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2026 Market Survey:

# Microgrid and Distributed Energy Projects Grow in Complexity

Developers Pursue Value to Overcome Federal Incentive Losses

2026 Market Survey:

# Microgrid and Distributed Energy Projects

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# Introduction

Reports of distributed energy's demise have been greatly exaggerated, according to a 2025 survey of distributed energy and microgrid industry professionals.

When the One Big Beautiful Bill Act became law in July 2025, many industry experts feared solar-heavy distributed energy development would dry up with the loss of federal incentives. While survey respondents (67%) say the loss of federal incentives harmed them, they remain bullish about the near-term future for renewable and fossil distributed energy resources (DERs) and microgrids. **In fact, our respondents anticipate growth in almost all DER technology types, with increases expected between 4% to 12% for resources like solar, wind turbines, biogas, batteries, natural gas generators, fuel cells, and hydrogen electrolyzers.**

Strong market fundamentals and demand for DERs and microgrids remain. However, the loss of federal incentives and other challenges means developers must be better at optimizing projects by stacking value and minimizing risks. To achieve that goal, DER and microgrid projects are becoming more complex. The industry is maturing, shifting from a reliance on subsidies to a focus on the true value a project can deliver.

To maximize project value, development may be trending from simpler solar and storage projects to more complex microgrids.[1] For organizations to continue to exist in an era of slimmer margins, they must manage complexity with sophisticated modeling approaches and tools as well as integrated control strategies so that projects meet financial requirements to move forward at every stage.

This report examines findings from an October/November 2025 market survey of more than 150 distributed energy and microgrid professionals conducted by Energy Changemakers, Factor This Renewables and Xendee.

Read it to learn about:

- The impact of federal policy changes, interconnection delays, and other challenges for microgrid project development.
- How distributed energy and microgrid projects are evolving to meet financial and organizational objectives.
- What distributed energy and microgrid professionals want from planning tools, software and control systems.

## Main takeaways

Microgrid and distributed energy companies felt immediate harm from the loss of federal incentives.

Despite the loss, they are bullish about the market going forward.

Microgrid and distributed energy projects are becoming increasingly complex.

Distributed energy project owners are pursuing complexity to stack value and achieve required returns on investment.

1 Reuters. "Microgrids spread across US as Big Tech, utilities shore up power supplies." Nov. 3, 2025. https://www.reuters.com/business/energy/microgrids-spread-across-us-big-tech-utilities-shore-up-power-supplies--reeii-2025-11-03/.

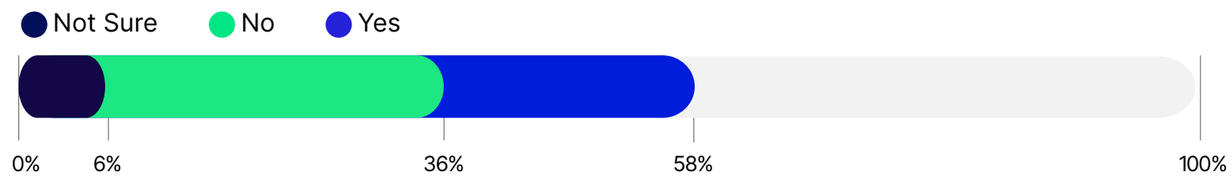
# Federal Energy Incentives: How Much Does Their Loss Hurt?

Signed into law in July, the One Big Beautiful Bill Act had an almost immediate impact on the industry by eliminating solar incentives for commercial and residential projects. This came as the Trump administration also imposed tariffs on many countries that supply distributed energy technologies. These changes affected 67% of those surveyed.

**Have the changes in federal policy, such as termination of project grants and reduced federal incentives, or proposed tariffs, impacted your business in 2025?**


While the net impact of the Trump administration's federal policy changes on distributed energy and microgrid development is not yet fully clear, industry professionals responding to the survey believe they will be negative for their businesses. Nearly 60% said they expect federal policies to create challenges in 2026.

**Do you expect these federal policies to create challenges for your company in 2026?**




Unfortunately, survey respondents don't believe state-level incentives will compensate for federal funding losses. More than two-thirds said state-level grants and incentives aren't enough to move their projects forward, given the loss of federal funding.

