



Deloitte reSources 2012 Study Insights into Corporate Energy Management Trends

Second annual study illuminates the attitudes and practices that companies have toward energy management to help make business and investment decisions





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Deloitte, with strategy and market research firm Harrison Group, has completed its second annual nationwide reSources Study (the “2012 Study” or “Study”) to provide insights that can be useful in helping businesses make energy-related investment and business decisions. The Study uncovers actions businesses are taking to manage their energy usage and what motivates them to adopt new practices and technologies.

The reSources 2012 Study was performed in the February/March 2012 timeframe and largely reflects the business attitudes and practices related to 2011. The Study is based on one-on-one, in-depth qualitative interviews with senior executives, as well as over 600 online interviews with business decision makers across all industries responsible for energy management practices at companies with more than 250 employees.

During this same period, Deloitte and Harrison Group also examined the actions consumers are taking to manage their energy usage and their motivations for adopting new practices and technologies. The consumer portion of the Study was based on more than 2,200 demographically-balanced online interviews with household decision makers for utility services. A report that examines those results is available at www.deloitte.com/us/resources.

Introduction

Over the past few years, and especially as a result of the recent recession, American businesses have become increasingly focused on energy consumption and its impact on their bottom-lines. And, the data collected in the reSources 2012 Study suggests that this trend will not be changing any time soon. In fact, it is intensifying as more businesses recognize energy management efforts are essential to staying competitive from both a financial and a corporate image perspective. Their successes achieved in the short time energy management has been a focus have been particularly impressive, and have only served to strengthen corporate appetites for future gains. However, while businesses are increasingly motivated to manage energy consumption and costs, they are also finding it more challenging as they attempt to link energy management to overall business strategy and drive changes throughout the corporate organization.



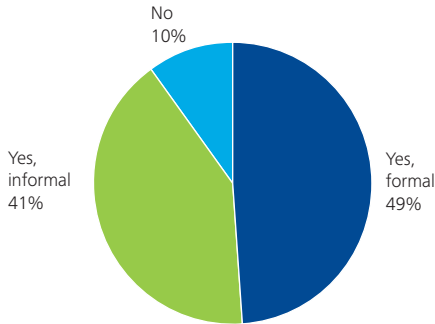
Detailed findings

Energy management efforts at U.S. businesses intensifying

Energy management activities at U.S. companies have intensified since the 2011 Study, as evidenced by growth in formalized energy goals, greater linkage to staying competitive, and a higher level of sophistication of programs being implemented. A full 90% of companies have specific electricity and energy management goals in place. Of those companies, nine-in-ten are targeting electricity consumption and cost reductions and three-quarters have goals aimed at reducing both natural resource consumption (60% around water) and waste generation. Efforts also extend to goals around improving the energy efficiency of buildings where they operate (62%), reducing natural gas consumption (58%), carbon footprint (56%) and transport fuel consumption (51%).

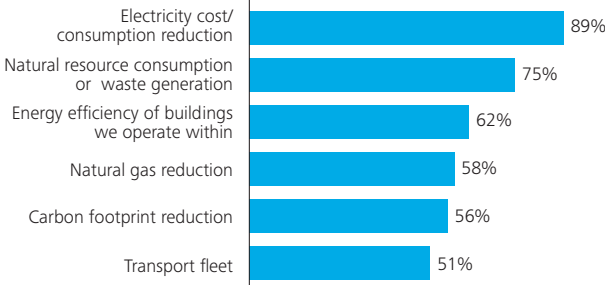
Figure 1. 90% of companies have set goals – focusing on electricity, natural gas and natural resources

Have set goals



Q: Has your company set any goals, formal or otherwise, with respect to electricity and energy management practices?

