	22	15	20	21	21
Somewhat more for cost savings	(5)	22	22	19	26	23	26	23	25
50% cost savings/50% environmental	(4)	35	35	36	33	39	31	40	36
Somewhat more for environment	(3)	7	7	5	7	8	8	4	5
Mostly for environmental responsibility	(2)	5	5	5	5	4	6	5	5
100% environmental responsibility(1)	(1)	1	1	2	2	3	3	2	2
<i>Mean</i>		4.68	5.48	4.74	4.61	4.52	4.53	4.58	4.68

Current Energy Use, Expectations and Plans – by Region

- Energy expenditures are fairly consistent by region.

	<u>Total</u> (1207)	<u>Northeast</u> (305)	<u>Midwest</u> (368)	<u>West</u> (345)	<u>South</u> (416)
<u>Amount on Electricity and Natural Gas Last Yr</u>	%	%	%	%	%
\$50,000 or less	20	14	17	17	20
\$50,001 - \$100,000	6	6	5	5	5
\$100,001 - \$500,000	13	13	15	13	10
\$500,001 - \$1,000,000	6	7	6	6	6
\$1,000,001 - \$5,000,000	9	10	9	11	9
More than \$5,000,000	5	7	6	6	9
Don't know	42	43	42	41	41

- Across all regions, energy accounts for an average of 9% of total company expenditures.

	<u>Total</u> (1249)	<u>Northeast</u> (315)	<u>Midwest</u> (378)	<u>West</u> (356)	<u>South</u> (423)
<u>% of Total Expenses Electricity/Gas Accounts for</u>	%	%	%	%	%
Less than 1%	11	11	10	10	13
1% - 4%	22	21	23	22	20
5% - 9%	21	20	20	19	19
10% - 14%	14	14	11	15	12
15% - 19%	7	8	9	10	7
20% - 24%	5	5	3	5	6
25% or more	6	6	6	5	7
Don't know	15	15	17	14	15
<i>Average</i>	9%	9%	9%	9%	9%

- Across all regions, the vast majority of decision makers believe energy prices will increase over the next 12-months.

	<u>Total</u> (1249)	<u>Northeast</u> (315)	<u>Midwest</u> (378)	<u>West</u> (356)	<u>South</u> (423)
<u>Believe Price of Gas & Electricity Will...</u>	%	%	%	%	%
Increase over the next year	79	82	80	80	78
Decrease over the next year	3	2	2	3	4
Not change significantly	18	16	18	17	18

- Decision makers in the Midwest are a little bit more optimistic about how much they expect energy prices to increase, and those in the South are the least optimistic.

	<u>Total</u>	<u>Northeast</u>	<u>Midwest</u>	<u>West</u>	<u>South</u>
	(973)	(254)	(298)	(280)	(321)
<u>Anticipated Increase</u>	%	%	%	%	%
1% - 5%	20	19	23	20	19
6% - 10%	30	29	28	33	27
11% - 20%	23	24	25	23	23
21% - 40%	7	7	8	7	8
More than 40%	3	2	2	3	5
Don't know	18	20	16	14	18
<i>Mean anticipated increase</i>	13.25%	13.22%	12.98%	13.33%	15.28%

- In each region, around 60% of companies anticipate making energy efficiency improvements with capital expenditures in the next year.

	<u>Total</u>	<u>Northeast</u>	<u>Midwest</u>	<u>West</u>	<u>South</u>
	(1249)	(315)	(378)	(356)	(423)
<u>Expectations – Capital Budget</u>	%	%	%	%	%
Expect to make energy eff. improvements with capital expenditures in the next year	57	59	58	63	59
Do not expect to make improvements with capital expenditures in the next year	26	26	28	24	23
Don't know	17	15	14	13	18

- And companies in each region expect to invest a similar proportion of their total capital budget in energy efficiency.

	<u>Total</u>	<u>Northeast</u>	<u>Midwest</u>	<u>West</u>	<u>South</u>
	(712)	(186)	(219)	(226)	(249)
<u>% of Capital Budget Expect to Invest</u>	%	%	%	%	%
Less than 1%	10	9	9	11	8
1% - 4%	28	30	26	31	27
5% - 9%	26	25	27	24	28
10% - 14%	14	15	7	15	12
15% - 19%	7	6	7	7	6
20% - 24%	4	4	3	4	6
25% or more	4	4	3	2	2
Don't know	7	8	7	6	10
<i>Mean expectation</i>	8%	8%	8%	7%	8%

- Similarly, just over 60% of companies in each region expect to make energy efficiency improvements from operating expenditures.

