



# Breaking Down Barriers to Energy Efficiency

Findings from EDF Climate Corps 2011

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# Introduction

One of the fastest and most cost-effective ways to cut greenhouse gas emissions is to improve energy efficiency in buildings. Commercial and residential buildings account for 70 percent of electricity consumption in the United States and more than a third of greenhouse gas emissions. McKinsey & Company estimates that the United States could reduce its annual energy consumption 23% through efficiency measures, cutting greenhouse gas emissions by over a gigaton, and saving companies and consumers over a trillion dollars.<sup>1</sup>

If saving energy saves money, why do we waste so much of it? Companies face many barriers to implementing energy-saving projects, most of which have nothing to do with technology and everything to do with the way people make decisions. Put simply, companies are made up of individuals driven by priorities, habits, and organizational cultures that often impede progress on energy efficiency.

*EDF Climate Corps, as a "community of practice," is identifying barriers to energy efficiency and the energy management practices that can overcome them.*

EDF created Climate Corps to overcome these barriers. While quick wins and low- or no-cost projects are critical to building momentum for energy efficiency, we ultimately aim to move companies past one-off initiatives toward a comprehensive energy management strategy that delivers systemic and lasting reductions in energy use and greenhouse gas emissions. For this reason, EDF Climate Corps, as a "community of practice," is identifying barriers to energy efficiency and the energy management practices that can overcome them.

This report summarizes the findings from our first comprehensive survey of EDF Climate Corps companies on this topic. We hope it will give companies a better sense of their own barriers to energy efficiency, enable them to benchmark their energy management practices against those of other firms, and inspire action and engagement on this topic within the EDF Climate Corps network and the broader business community. This report is just the beginning of our work on this topic, and EDF is excited to be on this journey with companies to realizing the full financial and environmental benefits of energy efficiency.

## Description of Data Sources

The primary source for the data in this report is the on-boarding tool that fellows completed with their supervisors during the summer of 2011. EDF developed this tool to help Climate Corps fellows quickly get up to speed on their host company's priorities, policies, and practices related to energy efficiency, to identify relevant data sources for their work, and to prompt conversations with key decision-makers. A second and equally important purpose of the tool was to illuminate the barriers to energy efficiency that companies faced and the range of practices employed to overcome those barriers.

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<sup>1</sup> "Unlocking Energy Efficiency in the U.S. Economy," McKinsey & Company, July 2009.

Out of the 47 2011 EDF Climate Corps companies, all but two returned a completed on-boarding tool, providing a rich trove of data from which to draw learnings. Discussions with EDF Climate Corps companies, fellows, and alumni at our September 2011 network event provided further context and nuance to our findings.

## Findings from EDF Climate Corps 2011

The table below provides an overview of the key barriers and related energy management practices identified in this report. They fall into five categories: organizational priorities, access to capital, information collection, information sharing, and external factors.

**Table 1: Barriers and leading practices mapping**

*(Click on any of the titles in the table to jump to that section in the document)*

Barrier	Leading Practice
<b>1) Organizational Priorities:</b> How does the company prioritize energy performance?	
Lack of internal motivation	Greenhouse gas reduction goals
Lack of accountability	Centralized energy management
Difficulty assessing energy performance	Benchmarking energy performance
<b>2) Access to Capital:</b> How do energy efficiency projects compete with other investments?	
Invisibility of efficiency investments	Tracking of efficiency investments
Short-sighted financial criteria	Including NPV in financial requirements
Unpredictable funding levels	Dedicated funding for efficiency projects
<b>3) Information Collection:</b> How does the company capture data needed to identify and prioritize energy efficiency projects?	
Lack of energy use data	Mandatory reporting and data tracking
Lack of data specificity and control	Sub-metering and EMS
<b>4) Information Sharing:</b> How does the company ensure that employees and decision-makers can spot energy efficiency opportunities?	
Lack of knowledge and staff expertise	Staff training and educational resources
Lack of project sharing	Company-wide project database
Lack of employee engagement	Cross-functional teams to advance initiatives
<b>5) External Factors:</b> How do factors external to the company influence decisions related to energy efficiency?	
Leases disincentivize investment	Leases that favor energy efficiency
Companies ignore rising energy prices	Financial decisions account for energy prices
Shifting priorities due to capital constraints	Sustained commitment to energy efficiency

## 1. Organizational Priorities

Companies noted three primary barriers to energy efficiency that relate to organizational priorities. The first was a general lack of internal motivation to reduce energy use; the second, a lack of accountability for reducing energy use; and the third, an absence of any objective perspective on the company's energy performance compared to other companies.

### **1.1a The Barrier: Lack of Internal Motivation**

A fundamental challenge to getting energy efficiency projects done is that energy is cheap. For many companies, energy accounts for only a small percentage of their overall costs, so driving down energy costs can take a back seat to other initiatives that cut proportionately larger costs (e.g., raw material acquisition) or expand revenues (e.g., new product development). This tendency exists despite the significant contribution that energy efficiency can make to profitability and the low risk of energy efficiency investments.

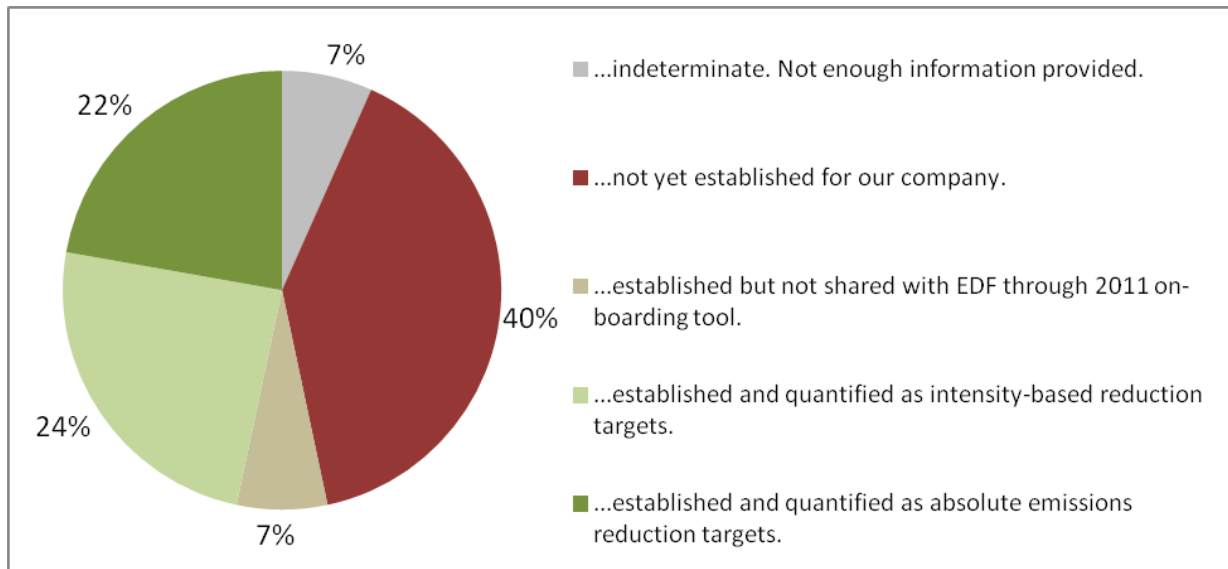
Several companies reported the perception by their leadership that energy efficiency investments deliver only marginal returns or that all of the cost-effective efficiency projects have already been done. Without explicit corporate goals to reduce energy consumption and greenhouse gas emissions, even internal champions can find themselves running into walls with colleagues and superiors who fail to see the value of efficiency investments or the need to continuously assess and improve energy performance to maximize potential cost savings.

### **1.1b Leading Practice: Greenhouse Gas Reduction Goals**

Setting a greenhouse gas reduction goal is a critical step for driving improvement in energy performance and enabling energy efficiency initiatives to get started and sustain momentum. Energy reduction targets are important, but a greenhouse gas reduction goal affords more flexibility as to where the energy savings are achieved and ensures that the carbon intensity of a company's energy choices are considered in addition to overall spend.