Types of goals set



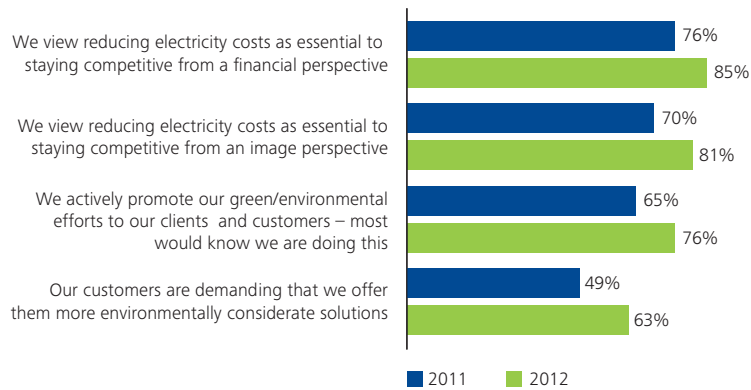
Q: What types of electricity and energy management goals has your company set or is in the process of starting?



Energy management efforts essential to staying competitive

U.S. businesses are increasingly viewing energy management programs as essential to staying financially competitive and are also increasingly concerned about the image they are conveying to their customers. In fact, 85% of companies agree that reducing electricity costs is essential to staying competitive from a financial perspective, up from 76% in the 2011 Study. The percent of companies agreeing that reducing electricity costs is essential to staying competitive from an image perspective has risen to 81% from 70% in the 2011 Study. Over six-in-ten report that their customers are demanding that they offer more environmentally considerate solutions and three-quarters actively promote their efforts to their customers.

Figure 2. Energy responsibility mindset growing



Q: Please use the scale below to indicate how much you agree or disagree with the following statements.

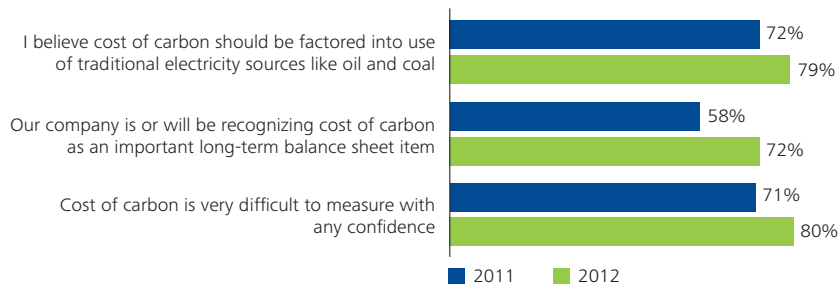
Aside from cost savings and financial/image benefits, companies cite just doing the right thing (49%), the regulatory climate (32%) and employee motivations (31%) as other drivers behind their energy management programs.



Cost of carbon taking on greater importance

Last year we noted that a large number of businesses were unconvinced of the merits of carbon costing. It's a different story this year. As businesses continue to intensify their resourcefulness efforts, almost 80% now agree that "cost of carbon" should be factored into the use of oil and coal to generate electricity (recognizing that the use of oil is negligible). Over 70% indicate that their companies are or will be recognizing cost of carbon as an important "long-term balance sheet item." However, while recognition of cost of carbon as an important metric has gained momentum, with it has grown confusion about measurement and accountability. A full 80% say that the cost of carbon is very difficult to measure with any confidence, up from 71% in the 2011 Study. Almost three-in-ten are externally reporting results of their carbon management efforts regularly and another 15% report results periodically, most often through sustainability reports and on corporate websites.

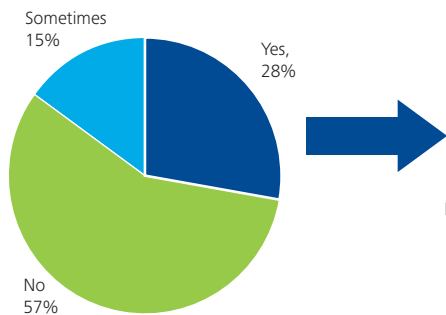
Figure 3. "Cost of carbon" taking on increasing importance but difficult to measure with confidence



Q: How would you describe your attitudes when you hear 'carbon cost' being discussed?