**Do you expect state-level grants or incentives to sufficiently compensate for federal funding losses so that your energy project(s) can move forward?**


With reduced federal incentives, it's perhaps no surprise that securing funding for project development is the top concern for industry professionals. More than 30% of survey respondents involved in microgrid development identified "the ability to secure funding" as the top challenge facing microgrids now and in the near future. Twenty-five percent of survey respondents involved in simpler distributed energy development (e.g., solar and storage only; not microgrids) also said securing funding was their primary challenge facing DER projects. The fact that 70%-75% of respondents across both groups didn't identify securing funding as a major challenge may indicate that funding sources have expanded and matured beyond federal government-sourced funding.

Funding was not developers' only concern, though. Right on the heels of funding, 28% of microgrid developers and 25% of non-microgrid DER developers identified utility interconnection queues and permitting as the top challenge facing their projects.

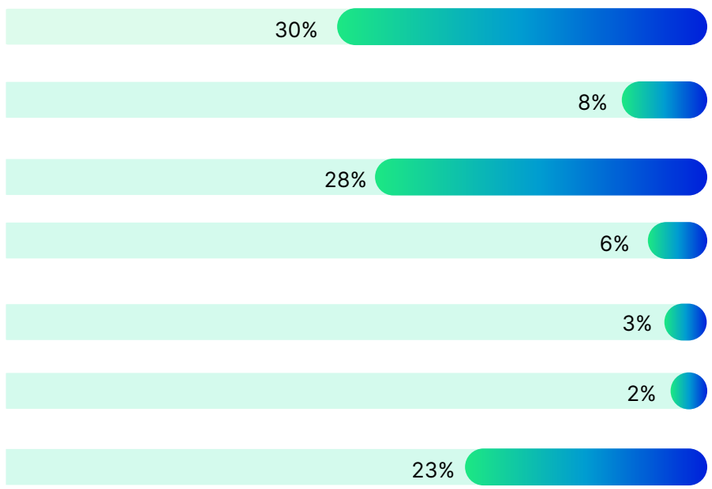
## Microgrid Developers vs. Non-Microgrid DER Developers

In the market survey, respondents were asked whether their organizations developed multi-DER projects and microgrids, or exclusively simpler projects with only one or two DER types. Survey results for **"non-microgrid DER developers"** and **"microgrid developers"** were then tabulated separately to identify key differences.

A microgrid was defined as a group of interconnected electrical loads and DERs, such as solar panels or batteries, that acts as a single controllable entity with respect to the larger grid. A microgrid may also handle thermal or other load types beyond electricity. A solar-only project is not considered a microgrid, and a solar-plus-battery project is defined as a microgrid only if it is controlled by a smart controller that can foresee weather and other changes that will impact the asset management.

What do you see as the biggest challenge facing **microgrid projects** today and in the near future?

## Microgrid Developers




The Ability To Secure Funding

Energy Price Trends

Utility Interconnection Queues/Permitting

Engineering Expertise

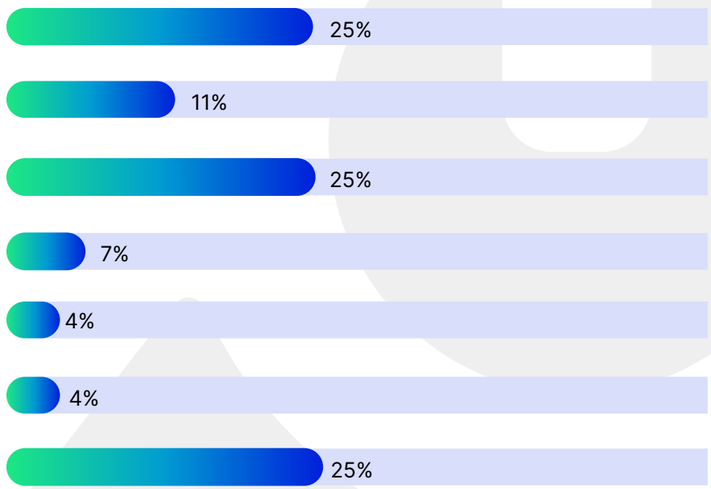
Overall Project Management

Stakeholder Pushback On Project Deadlines

Other

What do you see as the biggest challenge facing **distributed energy projects** today and in the near future?