As shown in Figure 1, just over half (53%) of Climate Corps companies have a greenhouse gas reduction goal, with an approximately even split between absolute and intensity-based targets. From EDF's perspective, both types of targets can figure into a comprehensive energy strategy. Intensity-based targets (e.g., emissions per employee, per square foot, or per dollar of revenue) can be useful for tracking progress and for internal and external benchmarking. However, it is possible for a company to reduce its energy intensity without putting a dent in its overall emissions if it grows sufficiently fast. For this reason, setting an absolute target (e.g., reducing CO<sub>2</sub> emissions X% against a baseline year) is the only way to ensure that the improvements in energy performance deliver a net environmental benefit.

Figure 1: Greenhouse gas reduction goals are...



### **1.2a The Barrier: Lack of Accountability**

One of the most common challenges reported by EDF Climate Corps companies is a perception that energy efficiency is nobody's job. Without accountability for energy performance written into a senior-level manager's job description, many companies are unable to perform critical functions including setting energy strategy, developing and tracking progress against greenhouse gas reduction goals, collecting and analyzing energy use data, identifying and prioritizing energy-saving investments, leveraging internal capital for investment, and tracking actual energy savings against projections.

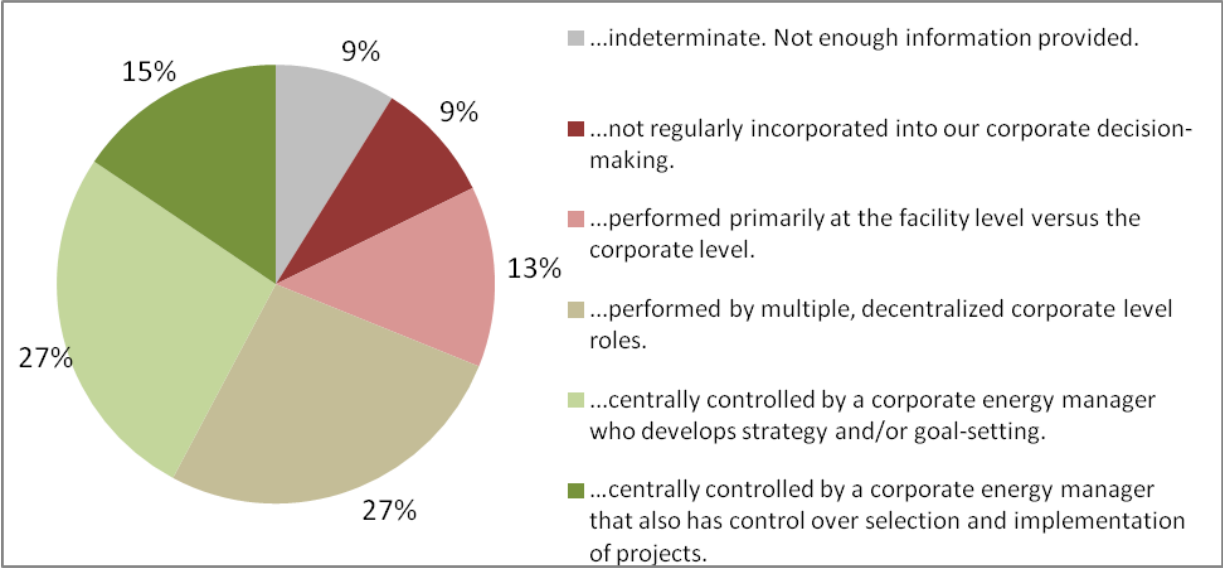
The issue is not simply whether an organization has staff dedicated to energy efficiency, though capacity and resources are important elements of success. A larger issue is whether energy management is a centralized function within the company. About 60% of Climate Corps companies do not have a corporate energy manager, and several of these companies noted that the absence of this position was a key barrier to achieving their energy and greenhouse gas reduction goals.

### **1.2b Leading Practice: Centralized Energy Management**

Centralized energy management can make a big difference in improving energy performance. A corporate energy manager sees the big picture of a company's operations, which is essential to developing energy and greenhouse gas reduction goals and a plan to achieve them. He or she can look across the company to find projects with the best financial returns and energy savings, moving projects forward that would otherwise be stalled by misaligned incentives (e.g., one department won't fund a project if another benefits from the energy savings). He or she can integrate energy into the company's incentive structures (e.g., bonuses for facility managers who cut energy use). And he or she can be an effective advocate for internal capital to fund efficiency investments.

As shown in Figure 2, the majority of Climate Corps companies (69%) have some corporate-level energy efficiency decision-making, with 42% having a full-time corporate energy manager. The corporate energy manager's level of authority was not always clear from survey responses, but a subset of companies (15%) report that their energy manager has significant control over project selection and implementation and are compensated based on the energy performance improvements that they deliver.

Figure 2: Energy efficiency decision-making is...



**AT&T: Distributed Accountability**

Hired in 2009 as AT&T's Executive Director for Energy, John Schinter was put in charge of managing AT&T's overall energy spend. John quickly recognized that without a way to engage the facility managers who could actually deliver the energy savings—none of whom reported to him—it would be difficult to get traction on meeting the company's energy and carbon reduction goals. John designed a system of distributed accountability for energy performance across the company, setting clear metrics and targets, establishing reporting mechanisms, and rewarding success. One such initiative was an Energy Scorecard for the company's top 500 energy-consuming facilities, making each building's energy consumption visible, and holding AT&T's real estate managers accountable for cutting energy use. Distributed accountability has borne fruit: in 2010 alone, AT&T realized [\\$44 million in annualized energy savings](#) from implementing 4,200 projects.

**1.3a The Barrier: Difficulty Assessing Energy Performance**

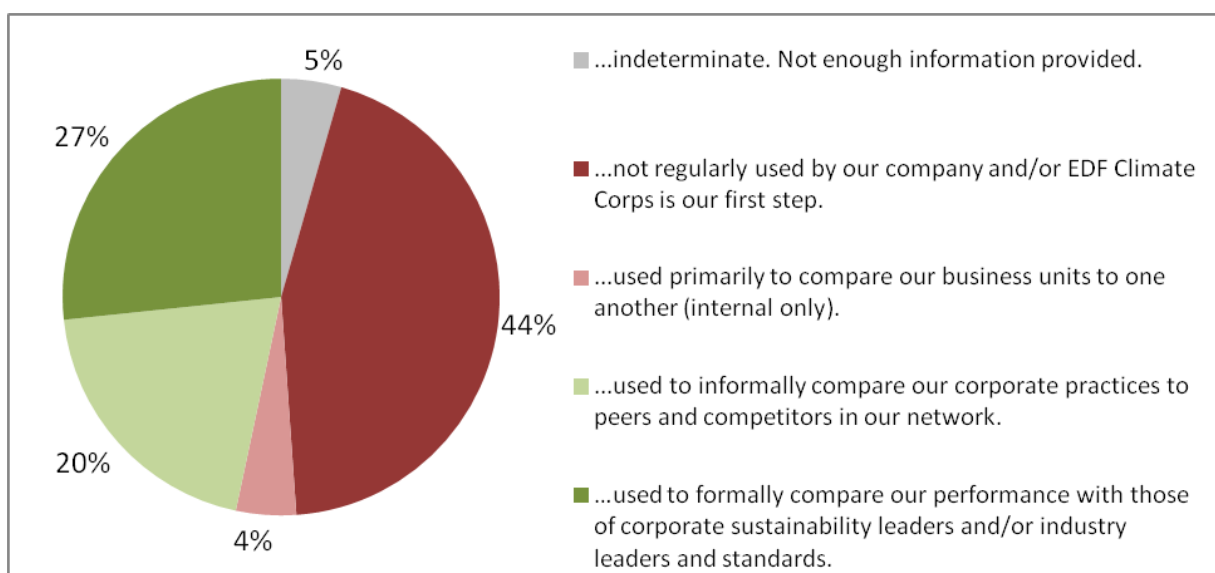
Several EDF Climate Corps companies reported little or no knowledge of how their energy performance compared to that of other companies. This made it difficult to assess the results of their energy efficiency efforts, determine what further improvements were possible, and maintain internal support and momentum for energy efficiency projects.



