



Six Strategies to Accelerate the Adoption of Strategic Energy Management

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About NEEP

NEEP was founded in 1996 as a non-profit whose mission is to serve the Northeast and Mid-Atlantic to accelerate regional collaboration to promote advanced energy efficiency and related solutions in home, buildings, industry, and communities. Our vision is that the region's homes, buildings, and communities are transformed into efficient, affordable, low-carbon resilient places to live, work, and play.

Disclaimer: NEEP verified the data used for this white paper to the best of our ability. This paper reflects the opinion and judgments of the NEEP staff and does not necessarily reflect those of NEEP Board members, NEEP Sponsors, or project participants and funders.

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Executive Summary

Strategic Energy Management (SEM) is a tool to engage businesses in energy management. SEM uses data-driven learning and behavioral science to teach companies how to create and perpetuate a culture that supports energy management and energy reduction. It presents a unique approach to lowering energy in the industry sector by creating enthusiasm and buy-in from staff throughout the organization. SEM helps employees identify quick cost- and carbon-saving opportunities and incentivizes senior management to align energy management with sustainability goals, whether those goals be from the state, municipality, or company itself.

SEM has great potential to drive long-term gains in energy efficiency; a [report by American Council for an Energy Efficient Economy \(ACEEE\)](#) estimates that SEM has the potential to save seven terawatt hours in the commercial sector and 24 terawatt hours in the industrial sector by 2030. This is the equivalent of 23 million metric tons of CO₂, the same as removing 4.78 million passenger vehicles from the road.¹ Despite that promise, adoption has been relatively slow. This report lays out six strategies states can use to accelerate adoption of SEM and unlock the mountain of potential savings in the commercial and industrial (C&I) building sector.

- *Strategy 1: Incentivizing the Adoption of Energy Management Systems with T Incentives*
- *Strategy 2: Mandating Adoption of SEM to Participate in Energy Efficiency Programs*
- *Strategy 3: Making SEM a Pathway for Achieving Building Performance Standards*
- *Strategy 4: Incentivizing Businesses to Adopt SEM Through Voluntary Agreement*
- *Strategy 5: Developing a Smart Buildings Workforce*
- *Strategy 6: Creating a Corporate Sustainability Checklist That Includes Energy Management Systems*

NEEP has a goal of helping the Northeast and Mid-Atlantic decrease building sector energy consumption by 40 percent by 2030. The C&I sector is a major consumer of energy, and must be addressed comprehensively to achieve this goal. Currently, there is no one clear, established pathway to decarbonizing C&I buildings, but SEM has great potential to meet the need.

¹ [Assumptions: 7.09*10⁻⁴ Metric tons CO₂/kWh ; 4.60 metric tons of CO₂ equivalent/vehicle/year](#)



Introduction

Across the Northeast and Mid-Atlantic region, cities and states are establishing rigorous carbon reduction goals to mitigate the worst effects of climate change. [Commercial and industrial \(C&I\) emissions account for 35 percent of total United States emissions.](#) The C&I sector represents the country's largest buildings, many of which employ hard-to-electrify manufacturing processes. Strategic energy management (SEM) is one pathway to begin to tackle these emissions issues. A [report by American Council for an Energy Efficient Economy \(ACEEE\)](#) estimates that SEM has the potential to save seven terawatt hours in the commercial sector and 24 terawatt hours in the industrial sector nationally by 2030. In the Northeast, SEM is estimated to have the potential to save almost 1.2 terawatt hours in the commercial sector and 1.5 terawatt hours in the industrial sector by 2030 based on relative square footage and energy consumption of the region.²

Strategic energy management is a way to embed energy efficiency in companies by changing company culture to reduce energy consumption, and thus GHG emissions. SEM uses data-driven learning and behavioral science to teach companies how to create and perpetuate a culture that supports energy management and energy reduction. It presents a unique approach to lowering energy in the industry sector by creating enthusiasm and buy-in from staff throughout the organizations. SEM helps employees identify quick cost- and carbon-saving opportunities and incentivizes senior management to align energy management with sustainability goals, whether those goals be from the state or company itself.

