

Energy Strategy for the C-Suite: From Cost Center to Competitive Advantage

*An Introduction to the Unified Approach
to Energy Transformation*

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Executive Summary

The Overarching Story: Why a Unified Energy Strategy Is a Must-Have For Value Creation Today

Energy has become a core strategic issue for businesses in nearly every sector, but few executives realize its impact on their organization's overall performance. Increasingly strict government regulations and the evolving nature of expectations among customers, investors, and the workforce are putting more pressure on how enterprises handle both energy use and carbon emissions. At the same time, emerging technologies and easy access to clean energy are giving businesses more options for strategically sourcing their energy than ever before.

The smartest organizations understand the value of energy and manage it proactively across the enterprise. Those holding onto an outdated view of energy are falling behind their peers in profitability, brand value, and talent acquisition and retention.

The Big Gap: Why Businesses Aren't Capitalizing on Energy as a Strategic Advantage

Most executives lack the necessary resources to develop and execute on an energy strategy that creates value. Those resources are:

1. Access to in-depth information about how energy affects the business at every level
2. Centralized ownership and accountability to manage energy as every other major operational line item is managed
3. An understanding of the organization's energy strategy maturity and how it compares to peers
4. A clear view of how to capitalize on opportunities to improve performance and profit in the short, medium, and long terms

Until now, executives have lacked a well-defined roadmap for building an energy strategy that positions their organizations to thrive in the face of rapid change. That's why even enterprises with relatively mature energy strategies often find themselves managing energy reactively, responding to short-term trends rather than creating long-term business value. The Unified Approach to Energy Transformation remedies this gap.

Introduction

For businesses seeking growth and competitive advantage, treating energy as a low-level issue—just a line-item expense for middle managers to deal with—can be a costly mistake. Companies lacking a sophisticated energy strategy with senior executive engagement will miss opportunities to drive innovation. They will also leave themselves dangerously exposed to everything from profit-damaging price volatility to mismanaging carbon emissions in the face of increasing pressure from society to tackle climate change.

Historically, elevating energy management to a senior-level imperative has seemed unnecessary, offering cost savings that appeared too small to matter. But energy is now a bigger issue than companies realize. Total energy spend is commonly a top-five corporate expense category, and the way the business world is thinking about energy is changing dramatically. A company's approach to energy and carbon emissions now directly impacts its cost structure, its risk profile and resilience, and its brand value with customers, employees, and communities.

Carbon regulations at federal, regional, and local levels are proliferating rapidly. Demands for more transparency about all aspects of business, including a company's impact on the environment and broader society, will continue to rise. More specifically, customers, employees, and communities are asking more questions about how a business sources and uses energy and how much carbon it emits. Together, these powerful trends produce a volatile mix of pressure on businesses to do better.

It's time to look at energy through a whole new strategic lens. Once the domain of facility and operations managers, energy now merits engagement and direction at the C-suite level. A focus on energy can be a vehicle for positive change and innovation. This paper lays out the changing landscape for business, illuminates the value that's at stake, and provides a set of emerging leading practices that will raise your energy and business performance to a new level.

A Changing Landscape

Several societal megatrends coupled with the transformation of the energy industry have raised the profile and importance of energy, making it an executive imperative.

MEGATRENDS



Technological
Breakthroughs



Radical
Transparency



Climate
Change



Demographic
Shifts

BROAD BUSINESS TRENDS



New & Emerging
Energy Technologies



Evolution of
Energy Markets

ENERGY-SPECIFIC TRENDS

CHALLENGES AND OPPORTUNITIES

- The growth of big data and analytics, cloud computing, and digitization and connectedness of physical assets (e.g., Internet of Things)
- Rising expectations for transparency from corporations—including investor interest in non-financial information
- Rising pressure from governments and society to reduce carbon emissions and to demonstrate resilience
- Emergence of sustainability-minded millennials as the largest consumer and employee cohort
- Renewables becoming cheaper and easier to integrate on and off-site
- Growth in distributed and self-generation and the emergence of smart grid, energy intelligence platforms, and energy storage
- Structural changes in baseload power mix, and increased volatility due to emerging dominance of natural gas and pressures on coal
- Increasing customer choice and flexibility in energy procurement and use
- Rapid evolution and increasing complexity of tariffs, incentives, and financing