### **1.3b Leading Practice: Benchmarking Energy Performance**

As shown in Figure 3, about half (47%) of Climate Corps companies report that they benchmark their energy practices and performance against other companies. A further subset benchmark informally by talking to peers and competitors and reading about their initiatives. Others participate in formal programs such as Energy Star, Carbon Disclosure Project, or Green Grid. Companies noted that using a variety of benchmarking approaches can be more helpful than relying on a single resource, and that tying the company's internal metrics and targets to external benchmarks can be a powerful way to drive improvement.

**Figure 3: Energy efficiency benchmarking is...**



## **2. Access to Capital**

While tough economic conditions have tightened capital budgets across the board, energy efficiency projects often face extra hurdles that other projects do not. Key issues include whether companies are able to quantify and track their energy efficiency spending, the specific financial requirements applied to efficiency investments, and whether the savings from efficiency projects are redeployed to fund further energy-saving measures.

### **2.1a The Barrier: Invisibility of Efficiency Investments**

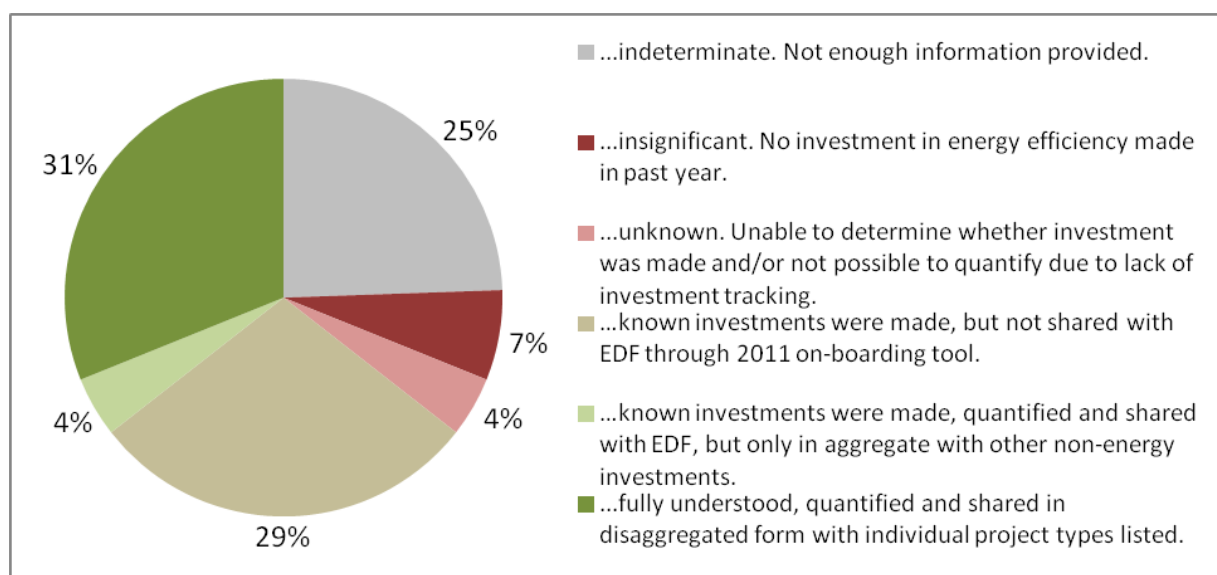
A major barrier to improving energy performance is that companies often don't identify their investments in energy-saving measures or track the returns on those investments. This can render their value invisible to financial decision-makers. Energy managers face the extra measurement challenge of proving a negative: consumption is much easier to measure than its absence. But if a company cannot point to the savings realized from efficiency projects, it cannot show a business case that will lead to further investment.



## **2.1b Leading Practice: Tracking of Efficiency Investments**

Understanding one's own spending on efficiency projects is critical to demonstrating the success of those projects. Figure 4 shows that 31% of Climate Corps companies are able to quantify their investment in energy-saving measures, in a form disaggregated from other investments. Some of these companies could also break out their investments by project types (e.g., lighting, HVAC, etc.) by providing estimated percentages of funding going to each improvement area.

**Figure 4: Energy efficiency investments over the past year are best described as...**



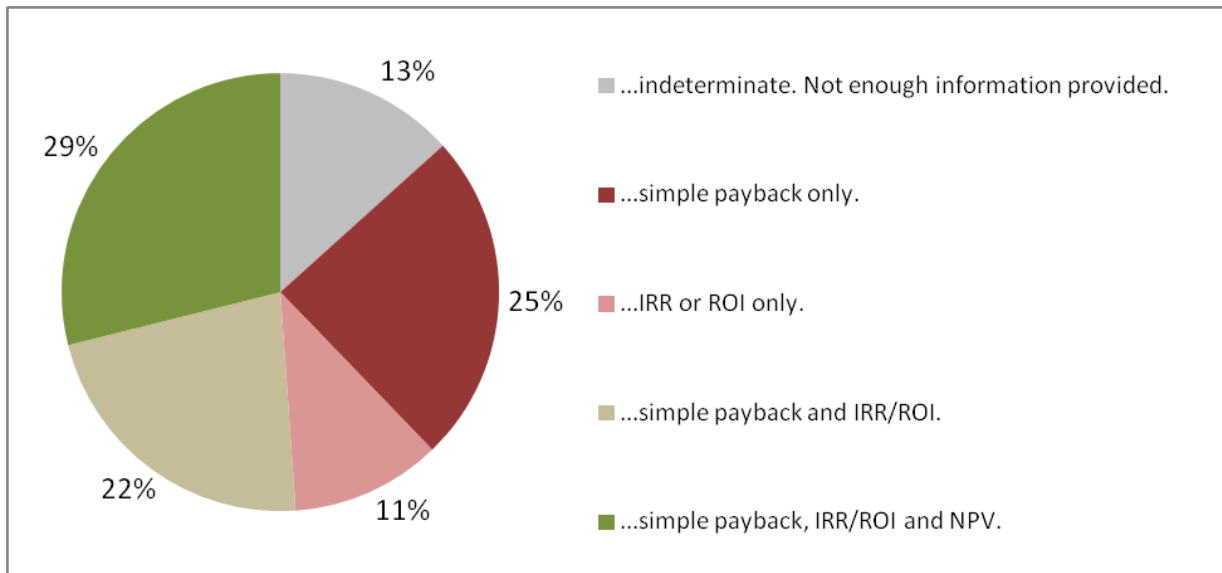
## **2.2a The Barrier: Short-Sighted Financial Criteria**

The second barrier that energy efficiency projects face is a company's particular set of financial hurdles for accessing investment capital. While many projects pay back in the 1-3 years required by most companies, others can deliver significant operating savings over 4-10 years. By making decisions based on simple payback or ROI alone, companies leave money on the table by prioritizing short-term returns over longer-term value creation.

## **2.2b Leading Practice: Including NPV in Financial Requirements**

As simple as it sounds, it is important to consider volume in addition to speed of return in order to fully assess the value of energy efficiency investments. As shown in Figure 5, 29% of Climate Corps companies consider net present value (NPV) along with other criteria when evaluating projects. Several Climate Corps companies also reported that they sometimes extend the payback period for certain projects in order to reap the benefits of bigger investments such as HVAC upgrades.

