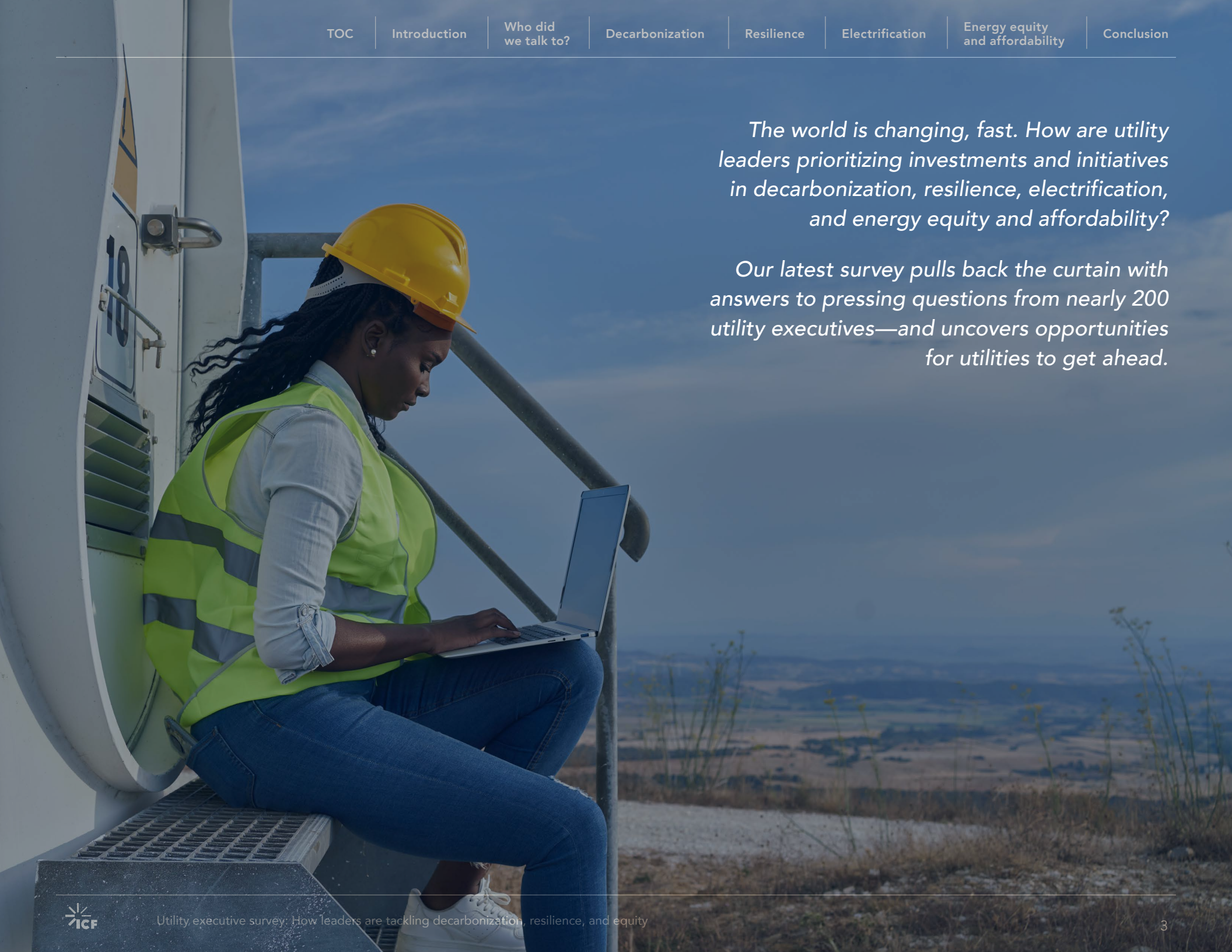
Energy

Utility executive survey: How leaders are tackling decarbonization, resilience, and equity



The world is changing, fast. How are utility leaders prioritizing investments and initiatives in decarbonization, resilience, electrification, and energy equity and affordability?

Our latest survey pulls back the curtain with answers to pressing questions from nearly 200 utility executives—and uncovers opportunities for utilities to get ahead.

Introduction

Utilities are at an inflection point. Climate and weather-related disasters have surged five-fold over the past 50 years[1], and utilities are actively experiencing the bottom-line impacts of these extreme events. In addition to protecting their assets and infrastructure, utilities are expected to play a strong role in building a sustainable future; they face new mandates from regulators and pressure from customers to drive forward the transition to clean energy. But they're also feeling a push from those same stakeholders to make the electric grid more resilient and keep energy affordable and equitable—while accommodating the electrification of transportation and buildings. It's a tall order that demands new ways of thinking, planning, prioritizing, and operating.

To get a better sense of how the industry is responding to this charged moment, we surveyed nearly 200 utility leaders. We asked about decarbonization strategy, investment priorities, barriers to achieving climate resiliency goals, electrification plans, energy equity, and more.

The picture that emerged is one of utility executives who understand that responding to environmental and societal challenges is more than just a good idea; it has become a strategic imperative. Even still, we saw a striking gap between awareness and action that underscores the complexity of these issues—and indicates that leaders are searching for data-based approaches to building the utility of the future. With this in mind, we present actionable recommendations for utility leaders, pulled from our 50+ years of energy and climate expertise, alongside the findings.

[1] Climate and weather related disasters surge five-fold over 50 years, but early warnings save lives - WMO report | | UN News

