



Tech Companies Set Ambitious Carbon Reduction Goals: How Industry Leaders Are Navigating the Journey



Introduction

Despite their diversity and breadth, tech companies tend to have one thing in common: Ambitious goals to grow their business and reduce emissions. According to The Wall Street Journal, 73% of tech companies have set goals to achieve net-zero carbon emissions by 2030 or earlier, compared to 65% among non-tech companies.

In a new survey conducted by Endeavor Business Intelligence on behalf of NextEra Energy Resources, nearly nine in 10 tech leaders surveyed said their organization has set a corporate goal to reduce its emissions. Nearly half of tech leaders surveyed said their organization was in an advanced implementation stage, making progress across most operations and scaling solutions. Another 25% said their organization was in the mid-implementation stage.

The explosion of artificial intelligence, cloud computing and digitization has led to massive growth for tech companies — and tech company energy use. That growth makes the path toward completing the clean energy transition harder to achieve.

Between the industry's growth and experience working to reduce emissions, tech companies have encountered significant challenges that stand in the way of further progress and have learned many lessons. **This white paper explores survey data to reveal the following:**

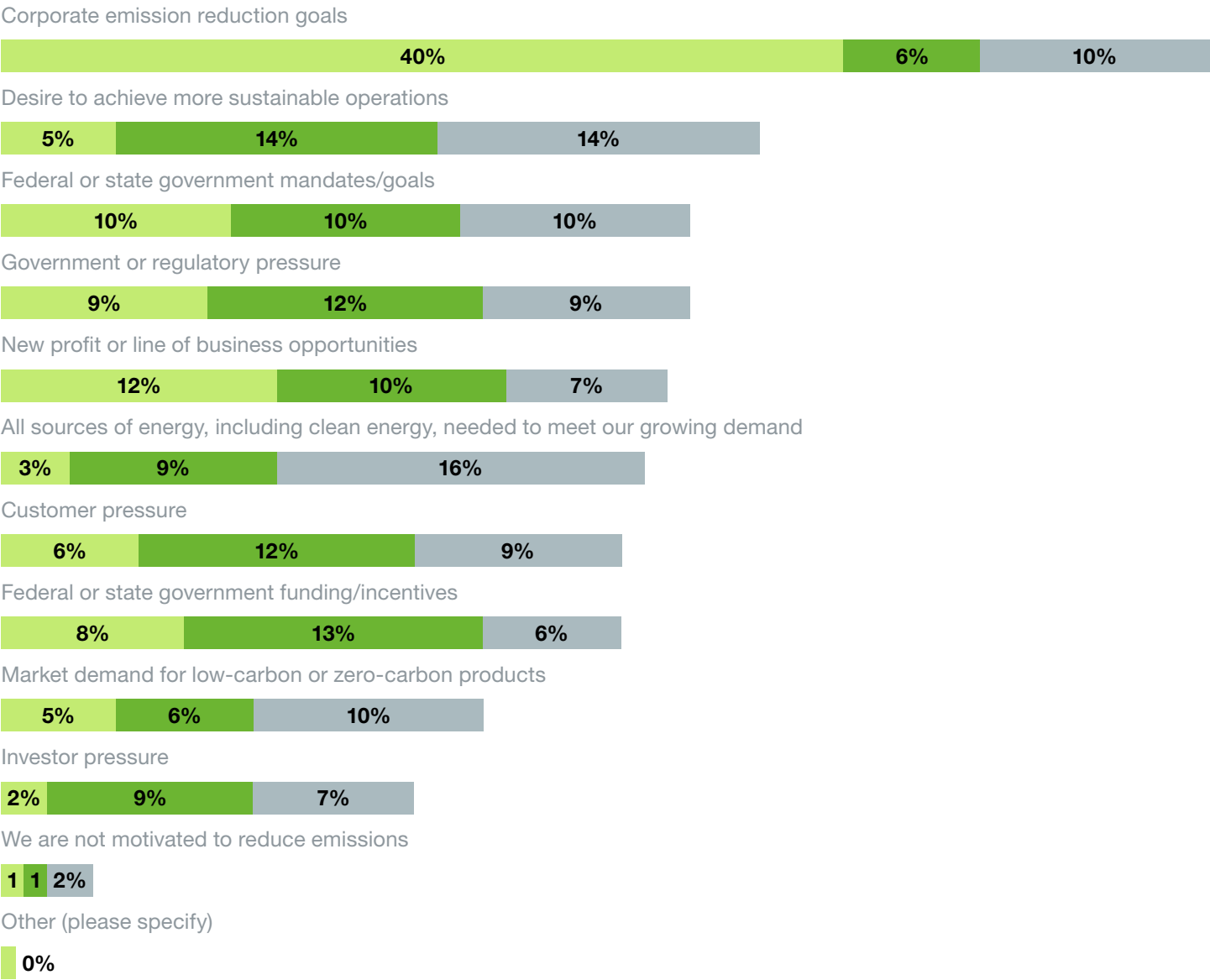
- The motivations driving tech companies to reduce emissions and progress to date
- The challenges tech companies face to continue progressing toward their goals
- The biggest needs facing tech companies on their journeys and how leaders can solve them

Emissions Reduction Motivations and Progress to Date

Tech companies' motivations inform the decisions they make to reduce emissions. By far, tech leaders named their corporate goals as the top motivator to eliminate or reduce carbon emissions. Four in 10 named it the number one motivator, while 56% said it was a top three motivation. After corporate goals, tech leaders' top motivations were varied, with the desire to achieve more sustainable operations (33%), federal or state government mandates (30%), and new profit or line of business opportunities (29%) ranking high.

