Building a Business Case for Energy Efficiency

Learn the 4 KEY STEPS that savvy energy managers are taking to build an internal business case to fund programs designed to optimize energy and operational efficiency, reduce risk and maximize profitability.

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The business case for efficiency starts with the bottom line

Like many large multinational companies, Weston Foods had big sustainability goals, but were struggling with how to make them happen. With more than 50 operations spread over the U.S., Canada and Costa Rica, and 5,000 employees in various manufacturing facilities, distribution centers and corporate environments, it was hard to know where to even begin.

Weston Foods had plenty of data, but it couldn't comprehensively see and compare facilities and industrial processes to know where energy savings could be had. Company leaders recognized that inefficient energy usage impacted Weston Foods' financial performance, but they couldn't visualize how efficiency investments aligned with other core business goals.

"We needed to demonstrate how efficiency investments directly impact the company's profitability and growth plans," says Walter Kraus, the company's Vice President, Environment & Corporate Sustainability. "We also had to make sure we were speaking our executives' language, so clearly outlining the financials was important."

Kraus and Weston Foods needed one more thing to meet their sustainability goals — and realize millions of dollars in savings across its industrial baking empire. They needed help.

That's where Schneider Electric entered the picture. Schneider Electric brought in enterprise-level energy monitoring systems that finally gave Weston Foods the comprehensive view of facilities it had been lacking. Using that data, Weston Foods identified nearly 60 potential energy projects based on cost and payback.

Already, the company has reduced energy spend 16 percent with a plan to save $1.3 million annually. "Those potential savings are equal to the entire energy spend at some of our smaller bakeries, so you can get a sense of the impact this program will have as we expand it."

Client experience

Weston Foods

Hear how this global food producer convinced senior management to make energy efficiency a business priority.

Watch video

While those numbers are impressive, they're just a taste of the potential energy efficiency savings many companies are missing out on simply because they don't have a shared vision, clear financial plan and verifiable results. Or, the help they need to realize their potential.

That's too bad because most energy efficiency programs can pay for themselves in just one year. In fact, Schneider Electric helped one large restaurant chain achieve a 47 percent internal rate of return over three years. It's not uncommon for large multinationals to sustain a five percent reduction year over year for many years, ultimately realizing a 30 percent or more reduction," says Paul Stiller, Director of Energy Management Consulting, who's been in the industry for 40 years. "Many companies are surprised the opportunity is that great," he says.

But that's just the beginning of the benefits that come from comprehensive energy efficiency plans. Increased efficiency also:

Reduces wear and tear on expensive equipment and lengthens its lifespan

Increases factory throughput with less downtime

Lowers maintenance costs and increases reliability

Produces savings that can be reinvested in future growth

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- Paul Stiller
Director of Energy Management Consulting
Schneider Electric

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As Kraus and others have learned, energy efficiency programs can remain stalled without buy-in from the top down, especially at large multinational corporations with complex operations. But it can be done with the right approach — and the right help.

One of the critical first steps to launching a successful efficiency program is creating an effective business case that not only sells the project internally, but helps to ensure performance during implementation phase. Far too many plans either don't get approved, or get approval and then stall or are deemed unsuccessful due to poor performance. Here's some good advice from efficiency experts around the globe.

4 steps to successfully building a business case for energy efficiency

1. Establish early buy-in starting at the executive level

For any energy efficiency plan to work, it must have top-level commitment. “Nothing is going to happen without early buy-in at the executive level because down the line everyone is going to focus on what they perceive is important to their own supervisors and the goals they’ve been given,” Stiller says.

The first place to start is aligning corporate goals with efficiency goals. “Energy can’t just be a separate goal that’s tagged on,” Stiller says. “It needs to be integrated as one strategy and one of the stated goals of the company.”

Getting executives to integrate energy efficiency measures into overall corporate goals often means helping them see how well they align with other key goals. For example, a well-run energy efficiency program can improve margins, increase production, and mitigate risk all while addressing government mandates, industry regulations and public demands for sustainability.