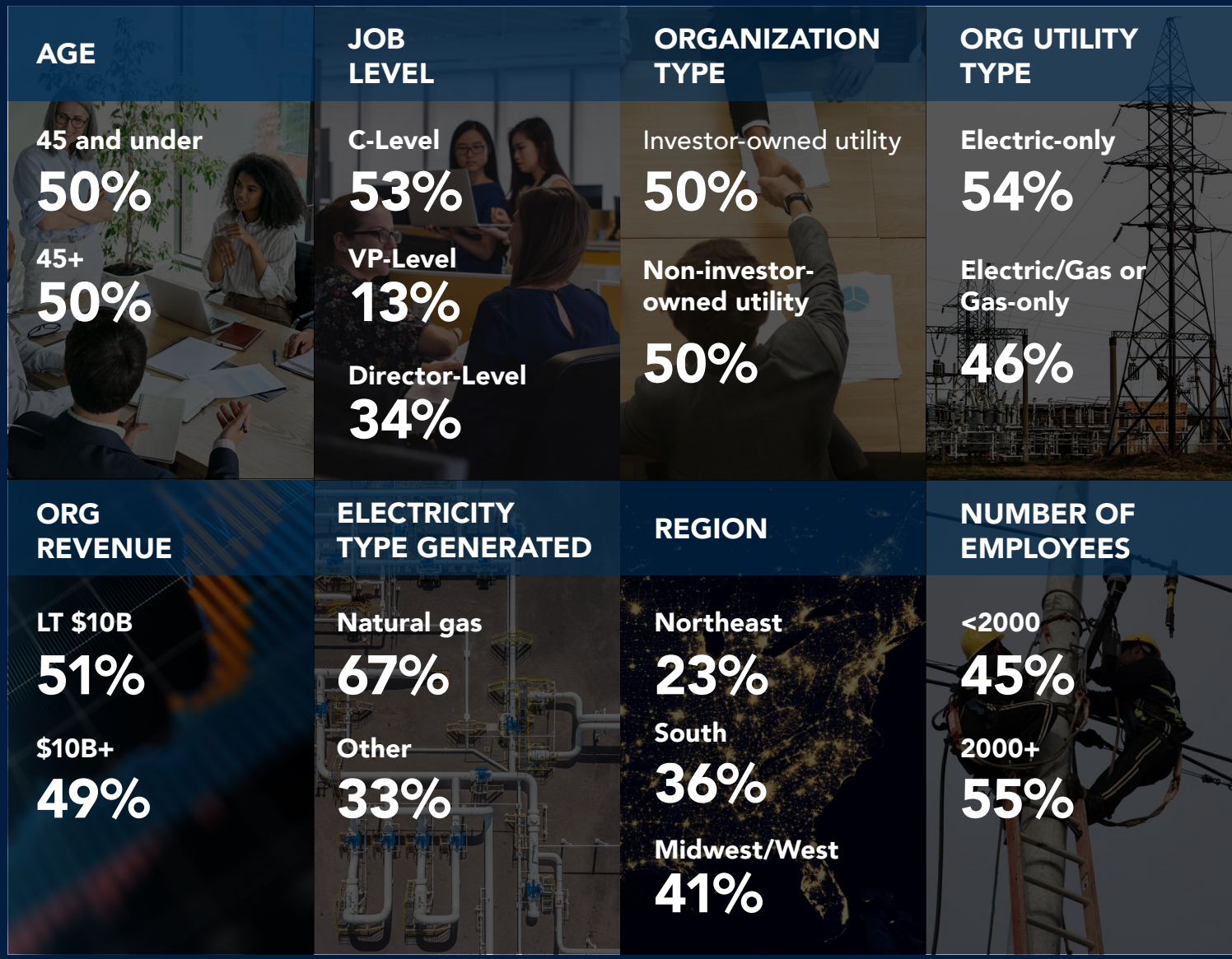
This original research from ICF shines a light on a rapidly evolving industry with insights from leaders who are steering their organizations through a complex minefield of changes and disruptions across four key areas:

1. **Decarbonization**
2. **Resilience**
3. **Electrification**
4. **Energy equity and affordability**

Who did we talk to?

We surveyed 190 utility leaders on the front lines of utility strategy and planning. About half (100) of our respondents sit at the C-level and the other half are at the VP (25) or director (65) level, and they span all utility types and regions. These utility executives make decisions across a range of high-priority areas: climate change resiliency, energy equity and affordability, fleet and EV electrification, decarbonization, community partnerships, mitigating cyberthreats, and building electrification.

Here's a breakdown.

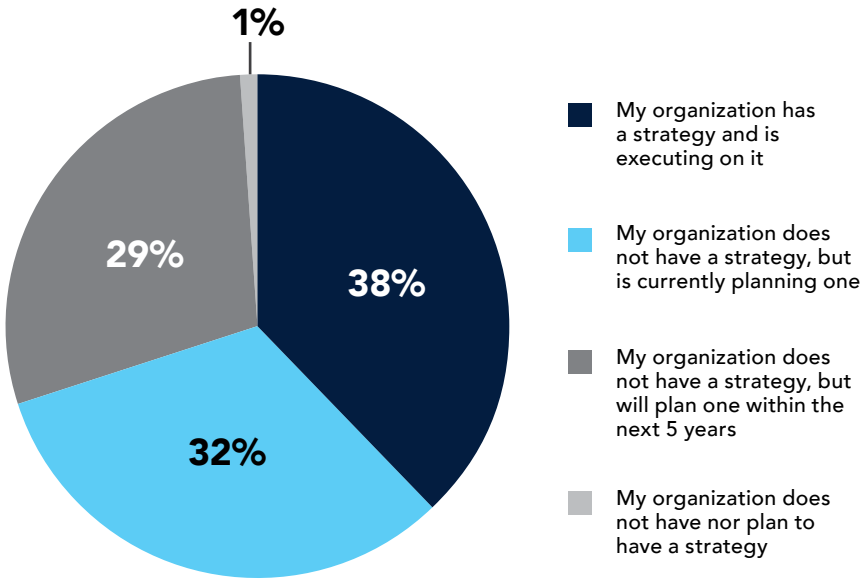


Decarbonization: 76% of utilities plan to invest more in emissions reduction or decarbonization this year

Utility clean energy commitments are nothing new, but do leaders feel their organizations are making real and meaningful progress? Our research reveals that, while **88%** of respondents say greenhouse gas (GHG) emissions reduction or decarbonization are high or moderate priorities for their utility, only **38%** currently have a strategy in place and are executing on it.

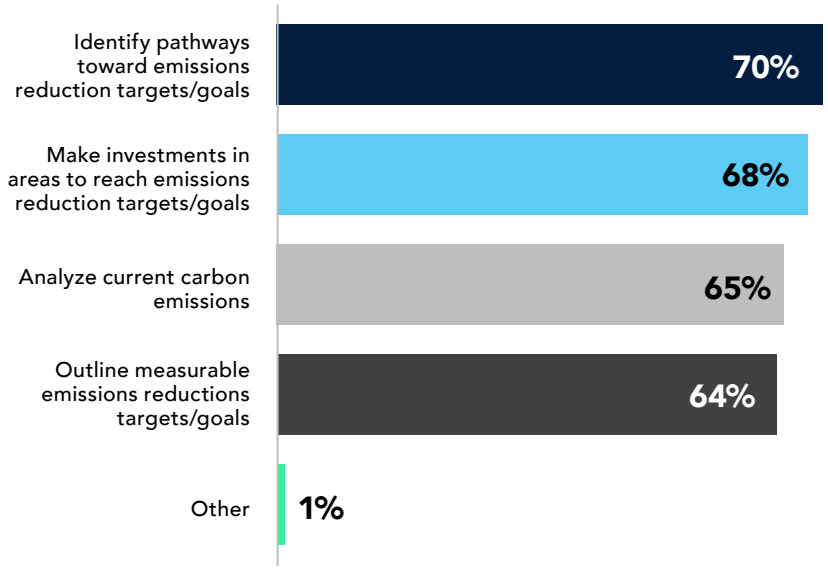
But utilities understand the need to double down on decarbonization. Compared to last year, over 3 in 4 (**76%**) organizations plan to invest more in emissions reduction or decarbonization.

Finding 1.1. Which of the following best describes your organization's strategy for emissions reduction or decarbonization?