Broad macroeconomic forces are reshaping the world and dramatically changing the business landscape in the process. Through extensive research with its clients, PwC has identified key megatrends that are changing the foundation of how businesses think and operate—and putting energy strategy front and center as a key business value driver.¹

- New **technological breakthroughs** are turning science fiction into reality at the fastest pace in recorded human history; to think that the way we buy and use energy won't be transformed by these breakthroughs is shortsighted and potentially harmful to your business. In energy, the *growth of big data analytics, cloud computing, and connected devices* (the so-called Internet of Things) has driven unprecedented visibility into and control of the performance and interaction of systems. Whereas the full extent of energy data was once limited to the monthly utility bill, today real-time monitoring of data and powerful predictive capabilities add intelligence to our energy infrastructure and make it more responsive to changing conditions.
- We have entered an era of **radical transparency**, when consumers demand unprecedented levels of information about companies—and anyone with a social media following has the ability to build up or tear down a brand. Corporations face demands for more transparency, enabled by technology and driven in part by concerns about the environmental and social impacts of their products and services. In particular, there's been a spike in investor demand for more information on how companies are responding to and managing the “material” risks presented by the megatrends.² Energy is now viewed as a material business driver, and investors are not satisfied by press releases and sustainability reports—they want details on carbon and energy management strategies, with progress backed up by credible data.
- **Demographic and attitude shifts:** *Millennials are rapidly emerging as the largest consumer and employee cohort—they will make up 50% of the global workforce by 2020.* Relative to the generations that came before them, millennials are demanding higher levels of corporate accountability and a commitment to a more sustainable future. A 2015 Morgan Stanley study shows that they are two to three times more likely to want to buy from and work at companies that share their values and manage environmental and social issues well.³

¹ PwC, “Five Global Megatrends”, <http://www.pwc.com/gx/en/issues/megatrends.html>, viewed May 25, 2016

² PwC, “Sustainability goes mainstream: Insights into investor views”, <http://www.pwc.com/us/en/governance-insights-center/publications/sustainability-goes-mainstream-investor-views.html>, viewed May 25, 2016

³ Morgan Stanley Institute for Sustainable Investing, “Sustainability Through the Eye of the Investor”, <http://www.morganstanley.com/ms-articles/sustainability-in-the-eye-of-the-investor/>, viewed May 25, 2016

- **Climate change:** The pressure from governments, customers, and citizens to *reduce carbon emissions* continues to rise. The December 2015 United Nations climate conference in Paris led to a global agreement adopted by 195 countries, including the US. Following the Paris Agreement, which was hailed as a potential turning point in global efforts to control carbon emissions, more than 100 leading companies committed to aggressive, “science-based” carbon reductions.⁴ Regardless of individual views on the relevance and importance of addressing climate change, it is now a business imperative to proactively respond to growing stakeholder concerns, customer demands, and governmental regulations.

In conjunction with these four broad megatrends, two energy-specific megatrends are impacting how businesses should approach their energy strategy:

- **New and emerging energy technologies:** In the past decade, technology has changed almost every aspect of energy production and consumption—most notably renewable energy, distributed and self-generation, smart grid, energy intelligence software, and energy storage.

Renewable energy technologies are becoming cheaper and easier to integrate, both on- and off-site. With existing incentives, renewables can immediately save companies money in many states today. Led by solar and wind, renewable energy deployments represented more than 50% of new generating capacity added in the US for eight consecutive quarters as of Q4 2015.⁵ Renewable procurement has grown exponentially in recent years, and a growing list of global leaders such as Unilever, Intel, Johnson & Johnson, Nike, and Nestle have publicly promised to reach 100% renewable energy within specific timeframes.⁶

In addition to the rise of renewables, we are seeing growth in *distributed and self-generation*, the emergence of *energy intelligence software platforms*, and wider deployments of *smart grid* and *energy storage* enabling cost optimization, “demand shaping,” and increased levels of resilience.

