Reaching Your Corporate **Sustainability Goals** Is Possible with a **Roadmap.**

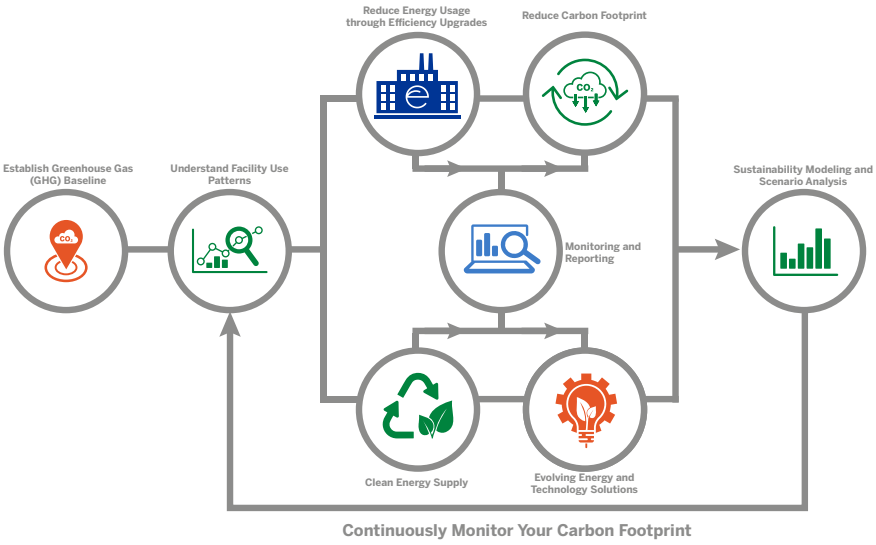
As business customers demand that their trusted brands embrace sustainability, and potential investors seek companies with supply chains that can weather the inevitable transition from brown to green energy, it's evident: to stay competitive, businesses must realize-

ENERGY SUSTAINABILITY IS NO LONGER A LOFTY BUZZWORD.[1]

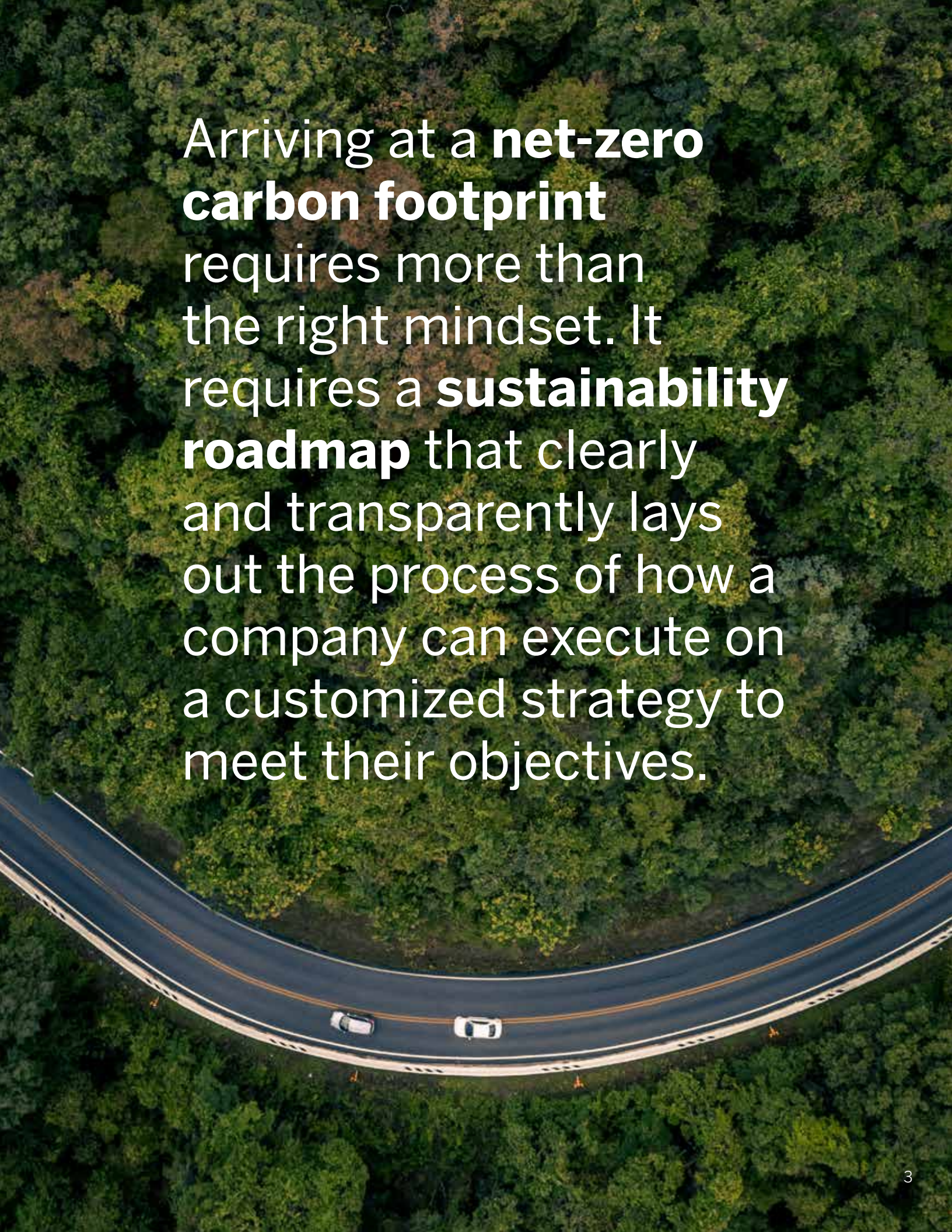
Sustainability awareness is top of mind with energy buyers too. When asked, nearly 75% of business leaders across commercial, government, institutional, and industrial sectors shared that developing and achieving sustainability goals was ethically the 'right thing to do.' [2]