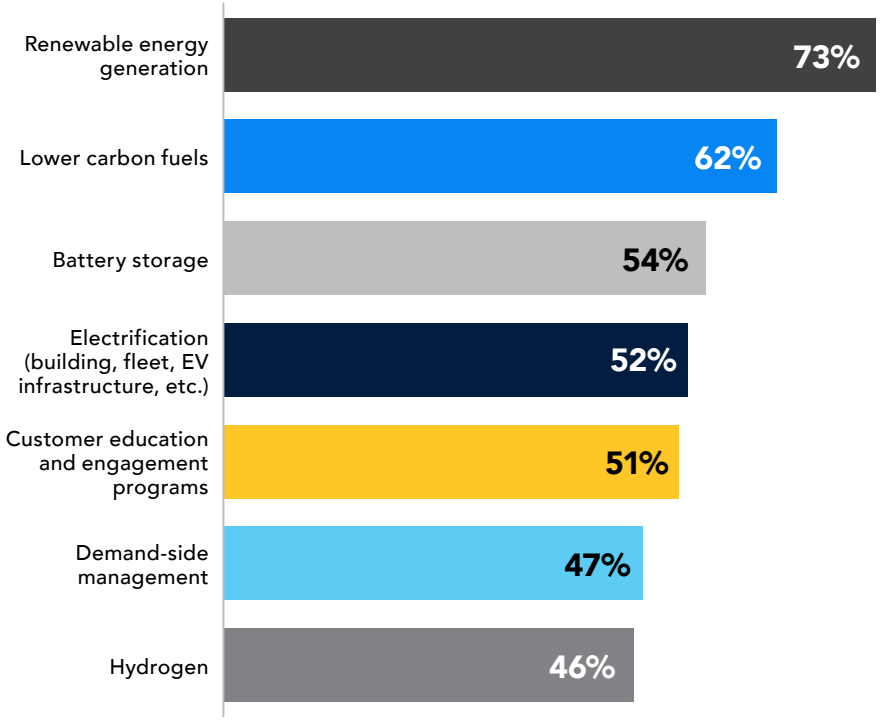
99% of respondents have or plan to have a decarbonization strategy in the next 5 years.

Finding 1.2. Which of the following, if any, is your organization doing as part of its emissions reduction or decarbonization strategy? *(Asked among those who have a plan or strategy for emissions reduction or decarbonization)*

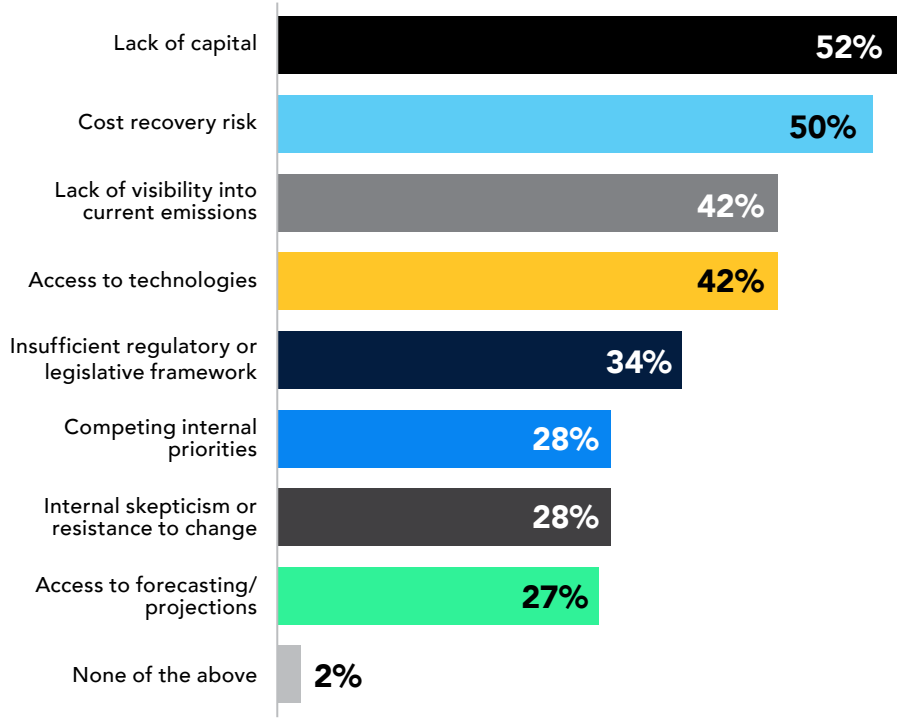


100% of organizations are making some green strides

Finding 1.3. Within the next 5 years, in which of the following do you expect your organization to increase investment efforts to meet its emissions reduction or decarbonization strategy/goals? (Asked among those who have a plan or strategy.)



Finding 1.4. Which of the following, if any, are potential barriers that could prevent your organization from achieving its emissions reduction or decarbonization strategy/goals?



The takeaway.

The fact that utility executives overwhelmingly recognize the need for a decarbonization strategy combined with concerns over lack of capital and cost recovery could reflect a lack of confidence in how to move forward.

How do you build the confidence you need to transition to a carbon-free power grid? Start by getting a firm grasp on your current emissions, the requirements you need to adhere to, what you want to achieve, and how well various solutions can get you there. Our strategic planning platform for decarbonization and energy, CO_2Sight, offers deep-dive modeling of multiple sectors, carbon accounting, costs and benefits assessments, and other necessary information and insights that serve as the basis for actionable strategies.

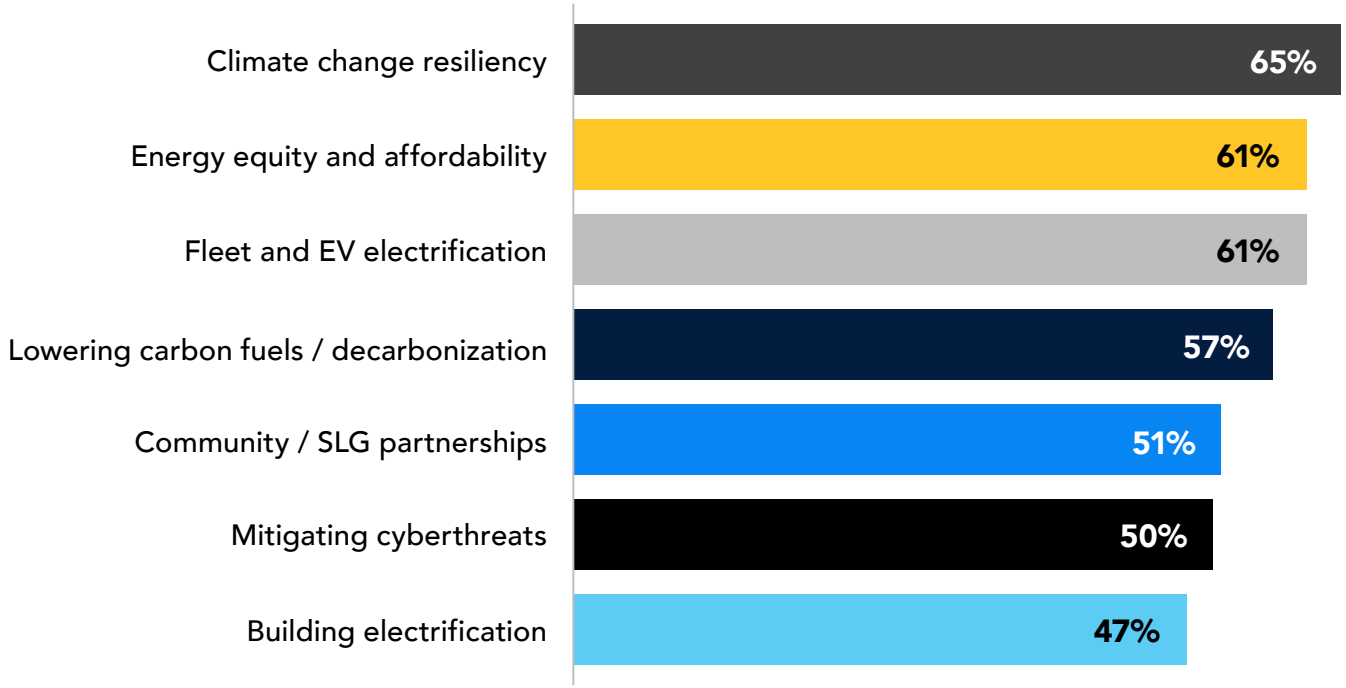
Resilience: 88% of utility leaders say climate change resilience is a moderate or high priority for their organization