What are your organization's TOP 3 motivations to eliminate or reduce its carbon emissions?

Base: All respondents (n=208). ■ Top Motivation ■ Second Top Motivation ■ Third Top Motivation



Those motivations have helped tech companies align around their goals, tech leaders said. Nearly nine in 10 survey respondents strongly or somewhat agreed that their organization is aligned across the business to achieve its goals and 85% agreed that it's important to consider those goals when making project decisions.

How strongly do you agree or disagree with the following statements?

Base: All respondents (n=208).

Strongly Agree Somewhat Agree Neutral Somewhat Disagree Strongly Disagree

My organization is aligned across businesses and functions to achieve emissions-reduction goals.



It is important to consider emissions-reduction goals when making project decisions at my organization.



My organization applies a “cost” to greenhouse gas emissions in its decision-making and analysis (e.g., an internal carbon tax).



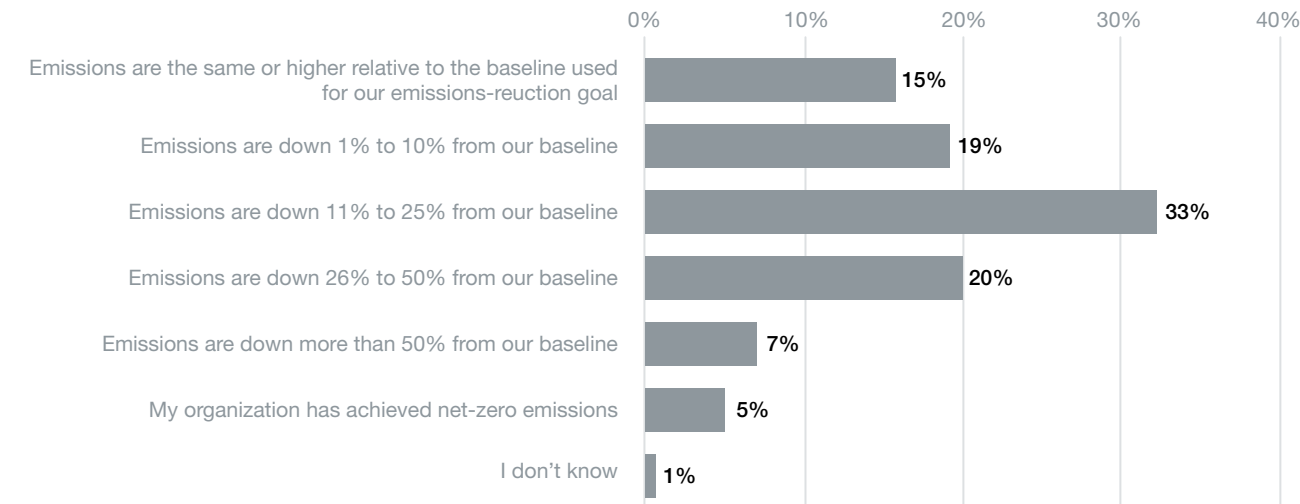
Setting ambitious emissions-reduction goals and creating organizational alignment around those goals are critical steps for tech companies to accelerate progress toward an energy transition. However, it's only the start of a journey paved by actions.

Looking at actual emissions-reduction progress, 65% of survey respondents said their organizations have cut emissions by at least 11% from baseline. Impressively, 5% said their company has already achieved net-zero emissions, and 7% said emissions are down more than 50% from baseline.

However, it's important to note tech company emissions are not static. Given the rapidly growing energy demand from many in the tech industry, emissions from increased use of electricity from the grid will increase for many and force those companies to adjust their milestones. As businesses grow, so do emissions, making what it takes to achieve carbon reduction goals a moving target.

Which of the following best describes your organization’s overall progress toward reaching its GHG emissions-reduction goal?

Base: Respondents who have a decarbonization plan or will announce a plan (n=205).

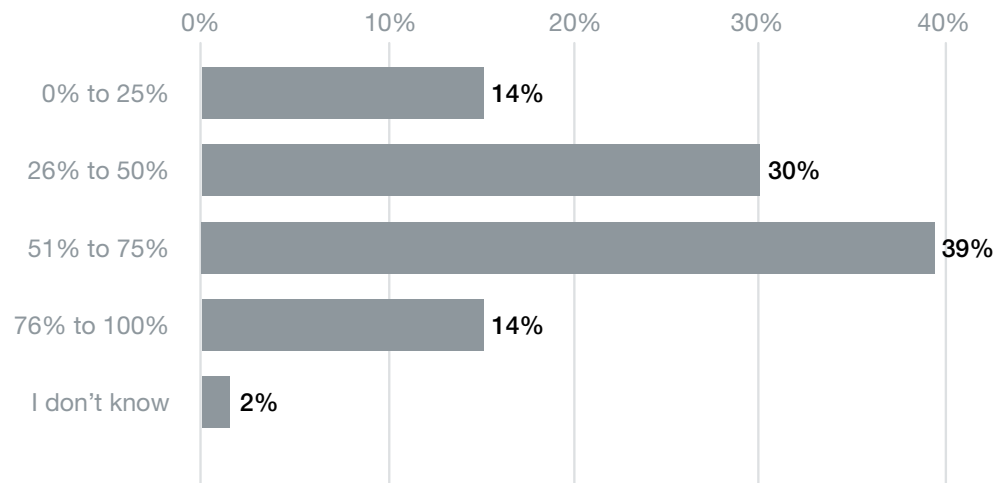


The vast majority of tech industry emissions are scope 2 emissions that come from the use of electricity. As such, clean energy supplies are critical to their emissions reduction efforts.

