



RWŠY 2019

# Leading-Edge Greenhouse Gas Reduction Strategies



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## Publisher

The National Association for environmental, health and safety, and sustainability (EHS&S) Management (NAEM) empowers corporate leaders to advance environmental stewardship, create safe and healthy workplaces and promote global sustainability. As the leading business community for EHS&S decision-makers, we provide engaging forums, a curated network, peer benchmarking, research insights and tools for solving today's corporate EHS&S management challenges. Visit us online at [naem.org](http://naem.org).

## About This Report

From wildfires in California to floods in the Midwest to the latest report from the Intergovernmental Panel on Climate Change, it's hard to ignore the urgency for the business community to dramatically reduce global greenhouse gas (GHG) emissions this decade.

Institutional investors, in particular, are expressing their concerns about the possible impacts of climate change on operating costs, long-term viability and returns, corporate resilience, reputation and much more. They're well-aware of the plethora of environmentally oriented global ratings, rankings, challenges and initiatives, and want to know where a company stands.

Boards of directors demand accountability as well, especially those boards with members who are well-versed in areas such as GHG emissions and renewable energy. It's not unusual for a board to require a sustainability presentation once or twice a year as a means of reviewing progress toward goals.

In response, the corporate world has not only taken notice but is demonstrating leadership in finding solutions that go beyond what regulations may call for. As the foundation for its most recent strategic plan, for example, one corporation identified six trends shaping its industry—and five of those trends link directly to climate change risks and opportunities.

"We don't just believe in climate change, we understand how our sector contributes to it—and we feel responsible for addressing it," emphasized one sustainability executive. "Doing our part to lessen our own carbon footprint also makes good business sense. Our customers are increasingly savvy about climate change and wanting to see lower emissions."

This report is an opportunity to get a closer look at the specific steps companies are taking to reduce their GHG emissions within their operations and beyond. While the companies featured here are industry leaders, these types of companies tend to push the horizon for the broader community. We hope this report will provide a useful road map for those who aspire to follow in their footsteps.

## Overview

This report summarizes selected results from an NAEM research project to benchmark the leading-edge environmental health and safety, and sustainability (EHS&S) initiatives among leadership companies. NAEM's biannual survey of emerging practices was fielded in August 2018 and included responses from 79 companies.

As climate change continues to gain focus among ESG investors, activists and policy-makers, there is a need for a clear benchmark of progress against which companies can improve their efforts. The survey therefore included a series of questions related to the specific strategies and metrics companies are using to manage their GHG emissions.

For each activity, respondents were asked to indicate whether they had an existing program in place ("Yes/No"), and if not, whether they are in the piloting or planning to launch such a program over the next three years ("Evaluating").

Using data from that survey, NAEM then conducted in-depth interviews with EHS&S professionals to:

- Describe the leading-edge greenhouse gas management practices
- Understand the business drivers for these programs
- Identify common challenges for advancing greenhouse gas management programs

## Editorial Practices

The results presented in this report were independently researched and analyzed by NAEM. The report sponsor did not influence the content of this publication.

In this report you will find quotes and ideas from our external panel integrated into the analysis as well as highlights from the quantitative survey. All quotes, however, have been anonymized for the presentation of these results. By sharing their perspectives with us, these contributors and their respective companies were neither responsible for the outcome of our findings, nor do they explicitly endorse the veracity of the results.



# Energy Management Is Now a Business Norm Among Leadership Companies

Energy management programs continue to deliver bottom-line results while revealing new opportunities for sustainability performance

Soon after Hurricane Maria cut a swath of destruction through the Caribbean in 2017, violent storms pounded the U.S. eastern seaboard. On the opposite coast, wildfires raged for weeks destroying endless acres of forestland as well as entire neighborhoods. Then tornadoes took a toll on several southern communities, all while glaciers continued to recede.

Long before climate change became a top-of-mind issue, though, leading companies began addressing their environmental impact through the language of energy efficiency.