## Non-Microgrid DER Developers



# DER and Microgrid Outlook Remains Robust as Projects Evolve

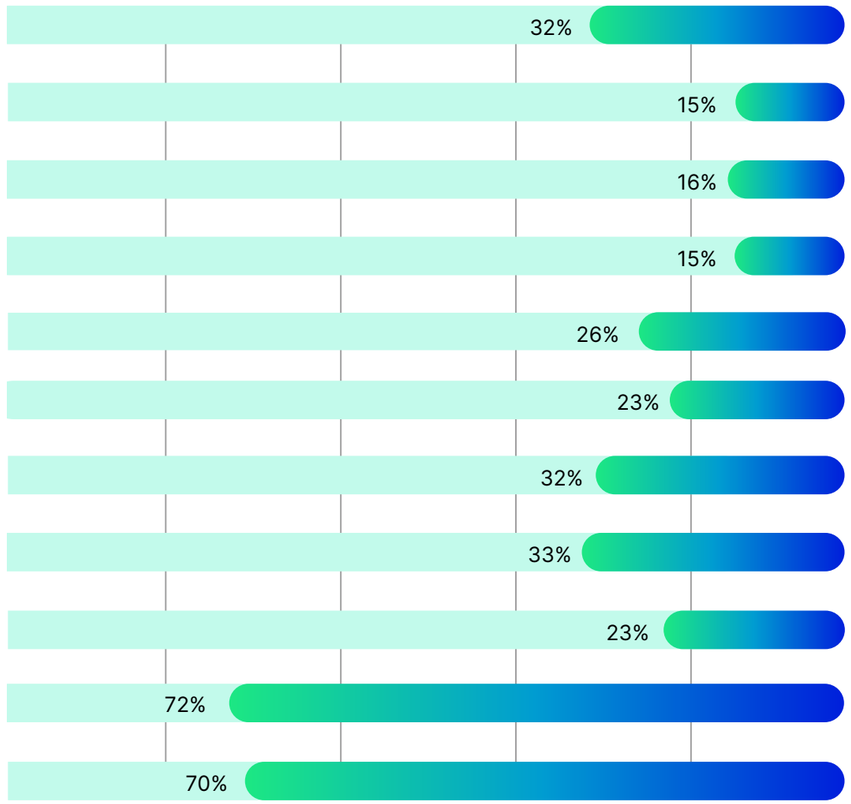
Demand for power is surging because of data center development and utility electricity rates are escalating. The U.S. Energy Information Administration says electricity prices rose 13% on average nationwide from 2022 through 2025 and are expected to continue rising. A 2025 report from DER and microgrid developer Bloom Energy found that 38% of data centers expect to deploy onsite generation by 2030, a 300% increase from 2024, when only 13% expected to do so.

Combine those drivers with extreme weather and surging energy demand — which jeopardize grid reliability and resilience — and the argument for DER and microgrid development strengthens.

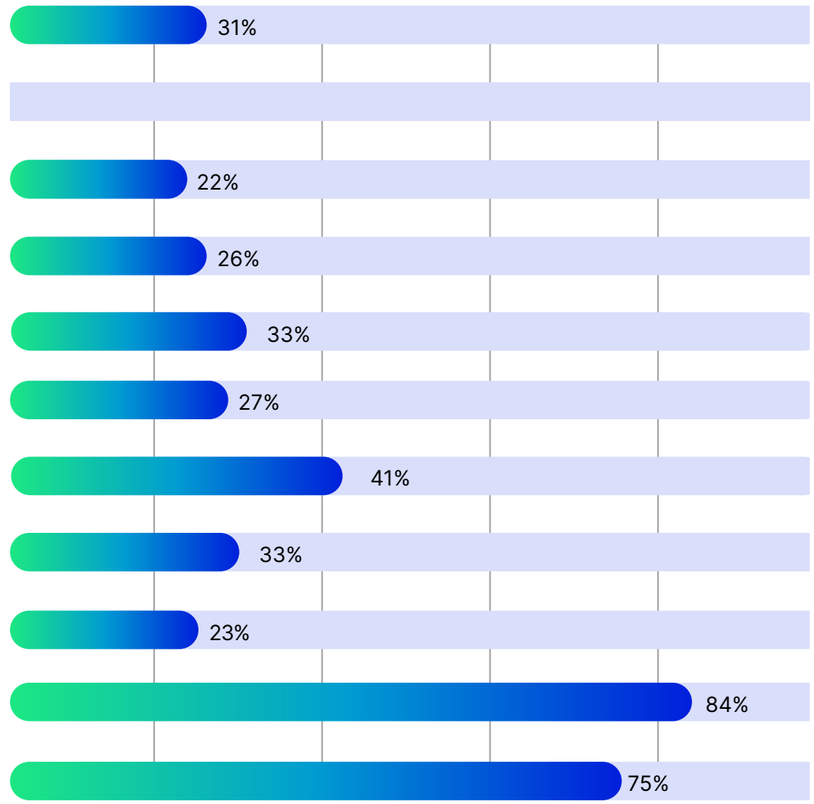
Survey responses appear to reflect this new market reality. For existing projects, about 70% of respondents said their businesses or their partners had deployed solar and battery energy storage in DER and microgrid projects. About one-third had used combined heat and power (CHP) or natural gas generators in projects. About one-quarter had deployed diesel generators and fuel cells.