In this regard, 53% of leaders said at least half of their organization's energy use already comes from zero-carbon energy sources. The effort to secure clean energy supply is going according to plan for most tech companies, as more than three-quarters of leaders surveyed said their organization was on track or ahead of its goal for zero-carbon energy use.

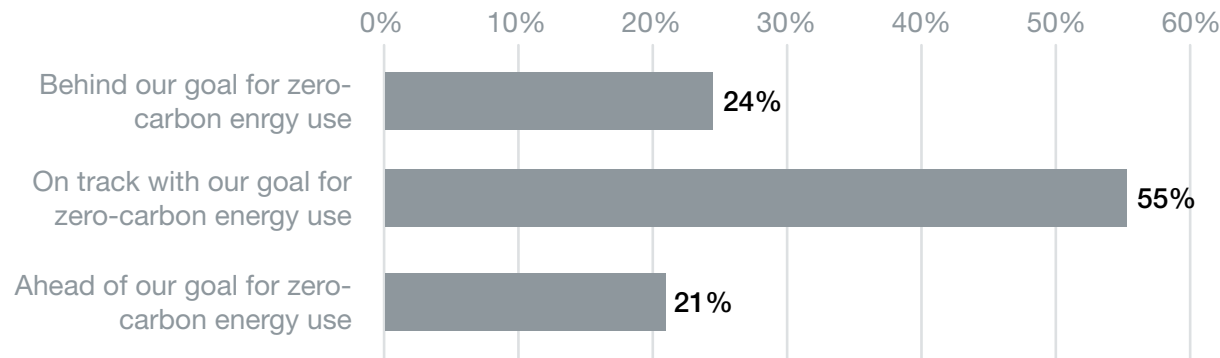
What percentage of energy use by comes from zero-carbon operations energy sources?

Base: All respondents (n=208).



How would you describe the percentage of energy use from zero-carbon energy sources at your organization?

Base: All respondents (n=206).



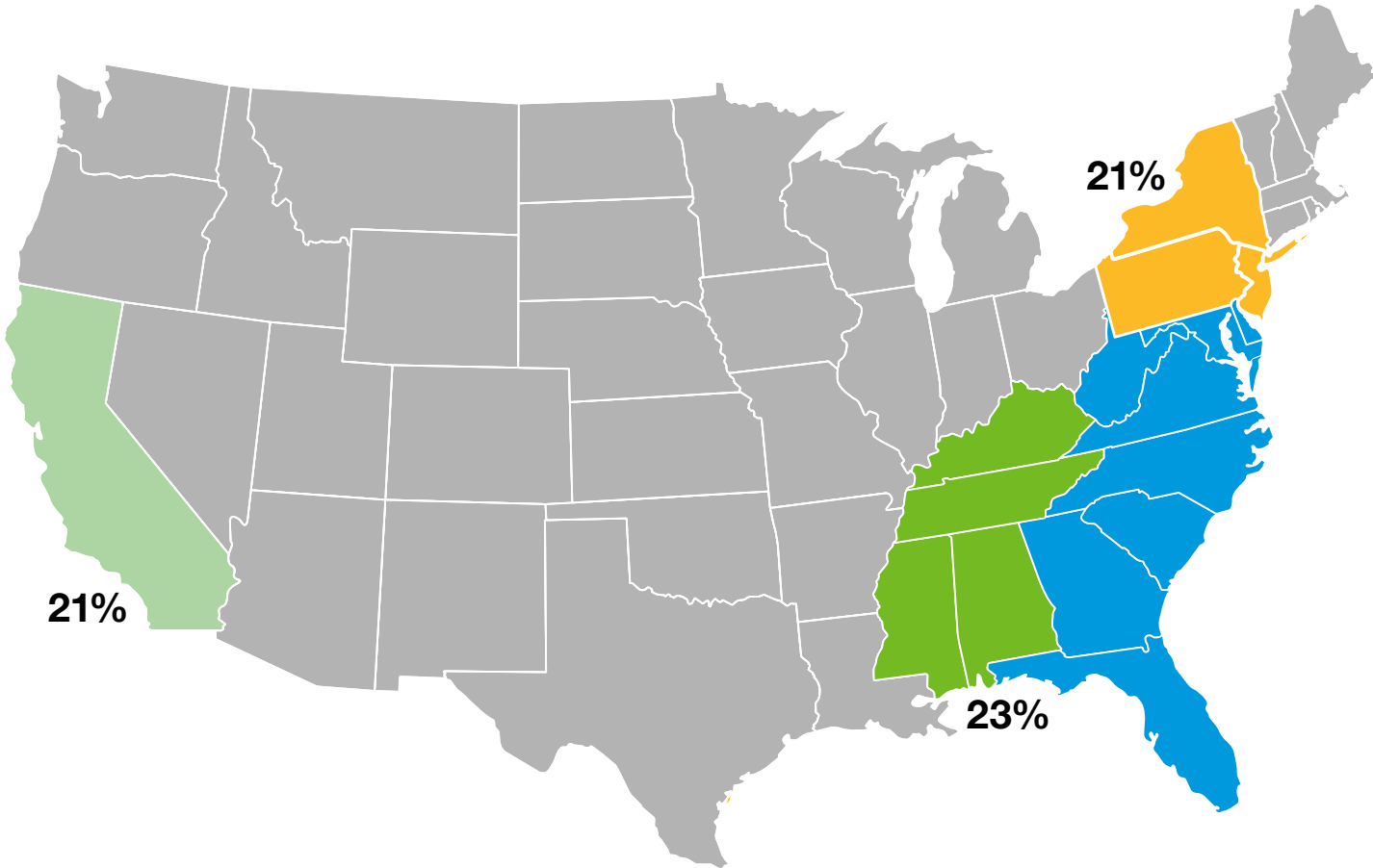
Looking Ahead, Emissions-Reduction Won't Get Any Easier