“Twenty years ago, we focused on improving efficiency—if you’re using too much energy, that indicates waste in your process and in your thinking,” said one executive. “The common language was constant improvement and efficiency in all things, so we began to measure everything with intensity metrics, such as pounds of hazardous waste per million dollars of revenue.”

That executive's company now has absolute reduction goals in place for each of its business units, in addition to a structured program that requires every manufacturing site to conduct an energy and GHG reduction audit every three years. Since 2006, the company has spent an estimated \$150 million on equipment and technologies designed to decrease energy usage. “We determined that energy efficiency is the best way to go in terms of investing our dollars—and we try not to invest in anything that doesn’t make sense from a business standpoint,” added the executive.

The vast majority of responding companies (99%) measure their energy usage—an activity that, for many, starts them down a clear path to greater environmental responsibility.

As one sustainability leader said, “Energy conservation projects can save us money, so they are embedded in our operations rather than done as sustainability projects—even though they do reduce our carbon footprint.”

Their company designates an annual budget for the energy conservation projects, which are proposed by individual manufacturing sites and authorized by the corporate sustainability team.

“We take a proactive approach and have a generous time period for return on investment, which reflects the company’s long-term vision to save energy for multiple reasons,” the leader noted.



# 100%

of those companies surveyed by NAEM already measure their energy usage (99%) or are evaluating doing so (1%).

Source: NAEM's 2018 trends survey

Another company's emphasis on energy management prompted it to construct a LEED-certified headquarters that consolidated operations formerly parceled out among leased spaces in numerous older, less-efficient buildings. The new building not only demonstrates its commitments to employees and shareholders, but it also delivers a number of direct benefits to its energy-savings efforts, via: the use of natural light, on-site solar generation, and high-efficiency building and lighting systems.

"There were many business considerations associated with the design and construction of the new space," noted a company executive. "The GHG savings come from the differences in emissions from the other buildings when compared to the actual performance of the new building."

## Better With Best Practices

To encourage a corporate culture that values good stewardship, one company developed a list of energy management best practices for implementation at each of its manufacturing facilities. The idea was that implementing all 12 best-in-class recommendations on the list would keep a facility operating at peak energy efficiency. Similar lists of best practices were developed for water usage and waste.

"Once we rolled out the lists, we found facilities were reporting 5-6% reductions on some metrics, which were more than the annual reductions required," says a company leader. "Now we're always on the lookout for other practices that can help a factory hit its targets, provided they make sense from a business as well as an environmental standpoint."



# **Snapshot of Leading-Edge Practices**



# Building a Future Around Renewables

Renewable energy programs are well-established but large companies have the most ambitious commitments

Between 2008 and 2018, non-hydro renewable energy went from representing 3% of the nation's energy resource mix to nearly 11%, according to the U.S. Department of Energy. Much of that almost quadruple growth in share came at the expense of coal, whose share of the U.S. energy resource mix dropped from 48% to 28% during the same decade [1].

## Leading Practice #1

As a reflection of this trend, close to half of responding companies purchase renewable energy through a third party and/or generate renewable energy on-site. “Investing in renewable energy drives the market—then there’s more availability, the cost is lower, and the opportunity is broader for other companies to reduce their carbon footprint,” said an executive at one of those companies. “We were an early adopter in renewable energy purchases because we felt it was the best place to invest our dollars, in comparison to carbon offsets.”

### Renewable energy is integrating into business practice



**51%**

of responding companies use on-site renewable energy generation



**44%**

of responding companies purchase renewable energy through a third party

Source: NAEM's 2018 trends survey

In fact, another interviewee saw carbon offsets as having little future for the long-term, because they don't directly reduce emissions.

This person noted, “Ultimately, companies would like to stop the emissions from going into the air in the first place, so they either want to add more capacity to the renewables market or divest from high-emission sources.”