Figure 4. About 3-in-10 are consistently reporting progress against carbon management goals

Reporting of carbon management results



How carbon management goals are reported



Q: Do you externally report results of carbon management efforts?

Q: How do you report results of your carbon management efforts?

Despite challenges major progress toward goals

The 2011 Study found that companies had set ambitious energy-savings goals, working to reduce their energy consumption by 25% on average over a three-to-five-year period and were less than one-third of the way to achieving those goals. Remarkable progress has been made over the last year. The 2012 Study found that companies now report they have achieved closer to 60% of their targeted reduction levels. This may be slightly behind their targeted timelines, but nonetheless reflects major accomplishments over the last year.

It should be noted that last year witnessed low natural gas prices and generally mild cooling and heating seasons. As a result, the potential exists that businesses have overestimated their levels of success in achieving their goals, given these unusual conditions and their associated impact on energy costs and consumption levels.

Figure 5. Targeted consumption reductions of 23%-25% on average – Clear progress toward goals...

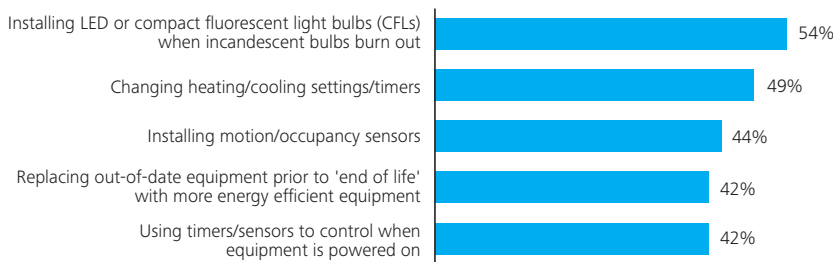
	Electricity	Natural gas	Transport fleet	Carbon footprint
Targeted % reduction				
Less than 15%	33	29	38	33
15-24%	29	28	27	27
25% or more	38	36	35	40
Average targeted reduction	23%	23%	23%	25%
Over # of years (average)	3.7	3.8	3.6	4.2
% of target achieved	61%	57%	61%	56%
% of target years used	69%	71%	76%	63%

Q: For each of the areas below, what is the target level reduction that you are trying to achieve and over what period of time?

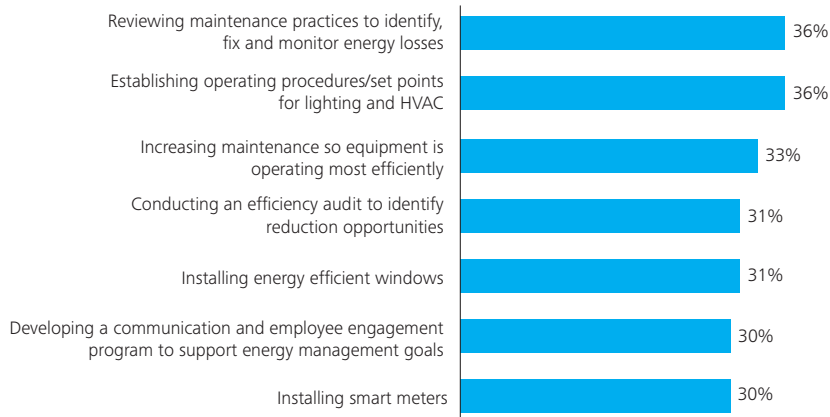


The tactics or activities most often cited in the 2012 Study as being used to manage energy consumption and costs are set forth below. It is interesting to note that with few exceptions, most of these tactics require relatively low levels of capital investment. This is consistent with the finding (discussed later) that lack of capital is the number one challenge noted by businesses.