Extreme heat waves, damaging floods exacerbated by sea level rise, and devastating wildfires. Utilities increasingly face these low-probability, high-impact challenges, and the impacts from spikes in energy consumption and service disruptions. How are utilities building resilience, and what challenges are they facing along the way?

Our survey reveals that **88%** of leaders rank climate change resilience as a high or moderate priority, and fully **100%** of utility executives have made operational changes to build resilience to climate-change related extreme weather.

While **nearly all (97%)** of our survey respondents expect to have a resilience strategy for climate change in place within the next five years, only **31%** have begun executing on a plan.

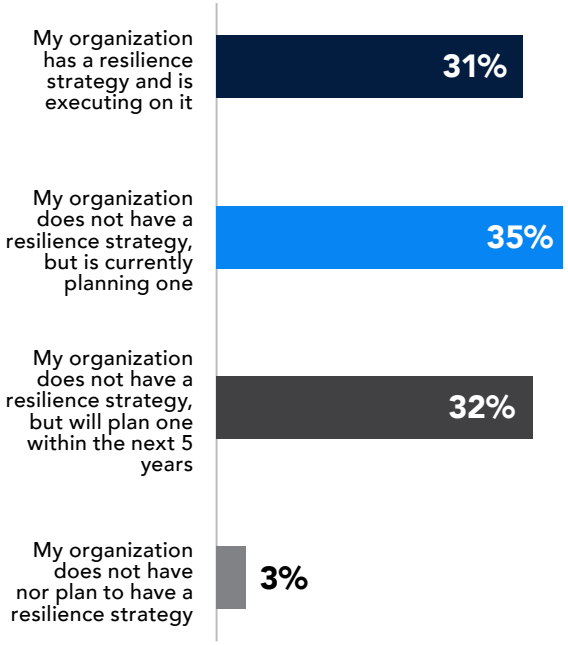
Finding 2.1. In which of the following does your organization have plans to increase its investment?



Climate change resiliency is the most common investment organizations are making going forward.

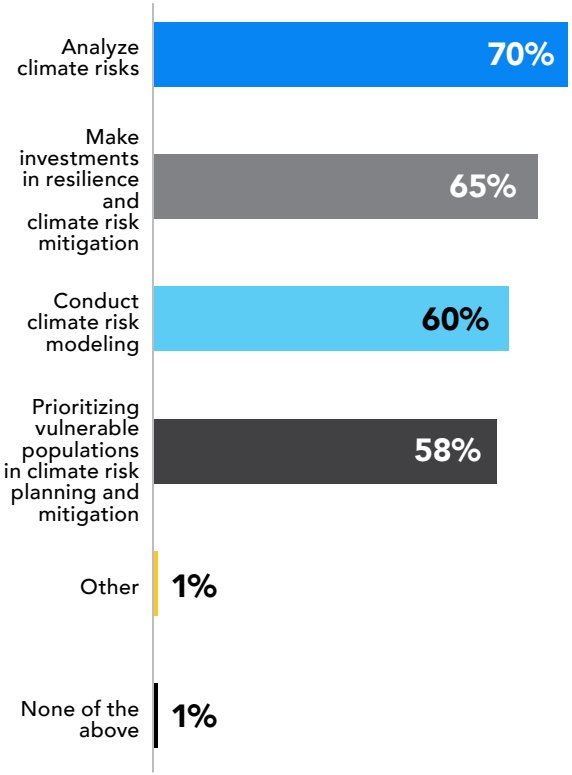
The breadth of leaders planning to invest in climate change resiliency is proof that years of increasingly extreme weather is changing the utility business model. How leaders invest to respond to climate change points to broad shifts in the way business will be done—and actionable insights for those in the planning stage.

Finding 2.2. Which of the following best describes your organization's resilience strategy for climate change?

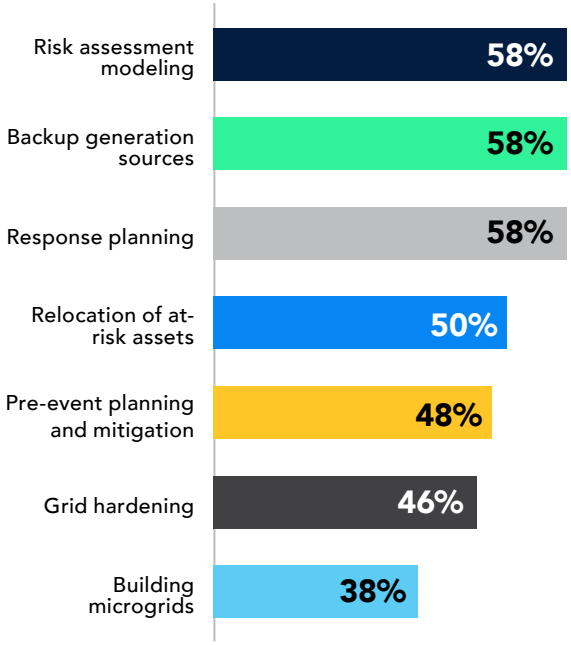


97% of respondents have or plan to have a climate change resilience strategy in the next 5 years.