Still, even if your organization has environmental commitments, designing and executing a robust sustainability plan can be complicated. As technology changes, sorting through the influx of new clean energy supply options, greenhouse gas (GHG) reporting requirements, and the various ways to fund sustainability-minded projects make it clear:

ARRIVING AT A NET-ZERO CARBON FOOTPRINT REQUIRES MORE THAN THE RIGHT MINDSET. IT REQUIRES A SUSTAINABILITY ROADMAP that clearly and transparently outlines how a company can execute a customized strategy to meet its objectives.



This guide provides direction on developing a sustainability roadmap, which is inherently an iterative process that will look different for each organization that uses it. For some, a journey toward sustainability might begin with gaining a better understanding of energy usage and patterns through analytics. In contrast, others might start by incorporating carbon-free energy sources, using market-based tools to offset their carbon footprint, or by investing locally in renewable energy generation. Regardless of the approach, this guide's goal is the same for many: to learn how to incorporate energy efficiency measures and carbon offset products, procure renewable energy, and leverage technology **to plot a sustainability roadmap that leads to net-zero.**



Arriving at a **net-zero carbon footprint** requires more than the right mindset. It requires a **sustainability roadmap** that clearly and transparently lays out the process of how a company can execute on a customized strategy to meet their objectives.

1: Establish your GHG baseline.

Understanding where emissions originate, and the benefit of transparent reporting, are essential first steps on any sustainability journey.

The United States requires entities with sources that emit at least 25,000 metric tons of carbon dioxide equivalent to report resulting GHG emissions for those facilities to the Environmental Protection Agency (EPA) annually.[3] In addition, most states maintain their own mandatory GHG reporting requirements for those doing business within their borders. And soon, publicly traded companies may be required to report Scope 1 and 2 GHG emissions.[4] Over time, reporting across an entire business value chain will be unavoidable.

Federal requirements aside, resolving to reduce GHG emissions isn't just beneficial for the environment; transparent reporting can significantly affect your employee, customer, and investor relations and improve your bottom line.

According to a 2022 environmental, social, governance (ESG) Global Study, companies that demonstrate progress toward environmental sustainability, like clearly reporting their GHG emissions, enjoy more success. Some 87% of consumers want to spend more with them, and 83% of potential investors want to back them financially. Transparent reporting attracts and retains workforce talent, too. Eighty-three percent of employees surveyed shared that they want to work for employers and brands that take environmental and social issues seriously. [5]

Establishing a GHG Baseline, Targets, and Goals to Report Confidently.