Figure 6. Top tactics being used to reach goals



Other tactics also identified to a lesser degree included the following:

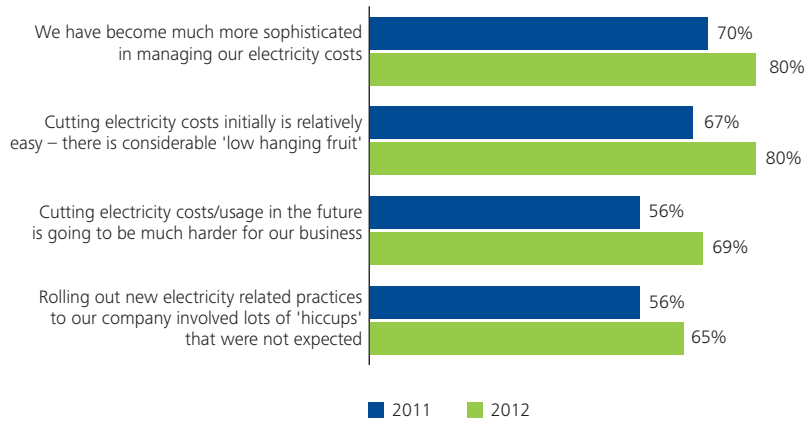


Q: Which of the following has your company employed specifically as part of your energy management practices?

More motivated but also more challenged

Eighty percent of companies report that they have become much more sophisticated in managing their electricity costs. Additionally, there is growing recognition that continuing to cut costs will be increasingly difficult as they harvest the “low hanging fruit.”

Figure 7. Businesses are becoming more motivated, but also more challenged by their goals



Q: Please use the scale below to indicate how much you agree or disagree with the following statements.

Figure 8. And goals getting more difficult to achieve

Difficulty in achieving goals	2011	2012
Extremely difficult to achieve	3%	3%
Very difficult to achieve	10%	18%
Somewhat difficult to achieve	63%	62%
Somewhat easy to achieve	20%	16%
Very easy to achieve	3%	1%
Extremely easy to achieve	1%	1%

Q: How would you describe your company's current goals with respect to electricity and energy management practices?

As companies move onto the next stages that require larger investments, capital funding is the number one barrier to future progress, followed by length of payback period. Other challenges such as unexpected complexity and bureaucracy, and lack of dedicated staff also emerged as key obstacles faced by companies.

The 2012 Study found that on average, U.S. businesses allocate about 14% of their capital spend to energy efficiency programs. When it comes to decisions around capital allocation, size of company appears to have little impact on the relative level or percentage of capital allocated to these programs.

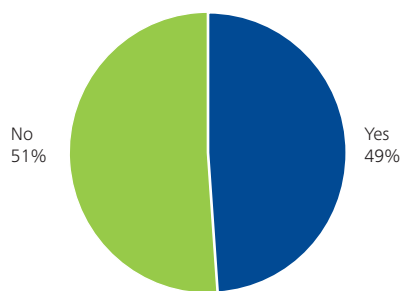
Figure 9. Specific barriers to achieving goals

	2011	2012
Lack of capital for investment in projects	21%	29%
Length of time required for investment to pay off	25%	25%
Unexpected complexity in implementing initiatives	23%	24%
Bureaucracy	17%	23%
Lack of dedicated staff to accomplish the goals	21%	23%

Q: Which of the following have been primary barriers to achieving the electricity and energy management goals set by your company?

Figure 10. Spending on energy efficiency programs is about 14% of total capital budget

Allocated a pool of funds for 2012



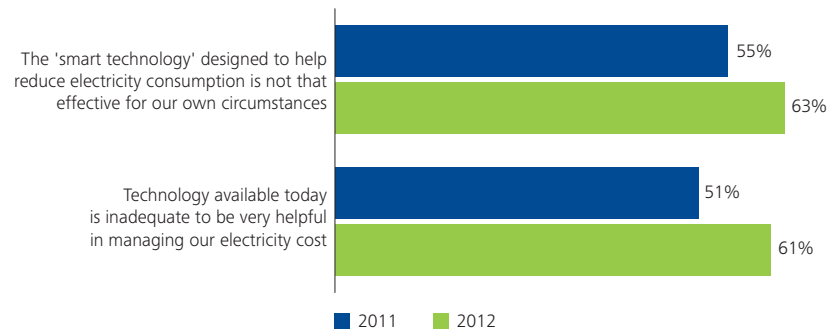
Q: Has your company allocated a "pool of funds" to invest in energy efficiency programs for 2012?