⁴ The Science Based Targets Initiative, “Companies Commit to Set Ambitious Science-Based Emissions Reduction Targets, Surpassing Goal”, <http://sciencebasedtargets.org/2015/12/08/114-companies-commit-to-set-ambitious-science-based-emissions-reduction-targets-surpassing-goal/>, viewed May 25, 2016

⁵ US Federal Energy Regulatory Commission, “Office of Energy Projects Energy Infrastructure Update For December 2015”, <http://www.ferc.gov/legal/staff-reports/2015/dec-infrastructure.pdf>, viewed May 25, 2016

⁶ RE100, “58 RE100 companies have made a commitment to go '100% renewable'”, <http://there100.org/companies.html>, viewed May 25, 2016

- **Evolution of energy markets:** Important changes in how we buy and sell energy are enabling and helping the growth of new technologies. We observe three major shifts in energy markets.

Increasing customer choice and flexibility in energy procurement means that corporations are no longer limited to buying power from the local regulated utility. With deregulation comes the choice of whom to buy from and opens opportunities to negotiate with energy providers, even pitting them to bid against each other through auctions for your business. Even in regulated markets, demand response, storage, and on-site generation (whether through cogeneration, backup generators, or renewables) give customers flexibility for when (e.g., not during peak usage times) and how much to buy from the grid.

Structural changes in the baseload power mix are taking place. Over the past decade, we have seen a gradual shift of baseload power generation from coal to natural gas—driven first by low gas prices and increasingly by climate change concerns. In fact, natural gas, which historically was primarily used for “peaker plants,” exceeded coal as the primary source for US electricity generation for the first time ever in April 2015.⁷ At the same time, there are growing concerns about increased volatility and the impact on business continuity due to the emerging and rapid integration of intermittent generation from renewables.

New and more complex tariffs, incentives, and financing structures are emerging. Time-based pricing and more complex tariff structures provide companies with opportunities to reduce costs by managing when and how they use energy. In fact, the number of utilities offering customers dynamic pricing has more than tripled in the past five years.⁸ Utilities and regulators are providing incentives, such as rebates, low-rate financing, and tax credits, to encourage companies to become more energy efficient and to invest in renewable energy. An explosion of on- and off-balance sheet financing mechanisms has made more options available to buyers of energy efficiency products and renewable energy, including property assessed clean energy (PACE), power purchase agreements (PPAs), lease agreements, and performance contracts.

⁷ U.S. Energy Information Administration, "<http://www.eia.gov/todayinenergy/detail.cfm?id=22312>" Electricity from natural gas surpasses coal for first time, but just for one month" <http://www.eia.gov/todayinenergy/detail.cfm?id=22312>, viewed May 25, 2016

⁸ EnerNOC Analysis with data from US Energy Information Administration Form 861 indicates that in the last 5 years, there has been a 227% growth in the number of the number of utilities offering customers dynamic pricing.

The Implications: Challenges, Opportunities, and Value at Stake

The six megatrends lead to some key implications for how companies manage energy. We believe companies will be more successful if they develop energy strategies that address these challenges and opportunities:

- *Manage energy in a more coordinated and strategic way across the organization.*
- *Use energy data to manage and improve business performance.* The falling costs of measurement and analytical tools and the proliferation of data mean that companies can measure and gain insights on their energy use patterns in a much more granular and powerful way than ever before.
- *Adopt new energy technologies and take advantage of market changes.*
- *Embrace the reality of increased transparency.* All stakeholders—investors, employees, and customers—are simply demanding more information on material performance drivers and everyday operations.

Meeting these challenges and opportunities will help companies capture many business benefits—from immediate cost savings to more difficult-to-measure but fundamental changes. These include:

Direct Financial Value	Indirect Business Value	Longer-Term Enterprise Value
Profitability Productivity of Assets	Risk Mitigation Reporting Responsiveness Talent Acquisition and Retention Brand Reinforcement	Resilience Innovation Environmental and Social Impact

- Higher profitability and insights that lead to higher asset productivity, generating immediate, direct financial value;
- Benefits that are harder to measure but no less real, such as brand building, employee engagement and attraction of talent, reduced risk (commodity price risk, discontinuity risk, brand risk), and more efficient and effective compliance and reporting; and
- In the longer term, driving innovation, building organizational resilience (in operations, the supply chain, and even the business model), and improving environmental and social performance.