“Being able to show investment plans and their payback had a larger impact on leadership decision making than overwhelming them with lots of data about kilowatt hours and carbon output,” Kraus says.

But to be truly effective, corporate goals must also align with individual facility goals. That means all stakeholders — from the factory floor to the C-Suite — must be involved in identifying and prioritizing energy efficiency goals and performance expectations. “We had to engage with a broad spectrum of staff including process engineers and quality control leaders to make sure they were trained, motivated and accountable,” Kraus says.

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Stiller says this step is vital, especially for large companies with multiple facilities and global footprints. “The key is to involve stakeholders,” he says. “Tell them, ‘We want you to be involved in the process.’ If you accomplish that, you’re a long way to getting buy in down the line.”

Who are these key stakeholders and how big should your energy advisory team be? Titles and roles will vary from company to company, but in general the team may be bigger than you think.

Here’s the main decision makers and influencers you’ll want to include — and their motivators:

Stakeholders	Motivators
Plant manager	Production throughput, reliability, maintenance costs, conversion costs
Facility manager	Cost reduction, supporting operations, maintenance costs and time
Energy manager	Continual improvement/ energy savings, resiliency and reliability
Finance leader	Clear evidence of savings, attractive investments, profitability, growth, time to payback
Procurement manager	Price volatility, risk, costs
Quality director	Product quality, regulations, warranty expense
Safety director	Safety, worker health, regulations
Facility management sub-suppliers or sub-contractors who help run the facility	Cost, efficiency, customer satisfaction

“It’s important to give each person an opportunity to understand what you’re trying to do and to provide input from their own perspective,” Stiller says. “There is no quicker way to see an efficiency plan fail than if it disrupts the operations of the business.”

2. Map current performance baselines

Once everyone is apprised of the plan and on board, it's time to establish performance baselines. The first step in this process is ensuring that the company has an enterprise-level view into its energy data. Ideally, this visualization pulls all data together to compare like sites, prioritize opportunities and flag challenges. This step is key because many large companies often have data spread over various systems that don't allow comprehensive site assessments.

"Typically, the raw data is available, but they lack tools to properly put the puzzle together and derive useful information from the raw data," Stiller says.

Consider that a retail chain with 100-plus stores produces more than 192,000 data points to be analyzed daily. Meanwhile, 78 percent of companies still manage data on spreadsheets.

La-Z-Boy quickly discovered the importance of comprehensive data visualization early in the development of its energy efficiency plan — and the savings opportunities it had been missing. "Having all our data in one platform, side-by-side, allowed us to see right away where we had performance issues and where the low-hanging fruit was," says Chris Davis, La-Z-Boy's Director of Automation & Facilities. "For us, that meant starting with our manufacturing facilities because they accounted for so much of our utility spend."

Once the company began looking at those manufacturing facilities more closely, Davis and others immediately discovered that one plant had nearly double the energy usage as others. The culprit? A problem in the compressed air system that was wasting thousands of dollars in energy. Seeing and fixing that one problem resulted in a 29 percent annual energy reduction.

"We may not have identified that so quickly if we weren't analyzing our entire portfolio," Davis says.

But a thorough analysis goes beyond just mapping current baselines and comprehensive site assessments. Just as with labor, energy consumption is affected by outside variables, such as weather, production levels and product mix, says Stiller. So, an important part of the baseline process is agreeing on those energy consumption influencers and how to account for them. This is what is commonly called "normalizing energy usage."

"It's really important to have an agreed process to account for external factors such as weather and production activity so the impact of the energy program becomes evident," Stiller warns. "Otherwise, the discussion becomes meaningless."

Again, you'll want to include all the stakeholders from your energy advisory team in this process to ensure everyone is on board and understands how the team arrived at its normalized results. "The reports they'll see will have that adjustment so they need to be comfortable with how it was developed," Stiller says. "What you're shooting for is credibility."