The U.S. Energy Information Administration (EIA) has been rapidly raising its near-term outlook for U.S. electricity sales to commercial customers. The main reason is areas “experiencing rapid development of large-scale computing facilities such as data centers.”¹ Essentially, the tech industry’s rapid growth is one of the main drivers for rewriting U.S. electricity demand forecasts.

The EIA didn’t rule out raising its forecast again. “Data center developments are evolving rapidly, and we plan to re-evaluate our upcoming forecasts as we receive more information.”

Tech leaders surveyed noted they were already struggling to secure the energy supplies they need in regions around the U.S. More than a quarter reported struggling to secure energy supplies in the South Atlantic U.S., with other top areas of struggle including the East South Central (23%), California (21%) and Mid-Atlantic (21%).

“In which areas of the United States, if any, do you struggle to get the energy you need? (Select all that apply)”



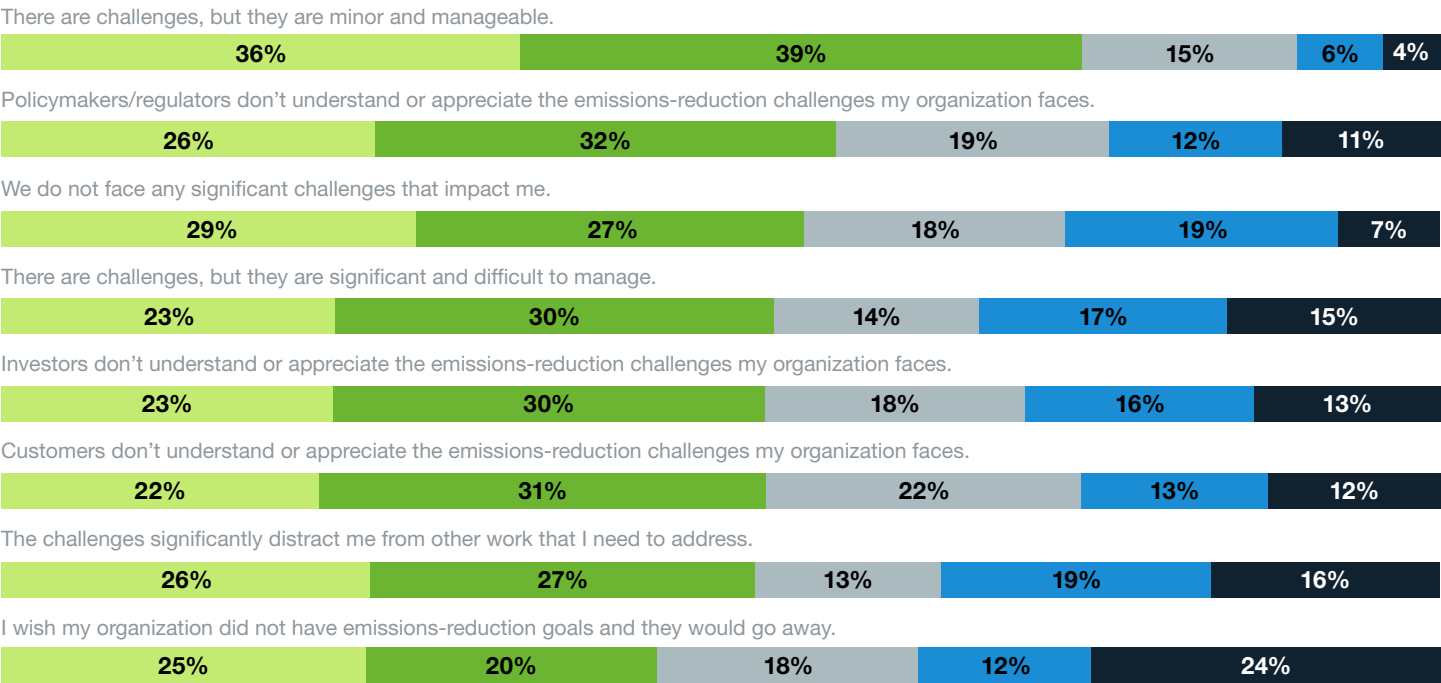
¹ <https://www.eia.gov/todayinenergy/detail.php?id=62409>

With the proliferation of data centers and surging electricity demand, the tech industry must improve its energy efficiency and find zero-carbon energy sources to reduce emissions.

The tension between booming business and the need to reduce emissions is apparent in the challenges tech leaders face. The vast majority of survey respondents said their organization faces some level of challenges to reducing emissions, with 53% strongly or somewhat agreeing that the challenges are significant and difficult to manage.