**Figure 5: Financial criteria for energy efficiency investment decisions include...**



### **Diversey: A Portfolio Approach to Efficiency Investments**

In 2008, Diversey joined WWF Climate Savers and set a goal of reducing greenhouse gas emissions 8% below 2003 levels by 2013. Jeremy Lemieux, Diversey’s Senior Auditor and Climate Savers Leader, faced the challenge of meeting this goal while delivering a positive return on investment for every efficiency project across Diversey’s global facilities, where energy sources and costs vary widely. So instead of evaluating projects individually, he developed a model that balances multiple variables – speed of return, volume of return, and cost of carbon avoided – across a range of projects, and allows him to build a portfolio of efficiency investments that together deliver an attractive return and meet the company’s carbon reduction targets. By applying this approach, Diversey was able to triple its emissions reduction commitment to 25 percent in the same timeframe, while reducing its investment from \$19 million to \$14 million.

### **2.3a The Barrier: Unpredictable Funding**

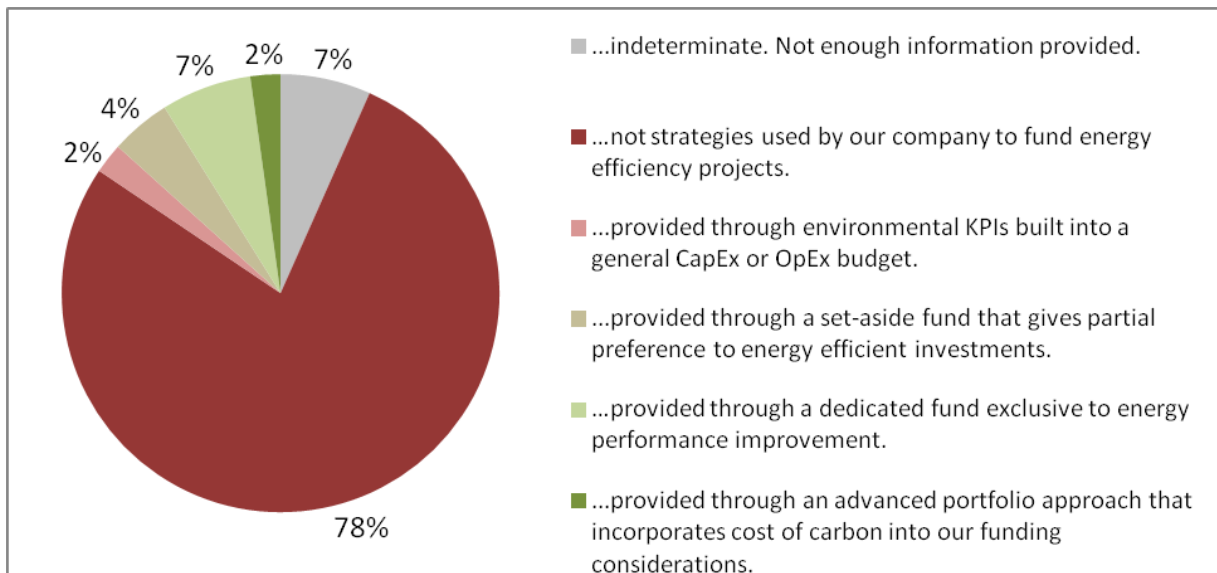
Adding to the barrier imposed by short payback thresholds, most companies do not have a predictable funding stream for energy efficiency investments, making it difficult to maintain momentum for continuing investment over time. And more often than not, cost savings from efficiency projects are not credited to the departments that paid for them or redeployed to fund future investments in energy efficiency.

### **2.3b Leading Practice: Dedicated Funding for Efficiency Projects**

As shown in Figure 6, most Climate Corps companies (78%) have no special funding mechanisms for energy improvements. Those that do (15%) have applied approaches such as including environmental Key Performance Indicators (KPIs) in funding criteria for general capital and operating expenses; creating set-aside funds for capital, real estate, and other

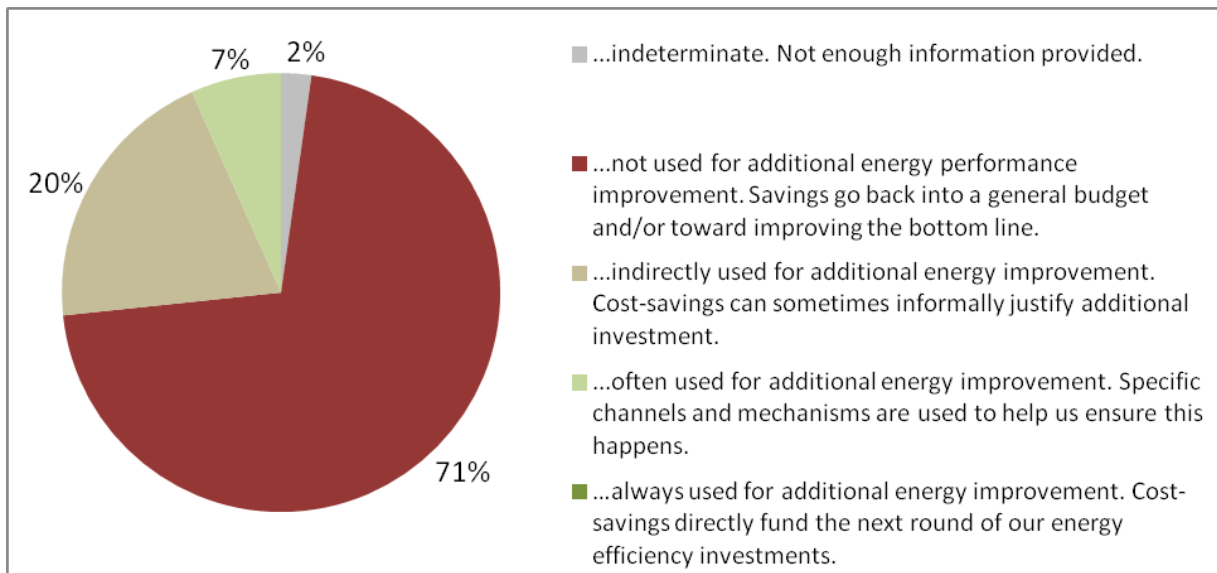
improvements that give preference to efficiency investments; and creating a dedicated funding stream for efficiency investments.

**Figure 6: Special consideration and/or funding for energy efficiency investments are...**



Finally, it appears that no Climate Corps company is fully leveraging the savings from efficiency projects to fund future investments (Figure 7). In the future, however, revolving loan funds could be a promising strategy for making energy efficiency self-funding within a company.<sup>2</sup> Using this strategy, each year's efficiency investments provide the "seed corn" for the following year's, promoting a self-perpetuating cycle of improvement.

**Figure 7: Redeployment of operating cost savings from energy efficiency investments is...**



<sup>2</sup> "Show Me the Money: Energy Efficiency Financing Barriers and Opportunities," July 2011. <[http://www.edf.org/sites/default/files/11860\\_EnergyEfficiencyFinancingBarriersandOpportunities\\_July%202011.pdf](http://www.edf.org/sites/default/files/11860_EnergyEfficiencyFinancingBarriersandOpportunities_July%202011.pdf)>.

### **3. Information Collection**

Many Climate Corps companies told us they struggle to collect and aggregate the energy data necessary to build a strong business case for energy efficiency investments. Key challenges include ensuring that data is collected with sufficient frequency, specificity, and consistency to effectively identify opportunities and verify savings after projects are completed.

#### **3.1a The Barrier: Lack of Energy Use Data**

Struggles with data collection and aggregation are typically rooted in organizational issues that make it hard to implement an effective data collection system in the first place. When each facility pays its own energy bills, when procurement ignores operating costs in specifying new equipment, or when lease agreements obscure energy costs, it is difficult to see where energy is being wasted. Information collection can also be impeded by cultural factors such as a lack of interest by company leaders in tracking energy consumption, a failure to dedicate sufficient staff to collect and analyze data, or a reluctance on the part of facility managers to report such data for fear of appearing worse than other facilities.