	Company size (Revenue)		
	Less than \$100MM	\$100-\$499MM	\$500 MM+
Allocated a pool of funds for 2012	48%	48%	50%
Percent of total capital budget	15%	13%	14%

Q: What percentage of your company's total capital budget for 2012 was allocated to the 'pool of funds' to invest in energy efficiency programs this year?

Businesses also acknowledge that enabling technology alone is, more often than not, inadequate to help them reach their goals. Six-in-ten agree that “smart technology” currently available is not effective for their own unique circumstances and an equal number agree that technology available today is inadequate to help them manage energy costs – both up significantly from the 2011 Study.

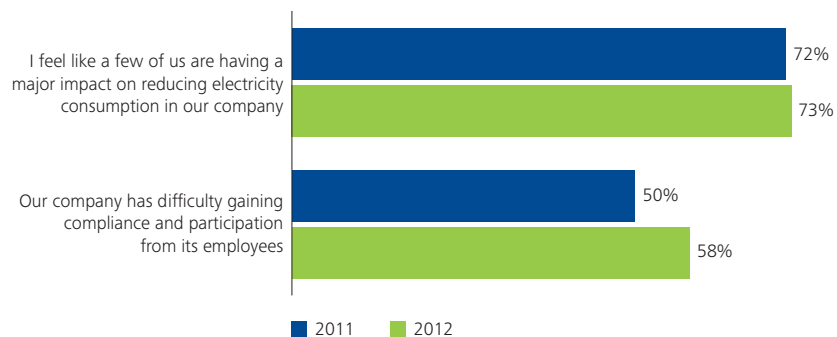
Figure 11. It takes more than just technology



Q: Please use the scale below to indicate how much you agree or disagree with the following statements.

The fact remains that there is still a significant human behavior component required for effective energy management. Benefits gained from implementing a sophisticated “smart technology” system may well be negated by counterproductive employee behaviors.

Figure 12. Employee engagement is mixed

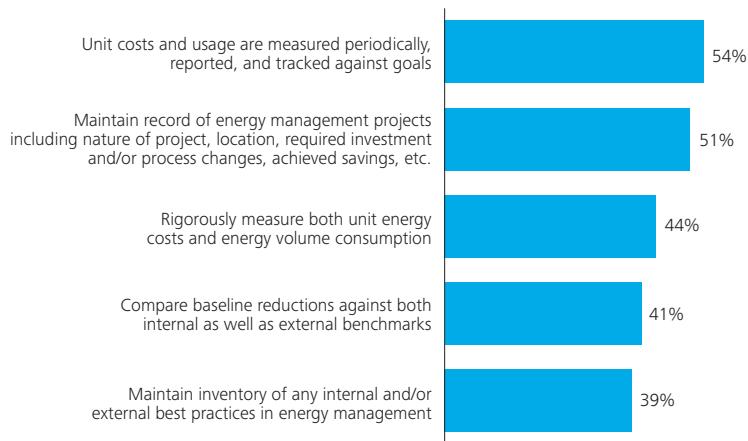


Q: Please use the scale below to indicate how much you agree or disagree with the following statements.

