

ESG, SRI, and Building Energy:

An economic imperative for chief executives

Building energy efficiency:
The most effective strategy for improving sustainability metrics

In the space of 15 years, Environmental, Social, and Governance (ESG) and Socially Responsible Investing (SRI) have gone from maverick to mainstream. Today, investors, banks, regulators, and consumers pressure companies to go beyond good financial performance and encompass a triple-bottom-line approach to planning, operations, and reporting. “Is it good for the shareholders?” has now been replaced by “Is it good for all our stakeholders?”

In this report, you will learn why it’s an economic imperative for chief executives and C-suite executives to invest in practices to elevate their company’s ESG or SRI profile. We will focus primarily on ESG, and in particular, the environmental component of the formulation. You will learn how some of the most important initiatives you can take involve improving the energy efficiency of your buildings..

ESG, SRI, IMPACT INVESTING: WHAT’S THE DIFFERENCE?

ESG, SRI, and impact investing are related investment styles with different approaches. SRI uses screens to pick or drop investments based on ethical concerns. Impact investors put their money where it will do good for society or the environment. ESG focuses on a company’s operations with a view to reducing risk.

WHAT IS THE E IN ESG?

ESG standards measure company performance on a range of issues, from climate change to social justice and internal controls. Environmental criteria look at energy inputs and waste streams, including carbon emissions and their impact on climate change. Investors want to know how a company manages its environmental risks, such as exposure to flooding, production and disposal of toxic wastes, and compliance with current and future regulations. Essentially, environmental metrics take stock of a company’s stewardship of the natural world.



ESG Investing

ENVIRONMENTAL:

Measures environmental performance

SOCIAL:

Measures relationships with employees, suppliers, customers, and communities

GOVERNANCE:

Measures leadership, executive pay, audits, internal controls, and shareholder rights



HARVARD
BUSINESS SCHOOL

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– ROBERT G. ECCLES



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– WILL MARTINDALE

WHY C-SUITE EXECUTIVES PAY ATTENTION TO ESG

At the beginning of 2018, ESG investing topped \$30 trillion in assets under management, or one-fourth of all professionally managed assets worldwide, according to the Global Sustainable Investment Alliance. That was up 68 percent since 2014 and tenfold since 2004.

The global investment community’s interest in ESG has reached a tipping point in tandem with concerns over climate change, according to Robert G. Eccles, a professor of management at the Harvard Business School, founding chairman of the Sustainability Accounting Standards Board (SASB), and the world’s leading academic expert on ESG reporting. That makes sense: Climate change increases risks for companies, from physical disruptions to legislative, regulatory, reputational, and financial uncertainties.

The turning point for ESG came when investors saw that ESG performance tracked to financial performance, Eccles told the Harvard Business Review. As a result, large asset management firms and pension funds now press corporate leaders to improve their environmental practices in material ways that help not only the bottom line but the greater good. “When the CEO and CFO are hearing about sustainability themes from the people who buy and sell their stock, then that makes it become very real,” Eccles said.

The belief that CEOs’ sole fiduciary duty is to increase shareholder value—a management mantra for decades—has evolved. Laurence Fink, chairman and CEO of BlackRock, the world’s largest investment firm, has written a series of letters over the last few years urging CEOs to adopt an ESG mindset. “We believe that sustainability should be our new standard for investing,” Fink wrote in his 2020 letter. And that’s not out of a do-gooder or public relations lens but a conviction that profit, planet, and people are inextricably intertwined.

BlackRock is not alone. The Business Roundtable in 2019 declared that the purpose of business includes not only making a profit but also delivering value to customers, investing in employees, treating suppliers right, and supporting communities. The U.S. Chamber of Commerce backs more consistent ESG reporting from publicly owned companies.

Will Martindale, head of policy and research at the Principles for Responsible Investment, put it bluntly to corporate leaders and shareholders: “Failing to integrate ESG issues is a failure of fiduciary duty.”

ESG STRATEGIES DELIVER VALUE

Investing in improved ESG practices pays off.

Studies find that elevating ESG increases revenues, reduces costs, minimizes fines and regulatory problems, makes employees more productive, and makes the best use of investments and capital expenses.