Reliability and resilience are part of that equation; even in the event of an outage or natural disaster, a business can continue running if it generates some of its own power.

“The other piece,” added the interviewee, “is that as markets and infrastructure become more sophisticated, companies could sell back their excess renewable energy to the grid.”

## Leading Practice #1

In pursuit of its corporate goal to increase use of renewables, one large employer uses some form of on-site renewable energy at each of its major sites. Renewables currently provide about 72% of the company's global power supply; solar fuel cells are used most often, with micro-wind turbines installed in select locations.

While many companies may want to increase their use of renewable energy as a demonstration of corporate responsibility, the largest ones are currently in the best position to do so. As one reflection of that fact, several hundred companies have formed the Renewable Energy Buyers Alliance (REBA) to improve access to the renewables marketplace for large, nonresidential energy purchasers.

## Companies with more than \$25 billion in annual revenue have advanced further

| <b>Already Implemented</b>                              | <b>&gt; \$25B</b> | <b>&lt;\$1B</b> |
|---|-------------------|-----------------|
| Engaging with the utilities to request renewable energy | 87%               | 25%             |
| Purchasing renewable energy through a third party       | 60%               | 17%             |
| Adopted science-based targets for GHG emission goals    | 53%               | 8%              |

Source: NAEM's 2018 trends survey

"The goal is to get more renewables into large corporations and break down the barriers for doing so," explained an executive of one company that joined REBA.

One barrier is the reliability factor of renewables, because companies typically require power 24/7, not just when the sun is out or the wind blows. And few companies, if any, have enough real estate to construct their own wind farm or solar field to power every corporate site. Another barrier is the regional nature of energy markets. In many locations, for example, companies cannot choose the energy source for the power they purchase.

## Leading Practice #1

One option is to enter into a power purchase agreement (PPA), in which a power provider, on behalf of the company, buys renewable energy from a wind and/or solar producer. A PPA locks in a price, typically for a long term (20 years or more), and guarantees where the renewable energy comes from.

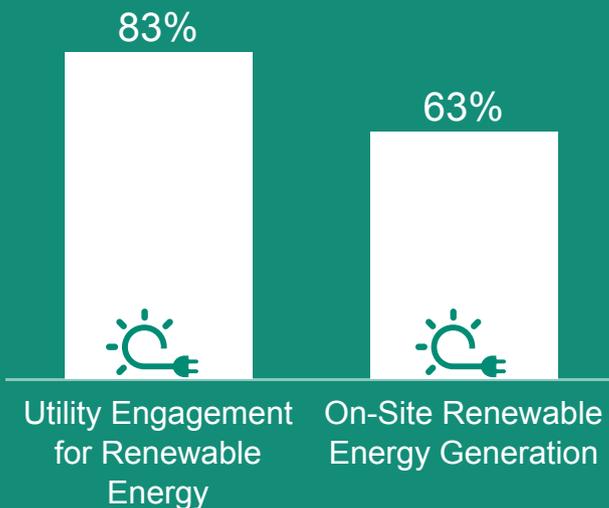
According to the Rocky Mountain Institute, only 70 companies in the United States entered into PPAs as of last year, perhaps because negotiating one can be a long, difficult process [2].

“These things are challenging because you have to involve a lot of people—treasury, finance, accounting—so I highly recommend using a broker,” said one sustainability executive whose company is in the process of pursuing a PPA.

## The more mature the company, the more robust the renewable energy program

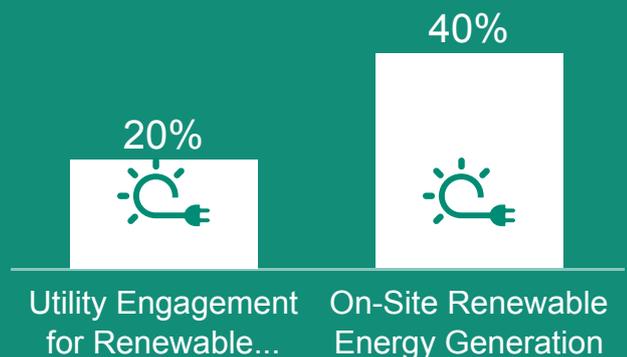
Responding companies who identified the maturity of their sustainability program as high are engaging with utilities to request more access to renewable energy and using on-site renewable energy generation at a higher rate than those who identified the maturity of their sustainability program as low.