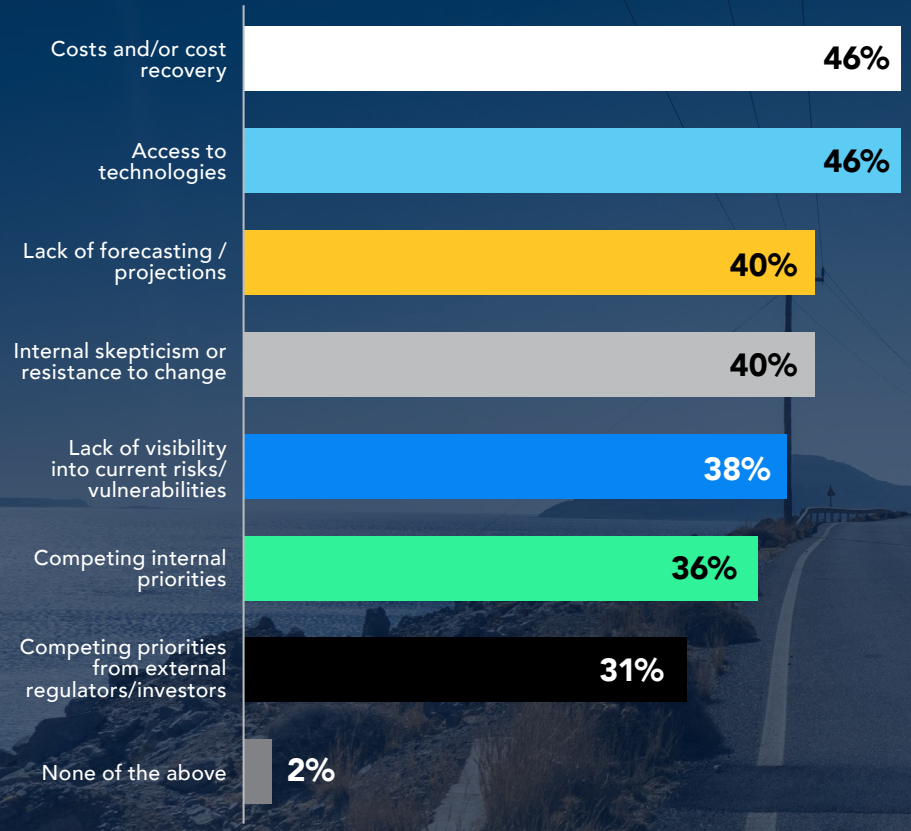
Finding 2.3. Which of the following, if any, is your organization doing as part of its climate change resilience strategy? *(Asked among those who have a plan or resilience strategy for climate change)*



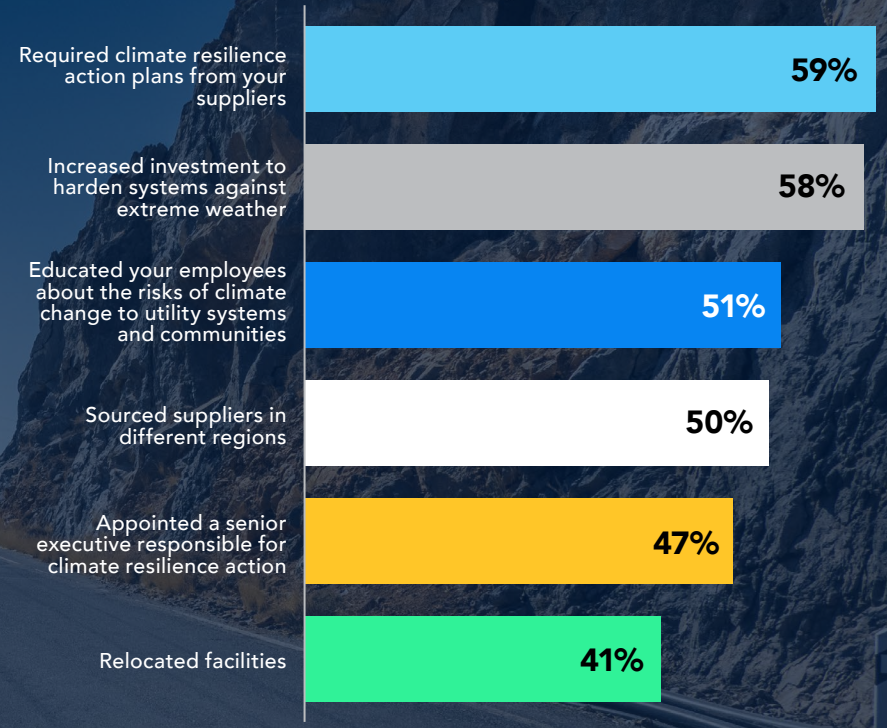
Finding 2.4. Within the next 5 years, in which of the following do you expect your organization to increase investment efforts to meet its climate change resilience strategy/ goals? *(Asked among those who have a plan or resilience strategy for climate change)*



Finding 2.5. Which of the following, if any, are potential barriers that could prevent your organization from achieving its climate change resilience strategy/goals? *(Asked among those who have a plan or resilience strategy for climate change)*



Finding 2.6. Which of the following ways, if any, has your organization changed its operational structure to build resilience to climate-change related extreme weather?



Fully 100% of utility executives have made changes to their operational structure to build resilience to climate change-related extreme weather.

Nearly 3 in 5 (57%) respondents feel climate change is extremely or very risky to their organization's financial and operating performance. This explains why a solid majority (78%) say their organizations are investing more resources into this now than they did last year.

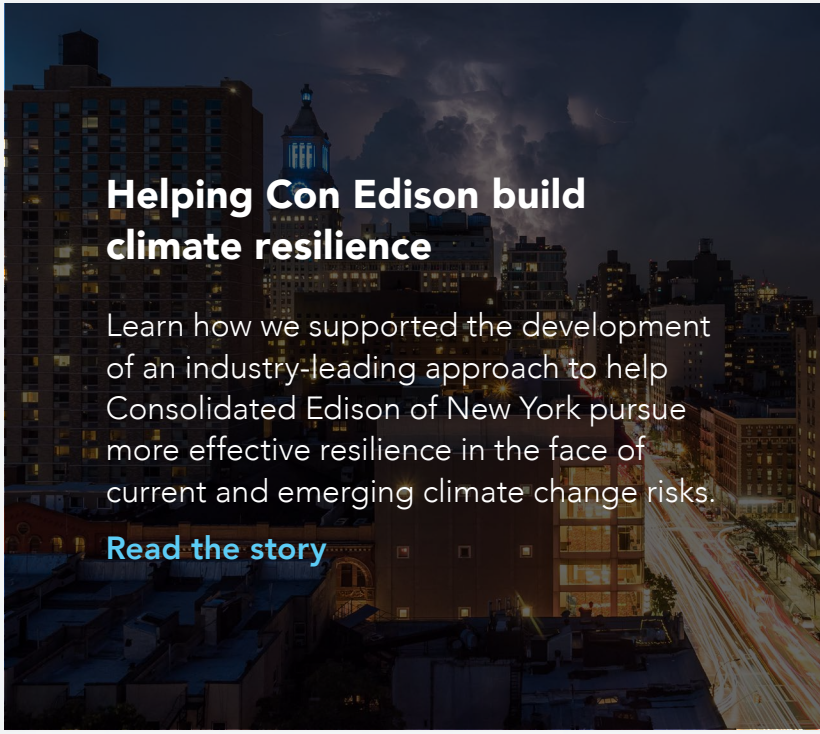
The takeaway.