Daryl Brewster, CEO of Chief Executives for Corporate Purpose, summed up the touchpoints of ESG influence: “From employee engagement to employee development, to improving brand reputation, to identifying and penetrating new markets and reaching new customers, to improving supply chain reliability, social responsibility, (ESG) touches every aspect of a business.”



- McKinsey, in a 2019 report, noted that 3M had saved \$2.2 billion with a pollution-prevention program in place since 1975. The firm also highlighted FedEx's plans to eventually convert its entire 35,000-vehicle fleet to electric or hybrid-electric engines. At the time of the report, FedEx had converted 20 percent of its fleet, saving more than 50 million gallons of gas.
- In the same report, McKinsey found that ESG benefits cash flow by increasing top-line growth, reducing costs, minimizing regulatory and legal interventions, increasing employee productivity, and optimizing investment and capital expenditures.
- A 2018 paper by Bank of America Merrill Lynch said that firms with better ESG metrics delivered higher three-year returns, saw less volatility in share price, and were less likely to declare bankruptcy.
- The Reputation Institute says good ESG practices have a multiplier effect on value, yielding higher share prices, lower risk, increased revenue, improved reputation, and enhanced employee recruitment.
- Korn Ferry, the executive recruiting firm, recently surveyed the professionals in its network. One-third of respondents chose "company mission and values" as the top reason they'd work for one company over another.

BUILDINGS ARE KEY TO CUTTING CARBON AND ENERGY

Commercial buildings are the nation's single biggest consumer of energy, with most of that going toward heating, ventilation, and air conditioning (HVAC). That makes buildings both a contributor and a potential solution to the unsustainable buildup of atmospheric carbon. It also makes them ideal opportunities for improving ESG scores.

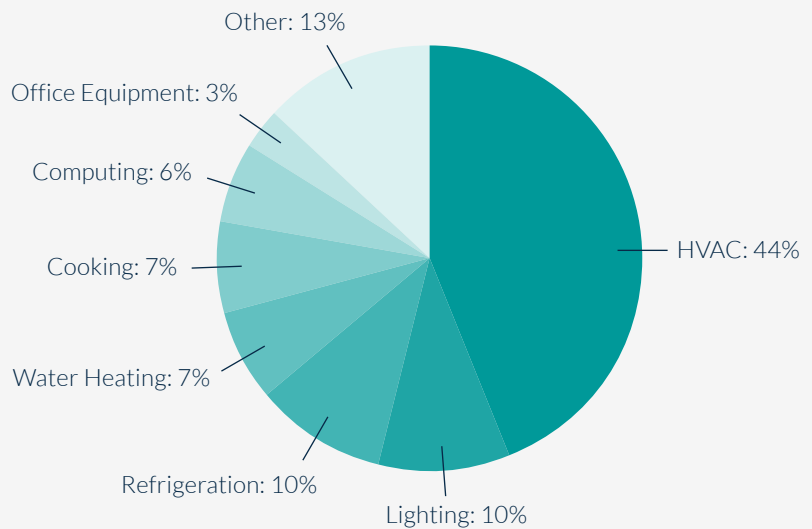
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We might not think of real estate as a dirty industry, but the numbers are damning, perhaps even motivating. If we can get our building stock to be twice as efficient, we can essentially eliminate our need for fossil fuels to power them.”

— VICTOR OLGAY
PRINCIPAL ARCHITECT,
ROCKY MOUNTAIN INSTITUTE'S
BUILDING PRACTICE

Consider the scope:

- Some 120 million buildings in the United States consume 42 percent of the nation’s energy and 70 percent of its electricity—more than any other sector, according to the Rocky Mountain Institute (RMI).
- Buildings use 68 percent and 55 percent of our country’s coal and natural gas, respectively, and generate nearly half all U.S. carbon dioxide emissions, says RMI.
- Approximately 30 percent of global greenhouse gas emissions and 70 percent of energy consumption in major cities are attributable to buildings, according to the Alliance to Save Energy.
- Buildings and related construction together account for 36 percent of global energy use and 39 percent of energy-related carbon dioxide emissions annually, according to the United Nations Environment Program.

How Commercial Buildings Consume Energy



Source: U.S. Energy Information Administration.

McKinsey
&Company

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A McKinsey study found that improving building energy efficiency is the least-cost, most-effective strategy for dramatically reducing carbon.”