### High



VS

### Low



Source: NAEM's 2018 trends survey



# Creating New Sources for Green Energy

Leadership companies are also starting to influence system-level changes to support their internal GHG and energy reduction goals

Deciding to increase use of renewable energy, as a means of reducing emissions, is one thing. Being able to locate and purchase that renewable energy is another. With more than half (52%) of responding organizations already requesting more access to renewable energy — and another 27% considering it — demand for increased wind and solar power generation will only intensify.

## Leading Practice #2

Through organizations like REBA and The Climate Group's RE100, companies can support the demand for renewable power and pool their collective buying power to encourage cleaner energy sourcing options. Such collaborative efforts may include communicating with other businesses, utilities and competitive power producers, and policy makers to rethink and refashion the traditional energy marketplace.

Many states, for example, strictly regulate electric power companies, meaning businesses may not be able to choose their preferred energy solutions on their path to decarbonization. For their part, utilities may not have the smart grids or protocols in place that can increase customers' accessibility to power purchase agreements (PPAs) for renewables or to efficient distributed energy systems that avoid transmission line losses. As more companies express their desire for a decarbonized future and exert their influence accordingly, more—and less expensive—clean energy options are likely to emerge.

### Electric vehicles are becoming more common

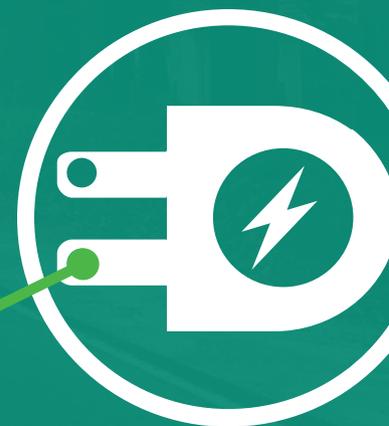
56% of responding companies are already electrifying (16%) or evaluating electrifying (39%) their fleets, and 65% already offer electric vehicle charging stations for employees (49%) or are evaluating doing so (15%).

#### Electrifying Vehicle Fleet

56%



65%



Offer Electric Charging Stations for Employees

Source: NAEM's 2018 trends survey



# Electrifying the Fleet

Companies are electrifying their vehicle fleets and encouraging their employees to do the same at home

In 2018, sales of electric vehicles (EVs) in the United States skyrocketed 81% over the previous year, bringing the total number on the road to more than 1 million [3,4]. Estimates from the Edison Electric Institute (EEI) and the Institute for Electric Innovation point to 18 million EVs operating in the United States by 2030, which would require 9.6 million charging ports. Nearly two out of three responding companies (65%) encourage EV purchases by considering or already providing charging stations where employees can plug in their Prius, Tesla, or a number of other all-electric or hybrid vehicles.

## Leading Practice #3

For more than half (56%) of respondents, that commitment to cleaner transportation extends to their vehicle fleets. With the transportation sector contributing 29% of total GHG emissions in the United States—the largest portion of such emissions, according to the Environmental Protection Agency—fleet electrification can greatly assist a company in meeting its sustainability goals [5].

As a participant in the EEI Electrification Challenge, one company committed to spending 5% of its annual fleet acquisition budget on electric vehicle assets and infrastructure—and has exceeded that goal by investing nearly 11%.