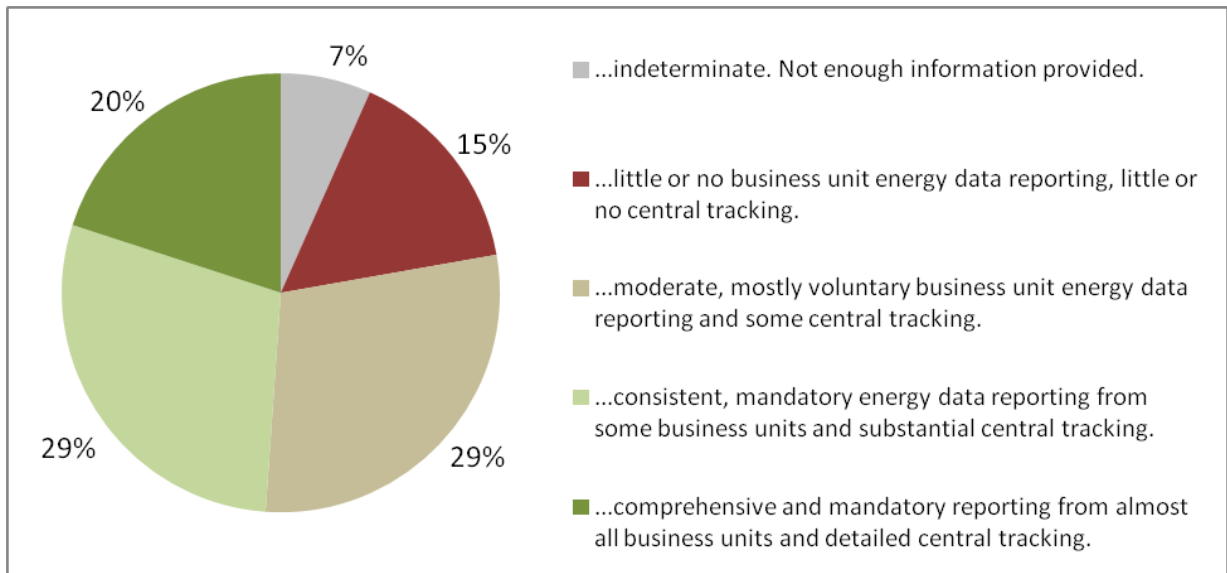
Whatever the cause, incomplete data on energy use makes it impossible to set energy and greenhouse gas reduction targets, to track the return on energy efficiency investments and advocate for additional capital, or to benchmark progress internally or externally.

#### **3.1b Leading Practice: Mandatory Reporting and Data Tracking**

Having comprehensive and consistent data on energy consumption is critical to an effective efficiency strategy. Figure 8 shows that almost half (49%) of Climate Corps companies have mandatory reporting of energy data from at least some business units, with close to half of these (20%) employing comprehensive and mandatory energy data reporting from almost all business units.

For companies looking to improve their data collection, it is useful to start by identifying currently available data and the gaps that exist. Working with internal teams such as facilities, information technology, and finance can help to fill those gaps and create a system for collecting and aggregating energy use data. Finally, incorporating energy performance measures into the performance evaluations and compensation structures of relevant staff can help to incentivize data collection.

Figure 8: Level of energy use data reporting and collecting is...



### **3.2a The Barrier: Lack of Data Specificity and Control**

Climate Corps companies also noted difficulties collecting data of sufficient specificity and frequency to identify efficiency opportunities outside of normal equipment replacement cycles. Large companies typically have facilities that contain hundreds or thousands of pieces of equipment. Trying to identify the top sources of energy consumption within these facilities can feel like searching for a needle in a haystack.

This issue is exacerbated when a facility's operational patterns fluctuate over time, making it difficult to confirm that a given intervention achieved the predicted savings. For example, the drop in this month's energy bill could be attributed to last month's lighting retrofit or instead to the coincidental shut-down of a production line for maintenance.

Some companies also lack the staff to sift through the data coming out of their facilities or to find patterns that rise above the noise. And finally, while a growing number of companies are interested in new approaches such as continuous commissioning of buildings, many do not have the technical systems necessary to enable the consistent monitoring and ongoing tuning of building systems required by such approaches.

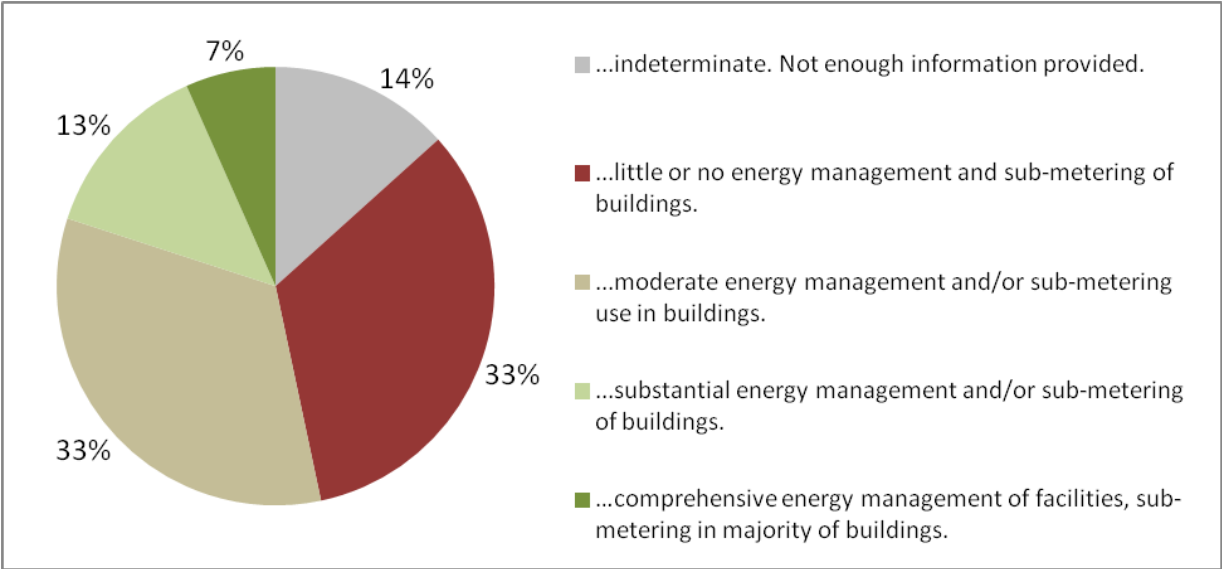
### **3.2b Leading Practice: Sub-metering and Energy Management Systems**

In today's complex building systems, even strong intuition on the part of facility and energy managers needs to be supported by specific, real-time data in order to ensure that cost-effective energy efficiency investments are consistently identified and implemented. In order to collect this data, leading companies are integrating sub-metering and energy management systems into their standard operations.

Sub-metering of individual processes and equipment provides detailed data that can be used to deliver targeted solutions to optimize or update those processes and equipment when necessary. Additionally, energy management solutions can automate the analysis of energy consumption data, thus reducing the burden on staff.

As shown in Figure 9, some Climate Corps companies are employing substantial (13%) or comprehensive (7%) energy management and sub-metering in their facilities. According to several Climate Corps companies, sub-metering requires striking a balance between too little and too much data, gathering enough information to make smart investment decisions without creating noise in the system that obscures high-value opportunities.

Figure 9: Level of detail in energy use data and control over facilities is...