You probably already know that setting a GHG baseline is an important step for establishing your initial carbon emissions position and helping you implement a reduction plan.

To begin, a business or organization can depend on several areas of guidance and methodologies to help them define appropriate GHG reduction targets:

Self-Defined, Absolute GHG Targets (e.g., 80% reduction below 2005 levels by 2030)
Your sustainability goals may include emission reduction levels that organizations can set to achieve by a specified time. Any appropriate regional guidance should inform these targets as well.

To that end, some "24 states plus the District of Columbia have adopted specific GHG reduction targets to address climate change."[6]

To learn about your state's requirements, visit https://www.c2es.org/content/state-climate-policy.

Science-based Targets
Science-based targets represent the level beyond which significant effects from climate change would occur and be disruptive to earth's systems that society relies upon to meet its basic needs. [7]

To learn more about sector-specific goals or how your organization can begin to set science-based emissions reduction targets, visit https://sciencebasedtargets.org.

Understanding and calculating a carbon footprint can be challenging, and many organizations need more tools to complete the task.

Tapping the Right Carbon Accounting Platform is Crucial

Aided by automation and artificial intelligence, Constellation's carbon accounting and emissions management platform simplifies the process by identifying your carbon emissions baseline, tailoring the relevant metrics for reporting across multiple frameworks, and identifying and prioritizing carbon reductions and offset actions you can implement.

By monitoring and visualizing energy consumption and emissions data, Constellation's carbon accounting and emissions management platform:

- Automates and streamlines the measurement of your Scope 1, 2, and 3 greenhouse gas emissions.
- Measures contributing emissions at a single site or across an entire portfolio.
- Visualizes a current carbon footprint and maps future scenarios.
- Sets viable and impactful climate targets, informed by industry and location.
- Tracks established climate targets, projects, and budgets in one place for ease in stakeholder communications.
- Identifies products that help meet sustainability goals, including renewable energy purchases, energy efficiency projects, carbon offsets, and other solutions.

Let's take a deeper dive into GHG emissions:

Greenhouse gases are emitted by many sources and are classified as either **Scope 1, 2, or 3 emissions**. Scopes 1 and 2 are emissions owned or managed by an entity. In contrast, Scope 3 emissions occur from sources not owned or controlled by that entity.

SCOPE 1 **(direct)** | **SCOPE 2** **(indirect)** | **SCOPE 3** **(supplemental)**

Scope 1 emissions are direct, originating from energy production at the point of use or the consumption location, and are typically owned and maintained by a business.
Think: fuel used by a fleet of company vehicles, refrigerants, or space heaters to heat or cool your business.

Scope 2 emissions are indirect, originating from the fossil fuel, not owned or controlled by the business, that is used to power business operations.
Think: power plants that deliver purchased electricity.

Scope 3 emissions are indirect, originating from sources not directly owned or managed by a business but related to its activities.
Think: company travel, value chain movement, and supply chain management

Learn more about individual state GHG reporting requirements by visiting https://www.c2es.org/content/state-climate-policy.

2: Understand your facility's energy usage and patterns.

You can only make intelligent infrastructure decisions, pivot direction, plan, report, or identify sustainability opportunities once you take control of your most significant asset: your energy data.

That is why employing a utility expense management platform to gather analytics related to energy usage for all your utilities is a valuable business improvement tool and one needed to stay on the right track while working toward your sustainability goals.