Despite this year's rollback in federal funding, an even greater percentage of respondents expect their businesses or partners to deploy solar (75%) and battery (84%) in their projects over the next three to five years. **In fact, survey respondents expect to deploy more of a variety of energy resources in DER and microgrid projects in the coming years, including solar (+5%), battery energy storage (+12%), natural gas generators (+9%), fuel cells (+7%), wind turbines (+4%), biogas generators (+11%) and hydrogen electrolyzers (+6%).**

## Which assets have you or your partners deployed in your energy projects to date?




## Which of the following assets do you expect to use in projects over the next 3-5 years?

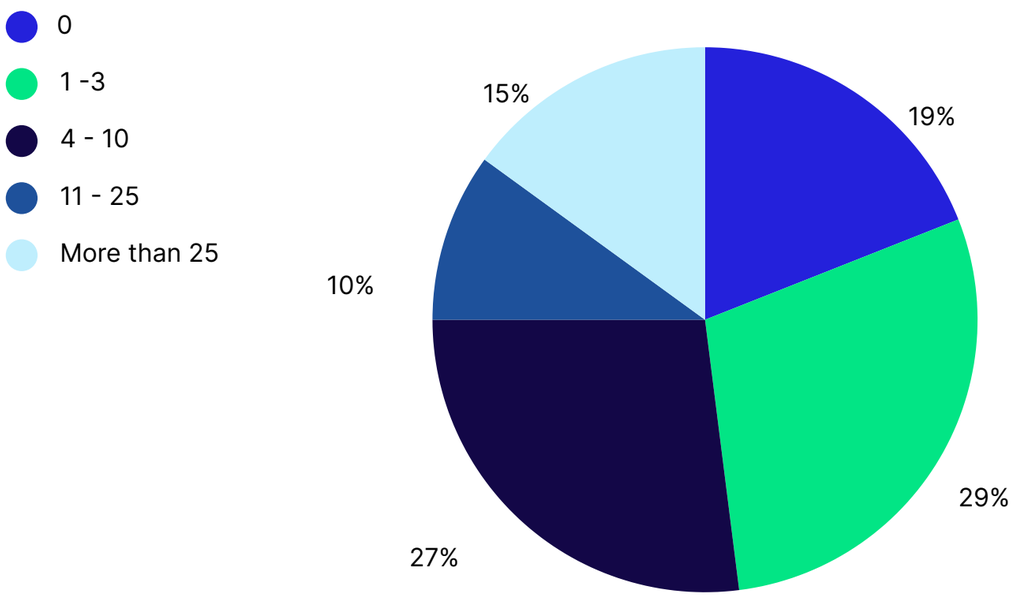



The survey results suggest **respondents believe many types of generation resources and more generation capacity will be deployed in non-microgrid DER and microgrid projects.** This reflects a trend noted by Xendee partners: Due to the overall growing demand for electricity, more capacity is required and electric grids can't supply all of it. Thus, more microgrids are needed to bridge the gap. The need for microgrids means developers' projects are becoming more complex, deploying a wider range of resources to capture more market opportunities and create greater value.