A photovoltaic (PV) solar renewable energy project at Starwood Hotels & Resorts exemplifies how smart energy strategy can extend across both short and long term value drivers. In 2014, the company announced a partnership with NRG Energy to integrate solar into its properties. This included a 2,000 PV solar panel project at one of The Luxury Collection's flagship properties, The Phoenician Resort in Scottsdale, Arizona. Not only were the solar panels financed through a power purchase agreement (PPA) which required no capital outlay, but they also offered an opportunity to further Starwood's sustainability efforts through the use of renewable energy. This project is one example of how Starwood has embedded its energy strategy into the overall business strategy while continuing to provide a luxury guest experience. By providing shading, the solar installation created an additional outdoor event space which is a coveted amenity especially during the hot desert summer months. By thinking about its energy strategy in this integrated fashion, Starwood has created a new revenue-generating asset, driving direct, indirect, and longer-term business value.

Take a Unified Approach to Energy Transformation

To respond to these trends effectively, succeed in a changing energy marketplace, and capture the most business value, executives need to look beyond the more traditional energy management best practice frameworks. Focused on facility-level optimization and the plan-do-check-act management cycle, existing frameworks do provide valuable guidance for companies establishing fundamental practices in energy management. However, they are not sufficient for companies seeking to develop a comprehensive energy strategy that will position them to respond nimbly to the evolving marketplace and megatrends.

The solution? Apply a set of unified strategic principles and emerging leading practices that will transform how you manage energy:

Challenges and Opportunities

Manage energy in a more coordinated and strategic way across the organization.

Use energy data to manage and improve business performance.

Adopt new energy technologies and take advantage of market changes.

Embrace the reality of increased transparency.

Strategic Principles



INTEGRATE energy management into the fabric of your company.



ELEVATE business performance using energy intelligence.



CAPITALIZE on new technologies and market choices.



PROMOTE your efforts and celebrate success.

For each of the strategic principles, we have identified the emerging leading practices that can collectively serve as a guiding framework for advanced energy strategy development and execution.

“Leading companies involved with ENERGY STAR are finding they are better positioned to address new expectations around transparency, climate and sustainability management, CSR, and rapidly changing energy markets because they established strong energy programs,” notes Walt Tunnesen, National Program Manager for Industry at the US EPA’s ENERGY STAR program. “Unfortunately we still see too many business sectors and companies lacking the fundamental energy management practices and strategies needed for navigating changing market, regulatory, and social conditions. Not only are these organizations spending too much on energy, they may be putting themselves at a competitive disadvantage. Fortunately, it’s easier than ever to establish better energy management practices. It just has to be made a priority.”

INTEGRATE Energy Management into the Fabric of Your Company

As with other initiatives intended to produce significant business value, a more strategic focus on managing energy needs to start from the top of the organization and be embedded throughout. The first step is to develop a clear vision, strategy, and governance approach for energy. The strategy should be led by the C-suite, with a structure that creates accountability from the top and enables global collaboration and alignment among internal energy stakeholders, including operations, finance, purchasing, and sustainability.

Organization-wide goals—ideally science-based, time-bound, and public—will solidify the vision and help drive strategy and accountability. Companies are increasingly setting public carbon reduction goals based on an objective calculation of their fair contribution to an overall goal of reducing global greenhouse gas emissions to limit global warming to a “safe level” (commonly understood as below 2 degrees Celsius). Achieving these goals typically requires a combination of using less energy (conservation and efficiency) and decarbonizing the energy you do use (primarily through sourcing renewables).

A critical element of the internal coordination is to connect the supply side (procurement) and demand side (use) of energy. You can do this programmatically by evaluating and linking energy usage across operations with an understanding of supply options (e.g., combined heat and power, renewables) and pricing structures that drive energy costs (e.g., peak demand charges).

It is also important to ensure that energy is incorporated into your risk management, resilience, and capital strategies. As Hurricane Sandy showed, even in places with a reliable electric grid, companies should have proactive mitigation and contingency plans for power outages, which can have serious financial and customer relationship consequences. Leading companies systematically identify critical loads and engineer backup and recovery solutions to maximize resiliency and avoid costly outages. Renewable energy and storage technologies offer new opportunities for companies to manage operational and supply chain disruption risks.