The climate threats to utility assets and operations loom larger each year, and it's clear that utilities understand the need to act. But even among utility executives with a current plan in place for climate change resilience, **98%** report hurdles that could prevent them from meeting their goals. Top headwinds for climate change resiliency include costs and cost recovery (**46%**) and access to technologies (**46%**).

Building resilience is a future-focused initiative, distinct from conventional hardening programs for reliability, and it requires an ambitious approach that's grounded in climate science.[2]

For utilities to take meaningful steps toward implementing resilience, they must meet several challenges including: understanding the vulnerabilities of their infrastructure and processes (ranging from worker safety to asset failure), prioritization of available options to address resilience gaps, and effective communication with regulators and other stakeholders on the benefits of resilience investment—including for their disadvantaged or vulnerable customers.

Start with a high-level screening exercise and progress to in-depth risk assessments on priority locations and assets to set the stage for a robust, flexible resilience strategy that integrates stakeholder perspectives.[3]



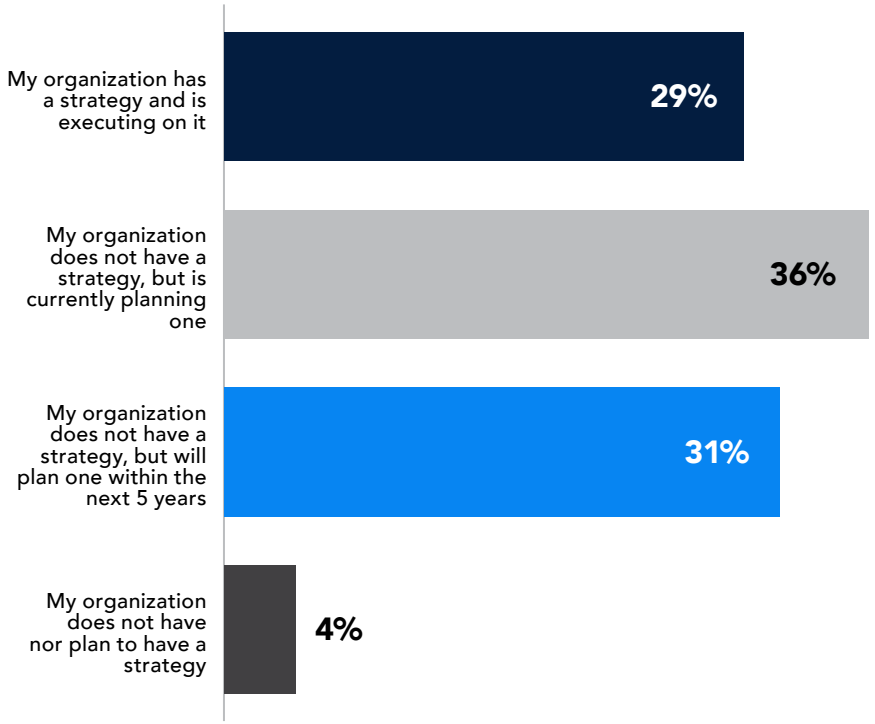
[2] Using Actionable Analytics to Reduce Climate Change Impacts | ICF

[3] Resilient Power: How Utilities Can Prepare for Increasing Climate Risks | ICF

Electrification: 72% of utilities are increasing their electrification investments this year

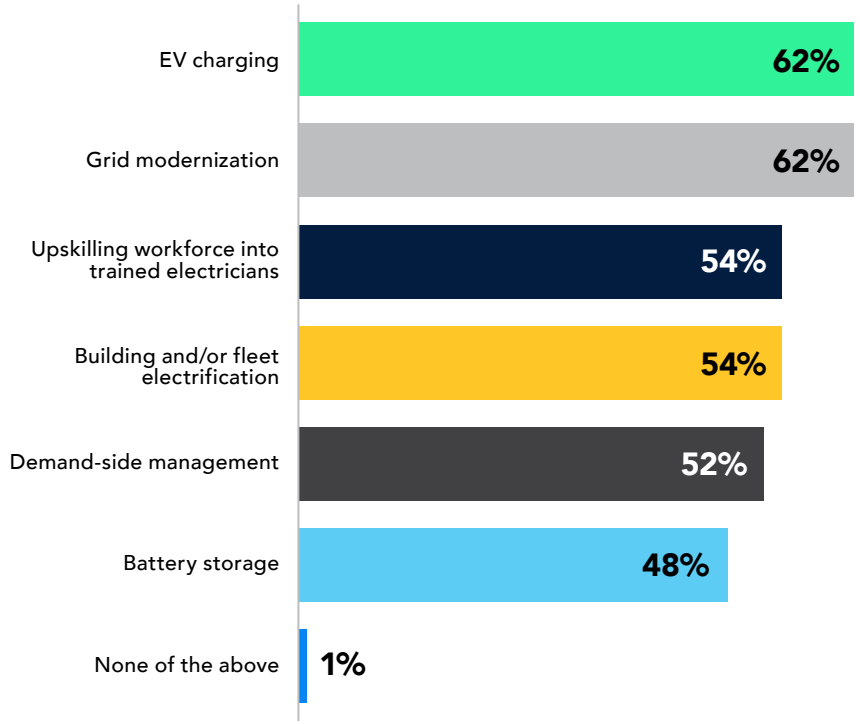
Electrification is about more than just growing energy market share. For utility leaders, it's a complex issue that meets at the intersection of decarbonization, reliability, revenue, and costs. **83%** of surveyed leaders said electrification is a high or moderate priority at their company.

Finding 3.1. Which of the following best represents your organization's strategy for electrification?