When private equity firm Blackstone screens potential ESG portfolio candidates, it scrutinizes their energy use. The firm gets granular, looking at companies’ HVAC systems, thermostat and refrigeration controls, and maintenance protocols to gauge how they’re reducing energy and carbon.

Reducing energy use is imperative. It’s also the best way to attack carbon emissions. In fact, another McKinsey study found that improving building energy efficiency is the least cost, most effective strategy for dramatically reducing carbon.

SMART BUILDINGS, SMARTER BENEFITS

The most efficient buildings are intelligent buildings.

Making a building smarter makes sense. Smart buildings not only save money, energy, and carbon emissions, but are more comfortable. Greater comfort leads to more satisfied tenants, higher productivity, reduced vacancy rates, higher valuations, and reduced maintenance costs.

Smart buildings save energy and improve comfort by automating controls and optimizing systems. Intelligent buildings employ advanced sensors, automated controls, and data analytics to upgrade operations and whole-building performance. They’re like “supersystems” of interconnected building systems.

In a smart building, previously independent building systems—including fire protection, ventilation, climate control, lighting, and video surveillance—talk to and learn from each other. For example, sensors that detect extended inactivity in vacant offices feed that information to lighting and HVAC systems for savings.

Advanced technologies offer greater visibility into real-time operations and historic trends, allowing building operators and occupants to interact with the building. On the other side of the meter, connected buildings can communicate with the utility power grid. This opens up revenue and savings opportunities for the building owner, for example, through reduced demand charges and utility rewards for cutting energy use during peak hours.

Smart buildings compound energy savings, too. Upgrades to single components or isolated systems can yield savings in the range of 5 to 15 percent, the American Council for an Energy Efficient Economy (ACEEE) estimates. But an existing building retrofitted with integrated smart building systems can realize even greater savings, ACEEE says.

“Data collected and insights generated by smart building technologies can lead to changes in facilities management that reduce energy consumption for climate and sustainability goals and help improve public health and safety,” says Christina Jung, a senior consultant for Navigant Research.

BUILDINGS WITH BRAINS: THE COMPONENTS

What makes a building smart? It starts with such components as advanced HVAC systems, smart lighting, advanced window shading, and smart plug loads. Tying all these together are advanced energy-management systems with automated controls, networked sensors and meters, data analytics software, energy management and information systems, and monitoring-based commissioning.



ENERGY MANAGEMENT SYSTEMS (EMS)

An EMS forms the core of smart building technologies. These scalable systems use open communication protocols to transform diverse and growing streams of data into actionable information for performance improvements. They can save a minimum of 13 percent on energy, according to ACEEE. Beyond saving energy, an EMS helps building operators see all facility operations clearly in real time, manage utility bills, measure return on investment, manage budgets and capital expenditures, benchmark building performance, engage occupants, and manage tenant billing.

SMART LIGHTING



Lighting controls help prevent wasted energy. Smart systems go beyond turning lights off in vacant offices and spaces and varying light levels. A smart lighting system networked with a building energy-management system can, for example, figure out the best approach: darkening windows and turning the lights up, or letting in maximum sunlight and dimming the lights.

SMART HVAC



HVAC can consume at least 40 percent of a building’s energy. Smart HVAC systems use multiple sensors to monitor and control temperature, pressure, flow rates, and gas concentrations while saving substantial amounts of energy. Technologies like variable-speed fans and demand-control ventilation can yield cost savings of 24 to 32 percent, depending on building type.

Even small- to medium-sized buildings that can’t afford whole-building HVAC controls can install smart controls directly on HVAC equipment. A Pacific Northwest National Laboratory study found 50 percent savings and a three-year payback for rooftop units outfitted with advanced controllers. A University of California at Irvine study credited real-time, demand-based ventilation controls with reducing energy use in 10 university labs by more than an average of 60 percent

SMART WINDOWS



Like photochromic sunglasses that respond to light levels, smart windows lighten or darken depending on sunlight or temperature. Automated shades control light levels and solar heat gain. A Lawrence Berkeley National Laboratory study found significant savings on cooling and lighting with smart windows.

AUTOMATED SYSTEM OPTIMIZATION



Instead of relying on preset schedules and set points, automated system optimization uses real-time feedback and a ton of data to operate building systems. Cloud-based remote building monitoring allows building operators (or third-party energy service vendors) to monitor real time and historic building performance through web-based energy management platforms.