Another data point supporting the overarching theme that project complexity is on the rise emerges in comparing the activity of microgrid developers with that of non-microgrid DER developers. **Only 19% of microgrid developers said their organizations have no projects under development. Meanwhile, 52% of the non-microgrid DER developers have no projects under development. In essence, the additional complexity of microgrids enables them to remain economically feasible by capturing more value,** such as integrated optimization of electric and thermal loads or using smart controls to respond to signals from energy markets and weather forecasts. Organizations capable of that complex development remain at work. Those that can't must either ride out the current market dynamics, learn to build more complex projects or risk perishing.

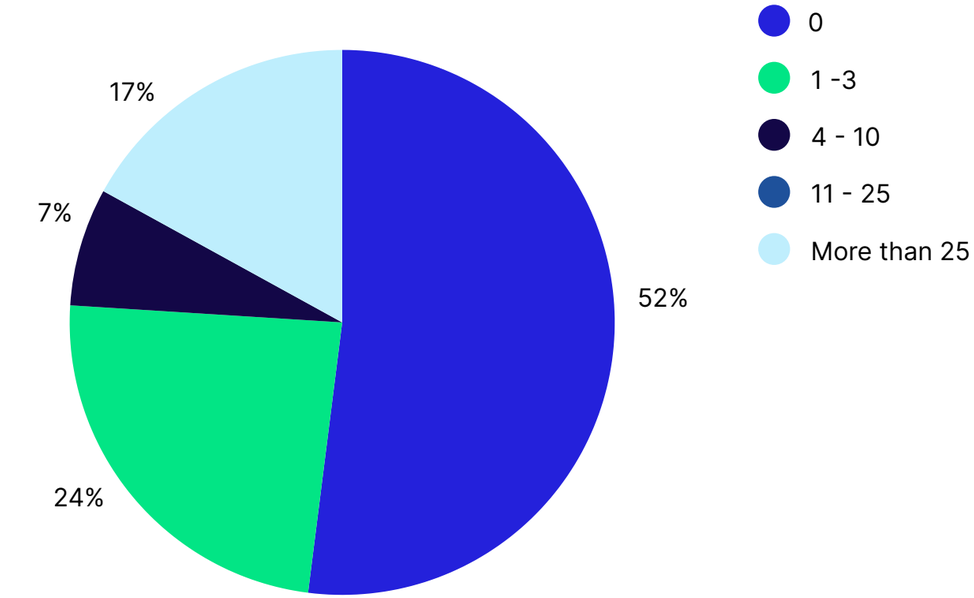
How many microgrid projects does your organization have under development today?

## Microgrid Developers




How many distributed energy projects does your organization have under development today?