Which of the following best describes how you feel about the challenges your organization faces with regard to reducing emissions?

Base: All respondents (n=207-208). Strongly Agree Somewhat Agree Neutral Somewhat Disagree Strongly Disagree



Emissions-Reduction Challenges in Focus

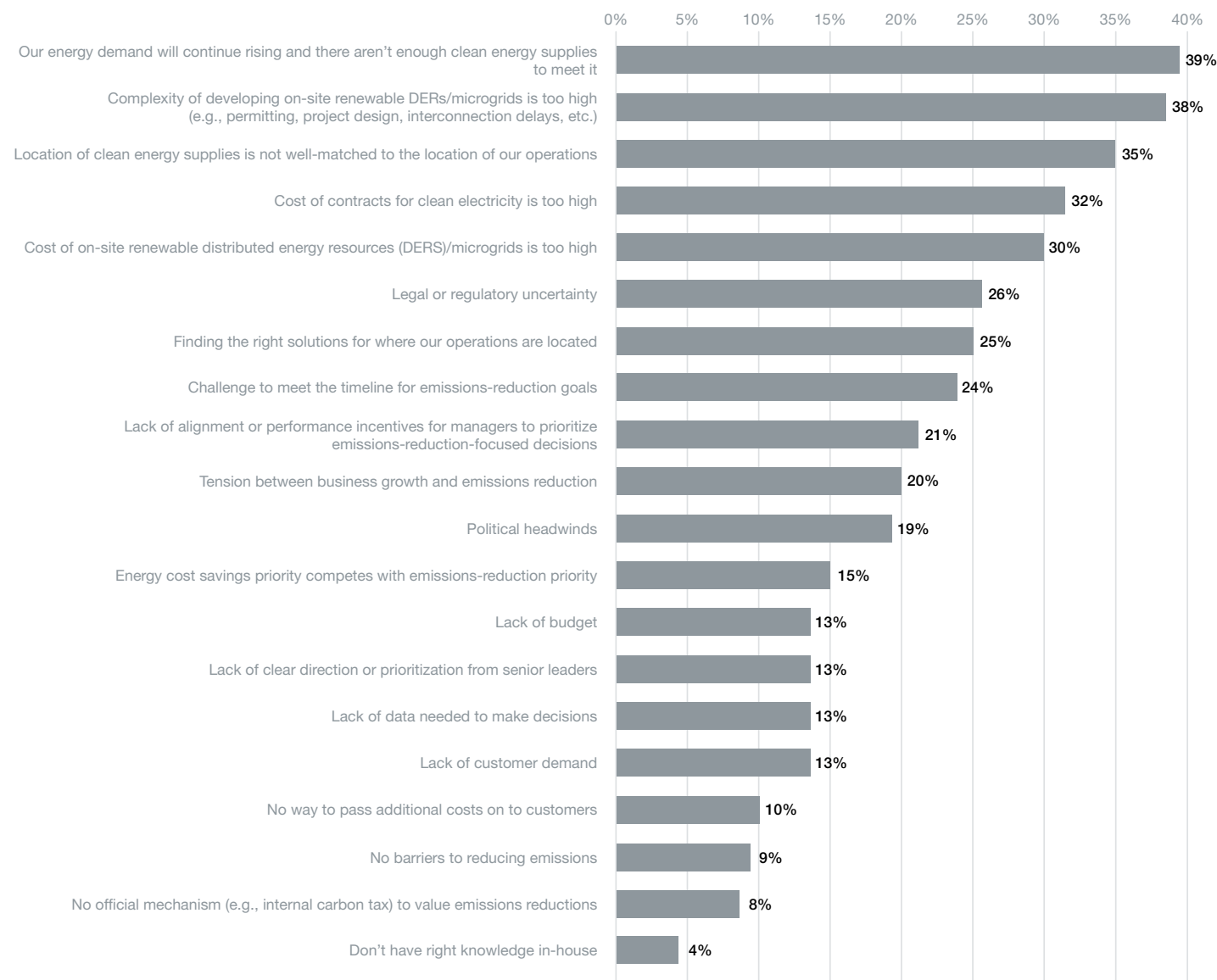
As they make progress toward their emissions-reduction goals, tech leaders face technical, operational and stakeholder-related challenges.

At least 25% of survey respondents named seven different hurdles their organization faces to reduce emissions. Not surprisingly, given the need for new data centers, the most commonly identified hurdle (39%) was that their organization's energy demand will continue to rise, and there aren't enough clean energy supplies to meet it.

Trailing just behind, 38% said it was too complex to develop on-site renewable distributed energy resources (DERs) and microgrids, and 35% said clean energy supplies were not well-matched with the location of their operations.

What are the biggest hurdles to reducing emissions your organization faces, if any? (Select all that apply)

Base: All respondents (n=208).



Tech Companies Take ‘All-of-the-Above’ Approach to Solutions

According to surveyed tech leaders, their organizations are meeting their challenges and driving toward their goals with an open-minded, all-of-the-above approach.