The Power of Utility Expense Management Platforms

Through automation, unification, and standardization of utility data across the entire business operation, utility expense management platforms satisfy the practical need to manage and understand multiple utility bills across numerous locations while delivering meaningful usage data necessary to:

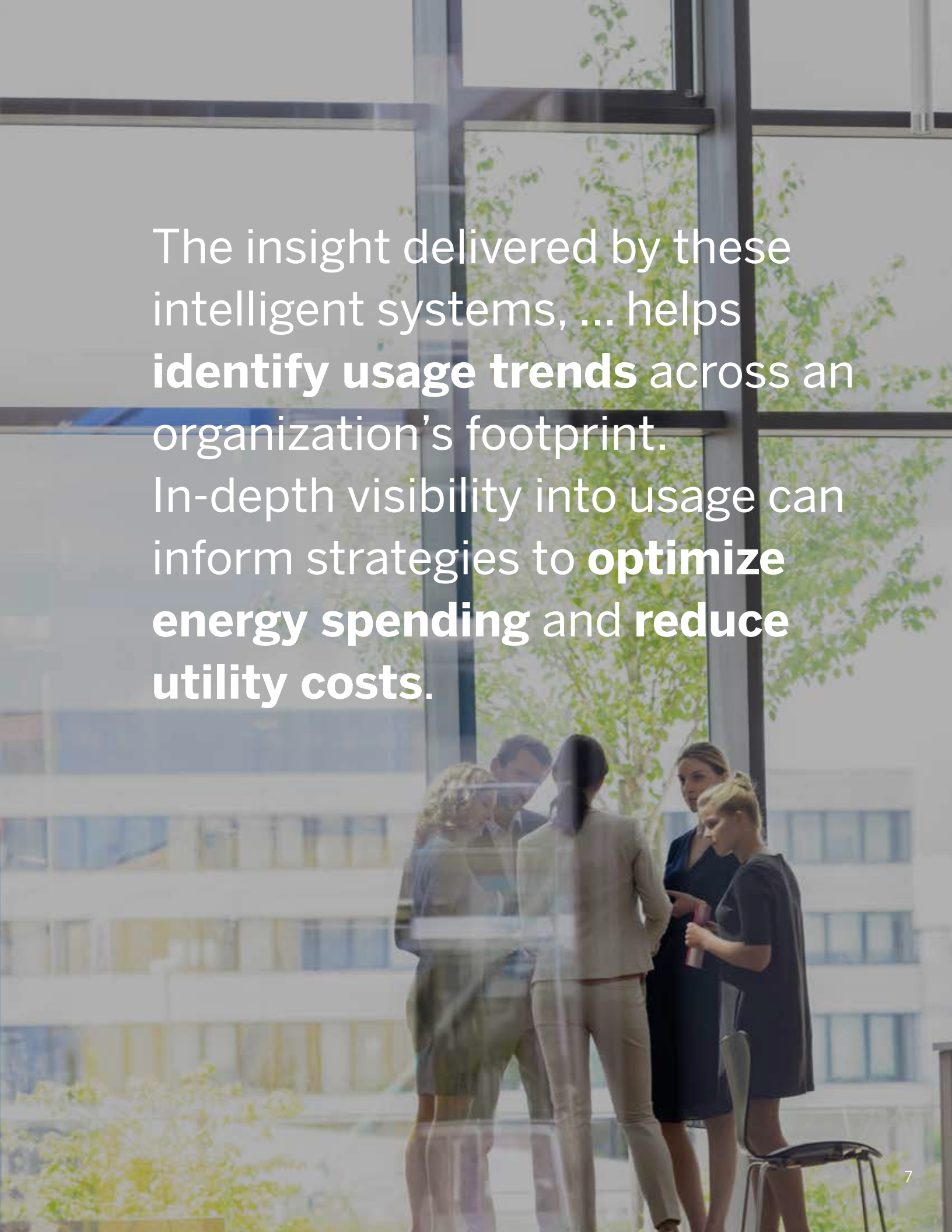
- Obtain insights to respond to anomalies in the data.
- Identify billing errors including rate classes and tax exemptions.
- Develop visualization and reports for all your utility metrics.
- Create transparent emissions reporting for internal and external stakeholders.
- Enable sustainability planning.

The insight delivered by these intelligent systems, often with the assistance of machine learning and artificial intelligence, helps identify usage trends across an organization's footprint. In-depth visibility into usage can inform strategies to optimize energy spending and reduce utility costs. Day-to-day business operations also run more efficiently because expenditures across various utilities are streamlined, saving time and eliminating human errors.