Emerging Practices

- 1 Develop a global energy strategy, with C-suite and cross-functional accountability, to enable high-quality decision making
- 2 Set ambitious, comprehensive, time-bound, science-based goals
- 3 Connect consumption activities and procurement strategy to manage total energy cost
- 4 Incorporate energy into your risk management, resilience, and capital strategy
- 5 Use energy as a keystone metric (a primary business success indicator that aligns your organization)

Using energy as a “keystone metric” (a focal measurement of organizational success) to align your organization and change habits and behaviors can also improve other key aspects of performance, such as quality and productivity.



What is a keystone metric and how can it drive strategic change across your business?

A keystone metric is a barometer of your organization’s overall performance—a single metric that can drive broader success or failure in other parts of the organization.

Charles Duhigg, author of *The Power of Habit*, recounts the story of Alcoa, which saw profits hit a record high just one year after Paul O’Neill took over as CEO in 1987 and instituted a company-wide focus on one metric—getting to zero worker injuries. This entailed encouraging all employees to suggest safety improvements, expecting managers to follow through on these suggestions, and holding executives personally accountable for worker injuries across the organization. By the time O’Neill retired in 2000, the company’s net income and stock price had grown five-fold.⁹

At first blush, zero worker injuries may not seem to be a leading indicator for growth and profit, but it ultimately drove accountability and operational excellence at Alcoa. An energy metric can play the same role in many organizations. Data centers, for example, view energy data as a sign of both the efficiency of their internal operations and the availability of their online services. When used as a keystone metric, a focus on energy doesn’t just lead to operational efficiency—it’s a reflection of how well an organization is able to adapt to a rapidly changing business environment.

"The risk of business interruption continues to rise in importance for companies, along with concerns over the potential for weather-related events, cyber-attack and terrorism," says John Stampfel, a Vice President and General Manager at Eaton, a global leader in power management solutions. "A sound energy strategy in today's operating environment will not only continue to take into account energy costs and changing utility tariffs, it will also consider the relationship between critical operations and backup power, renewable generation, demand response, and more recent technological advances. Future investments can then not only have an impact on energy costs and carbon emissions, but can also improve the overall reliability and resiliency of the business."

⁹ Ibid, and Conway Management, "What's your keystone metric?", <http://www.conwaymgmt.com/pdfs/NL21-2-WhatsYourKeystoneMetric.pdf>, viewed May 25, 2016

ELEVATE Business Performance Using Energy Intelligence

To fully benefit from the power of new energy intelligence capabilities that data gathering and analysis tools offer, organizations need to engage with data at both the macro and micro levels. At the enterprise level, energy data can enable tracking against goals, benchmarking of performance across business units and locations, allocation of energy budgets with accountability, and accurate, on-going reporting on executive dashboards. Most importantly, advanced use of energy data can make clear the relationship between energy and costs, productivity, and other business measures. Energy-related key performance indicators (KPIs) can highlight the materiality of energy to the overall business and enable energy cost measurement in language that matters to stakeholders (e.g., cost of goods sold).

At a more granular level, continuous and real-time measurement and analysis of the energy profile of an individual process (such as a production line) or piece of equipment delivers an “energy signature” that reveals opportunities to drive productivity and innovation. For example, it can enable companies to ensure equipment is operating to specifications, avoid downtime by anticipating equipment failures, and identify inefficiencies and opportunities for quality improvements that yield benefits well beyond energy savings.

Leaders are expanding the scope of their energy activities by reaching beyond their own “four walls” and engaging with suppliers and other business partners. By sharing energy data and collaborating on leading energy practices, value chain partners can collectively manage energy more effectively, become more resilient, and capture resulting shared benefits.

Finally, as energy and carbon-related reporting requirements proliferate and expectations for voluntary disclosure rise, having effective systems to track and report performance is critical. Seek to develop a single system of record to manage and dynamically extract global sustainability reporting data that is accurate, auditable, and credible. While a reporting infrastructure will connect to and benefit from the data and analytics tools described above, the ability to track and respond to reporting requirements at multiple levels (process, building, country subsidiary, global enterprise) in an efficient manner is a distinct capability that can provide significant labor savings and risk reduction.