“GHG emissions reductions are based on idle avoidance equipment only and represent the emissions difference as compared to the same equipment previously being run on diesel fuel,” notes an executive of the company, which operates several large vehicle fleets. The company has also converted all its on-site fuel stations for diesel vehicles to dispense biodiesel.

Even without a large vehicle fleet, electrification can make a difference. “We’re working on electrifying all the forklifts used in our North American manufacturing sites,” says an executive at another company.

“That would move emissions from direct, or pure usage, to indirect, which will definitely have a benefit on emissions.”

## Companies are demanding renewable sources



**78%**

of companies surveyed by NAEM are already engaging with utilities to request more access to renewable energy (52%) or are evaluating doing so (26%).



**38%**

of companies surveyed by NAEM are engaging regulators to access wholesale power markets (20%) or are evaluating doing so (18%).

Source: NAEM's 2018 trends survey



# Measuring and Managing Emissions Beyond Internal Operations Alone

Corporate GHG measurement and reporting efforts now extend well beyond internal operations

Nearly half (48%) of responding companies publicly report their Scope 3 GHG emissions—all indirect emissions related to the full range of a company’s products or services, excepting those associated with the generation of purchased energy (Scope 2).

For the companies that externally share emissions measurements and progress toward goals in strategic plans, annual reports, press releases, and sustainability reviews—corporate reputation is often a driving factor. People are more likely to view a company as environmentally responsible when it has a strong track record related to emissions reductions.

As one interviewee noted, “Our reputation is, in part, defined by our leadership on the issue of climate change and the transition to a clean energy future.”

## Leading Practice #4

To demonstrate leadership, for example, one company publishes its GHG goals—which include emission reductions as well as development of clean energy—and explains how its internal sustainability activities align with the Sustainable Development Goals (SDGs) developed by the United Nations. It also uses a third party to independently verify the accuracy of GHG emissions calculations. In addition, the company participates in several voluntary reporting initiatives, including the Dow Jones Sustainability Indices (DJSI) and the climate change, water, and supply chain surveys for which the Carbon Disclosure Project (CDP) awards a letter grade for performance.

Another company that employs CDP disclosures also implements the Sustainability Reporting Standards developed by the Global Reporting Initiative.

“Our sustainable business strategy focuses on taking an industry-leading role in transparency and disclosure,” explained a sustainability leader. Several years ago, the company incorporated standards issued by the Sustainability Accounting Standards Board into its reporting, primarily to provide more ESG metrics to its investors.

The same company is also implementing recommendations developed by the Task Force on Climate-related Financial Disclosures (TCFD) to incorporate more disclosure about climate risks and opportunities into financial filings.

“The TCFD recommendations are all about having companies assess their physical, transitional, and reputational risks related to climate change and then assign a dollar value—such as how much a rise in sea level would affect operations,” added the company's sustainability leader.



**66%**

of companies surveyed by NAEM have already publicly report their Scope 3 GHG emissions (48%) or are evaluating doing so (18%).