Measuring progress against goals can be difficult

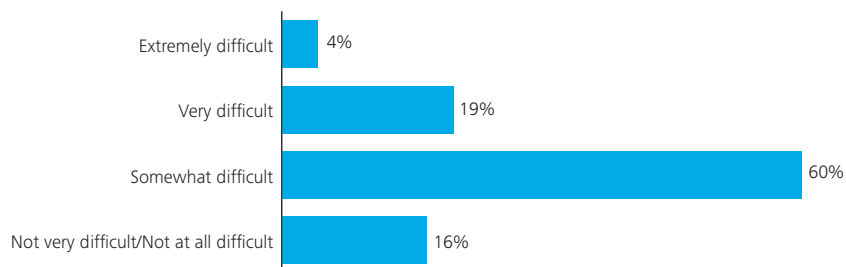
While three-quarters of companies with energy goals have set a baseline year as a benchmark against which to measure their progress, most find it difficult to monitor performance against goals. Only about half are actually measuring and verifying their progress toward goals with any regularity, most commonly by tracking and reporting unit costs and usage (54%) or maintaining a record of energy management projects (51%). Just four-in-ten compare baseline reductions against both internal and external benchmarks (41%) or maintain an inventory of internal or external best practices in energy management (39%).

Figure 13. Over half measure and verify progress with regularity



Q: What type of measurement and verification processes do you follow in managing your energy consumption and/or costs?

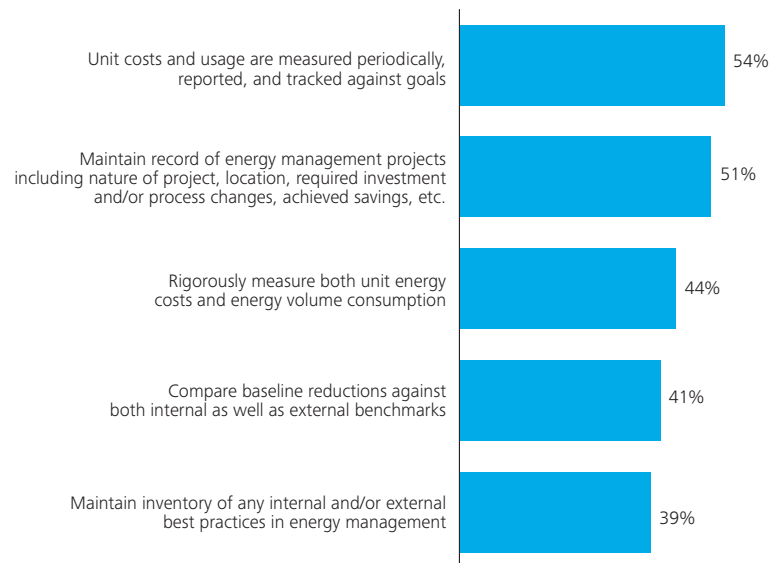
Figure 14. Most find it difficult to monitor performance against goals



Q: How difficult is it for you to monitor your performance against your energy management goals?

Some of the difficulty companies are encountering in monitoring and verifying the success, or lack thereof, of their energy management programs can be attributed to the information technology systems they have in place. Approximately 70% are currently using a spreadsheet format, while only two-in-ten have implemented more sophisticated proprietary or third-party software solutions. Moreover, of those that have software systems in place to support their energy management programs, only 41% say that what they are using meets their needs extremely or very well.

Figure 15. Most use spreadsheet software to track energy management program



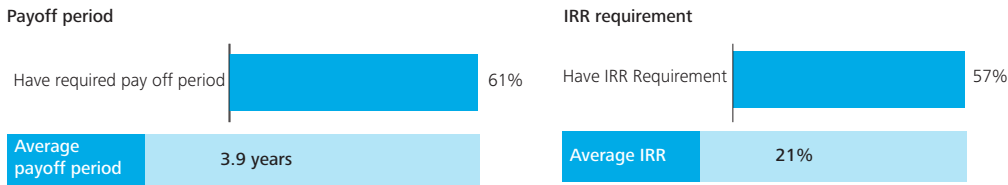
Q: What type of measurement and verification processes do you follow in managing your energy consumption and/or costs?