Emerging Practices

- 6** Track energy data at the enterprise level leveraging new tools, capabilities, and metrics to tie to overall business performance (COGS, etc.)

- 7** Use energy signature data to ensure “in-spec” operation, identify opportunities to increase productivity and drive innovation beyond energy related initiatives

- 8** Collaborate with and engage your value chain partners using energy data and practices

- 9** Develop a reporting infrastructure that facilitates effective reporting and proactive compliance with regulatory requirements



What is an energy signature and how does it impact productivity?

The energy signature is a moment-in-time view of the energy data from an individual process, system, or component, which provides a view of its current state and performance trends. Like an MRI or EKG, the energy signature serves as an important diagnostic tool to assess the process, system, or component operating health (in other words, is it running efficiently/to specification). Best-in-class companies monitor such energy signatures on a regular basis and understand what they should look like under various load and environmental conditions, to identify and even predict inefficiencies and failures that are precursors to quality issues and downtime. Applying advanced analytics to correlate the energy signature to other metrics drives improved processes, workplace quality, and employee productivity, as well as reduced maintenance costs.

Boston Properties, one of the largest owners, managers, and developers of Class A office space in the United States, has been one of the earliest and most aggressive adopters of energy intelligence software to elevate business performance. James Whalen, Chief Information Officer, explains: “Real-time data and analytics have enabled us to troubleshoot and correct inefficiencies in three broad areas. The first is simply being alerted to the status of a malfunctioning piece of equipment. Another is being able to effectively manage set points and make changes when systems run outside of spec instead of waiting until the utility bill comes and realizing money was wasted. The third is the ability to adapt quickly to changing occupancy patterns in a building. Let’s say you have a tenant move out, and you have downtime before a tenant moves in—that’s time that can be managed. With a toolset that allows us to have real-time visibility into what’s going on, we are able to make changes much more quickly.”

For high-tech manufacturer Saint-Gobain Crystals, energy intelligence has become essential to accurately determine production costs. Their Ohio factory produces 30,000 distinct products, all of which have different energy demands. With access to granular energy data, they were able to understand energy cost per product line, understand true COGS, adjust product prices to be more competitive, and gain a stronger foothold in the market.¹⁰

¹⁰ EnerNOC, “Get Visibility, Improve Productivity and Reduce Cost of Goods Sold”, <https://www.enernoc.com/industries/businesses/manufacturing>, viewed May 25, 2016

CAPITALIZE on New Technologies and Market Choices

Companies can also drive performance improvements by taking advantage of the new options presented by advanced technologies and new financing mechanisms. Energy leaders continuously evaluate and use new and evolving energy technologies to reduce their costs, carbon footprint, and grid dependency. They also evaluate complex scenarios and adopt previously infeasible or unavailable avenues for financing energy initiatives. Whether it's buying a rooftop solar system using property-assessed clean energy (PACE) financing, partnering with an energy developer on a new off-site wind farm through a virtual Power Purchase Agreement (PPA), or installing new storage and control technologies, the options are more attractive than ever before.

Fortune 1000 spice manufacturer McCormick & Co. has been an early mover to innovative energy financing. Working with competitive energy company Constellation to structure a mutually beneficial deal, McCormick's largest packaging plant avoided the significant capital expense of replacing dozens of old, inefficient air conditioning units. Instead, the energy company paid to build a brand new chiller plant to air condition McCormick's facility, and in exchange McCormick buys the cold air produced for a fixed monthly fee in a long-term contract. "Not only did this model keep the project from eating up our capital expense with a poor financial return," Sustainable Manufacturing Manager Jeff Blankman said, "we have a more energy efficient system and can concentrate on packaging spices."

Large corporate energy users have long engaged in policy discussions to influence energy market opportunities, but what's new now is the scope of influence and the range of potential outcomes that are up for debate. By helping to shape the evolution of energy tariffs and regulations, and engaging on carbon pricing issues and federal climate action, organizations can improve the odds that the future energy marketplace takes into account their specific needs and points of view. By staying closely engaged in the process, they can also anticipate and respond nimbly to policy changes.