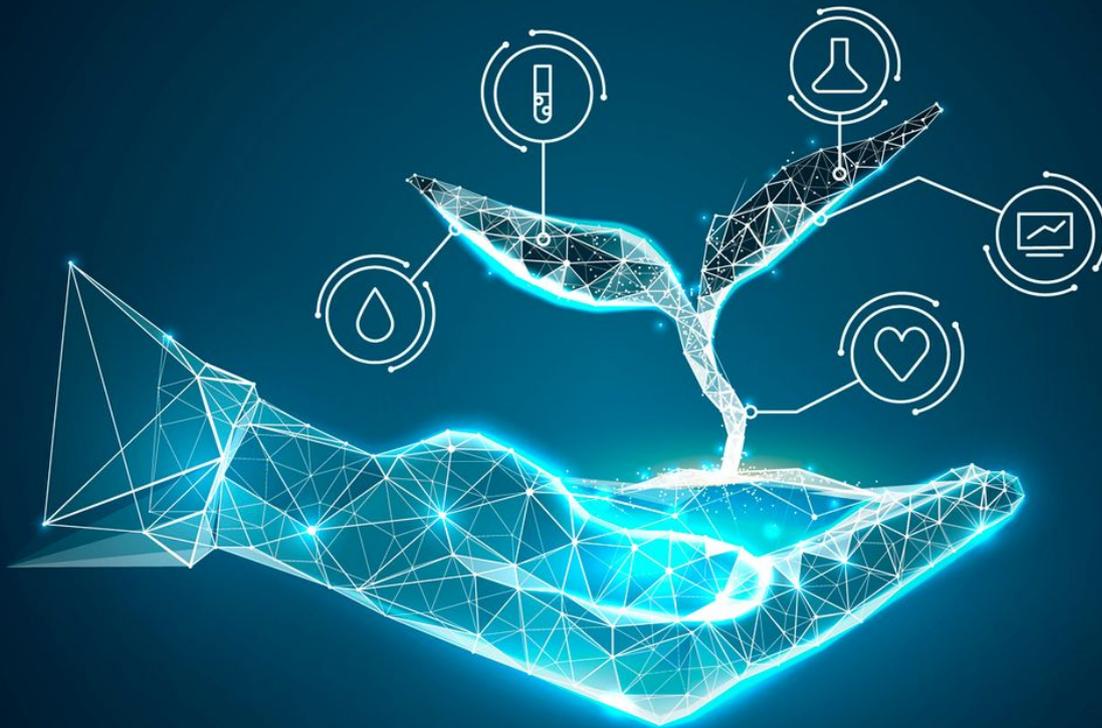
Source: NAEM's 2018 trends survey

### Better With Best Practices

Five years ago, one company began hearing from many institutional investors who wanted to know more about its long-term climate mitigation plan. In response, the sustainability department took a hard look at the firm's emissions trajectory in the context of the Paris Climate Agreement, which aims to keep global warming to less than 2 degrees Celsius.

"Based on our sector, we set an aggressive goal of 90% reduction in absolute carbon emissions by 2050—which is more than the Paris agreement calling for an 80% reduction," said a company executive. Setting the goal, in collaboration with the firm's asset management team, proved easier than receiving approval from the board of directors to make the goal public. The sustainability department, which reports to the board's governance and nominating committee, needed nearly a year to overcome the board's initial concerns about how mainstream investors would react to such an aggressive goal.

"We had to socialize the idea with the board, explaining that we had to take steps now because we saw a future that is decarbonized," recalled the executive. "We emphasized how the goal made business sense and that not publicizing it could affect our credit scores and ratings from institutional investors." The company's interim goal is a 60% emissions reduction by 2030; it is already 70% of the way toward reaching that mark, with more than a decade still to go.



# Setting Science-Based Targets

More companies are now establishing science-based goals to align their emissions with international guidance

Nearly 550 companies have signed on with the Science-Based Targets Initiative (SBTI) by making the commitment to adopt GHG emission reduction goals in keeping with the latest scientific evidence. The four global organizations behind SBTi define a science-based target as one that lines up with the decarbonization needed to keep the global temperature from rising more than 2 degrees Celsius. Without action by businesses, say climate change experts, the global temperature may rise 1.5 degrees or even more by 2030 [6].

## Leading Practice #5

“It made business sense to base our goal on the best available science, particularly because we had been getting a lot of questions about our long-term outlook,” explained the leader of one company whose emissions goal has been certified by an SBTI technical team. “Previously, we had an intensity goal for carbon emission reduction, but our leadership didn’t feel that was sufficient, so we went to an absolute one.”

For many other businesses, a science-based goal remains under consideration, as evidenced by the one in three responding companies still evaluating whether to set one. It can be a tough call.

“There isn’t a clear path for us to get to a science-based target. One challenge is that science-based targets tend to take a one-size-fits-all approach—and they don’t fit us,” said one corporate leader. “We’ve been reducing our GHG emissions for 20-plus years and are at the point where no solution exists today for some of the emissions we have.”