Globally, SEM has proven to be an effective tool to reduce emissions from these large facilities however the United States is behind the rest of the globe. This is likely due to a lack of awareness of the program, Informational and economic barriers inhibit companies from implementing SEM or participating in SEM programs. This brief outlines six strategies that could be used to accelerate the adoption of SEM programs in the Northeast and Mid-Atlantic region. Many of these strategies have been employed in other parts of the world and could be used here.

The Importance of the Commercial & Industrial Sector

Commercial and industrial buildings are an important area for energy efficiency gains and building decarbonization, both in our region and the U.S. as whole. In 2020, the [C&I sector accounted for 48 percent of total energy consumption](#) and [35 percent of total GHG emissions in the United States.](#) What's more, is that this sector is growing. According to the [Energy Information Agency \(EIA\)'s 2018 Commercial Building Energy Consumption Survey](#), there were 5.9 million commercial buildings (over 1,000 square feet and with more than half the floor space used for commercial purposes) and 97 billion square feet of total commercial floor space in the U.S. in 2018. The number of commercial buildings grew by six percent between 2012 and 2018 and the floor space increased by 11 percent. About 16 percent of the nation's commercial floor space is in the Northeast, and commercial buildings in the Mid-Atlantic region are, on average, the largest in the country.

² Estimates based on [EIA's 2018 Commercial Building Energy Consumption Survey](#) data, [EIA's 2018 Manufacturing Energy Consumption Survey](#), and [ACEEE's New Horizons for Energy Efficiency: Major Opportunities to Reach Higher Electricity Savings by 2030](#) report. Commercial estimate based on floor space in the Northeast (defined as CT, MA, ME, NH, NJ, NY, PA, RI, and VT), which was 16.5% of the U.S. total. Industrial estimate based on total industrial energy consumption in the Northeast, 6.5% of the U.S. total. EIA's definition of the Northeast excludes NEEP states DE, DC, MD, and WV.



Strategic energy management is a concept that targets existing buildings. Of all commercial buildings that exist today, only 25 percent have been built since 2000 while more than half were built between 1960 and 1999. Older buildings that have not undergone major renovation were not held to the stringent energy codes of modern times during their construction, so they are often less efficient and represent an important area for energy efficiency improvements.

NEEP has a goal of helping the Northeast and Mid-Atlantic decrease building sector energy consumption at least three percent per year and carbon emissions at least 40 percent by 2030 relative to 2001. The C&I sector is a major consumer of energy and must be addressed comprehensively to achieve this goal. Currently, there is no one clear, established pathway to decarbonizing C&I buildings, but SEM has great potential to meet the need.

What is Strategic Energy Management?

Strategic energy management, or SEM, is a holistic approach to persistent energy savings for commercial and industrial (C&I) buildings. Unlike standard energy efficiency programs, SEM incorporates organization wide behavioral changes and load management techniques that strive to engrain an awareness and understanding of building energy use in all company employees. SEM can encompass advanced technologies, thoughtful changes to operations and maintenance practices, trainings, raised awareness, and staff engagement. A key principal of SEM is that it focuses on building an organization-wide environment that establishes accountability and buy-in from employees at all levels. NEEP has an [SEM Program Tracker](#) that is updated quarterly, tracking and analyzing leading SEM program efforts in the region.

[The International Organization for Standards \(ISO\) created the ISO 50001 standard](#) (pronounced ISO fifty thousand and one) as a framework of SEM. The standard provides requirements for organizations to develop practices for more efficient use of energy, create objectives, use data to understand energy usage, measure the results, and continually improve. Other frameworks exist such as the [Consortium for Energy Efficiency \(CEE\) SEM Minimum Elements](#). Achieving certification with these standards is a rigorous endeavor and means a company is successfully implementing SEM. In the Northeast region, SEM has traditionally been offered in two different forms – energy efficiency programs or voluntary adherence to an SEM standard.