Step 2 - In Action

Sheetz Convenience Stores

Sheetz uses **Pear.ai**, a state-of-the-art utility expense management platform offered to customers by Constellation and its affiliate company, Constellation Generation Services, to manage and monitor its facilities' energy usage. The Pear.ai platform provides businesses with utility expense management, centralized, streamlined access to all their utility data, and meaningful analytics. Sheetz will manage its comprehensive utility footprint, including power, gas, and water, across all 617 store locations with the Pear.ai application.



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3: Reduce usage through efficiency projects.

With an accurate view of your energy usage and patterns, energy efficiency opportunities are readily identifiable and, when completed, can significantly advance sustainability goals.

The U.S. Department of Energy (DOE) identifies energy efficiency as one of the easiest and most cost-effective ways to combat climate change, reduce consumer energy costs, and improve U.S. businesses' competitiveness.[8]

The accessible and affordable nature of efficiency-based upgrades is why 94% of energy buyers surveyed shared completing energy efficiency projects was a key component of their sustainability programs. [9]

Behind-the-meter efficiency projects directly lower GHG emissions while reducing utility bills. Technology upgrades and infrastructure improvements with energy efficiency measures provide customers more control of energy consumption and onsite resiliency while providing sustainability benefits at the same time.

Step 3 - In Action

NASA's Goddard Space Flight Center

Constellation led an extensive audit that identified a slate of energy conservation measures, including significant LED lighting upgrades, more efficient HVAC and plumbing replacements, retrofits to laboratory fume hoods, and retro-commissioning of existing buildings.

The resulting energy efficiency project includes **15 buildings** on the campus of NASA's Goddard Space Flight Center (GSFC) in Greenbelt, MD and is expected to help NASA GSFC **reduce its energy consumption by more than 38 million kilowatt hours and avoid nearly 27,000 metric tons in carbon emissions annually**, which is the GHG equivalent of taking nearly 6,000 cars off the road in one year according to U.S. EPA estimates.

How to get started defining and prioritizing energy efficiency improvements and projects:

1 Start with a List

Use analytics to identify the facilities or equipment that is most inefficient so that it can be prioritized. Identify available rebate/incentives to make changes at lowest price possible.

Engage key decision makers and draft an **energy efficiency project** list that includes any potential upgrades to aging infrastructure that become apparent after reviewing your energy usage data. Reconvene to review capital budgets, operations timelines, and requirements of systems in need of replacement, like boilers and chillers. These components should help identify energy efficiency initiatives for implementation, becoming your organization's energy efficiency project list.

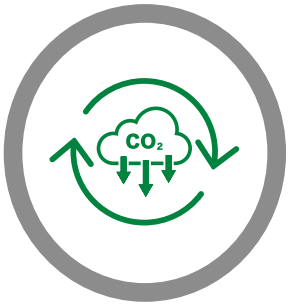
2 Take Advantage of Specialized Funding Options Specific to Energy Efficiency

Even the most solvent enterprises may need to consider how to fund necessary upgrades. Nearly 80% of energy buyers, when asked as part of the Smart Energy Decisions Sustainability Survey, mentioned budget concerns, with more than 30% of respondents saying they required a mechanism to finance their projects.[10] Fortunately, several funding options exist that enable large-scale energy efficiency projects to become a reality. These include:

- Performance Contracting, which requires no upfront capital for Energy Efficiency projects, as they are funded through guaranteed cost savings over the life of a contract with an energy service company (ESCO).
- Design/Build Programs, where funds for efficiency projects become available once capital requirements are met by the business looking to implement the projects.
- On-bill Funding Programs, where efficiency project costs are recouped through monthly charges included in a power or natural gas supply bill.

3 Monitor and Report on Your Energy Efficiency Outcomes

Once informed with robust usage data derived from analytics tools, efficiency improvements should be easy to identify across an entire enterprise footprint. Many companies have documented additional benefits from energy efficiency projects, such as positive employee feedback, and promoted these efforts through press releases and other messaging.



4: Reduce your carbon footprint.

Decarbonizing your energy supply is a meaningful way to cover additional ground towards meeting your environmental and net-zero goals.

At first glance, reducing your company's carbon footprint can seem daunting, mainly because there are many ways to accomplish the goal. Your organizational objectives should inform whether your plan focuses on renewable energy supply, supply from carbon-free non-renewable resources, or a combination of both. Regardless of priority, most carbon reduction plans include these two key components:

① Choose Carbon-Free Energy Sources

A significant step to take on the road to sustainability is choosing supply from resources that produce no greenhouse gas emissions.