**Shorenstein: Information Collection**

Shorenstein has deployed electrical meters in all of the buildings it manages. Shorenstein's energy management team utilizes real-time metering and 15 minute historical data to perform daily evaluation of energy use from its entire building portfolio. The data are centrally collected and reviewed by Shorenstein's chief engineers and its engineering managers. In 2010, the company sent its two managers of engineering on an Energy Savings Tour to audit all of Shorenstein's 33 properties and come up with a prioritized list of energy efficiency projects. Over 60% of the projects identified have already been implemented. Shorenstein's 2011 EDF Climate Corps fellow, Jaxon Love, analyzed the actual energy savings realized from these projects, and found they resulted in a 5 percent reduction in energy use (well above the expected rate of 3.5%), while saving the company \$1.7 million in annual energy costs and cutting CO<sub>2</sub> emissions by 4,800 tons per year.

## 4. Information Sharing

In addition to the challenges that arise in collecting energy use information, many Climate Corps companies identified persistent barriers to sharing that information within their organizations. Key challenges included developing staff expertise in energy efficiency, making potential energy efficiency projects visible to decision-makers, and engaging and supporting employee participation in new energy efficiency initiatives.

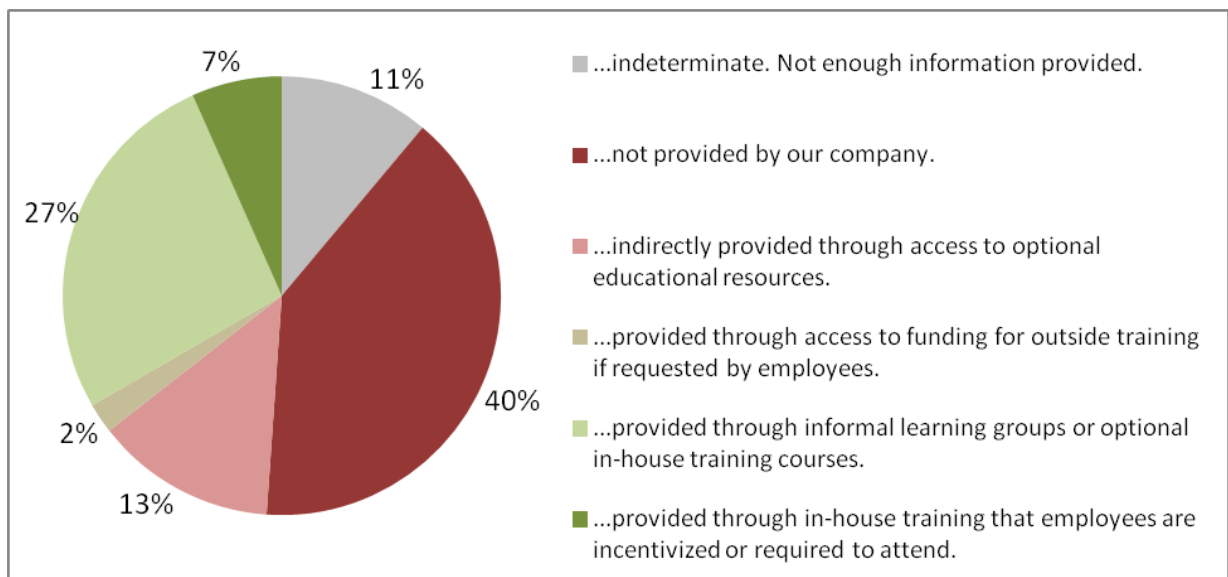
### **4.1a The Barrier: Lack of Organizational Knowledge and Staff Expertise**

Several Climate Corps companies noted a lack of organizational knowledge to identify and implement projects consistently and at scale. This challenge can manifest itself in a number of ways, from a lack of knowledgeable staff to collect and analyze energy data, to employees who don't comply with energy efficiency initiatives. Some companies also noted that their staff struggled to stay current on the emerging technologies, standards, and practices that enable superior energy performance.

### **4.1b Leading Practice: Staff Training and Educational Resources**

As shown in Figure 10, Climate Corps companies are taking a range of approaches to growing organizational knowledge around energy efficiency. At the most basic level this includes providing guidebooks or online portals that employees can review on their own time (13%). Other companies provide optional funding to attend outside training in energy efficiency (2%), host informal learning groups and optional in-house training courses (27%), or provide training that employees are incentivized or required to attend through their new employee on-boarding process or additional certification programs (7%).

Figure 10: Support for staff to receive training in energy efficiency improvement is...





Keeping employees up-to-date on energy efficiency technologies and practices represents an important strategy for increasing employee engagement in improving energy performance. As one Climate Corps company puts it, “there is a real opportunity for companies to spend extra funds and time to educate newcomers and delineate practices towards sustainable and energy efficient products, processes, and infrastructure.”

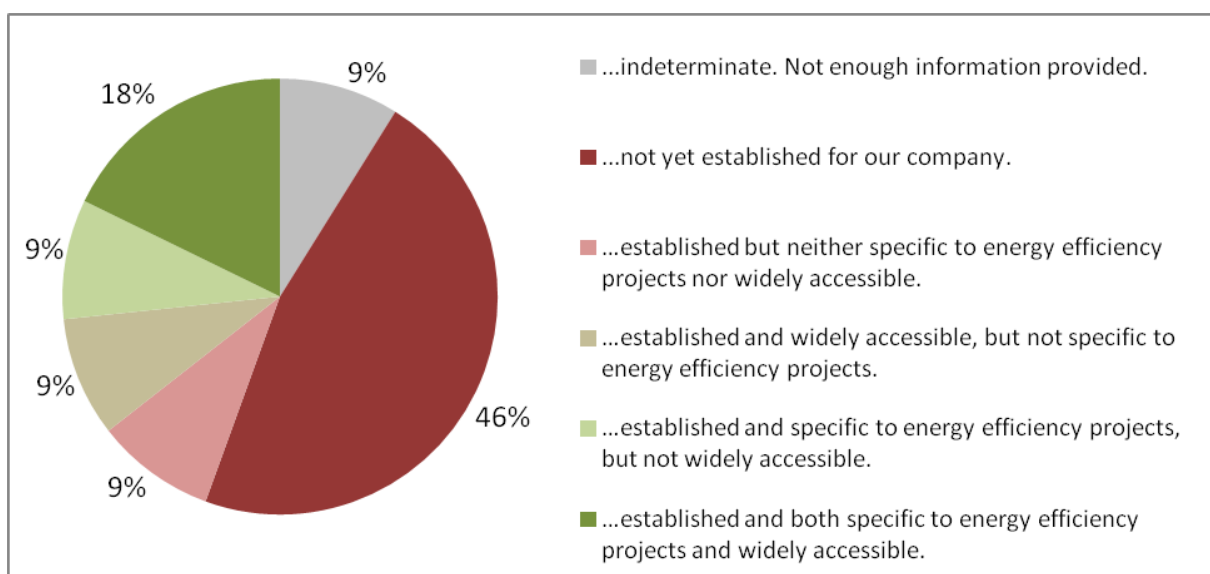
#### **4.2a The Barrier: Lack of Project Idea Sharing with Decision-Makers**

A common challenge noted by many companies is the difficulty of getting senior management buy-in for energy efficiency initiatives, a factor that has direct implications for the degree of organizational support and funding that those initiatives ultimately receive. This challenge could result from senior management indifference to such projects, or simply because managers don't see the opportunities or the financial and environmental benefits they can deliver.

#### **4.2b Leading Practice: Company-wide Project Database**

One method Climate Corps companies are using to inform decision-makers is a centralized database of potential energy efficiency projects. As shown in Figure 11, just under half (45%) of companies have some type of database to organize potential efficiency projects, and 18% of companies have a database that is both specific to energy efficiency and widely accessible throughout the company. According to companies, such databases function best when they are kept free of unrelated environmental initiatives, when employees at all levels and from all business units can contribute project ideas and learn from those submitted by others, and when they are set up to display the projected financial and environmental benefits in a visually compelling way.