“We want to set science-based targets but we’re not there yet—and probably won’t be until after 2025 because of our large, varied footprint,” added another executive, whose company is aiming for a 20% emission reduction, per unit of production, between 2010 and 2025.

## There is a strong shift to science-based and impact goals

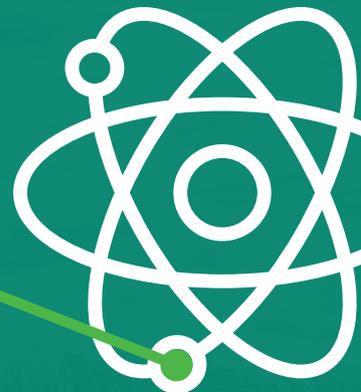
78% of responding companies have already adopted impact based goals (57%) which describe the desired outcome or are evaluating doing so (22%). 65% of responding companies have already adopted science-based targets (32%) for GHG emissions or are evaluating doing so (33%).

### Impact Based Goals

78%



65%



Science-based Targets

Source: NAEM's 2018 trends survey

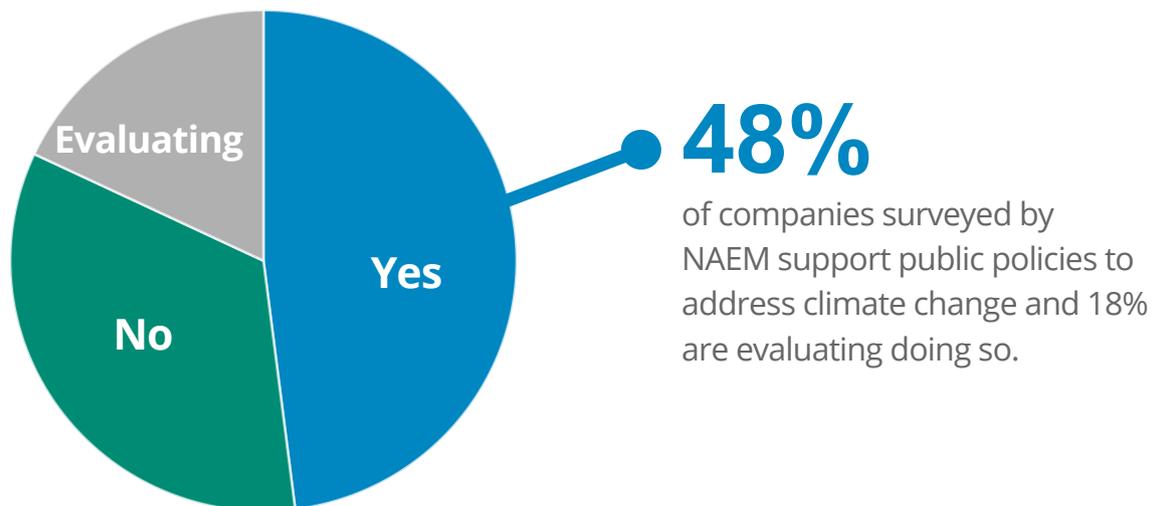


# Leveraging Their Brand to Support International Climate Action

There is now strong corporate support for public policies to address climate change.

“We absolutely believe in climate change—and we believe we have a role to play, through our own operations and in how our products help consumers and customers address the issue,” said one interviewee. The person’s employer was a signatory to the Paris Climate Agreement and, after the United States withdraw from the agreement, reaffirmed its obligation to address climate change by joining the We’re Still In movement.

### Q: Does your company...



A similar sentiment prevails among many other companies, as evidenced by the two-thirds of respondents whose companies have gone on the record in support of public policies that address climate change. Some have been leading the charge for decades.