In the NEEP region, Vermont, New York, Massachusetts, Rhode Island, Connecticut, Pennsylvania, New Jersey and Washington D.C. operate SEM programs as part of their energy efficiency portfolio.³ These programs often have little to do with international standards and instead focus on guidance, encouragement, direction towards other helpful energy efficiency programs and incentives, and development and implementation of long-term roadmaps. Key components to these programs are walk-throughs of the facility to find energy saving opportunities known as treasure hunts, and employee engagement.

Programs frequently use a collaborative cohort model but have recently been shifting to individual one-on-one models. A cohort model refers to a group of facilities, often of similar types such as hospitals that navigate the program together and share best practices. Program administrators in the region have started to explore one-on-one individual models or hybrids with elements of both. For example, New York launched a program called SEM on Demand to offer remote learning, one-on-one technical support, and guidance to organizations who are

³ NEEP has been tracking some programs in the Northeast Region in our [Northeast SEM Program Tracker](#).



uninterested or unable to participate in a cohort. This model allows more flexibility for organizations of different sizes and uses to participate.

The other avenue for SEM implementation is through voluntary adherence to an SEM Standard like ISO 50001. The U.S. Department of Energy (U.S. DOE) created the [50001 Ready Navigator Program](#), a self-guided online application that provides step-by-step guidance for implementing and adhering to a subset of 25 core ISO 50001 elements. While not as rigorous as a full ISO 50001 certification, the 50001 Ready Navigator allows more companies to participate thanks to streamlined requirements. The 50001 Ready Navigator recognizes organizations that self-attest to having implemented a 50001-based energy management system, without requiring external certification and full adherence to the international standard. U.S. [DOE also created the Superior Energy Performance \(SEP\) program](#) which certifies and recognizes facilities that meet the ISO 50001 standard and demonstrate improved energy performance as verified by a third-party audit. These programs are usually self-guided, however, the 50001 Ready Navigator is sometimes used to guide a utility program. For example, in 2021, Pennsylvania received a grant to operate a 50001 Ready program where it will guide participants through the 25 steps.

SEM has great potential to drive long-term gains in energy efficiency; a [report by American Council for an Energy Efficient Economy \(ACEEE\)](#) estimates that SEM has the potential to save seven terawatt hours in the commercial sector and 24 terawatt hours in the industrial sector by 2030. Utility run programs and the U.S. DOE 50001 Ready Navigator have been important drivers for SEM implementation so far. However, adoption has been relatively slow. This report lays out six strategies to accelerate adoption of SEM by rethinking the current implementation models to unlock the mountain of potential savings in the C&I building sector. The strategies were identified through meetings, interviews, and research with the SEM Market Transformation Research and Strategy Advisory Committee.

Current Barriers

With the C&I sector claiming approximately one third of U.S. GHG emissions and [almost one half of the country's energy consumption](#), there is a lot of opportunity for energy, carbon, and financial savings. Yet, we consistently see these facilities not taking advantage of energy efficiency and energy management. [A global study conducted by DNV GL Business Assurance and the research institute GFK Eurisko](#) found that of 1,500 companies from Europe, the Americas, and Asia, 67 percent had invested in energy efficiency in the past three years, however, only 26 percent had an energy management plan. This reluctance to jump start energy efficiency is likely due to the culture of businesses in the C&I sector. Often, the main focal points for these companies is the business bottom line; they are primarily focused on sales volume and production output so energy usage considerations often fall to the wayside.

Below are three main barriers that appear: Awareness of Programs, In-House Expertise and Data, and Financial Barriers.

Awareness of SEM, Benefits, and Programs

The first barrier to SEM is lack of market awareness of what SEM is as an approach, its benefits, and available programs. Companies are either unaware of their ability to conserve energy compared to the status quo or unaware of SEM programs that can guide them to greater energy savings. This lack of awareness bars companies from seeing the benefits these programs deliver such as energy savings, increased workplace comfort, and lower



GHG emissions. Similarly, a company may not be aware of the advantages of SEM compared to other energy savings opportunities. Unlike other energy saving programs, SEM is not a one-off incentive. It is an iterative process that builds company-wide support and over time through trainings, employee engagement, and data analysis. Companies may not understand the added value a program like SEM provides and will be less likely to participate.