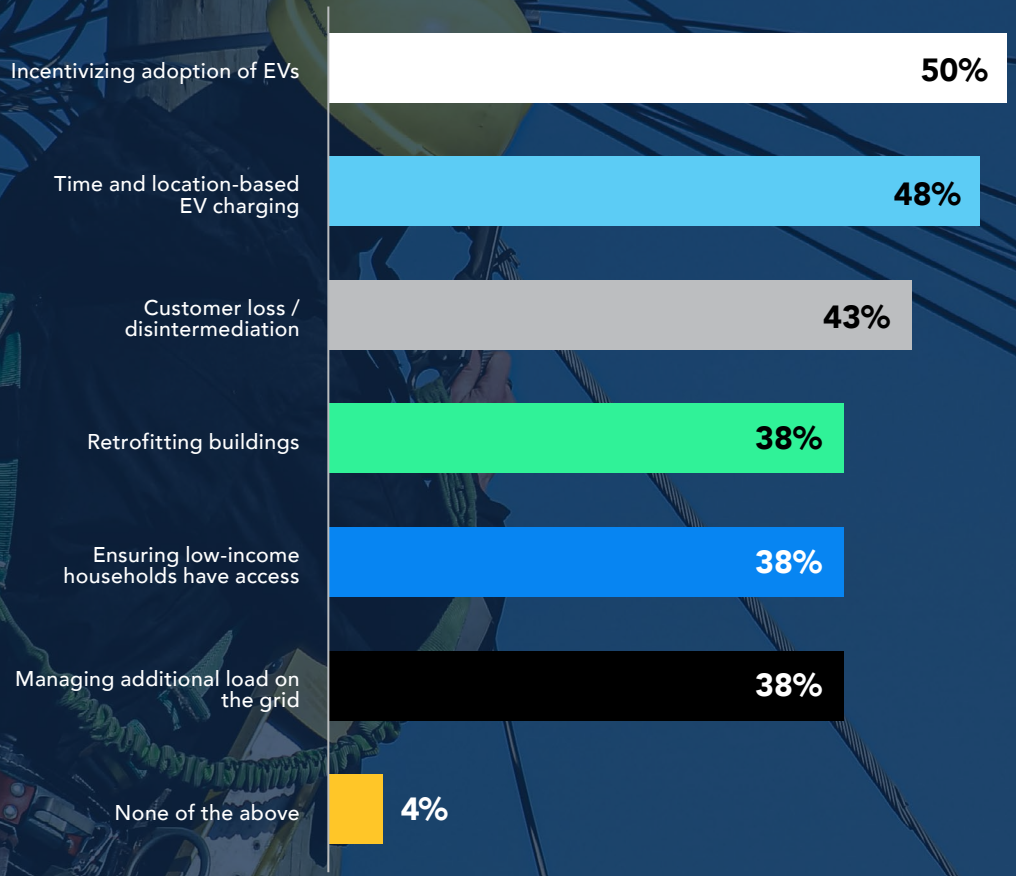


96% of respondents have or plan to have an electrification strategy in the next 5 years.

Finding 3.2. Within the next 5 years, in which of the following do you expect your organization to increase investment efforts to meet its electrification strategy/goals? *(Asked among those who have a plan or strategy for electrification)*

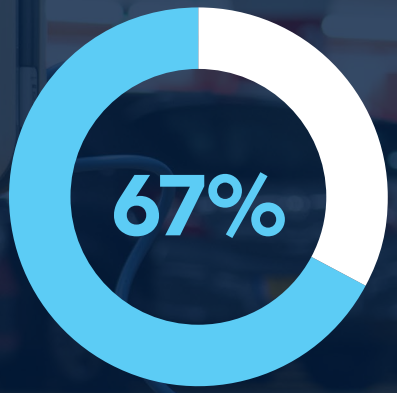


Finding 3.3. Which of the following, if any, are potential barriers that could prevent your organization from achieving its electrification strategy/goals? *(Asked among those who have a plan or strategy for electrification)*



The role of energy efficiency leaders

The majority of utility leaders surveyed (**87%**) are involved in decision-making for energy efficiency assessments and demand side management. Leaders with accountability in one or both of those areas have insight into the direction of electrification initiatives at their companies. Two-thirds of utility executives involved in energy efficiency assessments (**67%**) say their organizations have plans to increase investments in fleet and EV electrification. More than 3 in 4 (**77%**) say this investment will be more than last year, and nearly 9 in 10 (**88%**) say this area is a moderate or high priority.



of utility executives involved in energy efficiency assessments say their organizations have plans to increase investments in fleet and EV electrification

The takeaway.

Nearly half (**47%**) of respondents say electrification is extremely or very risky to their organization's financial and operating performance. This speaks to the challenges electric vehicle (EV) charging and building electrification bring to providing reliable service, a top utility goal. The need to ready the grid for rapid EV adoption and the revenue-generating opportunity electrification creates may explain why close to three in four (**72%**) say their organization is investing more toward electrification this year than in previous years. Whether motivated by managing risk or growing revenue, nearly all (96%) of respondents said their company has or will have a strategy in place for electrification.

Rapid EV adoption could impact electric grid reliability, as nationwide EV adoption has the potential to increase energy demand by **40%** in 2050[4]. For utilities, maintaining grid reliability will require new sources of clean energy and managed charging. Managed charging can help mitigate the peak impact by shifting charging to off-peak hours or aligning with periods of excess renewable generation. Utilities, state regulators, and policymakers can start now by modeling how various EV adoption rates and levels of managed charging will impact peak electricity demand.

[4] The Electric Vehicle Revolution Has Begun | ICF

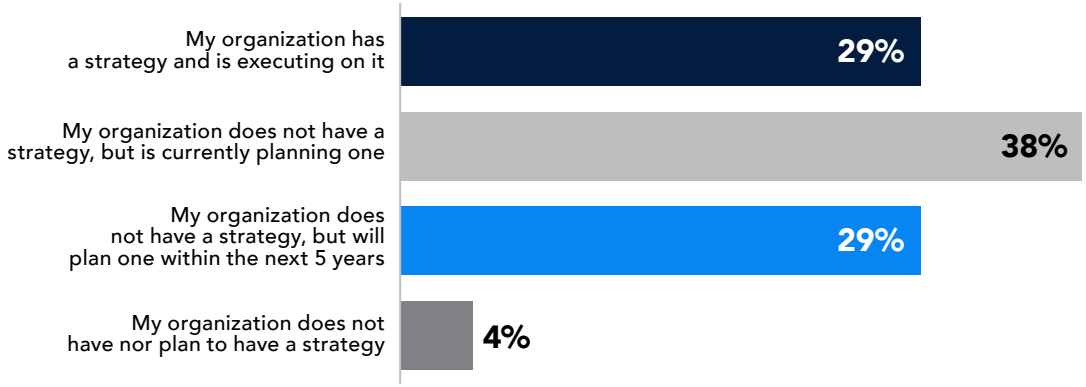
Energy equity and affordability: 82% of utility executives eye equity initiatives

In addition to keeping the lights on and doing their part to advance clean energy goals, utilities are thinking more expansively about their responsibility to the communities they serve. What are they doing to make energy more affordable, and are they creating economic opportunities that strengthen the local workforce?

In our survey, more than 8 in 10 utility leaders (**82%**) say energy equity and affordability is a high or moderate priority for their organization. They're backing up the talk, as **96%** say they have or will have a strategy for energy equity and affordability and **61%** plan to increase investments in those efforts—second only to the percentage that plan to increase climate resiliency investments.