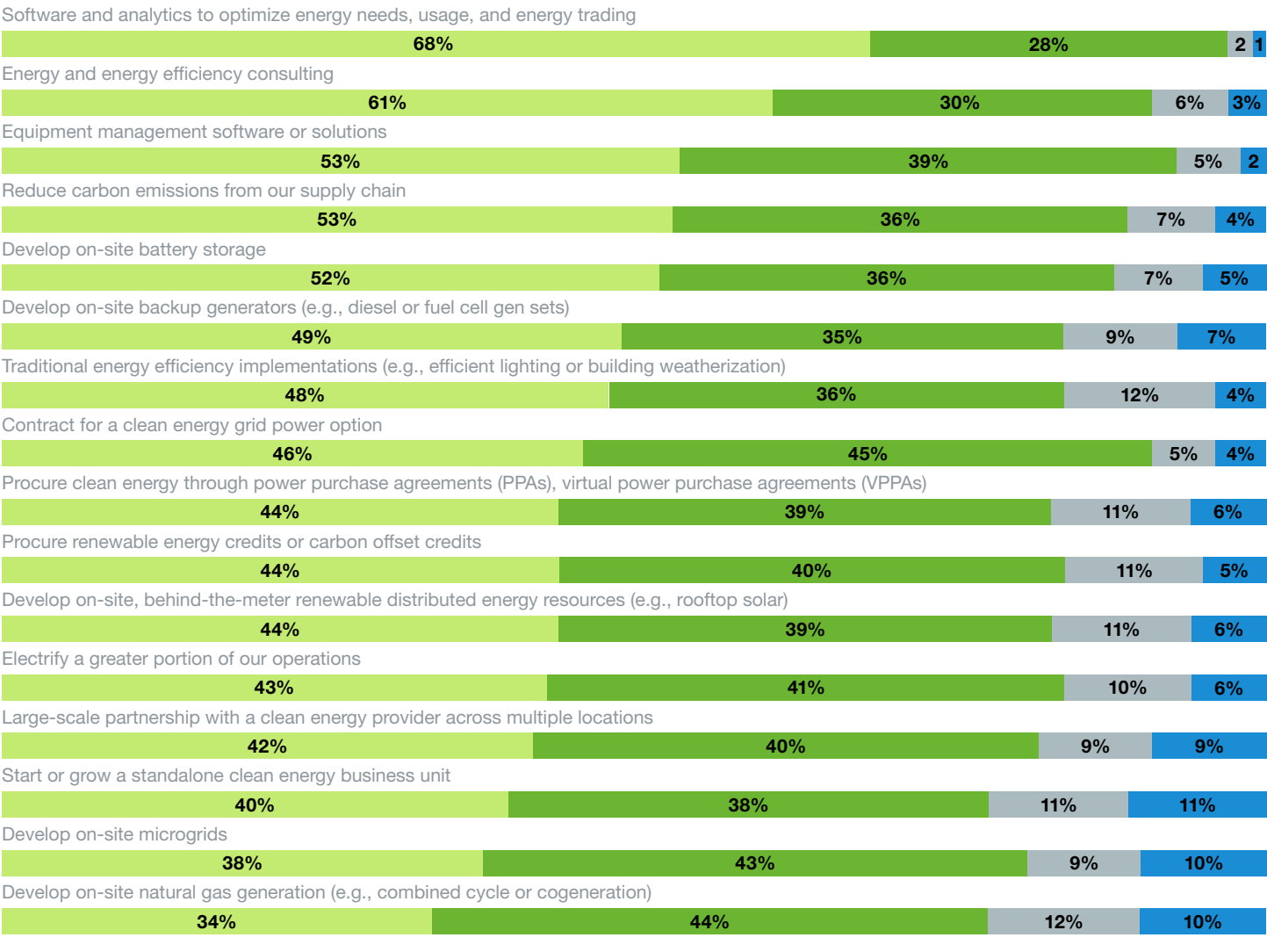
Among 16 choices of emissions-reduction methods, at least 75% of survey respondents said their organization was currently using or currently evaluating all 16. These emissions-reduction methods include everything from electrifying operations to developing on-site microgrids or distributed energy resources (DERs) to growing production of low-carbon fuel supplies.

One interpretation of the tech industry’s approach of trying and evaluating every means possible to continue reducing emissions is that it demonstrates companies have yet to home in on the optimal set of effective methods that will keep moving the needle forward.

Perhaps not surprisingly for the tech industry, the use of data and software was a popular choice to help reduce emissions. More than two-thirds of respondents said their organizations are currently using software and analytics to optimize energy use, and 53% are currently using equipment management software or solutions. Energy and energy efficiency consulting (61%), reducing carbon emissions from the supply chain (53%), and developing on-site battery storage (52%) were the other methods that at least half of tech leaders said their organizations were currently using.

What is the status of your organization’s use of the following methods for reducing emissions?

Base: All respondents (n=205-208). ■ Currently using ■ Currently evaluating ■ Evaluated but rejected ■ Have not considered