Expertise and Data Barriers

SEM programs require all employees of the company to learn more about energy management. To do so companies will need to train staff and identify workers that are capable of taking on these additional, specialized tasks. Another layer that helps to implement successful programs is access to energy consumption and demand data. While AMI and other real-time data is not always needed to run programs, gathering and using this data can grow the impact of programs and help companies realize more innovative ways to manage energy usage.

Financial Barriers

Financial barriers are also present, which can prevent businesses from seeing the full value of SEM and other energy efficiency programs. These barriers appear in different ways but can fall into two general categories of (1) limited capital to spend on energy efficiency and (2) undervaluing the benefits these programs have. Commercial businesses often have limited capital available for efficiency processes because they have competing economic priorities, a phenomenon known as [internal competition for capital](#). The result is that, in the commercial sector, energy receives little consideration or investment and other projects take priority. The industrial sector is often more willing to invest in energy improvements but either do not believe improvements are possible or do not know what opportunities exist. Additionally, companies often undervalue the benefits of participating in SEM and additional energy efficiency programs by undervaluing the payback period of investments and failing to recognize non-energy benefits of efficiency programs. Highlighting non-energy benefits from SEM can make it more attractive for companies to implement. For example, colleges and universities that incorporate SEM practices into their facilities can support campus wide sustainability goals and use these programs to educate and shape the next workforce generation.

Strategies for Scaling Up SEM Adoption

In the Northeast and across the United States, SEM has largely been implemented through only two mechanisms in the form of energy efficiency programs or the [Department of Energy's 50001 Ready program](#). To accelerate adoption, SEM programs can be encouraged through additional delivery mechanisms to unlock the full potential of SEM and tackle the emissions released by the C&I sector. This may be accomplished through enhanced utility program design, bundling with other programs, or new innovative incentives. In 2021, NEEP convened a subset of the Northeast SEM Collaborative named the Regional SEM Market Transformation Research and Strategy Advisory Committee to guide the development of new strategies to accelerate the adoption of SEM. Through individual and group conversations, the following six strategies were created.

Strategy 1: Incentivizing the Adoption of Energy Management Systems with Tax Incentives

SEM programs operated by energy efficiency program administrators [often have little to do with ISO 50001](#) and instead provide customer-specific advice, encouragement, roadmap planning, and incentives usually for operational savings. More financial incentives to adopt these energy management systems will not only increase deployment of utility SEM programs but will also increase the adoption of other programs that aim to achieve similar outcomes - like 50001 Ready or full ISO 50001 and U.S. DOE SEP certification.

One such pathway to incentivize SEM programs is through a tax credit, whereby energy intensive commercial and industrial businesses that consume above a set threshold of energy and participate in SEM will be eligible for a preset credit amount. Credits could be used to incentivize both improved performance and sustained SEM practice. In a paper written by Therkelsen and Goldstein, "[A Structure for Incentivizing Greater Achievements in Strategic Energy Management](#)", the authors suggest a credit structure whereby companies are eligible for an increasingly valuable credit for every step they take towards the U.S. DOE SEP certification. The steps, ordered from least to most rigorous, are U.S. DOE 50001 Ready Navigator > ISO 50001 Certification > U.S. DOE SEP. To encourage sustained participation, more credits could be given to companies that hold a certification for a given length of time. Additionally, ensuring credits are part of a long term strategy can create certainty for businesses looking into SEM.

Germany employed this strategy with much success; the national government offered organizations discounts on their electricity tariffs for ISO 50001 Certification. [Companies that receive ISO 50001 certification are exempt from the EEG levy, a renewable energy surcharge and eco taxes. On top of these incentives, these companies are also exempt from performing and publicly reporting energy audits every four years.](#) The incentives [lead to a vast increase in the number of German companies with ISO 50001 certifications in 2015, comprising](#) approximately 50 percent of the worldwide total. The [ISO Survey in 2020](#) showed that Germany is still the global leader, but now makes up just under one-third of all certificates as other countries have increased their certification numbers.