As one executive noted, "Climate change has been an internal focus for us for more than 20 years, especially since the EPA began its climate leaders program. We have a large government affairs and lobbying function, and weigh in on specific areas where we believe we have credibility." Added another, "Climate change has never been behind closed doors—we have been public the whole time."

One company, a long-time supporter of comprehensive GHG legislation and regulation at the federal level, has recently shifted some of its advocacy efforts to the state level. While continuing to lobby for creation of a long-term national energy policy, for example, the company has also participated in the Regional Greenhouse Gas Initiative aimed at reducing emissions in the eastern United States.

## Leading Practice #6

For the small percentage (7%) of responding companies that have not publicly addressed climate change, the absence of their voice doesn't necessarily mean the issue lacks significance to them. A company's public stance often depends on who is sitting in the CEO's office. One corporate CEO, for instance, made an internal commitment to meeting or exceeding the targets stated in the Paris Climate Agreement but eschewed public declarations and press conferences.

"As a company, we're very conservative when it comes to having a public discussion about EH&S and sustainability matters," observed an executive at the company. "It's just not our style to comment on everything, especially in broad terms."

## Mature companies tend to take a more public stance on climate-related programs

| <b>Already Implemented</b>                         | <b>High</b> | <b>Low</b> |
|--|-------------|------------|
| Supports public policies to address climate change | 83%         | 7%         |
| Publicly reports its Scope 3 GHG emissions         | 67%         | 13%        |
| Publicly stated climate change as a business risk  | 63%         | 7%         |

Source: NAEM's 2018 trends survey

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# Acknowledgments

## Sponsors

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Thank you to our research sponsor:

## Contributors

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**Bruce Alexander**

*Manager of Strategic Environmental Analysis*  
Exelon

**Fawn Bergen**

*Global Program Manager, Water Stewardship and Carbon Footprint*  
Intel Corporation

**Rick Love**

*Associate Director, Environmental Stewardship*  
United Technologies Corporation

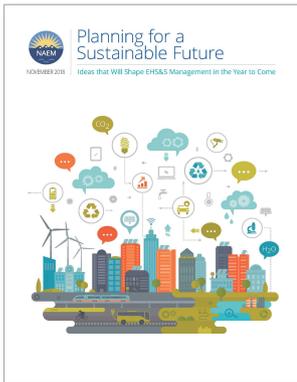
**Laurel Peacock**

*Director of Sustainability*  
NRG Energy, Inc.

**Ryan Spies**

*Manager, Process Sustainability and Energy*  
Saint-Gobain North America

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## Planning for a Sustainable Future

NAEM's 2018 trends report identifies the initiatives and emerging ideas that are shaping the EHS&S agendas of companies today. The report provides a behind-the-scenes look at the latest ideas companies are putting into practice to advance their EHS&S programs.



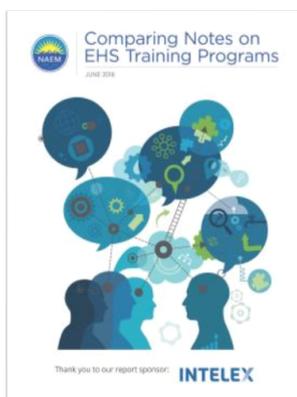
## Why Companies Replace Their EHS&S Software Systems

Adopting an EHS&S software system is a significant investment that takes months of planning, implementation and training. So why do companies return to the market for a new one? This report details why software customers replace their systems and what they have learned that can help you avoid a costly replacement.



## The EHS&S Tech Transformation

At companies of all sizes, across every industry sector, the internet of things (IOT) is revolutionizing how the environment, health and safety, and sustainability (EHS&S) function collects data, designs programs and manages the impact of operations in real time. This report provides a roadmap of the key technologies that are influencing change.



## Comparing Notes on EHS Training Programs

What are the strategies your peers are using to engage employees and build EHS culture? What training methods are the most effective? And how do you measure whether your training is working? Download the report today to find out how your programs stack up.