Return on investment matters

When it comes to making investments in energy management programs, 61% of companies have specific payback period requirements, and they are looking for payback in about four years on average. A similar percentage of companies (57%) have a specific internal rate of return (IRR) hurdle that they must meet – those that do are looking for returns of 21% on average.

Figure 16. 6-in-10 have pay off period requirements – Majority also face IRR hurdle



Q: What is the pay-off period generally required by your company for investments in energy efficiency solutions?

Q: What is the IRR generally required by your company on energy efficiency projects?

In a period of relatively low energy prices, many potential energy management projects simply will not reach required payback periods and returns. However, as electricity prices rise and energy efficiency technology advances, the business case for many programs may quickly improve.

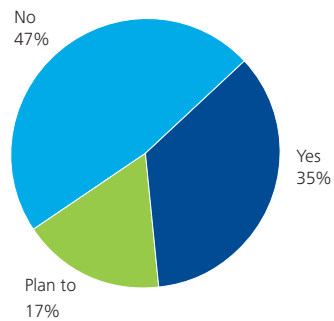


On-site generation and incorporation of renewable energy sources growing

Thirty-five percent of companies surveyed are currently generating some of their own electricity supply through renewable sources or cogeneration, up from 21% in the 2011 Study. And, another 17% report that they have plans for future on-site generation, up from 6% in the 2011 Study. At the same time, participation in renewable energy programs offered by electric companies has risen to 37% of companies, up from 30% in the 2011 Study, as awareness and availability of programs have expanded.

Figure 17. On-site energy generation and participation in renewable energy programs growing

Have on-site electricity generation



Q: Does your company currently generate any portion of its electric consumption through on-site cogeneration or renewable sources?

Participate in renewable energy programs



Q: Does your company purchase renewable energy from your electricity supplier?

Three categories of companies when it comes to energy management

While 90% of companies have set energy management goals, there is wide variance in their evolution and the current state of energy management sophistication. The 2011 Study revealed that companies tend to fall into one of three categories distinguished by their orientation toward and the state of development of their energy management practices. The 2012 Study reaffirmed these delineations.

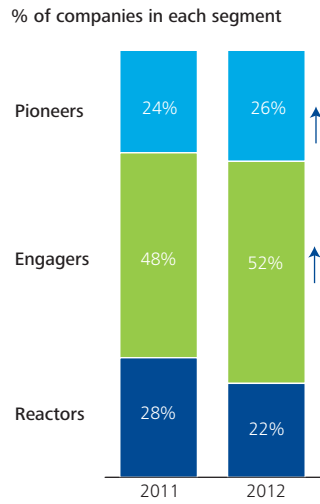
Not surprisingly, there is a distinguishable group of energy management leaders, the *Pioneers*. These businesses may have been pushed early on by their customers/partners to assert a leadership position in energy management/green practices, or in some cases, have been motivated by their own corporate leadership or sense of responsibility to pursue this position. Regardless of the driver, these businesses have evolved and refined their practices to the point where they now consider them as a source of competitive advantage and brand enhancement. They have already harvested the low-hanging fruit associated with reduced energy consumption, and are now facing greater capital investment requirements in order to achieve even higher levels of performance.

The second group, *Reactors*, operate primarily on the need to reduce cost or waste. They are not generally consumer-facing with their efforts and have relatively little employee communication and engagement.

The third and largest of the groups, *Engagers*, are newer to energy management and are challenged by the complexities of these efforts and how to prioritize or measure results. Engagers are motivated by the changes they perceive are occurring around them and the potential regulatory or competitive risks they might encounter by not improving their practices.

Reflecting the increasing focus businesses are placing on energy management as part of overall corporate strategy and the maturation of their energy management programs, the number of companies classified as Pioneers and Engagers trended upward in the 2012 Study, while the Reactors segment correspondingly declined.