Germany exempts companies with ISO 50001 Certification from paying the renewable energy surcharge (EEG) – as a result, the country has the highest number of ISO 50001 certificates in the world (as of 2020)

Strategy 2: Mandating Adoption of SEM to Participate in Energy Efficiency Programs

Energy efficiency programs have long operated with the goal of lowering energy use in buildings. But, in the commercial and industrial sector, programs are still identifying ways to engage actors and create relationships with businesses. This is because current energy efficiency programs often offer a piecemeal approach focused on one update at a time, such as retrofitting lighting, replacing a boiler, or updating a piece of equipment. To participate, businesses pick from one of the options and then go back to business as usual. By integrating SEM as an entry point for businesses or a long-term program that can track savings and upgrades, program administrators can create more avenues for participation and identify additional programs or projects to build on success.

The same measures offered by energy efficiency programs can be identified as possible projects for an SEM program. With SEM, however, program administrators can change business culture and energy practices. One such activity is an SEM “treasure hunt.” Treasure hunts are a key component of many SEM programs and refer to the act of walking through a facility to identify energy saving opportunities. Opportunities can range from



equipment upgrades to faculty trainings. Conducting a treasure hunt can serve as a first step to joining an energy efficiency program and as periodic check-ups to find additional savings for companies already participating.

SEM could be integrated more fully into energy efficiency program portfolios by serving as a gateway to access other utility offerings. Making SEM program participation mandatory would allow companies in the program to reap the benefits of programs that incentivize energy efficiency. With SEM at the forefront of program implementation instead of a secondary voluntary offering, the number of SEM participants would drastically increase.

Strategy 3: Offering SEM as Tool to Achieve Building Performance Standard Compliance

Another way to increase the awareness and adoption of SEM is to align it with decarbonization policies that seek to lower the emissions of the building sector. One such policy is a building performance standard. A [Building performance standards \(BPS\)](#) is a policy tool that requires building owners to reduce energy consumption in their buildings to meet jurisdiction-mandated performance targets for their property. These targets become stricter over time, thus driving continuous, long-term improvement in buildings. Building owners are sometimes offered compliance pathways or programs that can help them achieve these targets, and SEM could serve to support tracking along a particular path and facilitate performance improvement. . Since its introduction in Japan in 2010, building performance standards have been adopted in many large U.S. cities including Washington D.C., New York City, and Boston. Building performance standards are a great way to initiate local or state reduction in building emissions, as they can be adopted at the city or municipality and state level.

Building Performance Standards in the United States

Cities like Washington D.C., New York, and Boston have established BPS programs. Washington D.C.'s [Building Energy Performance Standard](#) requires the jurisdiction's largest buildings, beginning with those greater than 50,000 square feet and ultimately including all buildings greater than 10,000 square feet, to obtain an ENERGY STAR score (or equivalent source energy use intensity) below the local median.

New York City's [Building Emissions Law](#) places carbon caps on most buildings larger than 25,000 square feet which equals roughly 50,000 residential and commercial properties across the city.

Building performance standards and SEM share two core themes. The first is that both target the large commercial and industrial sector which, in many cases, is the largest energy user/carbon emitter. The second is that they are both foundationally built on long-term continuous improvement. SEM encourages continual upkeep, employee engagement, and long-term planning while BPS requires stricter targets over time to set the population on a glide path to decarbonization.

Given these similarities, SEM could be built into BPS programs in a few different ways. The first is for a jurisdictionally-sponsored SEM program to be offered as an optional resource to help building owners comply with a BPS. An effective BPS will be supported by resources to help building owners improve their buildings. SEM could be one of those resources. [The DC Sustainable Energy Utility \(DCSEU\) piloted a 50001 Ready cohort of seven federal agencies and began an SEM cohort of the District's Colleges and Universities.](#) The DCSEU provides office hours, trainings, and planning with experts who help the cohorts develop strategies to lower energy consumption in their facilities.