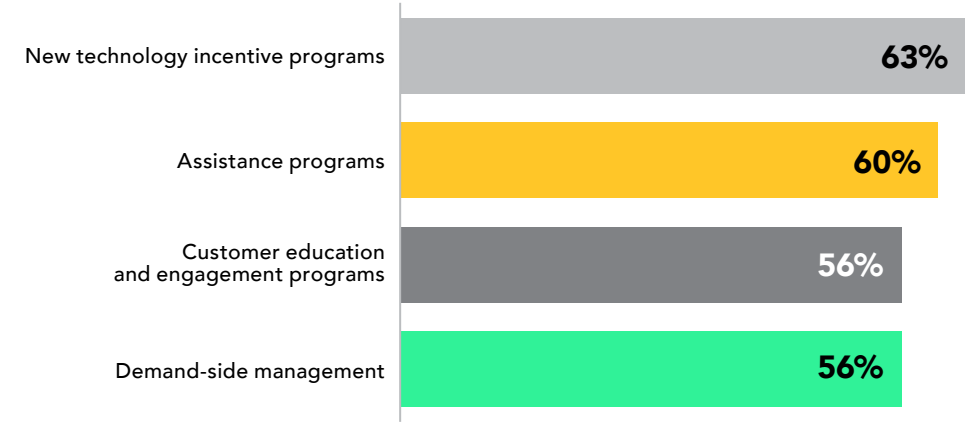
Energy equity and affordability is clearly a priority among utility executives. **96%** of respondents expect to have a strategy in place for energy equity and affordability within the next 5 years, but only **3 in 10 (29%)** have a strategy in place today.

Finding 4.1. Which of the following best describes your organization's strategy for energy equity and affordability?



96% of respondents have or plan to have an energy equity strategy in the next 5 years.

Finding 4.2. Within the next 5 years, in which of the following do you expect your organization to increase investment efforts to meet its energy equity and affordability strategy/goals? *(Asked among those who have a plan or strategy for energy equity and affordability)*



The takeaway.

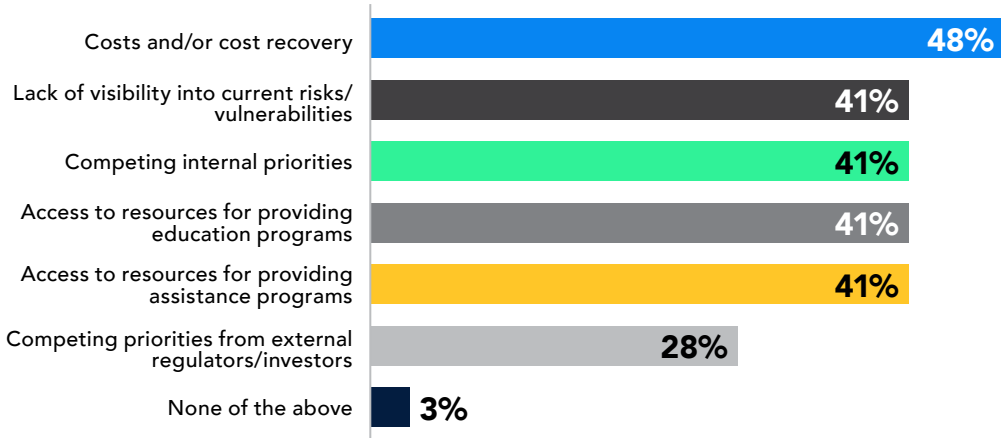
Energy affordability is clearly a priority among utility executives. **96%** of respondents expect to have a strategy in place for energy equity and affordability within the next five years, but only 3 in 10 (**29%**) have a strategy in place today.

This finding presents an opportunity, as energy affordability is a win-win for disadvantaged communities and utilities[5]. The more a utility's communities thrive economically, the healthier its business. The case for utilities to develop a serious strategy to deliver energy affordability, and thereby contribute to social equity in disadvantaged communities, is clear. What's less clear are which solutions utilities should adopt—and what challenges are likely to stand in the way.

Clean energy workforce development programs offer a tangible way for utilities to support the communities they serve, while building a reliable pool of trained workers to implement utility programs.

To ensure success, energy efficiency workforce development programs should be guided by industry experts who can teach candidates the skills they need to thrive—and support the utility's end-to-end workforce development process, from targeted recruiting efforts to on-the-job training programs to securing hiring commitments from trade allies. A thoughtful approach to clean energy workforce development programs will also consider barriers applicants face, and work to accommodate them as much as possible. Programs that provide childcare, transportation, and other wraparound services can expand the pool of job candidates while creating economic opportunities for customers in disadvantaged communities.

Finding 4.3. Which of the following, if any, are potential barriers that could prevent your organization from achieving its energy equity and affordability strategy/goals? *(Asked among those who have a plan or strategy for energy equity and affordability)*



Driving equity from the top. C-level executives (79%) are more likely than VP and director-level leaders to say their organizations have plans to increase investment in energy equity and affordability. **Over 4 in 5 (83%)** say their organizations have plans to invest more in this area than last year, and an overwhelming **91%** say it is a moderate or high priority.

[5] Making the Case for Utilities to advance energy affordability | ICF

Conclusion: The strategy intention-execution gap highlights the need for advanced planning and expert advice

Whether the day of reckoning is five or 25 years from now, a utility will succeed only by chance unless it deliberately transforms to achieve a decarbonized, resilient, electrified, and equitable energy future. It will not always be easy persuading stakeholders that these changes are necessary and suitable for a public service company, and utility leaders will find themselves navigating more complicated planning and implementation.

In fact, across each of the four priorities examined in this report, there was consistently a yawning gap between the percentage of leaders surveyed whose companies intend to have a strategy to address the issue (nearly **100%** in all cases) and those that actually have a strategy in place (generally closer to **30%**). This indicates leaders know they need to do "something," but either don't know what to do or can't implement a strategy due to lack of capital or regulatory support. Leaders are aware they face several generational challenges, but few have marshalled the information, analysis, support, and resources to tackle them.

Fortunately, there are no-regrets actions utilities can take now to put them in a position to succeed. Sound tools are available to help structure decisions and manage processes. Utilities don't have to leave their future to chance. Partnering with trusted advisers, those that bring extensive experience developing and implementing programs, offers a sure path based on deep data and insights.

ICF's tools and advisory services can be applied to all top strategic planning and investment priorities utility leaders say matter most:

- Decarbonization
- Climate change resiliency
- Electrification
- Energy equity and affordability

Once utilities commit to rigorous planning and work toward no-regret actions in those strategic areas, they will be able to redefine the "public service company" for the new era, successfully engage policymakers and regulators, and create sustainable approaches to achieve climate action and energy equity.

Methodological notes

The ICF utility executive survey was conducted by Wakefield Research (www.wakefieldresearch.com) among 100 Utility Executives, with a minimum seniority of Director, and includes an oversample of 100 C-Level Executives between February 14th and February 28th, 2022, using an email invitation and an online survey.

Results of any sample are subject to sampling variation. The magnitude of the variation is measurable and is affected by the number of interviews and the level of the percentages expressing the results. For the interviews conducted in this particular study, the chances are 95 in 100 that a survey result does not vary, plus or minus, by more than 9.8 percentage points from the result that would be obtained if interviews had been conducted with all persons in the universe represented by the sample.

All decimals are rounded to the nearest percentage point. This may result in certain numerical totals adding up to slightly more or slightly less than 100%.