Figure 18. Segments distinguished by orientation toward and development of energy management practices



Pioneers

- Developed, sophisticated but still evolving
- Sustainability and carbon serve as program drivers
- Corporate culture top to bottom
- **Key challenges:** Driving change management throughout the organization

Engagers

- Newer to energy management programs and unsure how best to proceed
- Programs are less developed and are fragmented
- Image and compliance driven
- **Key challenges:** Uncertainty, gaining momentum, measuring impact

Reactors

- Programs driven by controlling expenses only
- Little interest in carbon metrics
- Little employee communications/engagement
- **Key challenges:** Capital and personnel resources



Concluding thoughts

What does this all mean

Managing energy consumption and the associated costs is becoming increasingly important to American businesses. First and foremost, it is about bottom-line competitive advantage, but the positive impact on corporate image and brand is not to be ignored. Energy management is no longer just the purview of plant operations or building management; it is increasingly viewed as a strategic business driver to the enterprise.

The goals being set around energy savings appear ambitious in terms of consumption reductions, cost savings and timeframes to achieve. Low natural gas and electricity prices, coupled with mild weather during 2011, bring into question the real level of accomplishments to date, versus the perceived level indicated by the 2012 Study participants. This, plus the fact that businesses acknowledge their efforts as becoming increasingly difficult, might suggest that present goals are too lofty. Aggressive payback periods and hurdle rates of return serve to further support this premise. On the other hand, in the current environment where cost savings is the key motivator and energy prices are low, an upward movement in prices may well unleash heretofore “uneconomic” energy management projects enabled by enhanced, declining-cost technologies.

The different categories of companies – *Pioneers, Engagers, Reactors* – reveal the variability of attitudes, approaches and levels of success achieved among U.S. businesses. It is noteworthy that Pioneers, Engagers and Reactors exist in about equal proportions across all business sectors. It is also noteworthy that Engagers outnumber Pioneers and Reactors two to one – and they are characterized as companies early to the “game” and struggling to gain momentum. The trend upward in Pioneers and Engagers in 2012 as compared to 2011 should not be ignored, and serves to support the growing attention to and importance of energy management practices by companies.

So, what's next?

The questions company executives might logically be asking are:

- So, where do I stand versus my competition?
- Where do I stand versus my customers and suppliers?
- And, if I knew the answers and wanted to move “up the curve,” what steps should I be considering?

An in-depth analysis of the reSources 2012 Study data revealed an extremely high correlation between the existence of certain specific energy management practices and the level of success in meeting associated goals – across all U.S. businesses. That is, the maturity of the companies’ capabilities with regard to these practices was found to be a solid predictor of actual achievement against energy management goals. Furthermore, the specific energy-management practices fell into four general categories of capability: goal setting, capital investment, performance measurement and management, and reporting and disclosure.

With this knowledge and over 600 datasets from the Study, Deloitte has developed a U.S. company capability index against which individual companies can compare their energy management practices. We welcome companies to take advantage of this online opportunity by visiting the 2012 Deloitte reSources Study page at www.deloitte.com/us/resources.

As the reSources 2012 Study reveals, energy management is gaining momentum, in spite of a low-energy-cost environment. As such, developing and executing effective energy management strategies and programs may, in the long run, be as much about staying in business as it is about having a competitive advantage. Experience has already demonstrated that success in this area is not easy. Stepping back, surveying the landscape both internally and externally, and gauging relative position may be the most important next step to a company’s future success in the energy management arena.

Hopefully, the reSource 2012 Study will assist you in such an endeavor. For more information or to schedule a meeting to discuss the Study’s findings please contact www.deloitte.com/us/resources.

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Center for Energy Solutions

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Through the Center, Deloitte's Energy & Resources Group leads the debate on critical topics on the minds of executives—from the impact of legislative and regulatory policy, to operational efficiency, to sustainable and profitable growth. We provide comprehensive solutions through a global network of specialists and thought leaders.

With locations in Houston and Washington, D.C., the Deloitte Center for Energy Solutions offers interaction through seminars, roundtables and other forms of engagement, where established and growing companies can come together to learn, discuss and debate.

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