	<u>Total</u>	<u>Northeast</u>	<u>Midwest</u>	<u>West</u>	<u>South</u>
<u>Expectations – Operating Budget</u>	(1249)	(315)	(378)	(356)	(423)
	%	%	%	%	%
Expect to make energy eff. improvements with operating expenditures in the next year	64	62	65	66	66
Do not expect to make improvements with operating expenditures in the next year	21	21	19	17	19
Don't know	16	17	15	17	15

- And across all regions, companies anticipating investing an average of 6% of their operating budget in such improvements.

	<u>Total</u>	<u>Northeast</u>	<u>Midwest</u>	<u>West</u>	<u>South</u>
	(791)	(195)	(245)	(234)	(278)
<u>% of Operating Budget Expect to Invest</u>	%	%	%	%	%
Less than 1%	16	15	18	14	14
1% - 4%	36	34	33	38	34
5% - 9%	23	22	23	24	23
10% - 14%	10	9	10	11	10
15% - 19%	4	6	5	5	4
20% - 24%	3	4	1	2	4
25% or more	1	1	*	*	*
Don't know	7	10	9	6	10
<i>Mean expectation</i>	6%	6%	6%	6%	6%

- From their investment in energy efficiency, companies across all regions expect an average reduction in their energy consumption of 8% and this is quite consistent across regions.

	<u>Total</u>	<u>Northeast</u>	<u>Midwest</u>	<u>West</u>	<u>South</u>
<u>Anticipated Resultant Consumption Reduction</u>	(1123)	(290)	(334)	(327)	(378)
	%	%	%	%	%
Less than 1%	7	8	6	5	6
1% - 4%	27	23	25	30	28
5% - 9%	28	30	32	27	28
10% - 19%	16	16	14	18	15
20% - 29%	4	5	5	5	4
30% or more	2	1	2	1	2
Don't know	15	16	17	14	17
<i>Mean expectation</i>	8%	7%	8%	8%	8%

- And only one-fourth of decision makers in all regions anticipate that their investment in energy efficiency will result in a reduction in consumption.

	<u>Total</u>	<u>Northeast</u>	<u>Midwest</u>	<u>West</u>	<u>South</u>
	(1249)	(315)	(378)	(356)	(423)
	%	%	%	%	%
Dollars paid per square foot will increase	35	38	40	35	43
Dollars paid per square foot will decrease	26	24	25	26	26
Dollars paid per square foot will not change significantly	38	39	35	39	41

Company's Emphasis on Energy Management – by Region

- Energy management is equally important to companies across all regions.

		<u>Total</u>	<u>Northeast</u>	<u>Midwest</u>	<u>West</u>	<u>South</u>
<u>Importance of Energy Management to Company</u>		(1249)	(315)	(378)	(356)	(423)
		%	%	%	%	%
Extremely important	(5)	15	17	12	13	19
Very important	(4)	36	33	38	39	35
Somewhat important	(3)	38	38	38	38	35
Not very important	(2)	9	10	10	9	9
Not at all important	(1)	2	2	2	1	2
<i>Mean</i>		3.53	3.52	3.49	3.53	3.60

- Companies in the Midwest may review their energy consumption data slightly less than those in the rest of the US.

		<u>Total</u>	<u>Northeast</u>	<u>Midwest</u>	<u>West</u>	<u>South</u>
<u>Frequency of Reviewing Consumption Data</u>		(1249)	(315)	(378)	(356)	(423)
		%	%	%	%	%
Daily	(265)	3	3	3	3	3
Weekly	(52)	6	8	5	6	7
Monthly	(12)	40	39	40	36	41
Quarterly	(4)	19	18	19	23	19
Twice a year	(2)	7	8	7	7	7
Annually	(1)	14	14	16	13	12
Less than once a year	(0.5)	8	7	9	8	8
Don't know		3	3	2	3	2
<i>Avg. times per year</i>		17.1	19.0	16.0	18.0	17.4

- Those in the Midwest may also review their energy forecasts a little less frequently than companies in other regions.