HANDS-ON OPERATION



Operators can manipulate smart building systems through computer dashboards—interactive displays of building operations and energy use. Dashboards allow the building operator to visualize and analyze building data centrally and receive alerts on faults detected by the automated system optimization.

DISTRIBUTED ENERGY RESOURCES (DER)







Distributed energy resources are grid-connected energy generation and battery storage systems located behind the meter and close to the point of use. Adding smart inverters to distributed energy resources allows continuous two-way communication between the DER and the power grid. That makes them responsive to utility load signals, time-of-use electricity rates, demand-response events, and power disturbances.

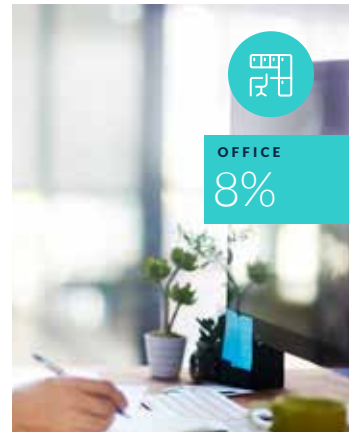
OTHER COMPONENTS



Advanced power strips cut power to appliances when not in use, minimizing so-called vampire loads. Smart ceiling fans sense when to turn and whether to pull air away or toward work spaces. Smart appliances can be programmed, operated remotely, and interact automatically with the grid during demand-response events.

Building Type		Whole-Building Energy Savings (%) with Smart Building Technology
	RETAIL	14%
	HOTEL	8%
	HOSPITAL	14%
	OFFICE	8%

SOURCE: ACEEE



MANAGING MULTISITE BUILDING PORTFOLIOS

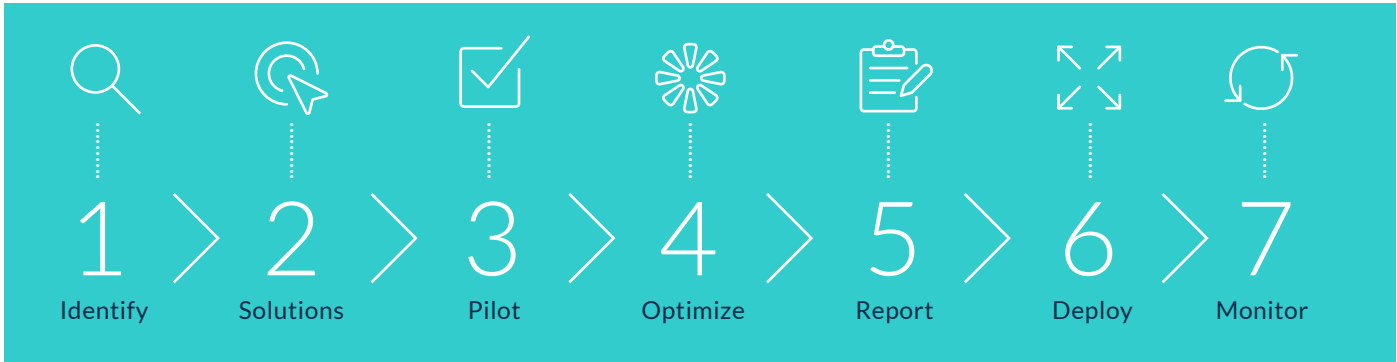
Up to 80 percent of commercial buildings form part of a larger portfolio that is managed centrally. Most building portfolio managers have historically approached energy-efficiency upgrades on a building-by-building basis. Now, however, smart building technologies enable building managers to scale dramatic improvements across an entire portfolio.

When it comes to analyzing and vetting energy-efficiency improvements to a collection of buildings, you can't apply a cookie-cutter approach. For one, the sheer number of potential projects makes it hard to evaluate them consistently and accurately. Two, you're not always comparing apples to apples in different locations, so the economics can change based on different utility rate structures, incentives, and labor and material costs.

That said, some solutions work well in nearly all situations. Real-time HVAC and lighting controls, for example, make sense almost universally. Also, Rocky Mountain Institute has shown that energy analytics can provide accurate and consistent results at an acceptable price and timeline for an entire portfolio of buildings. These tools use data to do energy simulations, evaluating each building for the most cost-effective projects given its unique set of local market factors.