Additionally, the DCSEU has tailored the content of the Colleges and Universities cohort to help them comply with the District’s Building Energy Performance Standard requirements.

Another way to align SEM with BPS is to make program participation mandatory for buildings that fail to meet compliance. Thus, buildings that do not pass are started on a path towards improvement. Treasure hunts will help identify energy saving opportunities and behavioral trainings will create a culture of energy reduction.

Finally, SEM could serve as the building blocks of a local energy rating program that requires mandatory adoption of SEM. Such a program would be a step between benchmarking programs, where energy data is reported, and BPS programs, where performance is required. SEM would provide this program with the data tracking and reporting requirements of benchmarking programs but would go beyond by ensuring the adoption of energy management systems and shifts in behavior and mindset.

Strategy 4: Incentivizing Businesses to Adopt SEM through Voluntary Agreements

[Voluntary agreements](#) have been a policy mechanism used for industrial energy efficiency since the 1990’s. A voluntary agreement is a government-designed program that includes targets, timelines, rewards, and penalties for participation, but it is – as the name suggests – completely voluntary. It is up to the discretion of the business to participate. This program can serve to gather industry to drive SEM and innovate strategies for the commercial sector. Examples of such programs include the 2002 Climate VISION program in the United States or Ireland’s Large Industry Energy Network where businesses can enroll and earn incentives.

[Climate VISION](#) (Voluntary Innovative Sector Initiatives: Opportunities Now) is a Presidential public-private partnership initiative launched by the U.S. Department of Energy on February 12, 2003 to help reach the President’s goal of reducing GHG intensity. The program focused on reducing the energy of the country’s most energy-intensive industries (coal, electricity generation, oil and gas production). To join, industry groups would provide commitments, on their terms, in their letters of intent to join. In return for joining, industry could take advantage of incentives and other policies designed to encourage cost-effective technologies and reduction of GHG emissions. Additionally, groups would be part of a national joint effort, with both industry and government, to develop advanced technologies, commercialize them, and increase their usage across the industrial sector, thereby lowering the emissions of the industrial sector on their own terms.

An alternative approach would be to create a predesigned program with stricter requirements plus incentives and other benefits. A program like this could work like one put in place by the [Sustainable Energy Authority of Ireland](#) (SEAI) – the [Large Industry Energy Network \(LIEN\)](#). This is a voluntary program in which a network of large industrial users work together to improve their energy performance. Membership is limited to companies that spend at least €1 million on energy annually or are certified in or pursuing IOS 50001 Certification. In order to join, members must commit to developing an energy management program and action plan, setting and reviewing energy targets, and reporting annually on performance.

Ireland’s Large Industry Energy Network (LIEN)

- 199 of Ireland’s largest energy users are members
- 140,000 people are employed by members
- 21 percent of Ireland’s total primary energy requirement is accounted for by LIEN members

On the federal or state level, a voluntary agreement could be established for the largest energy consumers and/or GHG emitters to commit to continuous or sustained improvements in energy. These programs can create their own accreditation system to reward companies that have achieved a pre-defined amount of energy savings. Another option would be to align the agreement with ISO 50001 and create a requirement for companies to commit to achieving 50001 Ready Certification. As a result of participating, facilities would receive support and guidance on energy reduction. Incentives could be provided upon 50001 certification and with continued implementation.

Strategy 5: Developing a Smart Buildings Workforce

Energy efficiency programs and workforce have a symbiotic relationship. Interest in energy efficiency measures creates a demand for a skilled clean energy workforce. In the case of SEM, availability of knowledgeable workers can help lay the groundwork to make companies more likely to participate in an SEM program. Yet there is a clear shortage of workers and, as indicated by many SEM stakeholders, a need to incorporate energy management systems and their benefits into higher education curricula and targeted workforce development programs.