**Figure 11: A database of potential and/or completed energy efficiency projects is...**



### **4.3a The Barrier: Lack of Employee Leadership and Engagement**

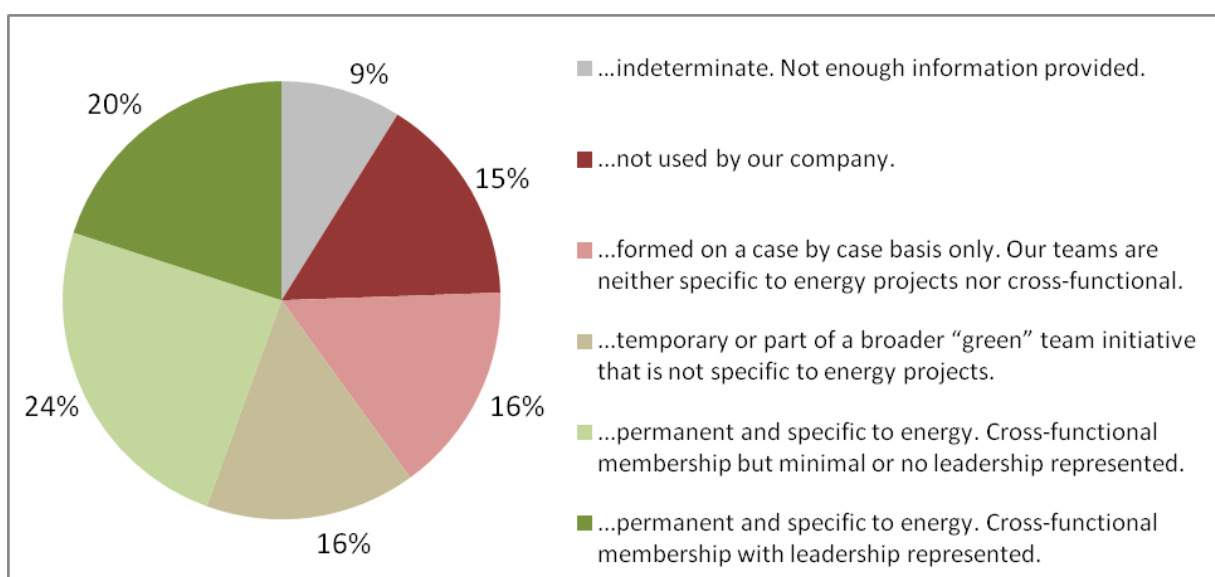
Lack of employee engagement is a third major issue that many companies face when trying to get energy efficiency initiatives implemented. Specific challenges cited by Climate Corps companies included making employees aware that efficiency initiatives exist, showing employees how they can get involved in the initiatives that are underway, and breaking through departmental silos that impede the generation and implementation of efficiency improvements. In sum, companies have trouble integrating energy efficiency initiatives into their organizational culture and norms, resulting in many initiatives failing to live up to expectations or maintain momentum over a significant period of time.

### **4.3b Leading Practice: Cross-Functional Teams to Advance Initiatives**

One practice to address the employee engagement challenge is to create cross-functional teams of staff that are tasked with advancing and implementing energy efficiency initiatives. Such teams are an important complement to the role of the centralized energy manager in establishing cultural support and accountability for improving energy performance. While many Climate Corps companies told us they have energy efficiency "champions" sprinkled throughout the organization, their activities were often uncoordinated. By forming a team of influential, cross-functional leaders, a company can catalyze activity and information sharing around energy efficiency that would not be possible if these individuals remained separated in their own departments or business units.

As shown in Figure 12, Climate Corps companies range from not using teams at all to advance energy efficiency (15%), all the way to having permanent teams that are specific to energy efficiency, widely cross-functional, and with leadership representation (20%).

**Figure 12: Teams to advance and implement energy efficiency initiatives are...**



# 5. External Factors

In addition to the internal conditions that determine a company's energy management strategy and practices, a variety of external factors can also impact the ability of a company to act proactively to improve its energy performance.

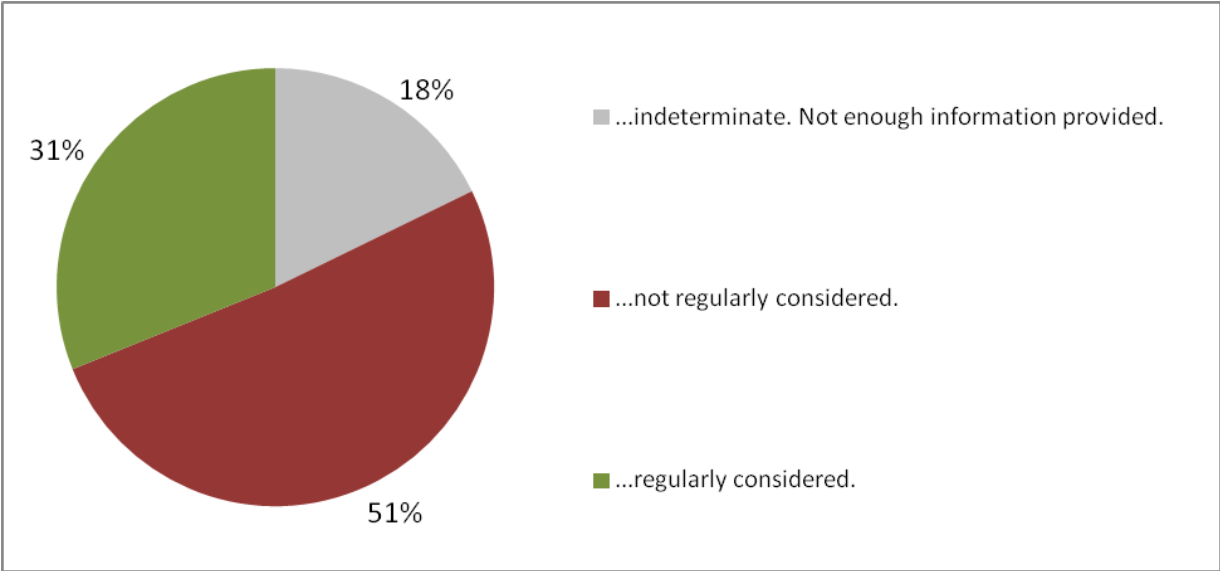
## 5.1a The Barrier: Lease Arrangements Discourage Investment

Operating in leased buildings can be a big barrier to improving energy performance because of the split incentives that arise when the landlord is responsible for a building's energy systems, while the tenant is responsible for the monthly energy bill. In this situation, the landlord is not motivated to pay for upgrades because he or she has no opportunity to recoup those costs through savings on the energy bill. Similarly, the tenant has no motivation to invest in improving the building's energy performance because he or she does not own the building and will not benefit from the investment when the building is eventually sold. The result is a catch-22 where neither party acts, and poor energy performance remains the status quo.

## 5.1b Leading Practice: Leases That Favor Energy Efficiency

Incorporating energy considerations into leases enables companies to account for the operating costs of buildings when making real estate decisions. As shown in Figure 13, close to a third of Climate Corps companies (31%) regularly consider energy performance in new and renewed lease arrangements. Strategies for doing so include requiring buildings to meet energy performance standards (e.g., Energy Star or LEED), establishing price of occupancy targets, and developing "green" leases that align incentives between landlord and tenant by sharing both the upfront costs and the operating savings from system upgrades.

Figure 13: Energy considerations in new and renewed leasing arrangements are...