Emission-Free Energy Certificates (EFECs) represent the emission-free attributes of such generating sources. By purchasing EFECs, you are supporting emission-free generation sources, while reducing emissions associated with your annual electricity usage.

② Champion Carbon Reduction

Another option is by matching all or a portion of your annual electricity usage with **Renewable Energy Certificates (RECs)**. With RECs you are helping reduce GHG emissions associated with your annual electricity use, also known as "Scope 2" emissions.*

No matter how you leverage available carbon reduction options, when it comes to your company's commitment to decarbonization, you can begin incrementally and progress at the speed and complexity needed to help achieve your corporate efficiency commitments.

Both products provide flexibility to meet regulatory requirements or voluntary sustainability goals. RECs and EFECs can be purchased, transferred, and tracked easily and reliably.

Let's take a deeper dive into EFECs:

EFECs represent one megawatt-hour (MWh) of electricity generated from an emission-free source, typically nuclear energy. EFECs are a smart option to meet carbon-free goals when land or capital are unavailable to deploy onsite options. Owners can legally claim to have purchased clean energy.

EFECs Benefits:

Organizations demonstrate a commitment to emission-free generation sources.

The ability to match a designated percentage of annual electricity use.

Can claim a reduction in Scope 2* GHG emissions associated with annual electricity use.

* Based on current World Resources Institute (WRI) guidance. Scope 2 reporting claims of this product may be affected by future changes.

So far, we've discussed electricity, but what about natural gas?

For businesses that fuel all or portions of their operations with natural gas, incorporating carbon offsets or purchasing Renewable Natural Gas (RNG) is essential for reducing their carbon footprints.

Natural Gas Carbon Offsets

Carbon offsets provide a cost-effective option for organizations that use natural gas to begin progress toward meeting their decarbonization goals without the need for costly equipment or facility modifications. The solution allows customers to counteract carbon emissions from their natural gas consumption and those made elsewhere beyond their operations, like company travel and supply chain activity.

What do carbon offsets represent, and how do they help address carbon emissions?

A carbon offset is an action taken to reduce or store carbon dioxide (CO_2) (or other GHG) in one place to compensate for carbon emissions generated by another activity. A carbon offset is a verified reduction of carbon dioxide emissions that can offset Scope 1 or Scope 3 GHG emissions, including emissions from onsite fuel consumption, company travel, or supply chain activities. Practices that can offset GHG emissions include energy conservation, reforestation, and the destruction of methane from waste.

What is Renewable Natural Gas (RNG)?

RNG is a pipeline-quality gas derived from decomposing organic matter, essentially biogas. Once processed to remove impurities, RNG is injected into a commercial pipeline system. And like traditional natural gas, it is used for heating, industrial processes, and electricity generation. These beneficial characteristics make RNG a logical sustainability plan component for businesses that depend on natural gas to power operations.

How does RNG help address carbon emissions?

Customers can make renewable energy claims associated with their natural gas use while reducing Scope 1 carbon emissions when RNG attributes are purchased to match any onsite natural gas consumption. Plus, RNG can produce economic benefits when paired with standard natural gas uses like power generation or as a transportation fuel.

Let's take a deeper dive into RECs:

RECs represent the environmental effect of one megawatt-hour (MWh) of renewable energy generation, from sources like solar energy, wind power, hydropower, geothermal energy, and biomass energy, and owners can legally claim to have purchased renewable energy while reducing their Scope 2* GHG emissions.

RECs Benefits:

The demand for clean, renewable power is supported.

The ability to match a designated percentage of annual electricity use.

Can claim a reduction in Scope 2* GHG emissions associated with annual electricity use.

> ***"While investing in RECs or EFECs comes with a small incremental cost, it creates the opportunity for a business to quickly indicate to its customers and shareholders that it has started the process toward achieving sustainable practices."***
>
> ~ Raj Bazaj, Constellation's Vice President of Sustainability Solutions

* Based on current World Resources Institute (WRI) guidance. Scope 2 reporting claims of this product may be affected by future changes.