Emerging Practices

- 10 Evaluate and deploy advanced energy generation, storage, and control technologies where they can have maximum impact
- 11 Use advanced financing mechanisms to expand your energy project options
- 12 Engage in policy discussions at all levels to influence energy market opportunities

PROMOTE Your Efforts and Celebrate Success

In our current age of transparency, it's critical that companies have solid backup for any claims they make about their energy performance. With reliable, verifiable data, they can communicate with all their stakeholders and get proper credit for their efforts from customers, business partners, investors, and prospective and current employees.

Talking about an energy program internally is critical for motivating employees to actively contribute to the program's goals. Engaged employees can more effectively identify and pursue energy projects, including the many energy savings opportunities that rely on ground-level behavior change rather than capital investments. Behavior change can be driven by promoting the use and sharing of energy and ROI data, rewarding and incentivizing participation, and providing energy education and training.

“Successful energy transformation goals are only possible when front-line employees are also committed to the process,” notes Joseph Pendergast, North American Commodity Manager at Philips. But it's a two-way street, he reminds us: “Leadership can emphasize their commitment by providing tools to understand internal energy use patterns, empowering employees to act with new technologies, and ultimately aligning individual incentives with corporate objectives.”

Companies should not overlook the intangible value, in terms of employee satisfaction, talent attraction, and brand building, that can be gained from sharing strong energy and carbon performance and commitments. If you don't take credit for your efforts, you will miss out on opportunities to enhance your reputation and strengthen relationships with stakeholders. In the current age of transparency, it's important to share your story and connect it to your positive corporate values and your commitment to responsible behavior. Be sure to communicate your energy performance in your corporate and product-level messaging and marketing, participate in relevant certifications and recognition programs (such as ENERGY STAR and LEED), and use energy performance to engage with stakeholders.

Emerging Practices

- 13 Empower and motivate your workforce to contribute to your energy strategy and goals

- 14 Communicate energy and carbon commitments and accomplishments and your positive values as an organization to drive intangible value

- 15 Point to your energy and carbon successes as an indicator of superior management

Finally, don't overlook opportunities to provide investors, business partners, and other stakeholders with accurate information about how your energy strategy addresses material issues, drives out costs, reduces risk, and otherwise improves your corporate performance. Doing so is particularly important if energy and carbon are "material" issues in your business. Investors, through initiatives such as the Carbon Disclosure Project (CDP) and the Sustainability Accounting Standards Board (SASB), are increasingly seeking more information from companies about how they are managing material issues.



Wall Street Rewards Strong Sustainability Strategies

Having a well-thought-out sustainability strategy, including energy management, isn't just about capturing the attention of employees and consumers. Increasingly, investors are paying more attention and rewarding companies with strong, well-communicated, data-verified programs and results. For example, in an August 2015 apparel sector analyst report, Morgan Stanley lowered the cost of equity and raised its stock price target for three companies (Nike, Hanesbrands, and VF) because it assessed them as having "better and more effective sustainability strategies" than their peers.¹¹ Additionally, in March 2016, Morningstar, a leading independent investment research firm, introduced a new rating that will enable investors around the world to evaluate mutual funds and exchange-traded funds based on how well constituent companies are managing their Environmental, Social, and Governance (ESG) risks and opportunities.¹²

"Employees increasingly expect their companies to be a force for innovation and good in this world. By responsibly sourcing and using energy and making strides to reduce environmental impact, employees feel the company shares their values and is helping them be part of the solution. When employees feel that pride and connection to positive impact, it increases the company's ability to attract and retain their best and brightest," notes Susan Hunt Stevens, founder and CEO of WeSpire, an employee engagement platform.

¹¹ Morgan Stanley Research, "Branded Apparel and Footwear: North America Insight: Sustainability Report: Raising NKE, HBI, and VFC Price Targets," August 20, 2015.