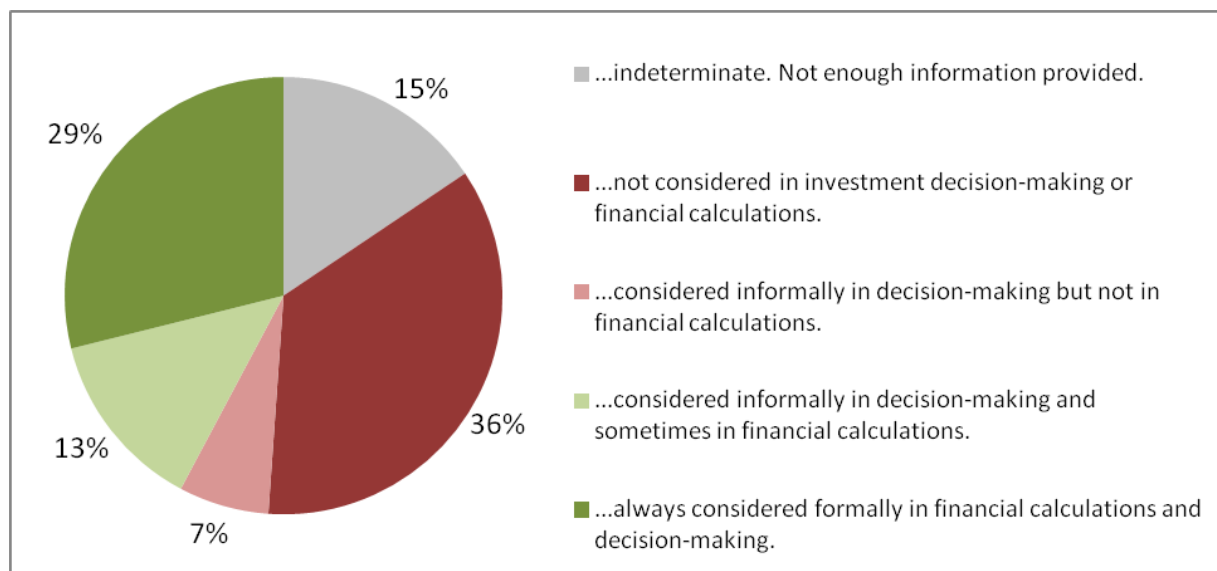
### **5.2a The Barrier: Companies Ignore Rising Energy Prices**

As previously discussed, the fact that energy accounts for only a small percentage of overall costs for many companies can result in companies missing out on significant opportunities to improve profitability through low-risk energy efficiency investments. This problem is exacerbated by the tendency of many companies to ignore energy price growth when making investment decisions. The average retail price of commercial electricity has been increasing at an average rate of 3% for the past 14 years.<sup>3</sup> Growing global demand for energy, especially from developing countries, may lead to higher energy prices as oil, natural gas, and coal get more difficult and expensive to extract. If energy prices are left out of financial calculations, the projected return on energy efficiency investments will be significantly underestimated, making it tougher for those investments to gain management attention and approval.

### **5.2b Leading Practice: Financial Decisions Account for Energy Prices**

As shown in Figure 14, 44% of Climate Corps companies sometimes or always include assumptions around energy price growth when evaluating energy efficiency investments. While energy prices fluctuate widely and are impossible to predict at any given moment, companies that account for the historical trend of rising energy costs are better protected against price shocks and more likely to invest in efficiency projects that guard against them.

Figure 14: Electricity price growth assumptions are...



### **5.3a The Barrier: Shifting Priorities Due to Capital Constraints**

In a difficult economic climate, companies tend to cut capital expenditures, especially those that appear non-essential. While this tendency is understandable, cutting investments in energy

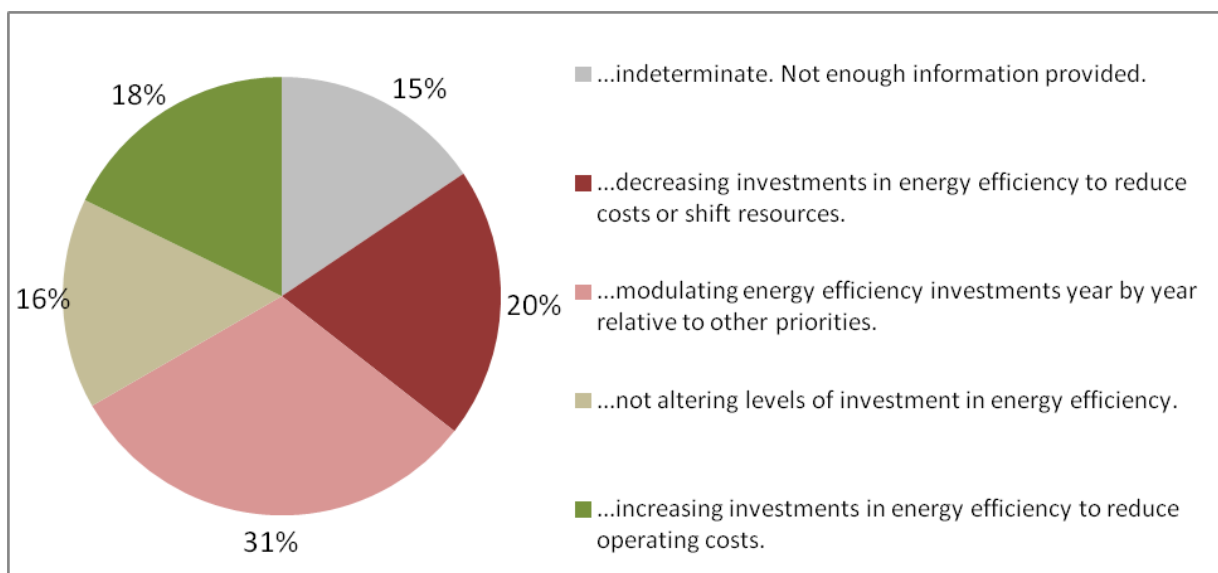
<sup>3</sup> U.S. Energy Information Administration, Table 5.3. "Average Retail Price of Electricity to Ultimate Customers: Total by End-Use Sector," 1997 through August 2011.

efficiency is a short-sighted cost reduction strategy, since doing so can raise the company's operating costs in future years.

### **5.3b Leading Practice: Sustained Commitment to Energy Efficiency**

As shown in Figure 15, 18% of Climate Corps companies are actually increasing efficiency investments in order to reduce their operating costs. Another 16% of companies state that economic conditions have not altered their levels of investment in energy efficiency. While every company's situation is different, those companies that maintain a sustained commitment to improving energy performance even as economic conditions fluctuate are best positioned to derive the most value from their energy efficiency investments and prosper in a carbon-constrained world.

**Figure 15: In response to current economic conditions, our company is...**



## **Where We Go From Here**

Since EDF Climate Corps was launched in 2008, fellows have found over \$1 billion in potential energy savings and a million metric tons of CO<sub>2</sub> reductions for participating organizations. Projects accounting for 86% of the energy savings identified by our 2008-2010 fellows are complete or underway. As EDF takes the Climate Corps program to scale, our fellows will continue to build the business case for energy-saving investments, while also helping companies to identify key organizational barriers to energy efficiency and the practices that can overcome them.

EDF's next step is to refine and streamline the on-boarding tool, to improve its effectiveness both as a learning tool for fellows and company supervisors and as an instrument for gathering and disseminating information that is useful to the EDF Climate Corps network and broader business community. In 2012, we will adapt the on-boarding tool to create a diagnostic that any company can use to benchmark its energy management practices. We will continue working with MIT's Sloan School of Management to advance our thinking on the organizational changes necessary to improve energy performance, and we invite any company who is interested to participate in these efforts.

EDF believes strongly in the power of the Climate Corps network as a learning community. We are committed to creating the context in which companies can learn from each other about which practices are truly effective in breaking down barriers to energy efficiency and achieve systemic and lasting reductions in energy use and greenhouse gas emissions. We will continue to convene an annual gathering of our companies, fellows, and alumni to build relationships, share learnings and generate insights, and catalyze individual and collective action to accelerate energy savings. Between these gatherings, EDF will enable continued conversations and sharing of resources among network participants through an online forum. With support from EDF Climate Corps companies, we can also convene more frequent gatherings and develop content such as case studies that highlight successful energy management practices and their environmental and financial benefits.

While an energy efficiency investment plan can be developed in one summer, transforming a company's energy management practices may take years. EDF looks forward to continuing our engagement with Climate Corps companies to move them toward their energy and environmental goals.

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