Client experience

La-Z-Boy

Hear how this global manufacturer used enterprise-level data visualization to understand its energy use, solve operational problems and drive savings to fund growth.

Watch video

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3. Develop an opportunity profile

With a comprehensive view into your energy consumption data and established benchmarks, it's time to assess and prioritize savings opportunities for planning and budgeting. These opportunities can generally be categorized into two areas: operational and capital improvements.

Operational areas are those that require little more than some extra attention. These initiatives often take advantage of the comprehensive energy data and involve simple, low- to no-cost solutions. For example, a company that used ovens for its manufacturing process saved $200,000 annually just by having someone come in and turn on the ovens 30 minutes earlier to avoid peak utility charges.

"Those are the kinds of things that just through awareness and analysis, users can change and significantly impact what they're paying for energy," Stiller says. He adds that, on average, larger manufacturing clients can save five percent a year just through these types of initiatives. "The companies we work with are often wowed by these tactics because those savings drop right to the bottom line and cost little to implement."

Capital-intensive areas, on the other hand, are those that require some kind of investment to realize savings. Stiller says most clients will consider capital projects having a simple payback of two to four years. That means the energy savings those projects produce will pay for themselves over that time period.

Here's a look at some common capital projects and their typical payback periods:

Upgrading lights to LED:
Payback in 2 years or less, depending on available rebates and incentives

Upgrading/optimizing HVAC system:
Payback in 1-3 years

Heat recovery projects:
Payback in 2 to 5 years

Upgrading/optimizing/maintaining compressed air systems:
Payback in a few months to 2 years

Managing fixed/base load:
Payback in less than one year

Because of the required investment, capital projects can be more difficult to get approved. That's why companies often use the strategy of beginning with operational improvements and then use the savings from those to help fund capital-intensive projects, Stiller says. Another good strategy is to combine operational and capital projects into a program.

Additionally, because energy improvement investments use proven technology with no commercial risk, it's logical to accept a longer payback period. "Energy is a low-risk investment. When you buy insulation, and put it around a boiler, that's a known technology and there's certainty about the return on that investment," Stiller explains. "It's going to happen with little uncertainty."

Finally, capital costs can be offset with rebates and incentives — if companies know where to find them. That's a big if because the incentives change frequently, as well as the requirements to get them. Stiller calls it a "moving target," but he adds: "There's money out there. And it's possible the incentives can completely fund a project."

4. Confirm support of implementation owners

At this point it may seem like you've done everything necessary for a successful energy efficiency plan. But this step may be the most crucial one of them all — and the one many neglect, Stiller warns.

That's because it's one thing to create a plan, but it's quite another to implement it across a sprawling company with locations around the country and even the globe. Luckily, you've already established your energy advisory team stakeholders and identified the key influencers. Now you need to make sure they all understand and support the plan.

When given permission to weigh in on energy efficiency, employees often are relieved and even grateful to be heard on issues they've often known about for years, but didn't feel they had a way to address. If that culture continues, it's difficult to find success.

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When you reconvene your energy advisory team, you'll want to cover the following action items:

Set energy reduction targets.
What are these targets and what can each stakeholder and influencer do to help hit them?

Establish a timeline for projects.
What are realistic goals and what hurdles need to be overcome to reach those goals?

Identify and recruit owners and influencers.
Who else needs to have buy-in for the plan to work?

Establish capital budgets on a recurring annual basis.
Will energy savings be set aside for additional energy improvements, or will it go back it to the general fund?

Next steps: Continuous improvement

Following these steps is a proven way to successfully build a case for energy efficiency plans, but they're just the beginning. To be truly successful, companies need to develop a continuous improvement culture.

One of the best ways to build this culture — and gain buy-in for energy efficiency from the top down — is to start small. For example, tackle a sure-fire plan such as changing from incandescent bulbs to LEDs. Then use those results to build trust.

"A good strategy is to begin with non-capital, quick payback projects," Stiller says. "That establishes credibility for the program."