¹² Morningstar, "Morningstar Introduces Industry's First Sustainability Rating for 20,000 Funds Globally, Giving Investors New Way to Evaluate Investments Based on Environmental, Social, and Governance (ESG) Factors" https://www.morningstar.com/news/pr-news-wire/PRNews_20160301CG33842/morningstar-introduces-industrys-first-sustainability-rating-for-20000-funds-globally-giving-investors-new-way-to-evaluate-investments-based-on-environmental-social-and-governance-esg-factors.html, viewed May 25, 2016

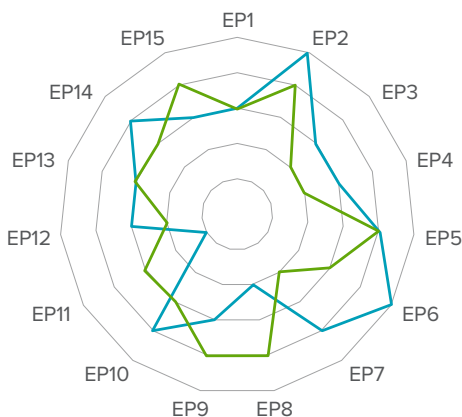
Charting a Course to Transform Your Business

The emerging practices are NOT intended to be a “certification program” or a rigorous set of “must-dos.” Rather, the goal of the Unified Approach to Energy Transformation is to help senior executives think about energy strategy in a rapidly evolving business context. Can these emerging practices enable your organization to achieve a competitive advantage? The answer depends on what you’re doing today and where you want to be one, five, or ten years down the road. For starters, can you answer the following questions?

- How much do you spend on energy as an organization? What impact does your energy spend have on your company’s key financial indicators, such as cost of goods sold?
- Who is the right person to ask about energy spend across your company? What senior leader in your organization has insight into, and accountability for, managing energy effectively?
- In what aspects of your energy strategy are you leading or lagging compared to your competitors? Where is there the most value at stake?
- Is your energy strategy reactive and focused on costs, or proactive and integrated with your business strategy? If the former, are you comfortable with your current approach? Are you confident that you are allocating sufficient resources towards energy issues?

The Unified Approach to Energy Transformation provides a framework to think about these questions, determine what is right for your organization, and prioritize where improvements in energy strategy can have the greatest benefits. Not all businesses think about energy in the same way: consumer brands often put a premium on the incremental brand value that strong sustainability efforts can provide, whereas manufacturing facilities may prioritize resilience. The Unified Approach isn’t meant to be prescriptive, but rather enable a new way of thinking about energy and business value creation.

Next step: To assess where your organization is on the maturity spectrum of these emerging practices, please contact George Favaloro at george.favaloro@pwc.com or Sarah McAuley at smcauley@ernoc.com.



An assessment of your organization against the **15 emerging practices (EP)** outlined in this strategy brief can be a helpful discussion-starter within your organization, serving to align key stakeholders from executives to energy champions around the most important areas of focus.

- Your Organization
- Peer Benchmark

About the Authors

George Favaloro is a Managing Director in the Sustainable Business Solutions (SBS) practice at PwC where his clients include leaders in manufacturing, consumer products, communication and information technology, as well as in the airline, chemicals, and utilities industries. He is the Energy Transformation leader within SBS. George holds an MBA from Amos Tuck School at Dartmouth College and a BA from Princeton University.

Tim Healy is the co-founder and CEO of EnerNOC, the world's leading provider of energy intelligence software and demand response solutions. Tim has an extensive background in energy, technology, and business. Prior to EnerNOC, Tim worked in the Energy Technology Laboratory for Northern Power Systems, Inc., and held positions with Merrill Lynch, International Fuel Cells (now UTC Fuel Cells), and the venture capital firm Commonwealth Capital Ventures. Tim currently sits on the Board of Directors of the Advanced Energy Economy (AEE), the New England Clean Energy Council, Genability, Inc., and WeSpire, and serves on TechNet's Executive Committee. Tim graduated from Dartmouth College with a BA in Government and Economics, and received an MBA from the Tuck School of Business at Dartmouth.

Andrew Winston is a globally recognized expert on how companies can navigate and profit from humanity's biggest challenges. His views on strategy have been sought after by many of the world's leading companies, including HP, J&J, Kimberly-Clark, PepsiCo, PwC, and Unilever. Andrew's latest book, *The Big Pivot*, has been selected among the "Best Business Books of 2014" by *Strategy+Business* magazine. His first book, *Green to Gold*, was the top-selling green business title of the last decade.

This paper was drafted with the input and guidance of the Energy Management Advisory Council. Council members include:

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