		<u>Total</u>	<u>Northeast</u>	<u>Midwest</u>	<u>West</u>	<u>South</u>
<u>Frequency of Reviewing Forecasts</u>		(1249)	(315)	(378)	(356)	(423)
		%	%	%	%	%
Daily	(265)	1	2	1	1	1
Weekly	(52)	3	4	3	4	4
Monthly	(12)	20	19	21	19	25
Quarterly	(4)	25	27	23	23	23
Twice a year	(2)	10	11	10	12	10
Annually	(1)	25	23	26	25	22
Less than once a year	(0.5)	9	7	10	9	10
Don't know		7	8	7	7	7
<i>Avg. times per year</i>		8.1	11.1	8.2	9.4	9.3

- And companies in all regions are paying more attention to energy efficiency than they were one year ago. The extent to which they are doing so does not vary by region: In all regions, about one-fourth of companies are paying a lot more attention and about 40% paying a little more attention than year ago.

<u>Attention Paid to Energy Efficiency Vs. Year Ago</u>	<u>Total</u> (1249)	<u>Northeast</u> (315)	<u>Midwest</u> (378)	<u>West</u> (356)	<u>South</u> (423)
	%	%	%	%	%
Paying a lot more attention now (5)	23	25	22	23	24
Paying a little more attention now (4)	39	42	43	39	38
Paying about the same attention (3)	33	29	30	33	33
Paying a little less attention now (2)	2	2	2	3	2
Paying a lot less attention now (1)	*	1	-	-	*
Don't know	3	2	2	2	3
<i>Mean</i>	<i>3.86</i>	<i>3.90</i>	<i>3.88</i>	<i>3.84</i>	<i>3.84</i>

- Neither does tolerance for ROI on energy efficiency investments vary from region to region. The majority of companies require an ROI of five years or less.

<u>Tolerance for ROI on Energy Eff. Investment</u>	<u>Total</u> (1249)	<u>Northeast</u> (315)	<u>Midwest</u> (378)	<u>West</u> (356)	<u>South</u> (423)
	%	%	%	%	%
1 year or less (1)	8	8	8	6	9
2 to 3 years (2.5)	34	35	37	35	38
4 to 5 years (4.5)	30	28	31	30	25
6 to 9 years (7.5)	10	10	10	12	10
10 to 15 years (12.5)	5	6	5	6	5
More than 15 years (17.0)	1	-	1	1	*
Would not require ROI	3	3	2	3	4
<i>Average Maximum ROI period</i>	<i>4.3 yrs</i>	<i>4.3 yrs</i>	<i>4.2 yrs</i>	<i>4.6 yrs</i>	<i>4.1 yrs</i>

- And in all regions about one-in-five companies have relaxed their tolerance for ROI compared to 5-years ago.

<u>ROI Tolerance Compared to 5-Years Ago</u>	<u>Total</u> (1249)	<u>Northeast</u> (315)	<u>Midwest</u> (378)	<u>West</u> (356)	<u>South</u> (423)
	%	%	%	%	%
Company will allow longer payback period today	18	19	18	19	17
Allowable payback period has not changed	45	44	46	49	49
Company allowed longer payback 5-years ago	10	11	10	8	11
Don't know	26	25	26	24	24

- Around 80% of companies in all regions consider (or have considered) energy efficiency in the design of retrofit or new construction projects.

	<u>Total</u>	<u>Northeast</u>	<u>Midwest</u>	<u>West</u>	<u>South</u>
<u>Consideration of Efficiency in Construction Projects</u>	(664)	(170)	(196)	(211)	(235)
	%	%	%	%	%
Energy eff. was/will be a design priority	77	78	78	79	76
Energy eff. was not/won't be a priority	18	19	18	18	19
Don't know	5	2	5	3	5

- The relative influence of cost savings and environmental responsibility in energy management decisions are consistent across companies in all regions. Environmental responsibility is a factor but cost savings is the primary motivator for achieving energy efficiencies.

		<u>Total</u>	<u>Northeast</u>	<u>Midwest</u>	<u>West</u>	<u>South</u>
	(1183)	(299)	(358)	(339)	(399)	
	%	%	%	%	%	
100% cost savings	(7)	6	5	5	3	6
Mostly for cost savings	(6)	24	24	24	25	26
Somewhat more for cost savings	(5)	22	26	21	23	21
50% cost savings/50% environmental	(4)	35	34	37	32	34
Somewhat more for environment	(3)	7	5	6	8	9
Mostly for environmental responsibility	(2)	5	4	4	6	4
100% environmental responsibility	(1)	1	1	1	2	1
<i>Mean</i>		4.68	4.74	4.68	4.56	4.70