Once that credibility is established, remember to stay in touch with stakeholders and even expand your energy advisory team. Talk to them regularly and be sure to address any hurdles that might arise as the energy efficiency plan gets established.

Regular monitoring of systems and equipment are just as important to optimize performance and realize ROI. Like many other programs, energy efficiency is not something you can just set and forget. Building systems such as HVAC must be kept in tune and equipment such as boilers must be running properly for your energy efficiency program to be successful.

Finally, remember to keep selling the program internally to make sure it doesn't fall off the radar. Key to that is using the data they care about (think money, not kilowatts). "The challenge is ensuring that our efficiency program remains a priority so we can fund additional savings projects each year," Kraus says.

To maintain that momentum, Kraus and others make sure they have regular meetings and reports that remind their energy advisors how their efficiency programs dovetail with larger goals. They revisit their opportunity profile annually to determine what to tackle next. "In addition to establishing a multi-year plan, we have a regular cadence with the leadership team to show continuous improvement and what's coming next." Kraus says.

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Ultimately, for ongoing success, energy efficiency needs to become as second nature as labor, materials and production. "Resource management has to be woven into the fabric of the operation. It's a continuous process. It's not something that can just be done periodically," Stiller says. "Energy can't just be a separate goal that's tagged on. It needs to be integrated as one strategy and one set of goals for the company."

Let our experts get you from planning to savings faster

It's time to view energy management in a whole new way. At Schneider Electric, our energy experts are ready to help you optimize your energy use, deliver operational savings, minimize risk, and maximize profit. Our innovative model gets you from planning to savings faster, drives continuous performance, and grows with your business using cost effective and scalable services.

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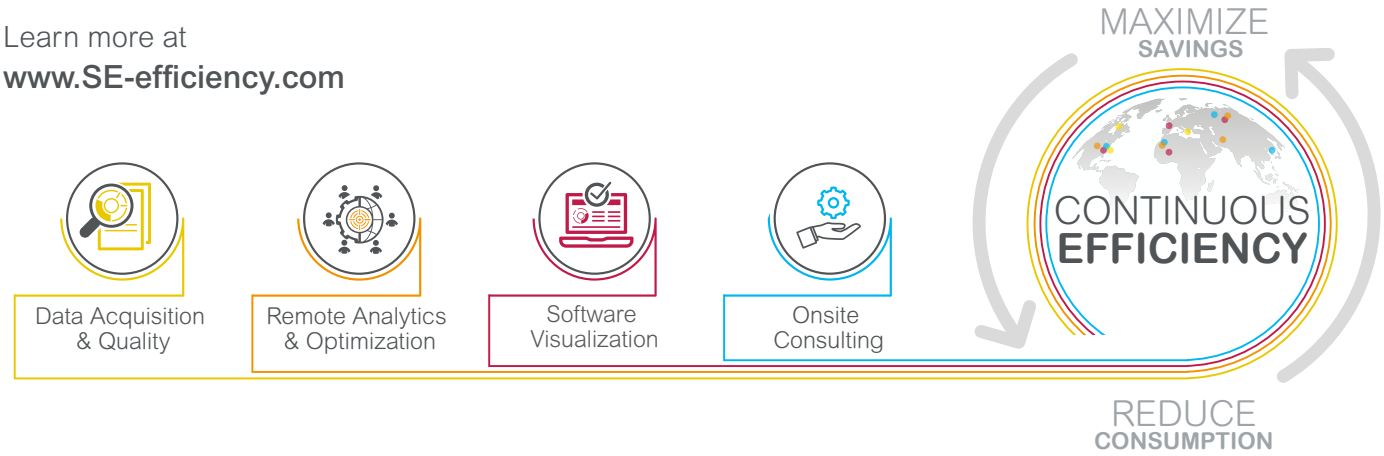

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Paul Stiller is a Professional Engineer with 39 years of energy management and power systems experience. He presently guides global mining and manufacturing companies to more effective energy management through structured consulting services.

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