## Non-Microgrid DER Developers

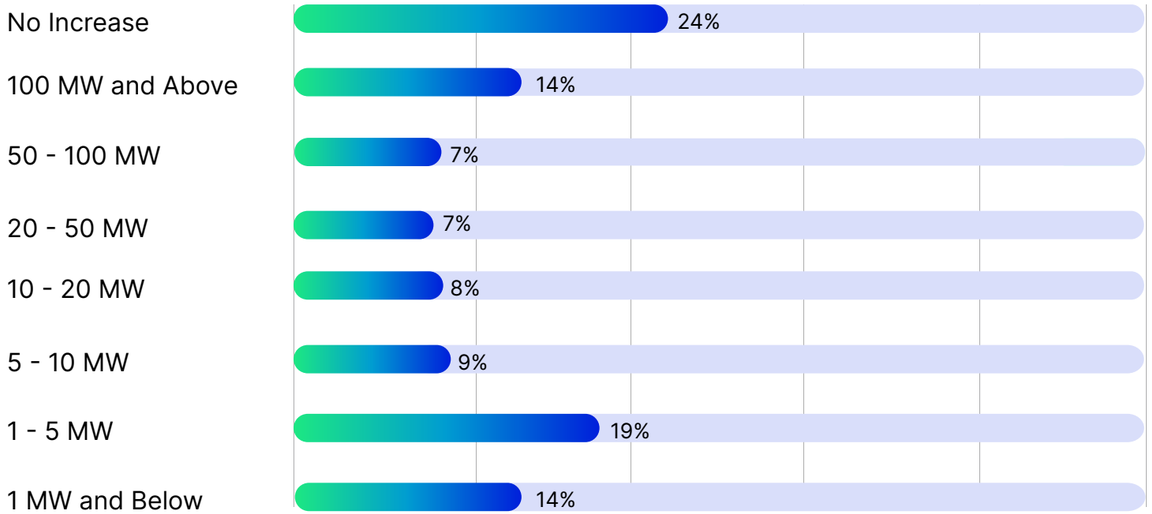


In a more complex project environment in which microgrids may become more prevalent, smart control technologies will be critical. More than 75% of survey respondents believe today's control technologies can manage projects with solar, batteries and other DERs. Their confidence could be supported by the fact that new, enhanced smart control solutions are just emerging, which use AI for forecasting and real-time optimization to improve performance. However, since the industry is still early in the process of transitioning to more complex microgrids, and those projects can take years to implement, many project developers and owners likely don't have experience with the potential performance improvements from AI-enabled forecasting and real-time optimization. Understanding of the power and importance of these tools will grow over time.

**Are you confident that today's control technologies can manage energy projects that use not only solar PV and batteries but also additional distributed energy sources?**


Complexity tends to result in larger projects. **Only 24% of survey respondents do not expect projects to grow in size in 2026.** Among the remainder who expect projects to grow, 19% believe the average non-microgrid DER project or microgrid will have a generating capacity of 1-5 MW. One in five respondents believes the average project will have a generating capacity of at least 50 MW.

**If you foresee your energy projects growing in size, what size do you expect them to be in 2026-2027?**



In addition to growing in size and complexity, the geographic reach of DERs and microgrids is also expanding. While project activity has historically been greatest on the coasts, survey respondents revealed that their organizations are working in every region of the U.S. at nearly equal rates. For example, while the Northeast and California led the way with 49% and 45%, respectively, of survey respondents doing work in those traditional project hotbeds, at least 37% of respondents were also doing work in the Southeast, Mid-Atlantic and Southwest. **Rising energy demand, surging prices and reliability concerns are national challenges, and DERs and microgrids have become a national industry.**

## In what region does your organization operate?

- 1. Northeast: 49%
- 2. California: 45%
- 3. Midwest: 42%
- 4. Southwest: 38%
- 5. Southeast: 38%
- 6. Mid-Atlantic: 37%
- 7. Pacific Northwest: 32%
- 8. Asia: 17%
- 9. EU: 15%
- 10. Other: 15%
- 11. Canada: 11%
- 12. Mexico: 9%

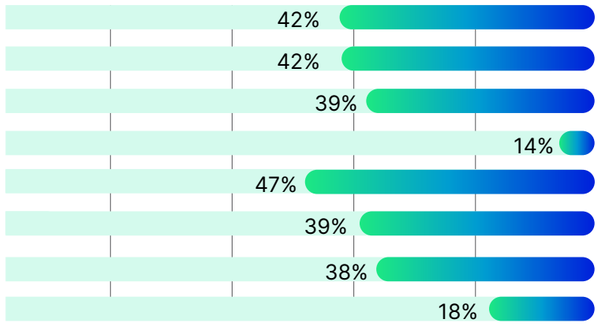
*Regions where respondents operate distributed energy projects.*

## Tools to Enhance Project Success

Given the current market environment and the fact that the top concern for the microgrid developer and DER developer groups was the ability to secure funding, industry professionals are focused on ways to reduce project risks, move faster, and improve margins to advance DER and microgrid development.

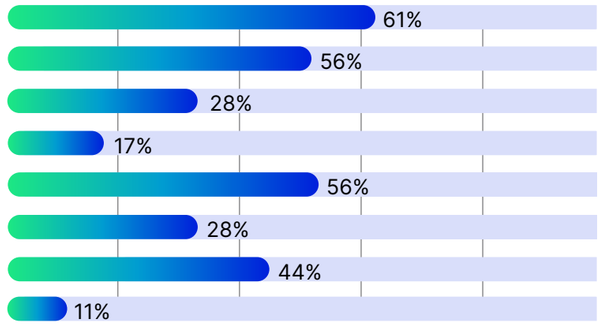
When asked to name the Top 3 benefits they seek from microgrid planning tools and software, the top two answers from microgrid developers were “reduce project risk” (47%) and “reduce uncertainty” (42%). “Return on investment” also stood out, with 42% naming it one of three top benefits. When asking the same question to non-microgrid DER developers, the response was similar: “Return on investment” led the way (61%), followed by “reduce project risk” (56%) and “reduce uncertainty” (56%).