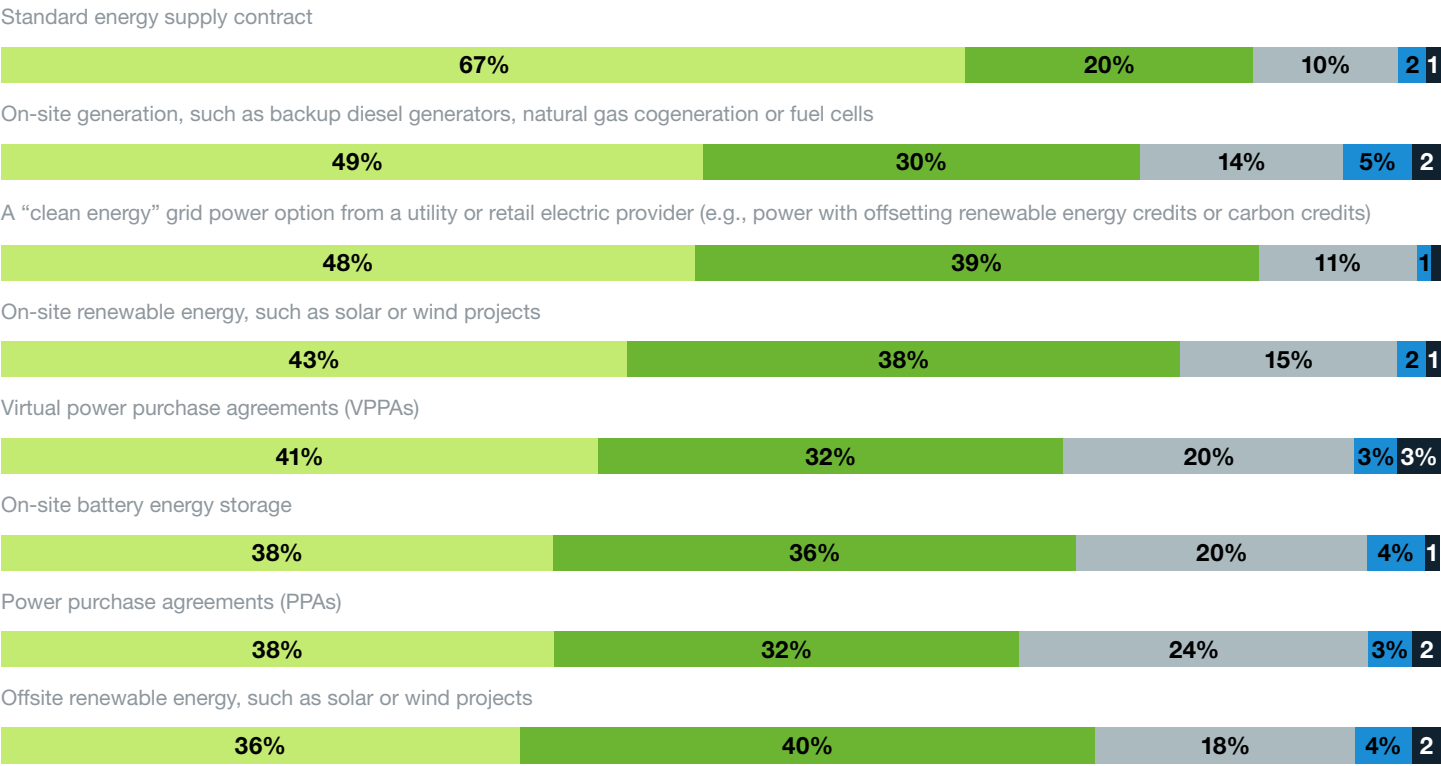


Specific to procuring clean electricity to power operations, 87% said their organization is currently using or considering a “clean energy” grid power option from a utility or retail electric provider, and 81% are using or considering the use of on-site renewable energy. Meanwhile, 76% are using or considering off-site renewable energy and 74% are using or considering on-site battery energy storage.

A standard energy supply contract is the most common way for tech companies to procure electricity (67%), according to survey respondents, while 38% are using power purchase agreements (PPAs) and 41% are using virtual PPAs.

How likely is your organization to consider procuring these sources of electricity supply?

Base: All respondents (n=205-208). ■ We already use this ■ We are actively pursuing this ■ We would consider this ■ We are unlikely to consider this ■ I don't know

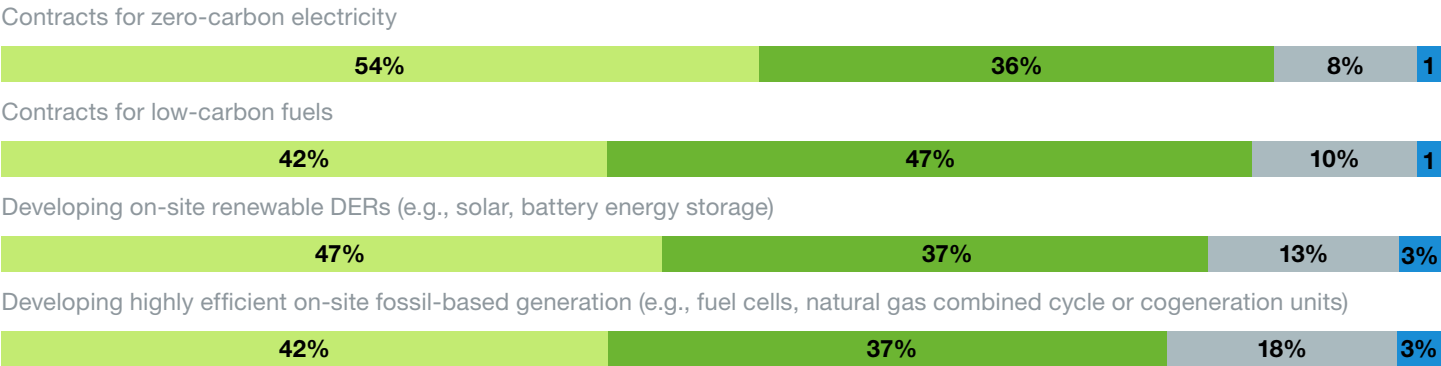


Asked to name the clean energy supplies that are economic to pursue, most tech leaders (54%) said contracts for zero-carbon electricity were usually economic. Coming in second, 47% of respondents said developing on-site renewable DERs, such as solar or battery energy storage, was usually economic, beating out the number of respondents who said developing on-site fossil generation was usually economic (42%).