Utilities that offer SEM programs could partner with federal or state government organizations that focus on workforce development. States or other entities could sponsor an internship or on-the-job training program to develop strategic energy management skills like performing assessments, developing energy saving opportunities, taking measurements, and monitoring progress. Programs can provide funds for both in-classroom training and on-the-job experience so workers could learn the industry while also making it easier and more appealing for companies to participate in SEM programs. SEM training should happen at companies participating and educational institutions. For students working towards careers in the energy or climate change fields, it would be helpful for them to understand the value of SEM and to know that there are careers available in this field.

[The Center for Smart Building Technology at Roxbury Community College](#) is creating new, critical paths for people to enter the field of building automation systems and technology

In 2020, Roxbury Community College in Massachusetts established the [Center for Smart Building Technology](#). This new program aligns its curriculum with Boston’s goal to achieve carbon neutrality by 2050 and puts high efficiency buildings at the forefront. While not free, job seekers can take classes at the center to gain entry-level training for building operations, building science, green buildings, automation, and more. The

Roxbury Community College program focuses on the need for workers who can integrate multiple building automation systems and manage complex smart buildings, going beyond the “lowest hanging fruit” of simple energy efficiency upgrades. Students earn certifications in Home Energy Rating System (HERS) Index, building operations, Passive House, and more. They could also use simulations to gain an understanding of what building operations look like in the field. Training workers for the burgeoning field of smart building management will be critical for supporting SEM initiatives.

Strategy 6: Creating a Corporate Sustainability Checklist That Includes Energy Management Systems

Another way to make SEM more attractive to commercial and industrial companies is to incorporate SEM into private investing via investor assessment checklists. Investor checklists are a tool that helps private investors identify and compare practices of companies into which they are considering investment. According to the [U.S. Forum for Sustainable and Responsible Investment \(US SIR\)](#), the most popular environmental social governance (ESG) criteria is climate change/carbon emissions. As more and more private investors are choosing to invest in companies that are committed to mitigating the impacts of climate change and focusing on sustainability, SEM can serve as an indication of this commitment.

For investors, SEM can serve as an indicator of a company that is committed to climate and sustainability by reducing its energy footprint. Making SEM an investment pre-requisite can stir industry uptake and influence business to act in this space. Additionally, it can provide further support to those businesses already practicing SEM and increase their visibility because of it. Organizations like [Ceres](#) are currently working with investors to create their corporate sustainability checklists. These checklists are used to rate the sustainability proposition of an investment and can be the determining factor between what gets investment dollars and what does not. If strategic energy management is a pre-requisite on these checklist, it would encourage companies to incorporate SEM into their business philosophy to attract investors.

According to the [U.S. Forum for Sustainable and Responsible Investment](#), the net total amount of sustainable investing assets under management at the beginning of 2020 was \$17.1 trillion. This represents 33 percent of total managed assets, an increase of about 42 percent from 2018.

The most popular environmental social governance (ESG) criteria was climate change/carbon emissions.

Conclusion

To reduce energy consumption and GHG emissions from the C&I sector, buildings must implement SEM practices into their corporate structure at a larger scale than current practices. Current SEM implementation platforms, such as utility programs and the U.S. DOE 50001 Ready Navigator, are not enough to engage the volume of businesses needed to decarbonize our grid. In order to achieve climate goals, these programs must be scaled up and adopted on a much wider measure. The six strategies outlined in this brief present delivery methods that break down current adoption barriers, and could encourage more widespread adoption.

SEM shares many similar concepts with other policy types and programs. By packaging and marketing these programs, such as building performance standards or energy efficiency programs, with SEM, the visibility of SEM and increases. Collaboration with workforce programs provides on-the-ground experience for new workers and the person-power that companies need to lay the groundwork for SEM in their facilities. The strategies also target economic barriers that limit participation by either creating value from energy efficacy via investment checklists or by reducing upfront cost of energy efficiency and energy management. Many of these strategies have been implemented with success in other parts of the world, and could have a major impact on SEM adoption across the United States.