5: Invest in clean energy supply to amplify your sustainability objectives.

Once you have implemented a variety of carbon reduction measures, you'll most likely become further energized to advance your sustainability efforts.

In the past five years, the customer investment in offsite renewable projects in the commercial and industrial sectors has nearly doubled.[11] This trend encompasses renewable energy products, as well as investment in new-build renewable energy projects.

Let's look at the different ways offsite renewable energy projects are purchased.

1 Virtual Power Purchasing Agreement (vPPA)

These are typically lengthy commitments between the renewable energy project developer and the buyer lasting 15 to 20 years.

- The purchaser's renewable project and wholesale electricity market need not be shared.
- There is no physical delivery of energy to the customer.
- Energy costs fluctuate based on changes in the energy market.
- Still, the purchaser obtains RECs to claim toward renewable energy quotas.

2 Power Purchasing Agreement (PPA)

The agreement is held between the energy project developer and a retail customer, with a typical length of 15 to 20 years.

- The model supports a reduction of Scope 2* emissions.
- Ownership of renewable equipment is with the energy developer and typically part of the offsite project.
- There are no upfront project costs as project expenses are billed to the customer.
- Monthly energy rates are predetermined at a fixed rate, typically less than general energy costs.
- Each kWh of electricity consumption can be matched with renewable energy certificates.

3 Integration into a Retail Supply Contract

Constellation's Offsite Renewables (CORe) product offers another approach to purchasing existing or new-build renewable energy by combining location-specific renewable energy purchases and RECs with a physical load-following energy supply contract.

- Customers can size, select, and buy renewable energy from utility-scale projects, like how they purchase their standard electrical supply.

* Based on current World Resources Institute (WRI) guidance. Scope 2 reporting claims of this product may be affected by future changes.

The Next Phase in the Pursuit of Zero-Emission Energy

As more businesses seek to cut their GHG emissions, there is an increased appetite for local carbon-free energy sources to continually power their enterprises.

Key Benefits of Offsite Renewables

- Constellation negotiates and enters a wholesale PPA for the new-build renewable project
- RECs are retired by Constellation
- Customer signs simplified retail agreement
- The retail price is informed by load, eliminating fixed-for-floating settlement risk
- Customer is supplied electricity from Constellation

There is an evolution and growing interest, especially with large electricity customers, in buying carbon-free energy on an hour-by-hour basis.

To access actual carbon-free energy, customers must first understand their hourly demand, use of local power sources, and associated emissions rates. From here, a plan to match load and environmental attributes from supply on an hourly basis, which minimizes the emissions impacts of energy consumption, is required.

Hourly-matching technology is evolving quickly and will power the next phase in carbon-free supply to deliver a transparent view of a customer's sustainability efforts, showing quantifiable progress toward carbon reduction goals.

In the near future, hourly matching products may become a significant evolution of corporate energy purchasing by better matching carbon-free energy to customer load and further decarbonizing the electricity supply mix.

Step 5 - In Action
State Farm

- Eight State Farm facilities in Bloomington, IL.
- 103,000 MW electricity.
- Helps State Farm reduce carbon footprint associated with its energy use by nearly 74,000 metric tons each year.
- Equivalent emissions of nearly 16,000 gasoline-powered passenger vehicles driven for one year, according to U.S. EPA, GHG equivalencies.

> **"Being a good neighbor means caring about the communities we live and work in," said Jenny Greminger, vice president of Administrative Services and Public Affairs, State Farm.**
>
> **That is why State Farm is committed to reducing overall impact on the environment and addressing climate change through efforts to lessen its carbon footprint, reduce waste and improve energy efficiency. Today's announcement in Illinois is just another example of State Farm's pledge to be a good neighbor."**

6: Incorporate Emerging Energy Technology.

As energy technology advances, your plans will need to evolve to incorporate these new solutions on your sustainability roadmap.

Understanding how energy technology is evolving will help you stay abreast of the most effective ways to advance your new sustainability objectives while protecting any advancements already made. By exploring innovative energy technologies and new delivery models, you can remain at the forefront of how best to reach net zero while not missing process improvement opportunities that can give you an edge over the competition.