How frequently are the following clean energy supplies economically attractive?

Base: All respondents (n=207-208).

Usually economic Sometimes economic Rarely economic Never or almost never economic

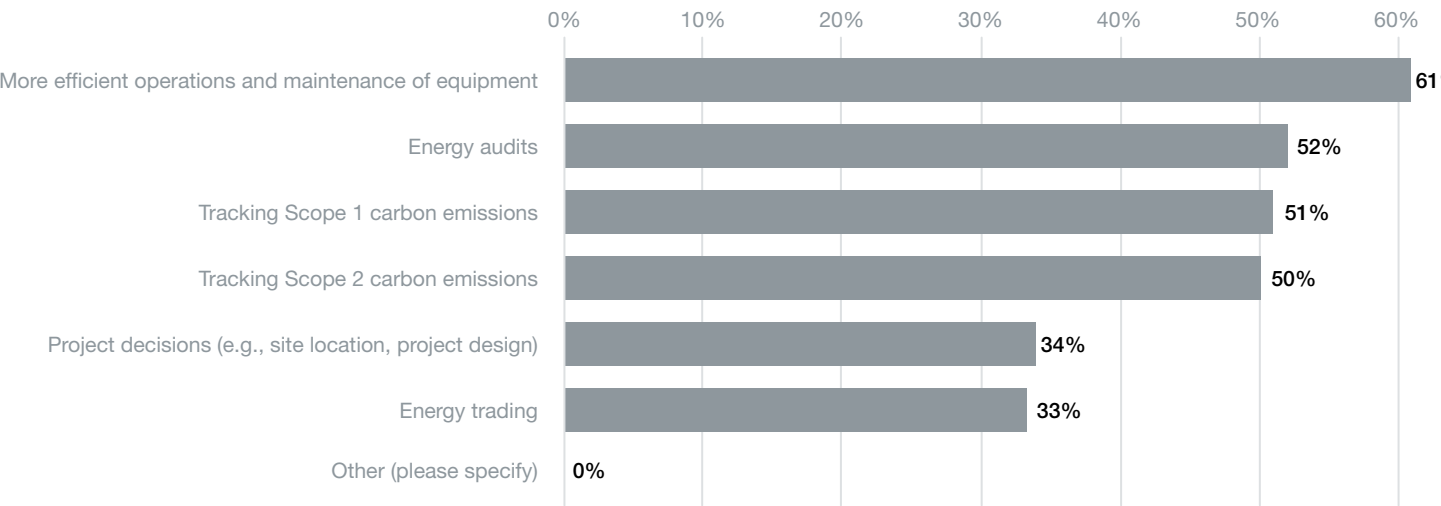


Tech leaders leverage data in many ways to advance emissions-reduction efforts. More than six in 10 respondents said their organization is using data to deliver more efficient operations and maintenance of equipment. Around half said their organization uses data for energy audits and to track scope 1 and scope 2 emissions.

However, only 34% are using data to make project decisions, such as siting and design, which presents a major growth opportunity for leaders to drive business growth, operational efficiencies, and emissions reductions.

In what ways does your organization use data for its emissions-reduction efforts? (Select all that apply)

Base: All respondents (n=208).





Conclusion

The tech industry is a global leader in setting aggressive corporate carbon reduction goals. Its motivations lead to strong organizational alignment behind those goals, which has in turn yielded impressive reductions in emissions.

However, tech companies face a unique challenge trying to achieve their emissions goals while balancing overwhelming business growth. Booming electricity demand, combined with limitations in the amount of clean energy available on the electric grid to meet that demand, could lead to the use of higher-emissions electricity to supply energy needs. That scenario will make net-zero emissions feel like a constantly moving target.

To keep goals on track, tech leaders are pursuing a wide array of methods to reduce emissions. Assessing and implementing those potential solutions requires expertise that is often out of the wheelhouse of tech organizations.

That could be why 82% of leaders said their company currently has or is evaluating a large-scale relationship with a clean-energy provider across multiple locations, and another 91% use or are evaluating the use of energy and energy efficiency consultants.

NextEra Energy Resources is prepared to support customers' energy needs with 300 GW of renewables projects in its development pipeline. The company is a clean energy leader and one of the largest wholesale generators of electric power in the U.S., with about 30,600 megawatts of total net generating capacity, primarily in 41 states and Canada. It is the world's largest generator of renewable energy from the wind and sun and a world leader in battery storage.

Navigating the energy transition will require a combination of technology and data, collaboration, speed, and a growth mindset. Though what this looks like will vary from region to region and from industry to industry, what unites us all is the essential need for power. NextEra Energy Resources offers a wide range of clean energy solutions to help businesses and customers across the country meet their emissions reduction goals.

For more information, visit:
www.NextEraEnergyResources.com

With you at every step

In the energy space, the only thing that never changes is change itself. At NextEra Energy Resources, we'll be with you as technologies advance, mandates shift, your business grows and your energy needs evolve. We're constantly upgrading our processes and equipment to keep our customers ahead of the changes. We've been leading the industry for 30 years and can be the partner you need to deliver on your most important energy goals. And when it's time for you to scale up, reposition and move to the next phase of your sustainability journey, we'll be there.



Let's make it real

NextEra Energy Resources is committed to the future of your business. Let's work together to achieve your decarbonization goals.

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