SMART RETROFITTING: IT'S A PROCESS

Over the years, ENTOUCH Controls has developed a seven-step process to ensure a successful implementation. Whatever process you use, the key is establishing goals, testing a sample, and then rolling out the solution fast.



1. IDENTIFY THE PROBLEM AND OBJECTIVE

Start by listing your major issues. Then set the goal. What is your hurdle rate to free up capital? Do you want a return on investment to exceed a particular benchmark? What is the length of your desired payback period?

2. DEVELOP SOLUTIONS

Which solutions achieve your ROI or payback period goals? Make sure the solution enables enterprise-wide cloud connectivity. Does it offer data analytics for real-time visibility, control, and optimization at the asset level? What about legacy system support? Choose a trusted partner with demonstrated success in multi-site rollouts.

3. PILOT

Work with your team and consultant to select a group of buildings large enough to represent your entire portfolio. Get the projects installed as quickly as possible. The longer you wait, the longer you're spending dollars that can never be recovered. Establish a baseline for your pilot sites, and then compare the test group to a control group.

4. OPTIMIZE

As you get feedback on test sites, make sure each site is fine-tuned to achieve optimal results. Use machine learning to continue to learn and to optimize HVAC performance.

5. REPORT

As results come in, report on results and progress toward your goals: asset optimization and maintenance, energy consumption and reduction, and financial savings to management, including facilities, finance, sustainability leadership.

6. EXPAND THE DEPLOYMENT

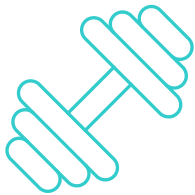
Once you document that you're on target to meet ROI or payback goals, immediately move to a broader deployment across the entire portfolio. This makes the scalability of the solution an essential criterion.

7. MONITOR AND MANAGE

Continue to check feedback on the deployed solution. Either have an automated, self-commissioning system or make sure that sites are operating at the same thresholds and optimizations set during the pilot period.

Case Study

FITNESS INDUSTRY



A multi-state fitness club chain with hundreds of locations needed a new energy management system with greater flexibility, service, and cost savings. Round-the-clock club operation, however, meant that the club couldn't simply turn off lights and set back room comfort levels to cut energy costs.

Building managers wanted the ability to operate the EMS of all clubs from headquarters. The company also demanded uniformity and adherence at every site to club industry standards, including a temperature range of 73–76 degrees F.

The company retrofitted existing locations to a new building automation and energy management system from ENTOUCH. And it will outfit all new locations with the system. The new system provides managers with visibility and control into each one of the clubs from a central headquarters location.



FINANCIAL IMPACT

- \$8.7 million 5-year cash flow
- \$2.4 million projected annual utility savings
- 1.5 Year Payback
- 230% 5 year ROI



ESG IMPACT

- 29.1 million lbs. reduction carbon emissions
- 15,540 acres forest saved
- 10.1 million lbs. waste recycled
- 14.4% energy reduction

THE TIME FOR ESG IS NOW

Operating your company in line with Environmental, Social, and Governance standards has moved from optional to mandatory. One tested approach to elevate your ESG metrics is by reducing your building energy use and carbon footprint.

The good news? Today's C-suite executive has the technology and knowledgeable consulting partners to design an effective energy strategy across the entire facilities portfolio. With advanced energy management systems, you can transform your portfolio into a smart asset. Instead of contributing to climate change, your buildings can contribute to a better workplace, improved bottom line, supportive investors, and a more sustainable world.



ENTOUCH CONTROLS

ENTOUCH is a pioneer in energy management-as-a-service and smart building technology. Our integrated, cloud-based software and technology, combined with 24/7 advisory services, render a 360° view of any facility ecosystem, fueling real-time decisions that reduce energy consumption, improve operational efficiency and extend the useful life of critical equipment for multi-site businesses across North America. Our customers operate in fitness, healthcare, retail, financial services, restaurant, childcare, and other markets and include Group 1 Automotive, Office Depot, Aldo, Kindercare, 24 Hour Fitness, and Chuck E. Cheese.

To learn more about building energy efficiency and smart building technology, contact us today.

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