Working with subject matter experts actively connected to forward-thinking developers and researchers puts your company in a prime position to take advantage of these energy innovations when they come to market. To that end, Constellation collaborates with customers, suppliers, universities, governments, national labs, and startups to support discoveries accelerating our progress to a clean energy future. These bold initiatives support access to new markets and products while creating solutions to technical and market challenges, including direct air capture, small modular reactors, hydrogen production, storage, carbon accounting, and more.

7: Monitor and report on your progress.

The road to net zero will require gauging progress and assessing what is necessary to meet future targets.

The Power of Analytics Tools

Advanced analytics tools transform energy data into actionable insights to help manage energy costs and consumption more effectively, which promotes budget predictability and more accurate financial planning.

Additionally, navigating an organizational sustainability plan becomes much more manageable with access to insights gleaned from energy data. The correct analytics tool makes any required energy consumption tracking or reporting a breeze and isolates sustainability gains or areas primed for improvement.

Analytics Tools & ENERGY STAR® Reporting

As you've already most likely anticipated, achieving greater sustainability is not finite. Achieving net zero is an iterative process and requires flexibility and access to trusted information to help determine gains. Plus, as industry trends have indicated, investors, stakeholders, and customers now want to know if the brands they care about are meeting their environmental goals.

Since 2010, many U.S. cities, including New York, Washington D.C., Chicago, and Philadelphia, have required businesses in these city limits to track their energy consumption. Some require annual reports to complement the ENERGY STAR® building energy benchmarking and scoring system, a collaborative program between the U.S. EPA and DOE that measures a building's energy use and compares it to the use of similar structures, past energy use, or previous performance levels.

Still, you can only assess or share sustainability progress or track and report energy consumption with reliable data.

5 Ways Analytics Can Help Manage Energy and Achieve Budget Certainty

1. Automate tasks prone to human error and alert for energy billing anomalies.
Analytics platforms eliminate potential human errors by automating the tedious process of cross-checking line items and areas for various utilities and monthly energy bills, scanning for anomalies, and verifying for accuracy.

2. Identify energy inefficiencies.
Analytics tools can pinpoint specific areas of rising costs due to inefficiencies, like inadequate lighting, windows, or even significant systems like boilers or chillers. This clarity makes identifying potential cost savings and efficiency upgrade decision-making easier.

3. Monitor energy usage data over time.
Analytics provide accurate historical data about a facility's energy use, indicating when changes have occurred while isolating patterns or trends. This information helps energy managers anticipate similar events, such as increased occupancy impact on energy consumption, and prevent or budget accordingly.

4. Predict the changing market and usage patterns.
Advanced systems predict energy use based on previous data capture, alerting end-users to make essential corrections or anticipated energy pricing drops or increases.

5. Compare energy usage from multiple facilities.
An enterprise with a multi-building footprint, like a franchise chain, hospital, or university, can rely on an analytics tool to help manage energy consumption and identify inefficiency within its network of buildings. This digital reach makes it possible to highlight and isolate consumption behaviors related to a specific structure. Then managers can further investigate ways to improve operations, like operating heavy equipment during off-peak hours to maximize savings.

> “Our customers continue to demonstrate their commitment to combatting the climate crisis. We’re pleased to support them in their **sustainability journey** and offer **zero-emissions energy solutions** that advance their carbon reduction goals.”

Jim McHugh,
Chief Commercial Officer

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Let’s start your sustainability journey together.

Consumers, employees, executives, and potential investors want companies to respond proactively to the challenges of climate change by working toward reducing carbon emissions and, in time, committing to a journey that will end at net zero. [12]

Transitioning from brown to carbon-free energy requires viewing operations and decision-making through an ecofriendly lens and remaining committed to following a sustainability roadmap to ensure you are heading toward net zero at a pace that works for your goals.

As the nation’s largest producer of clean, carbon-free energy and a leading supplier of energy products and services to businesses, homes, community aggregations and public sector customers across the continental United States, Constellation is well-positioned to customize your sustainability roadmap to best complement your timeline, budget, risk tolerance, and operational goals.

Don’t make the journey to net zero alone.

We can help.

End Notes

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