**Please select the top 3 benefits that microgrid planning tools/ software could bring to your microgrid development business.**



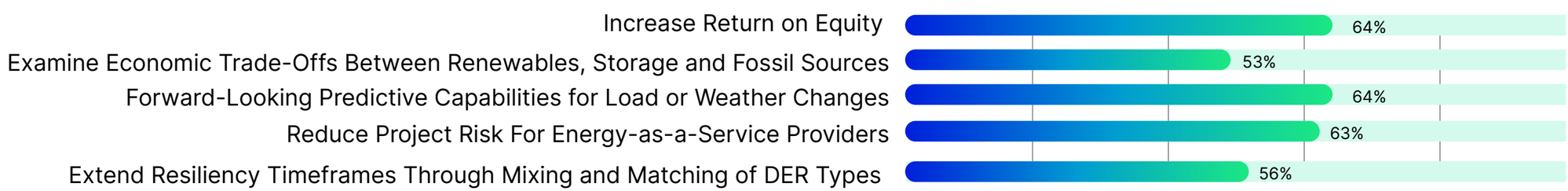

Increase Return On Investment
Reduce Uncertainty
Examine Economic Trade-Offs Between Renewables, Storage and Fossil Sources
Better Understand Thermal Energy Considerations
Reduce Project Risk
Reduce Engineering Costs
Reduce Implementation Timelines
Increase Project Volume

**Please select the top 3 benefits that planning tools/software could bring to your Non-microgrid DER development business.**

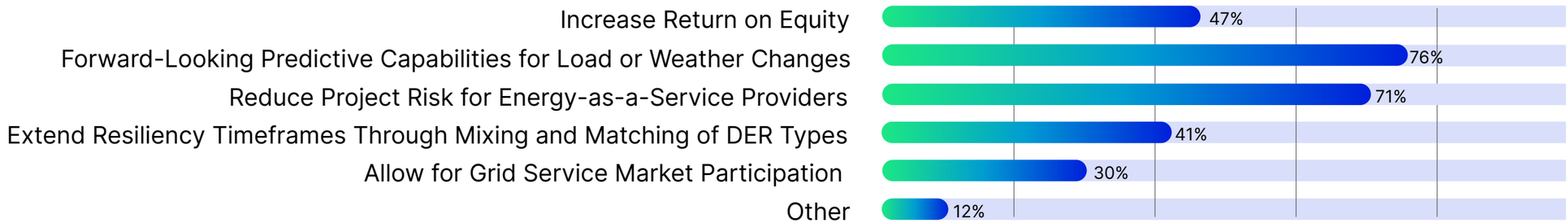


Focusing solely on smart microgrid control technologies, 64% of microgrid developers named “return on equity” as a Top 3 benefit they seek, 64% named “forward-looking predictive capabilities,” and 63% tabbed “reduced project risk for energy-as-a-service providers.” Among the non-microgrid DER developer group, the most named Top 3 benefits for smart control technologies were “forward-looking predictive capabilities” (76%), “reduced project risk for energy-as-a-service providers” (71%) and “return on equity” (47%). Although the benefits of forward-looking predictive capabilities are desired, the reality is that AI-powered, forward-looking predictive capabilities are in their infancy across the distributed energy controls market. As understanding of this type of technology grows, its importance and applications will also grow.

**Please select the top 3 benefits that smart microgrid control technologies could bring to your microgrid development business.**



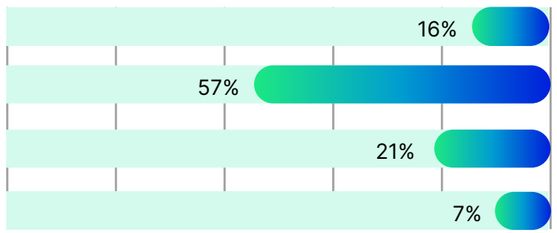

**Please select the top 3 benefits that smart control technologies could bring to your Non-microgrid DER development business.**



When it comes to their approaches to project design, more than 70% of microgrid developers said their organizations use their own internal design processes and proprietary tools or a combination of internal and external processes and tools. Only 21% used third-party firms for the design of all or most projects. Among non-microgrid DER developers, 55% used third-party firms for the design of all or most projects, and only 30% used their own internal processes and tools or a mix of internal and external.

The higher level of self-reliance among microgrid developers supports observations from Xendee industry partners: There is a greater level of standardization in the solar industry, making it easier to outsource and do design work. **Microgrid projects are more complex; therefore, microgrid developers must be prepared to handle this complexity.** Those that have already embraced microgrid development also have, by necessity, developed processes and integrated leading tools into their processes to handle this complexity. Use of external tools is, therefore typically in conjunction with internal tools, and collaboration with third-party firms is typical rather than fully outsourcing to third parties.

### Which of the following do you use to design your microgrid projects?



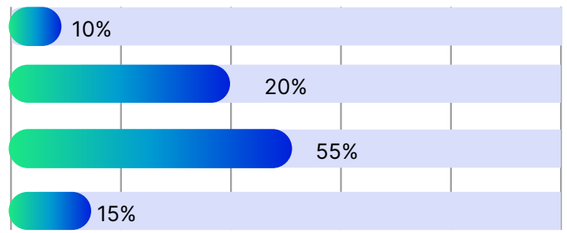

Our Own Internal Design Process (Using Proprietary Tools)

A Combination of Multiple Internal and External Tools and Processes

Third-Party Firms Determine the Designs for All or Most Projects

Other

### Which of the following do you use to design your distributed energy projects?



## Conclusion

Despite the harm survey respondents say the DER and microgrid industry has felt from federal funding reductions and policy changes in 2025, developers — particularly developers of microgrids — are finding ways to move forward thanks to broad market trends like rising energy demand from data centers, rising electricity prices and grid reliability issues.

However, the price of success is project complexity. Microgrids and DER projects will continue to lean heavily on solar and battery energy storage, as they have in recent years, but they will become more complex to capture more value. Developers will likely deploy a wider range of DERs for generation and storage and pursue efficiency through measures such as repurposing waste heat to meet their financial viability threshold.

Therefore, the ability to manage project complexity will separate successful developers from the rest. And those developers will look for every small advantage, including project planning and design tools or smart control technologies that deliver core benefits.

Partners with microgrid and DER expertise can help developers navigate the complexity with data and insights to support the planning, design, engineering and operation of projects.

## About the Survey

Between Oct. 29, 2025, and Nov. 17, 2025, Energy Changemakers and Factor This Renewables, on behalf of Xendee, conducted a market survey of microgrid and distributed energy industry professionals. More than 150 industry professionals qualified as survey respondents. They included senior executives, engineers, project managers, planners, marketers and operations professionals. They most frequently identified their organizations as microgrid developers, DER original equipment manufacturers, solar PV/battery energy-as-a-service providers, distribution infrastructure providers, public power utilities, and EPCs for microgrid and DER projects.

## Project Contributors

### Energy Changemakers

Energy Changemakers provides content and community for those working on the grid edge. Led by energy journalist Elisa Wood, the media platform publishes Decentralized Grid Magazine and Microgrids Now and produces the Energy Changemakers Podcast.

### Factor This Renewables

Factor This Renewables is a global, journalistic platform dedicated to delivering clear, unbiased, and actionable insights for the energy industry. Through precise reporting and thoughtful analysis, Factor This helps energy professionals make smarter decisions, move faster, and build a more resilient, sustainable grid. Energy understood. All factored in.

### Xendee

Xendee is an integrated software platform for microgrid and distributed energy resource (DER) design, optimization, and operation. It combines financial modeling, AI-driven optimization and multi-node capabilities to support organizations in developing resilient, cost-effective, and low-carbon energy systems.

For more information, visit Xendee.com or email us at: solutions@xendee.com
Press inquiries: press@xendee.com
1980 Festival Plaza Drive, Suite 300, Las Vegas, NV 89135