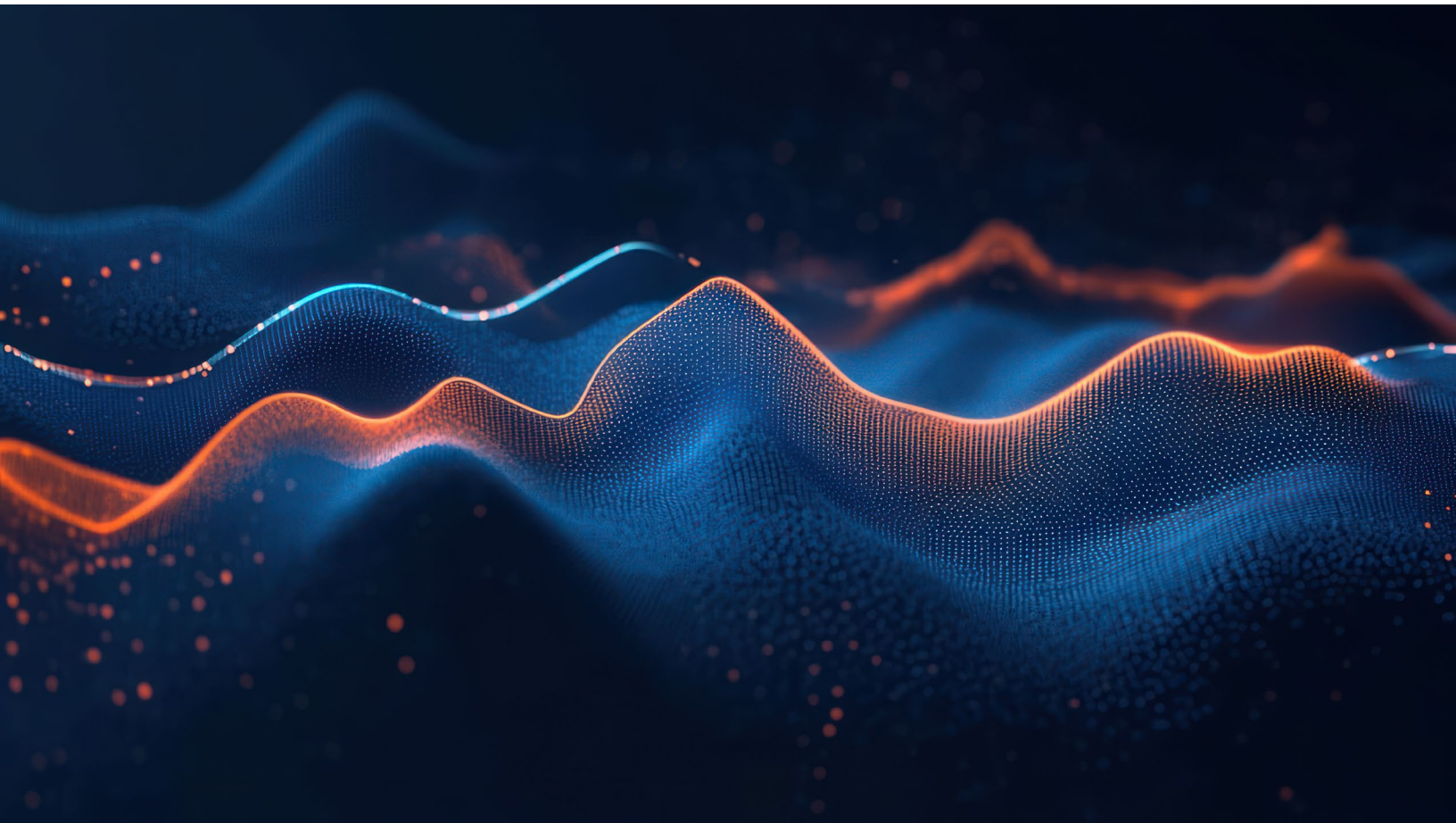


2026 Frost & Sullivan Technology Innovation Leadership Recognition

North American Microgrid Industry
Excellence in Best Practices

Enhancing Customer Impact Through Powerful Technology Integration



Top Transformations Impacting Growth in the Microgrid Industry

Reinventing Energy Infrastructure: Scalable Integrated Microgrid Systems for a Resilient, Low-Carbon Future

Energy systems face increasing strain as aging grid infrastructure, rising electricity demand, and more frequent extreme weather events contribute to prolonged and widespread power outages. In the United States alone, these disruptions result in economic losses of up to \$150 billion annually and pose significant risks to public safety and critical services.¹ While conventional energy systems play an important role in meeting current demand, the growing integration of renewable and distributed energy resources is increasing system complexity, driving the need for more flexible, resilient, and locally optimized energy solutions. Various sectors, including defense, utilities, municipalities, and rapidly expanding digital infrastructure organizations, now require energy systems that ensure reliability, optimize costs, and support decarbonization.

“Building on this technological foundation, Ameresco develops and deploys advanced microgrid systems that function as intelligent energy platforms. Through integrated control architectures, real-time monitoring, and lifecycle optimization, these systems dynamically manage energy flows, enhance system reliability, and reduce dependence on centralized infrastructure.”

– **Chippy Alphons Augustine**
Research Analyst

function as intelligent energy platforms. Through integrated control architectures, real-time monitoring, and lifecycle optimization, these systems dynamically manage energy flows, enhance system reliability, and reduce dependence on centralized infrastructure. By deploying microgrid solutions across mission-critical environments, including defense installations and municipal infrastructure, Ameresco properly demonstrates the growing role of microgrids in delivering resilient, low-carbon energy systems that maintain reliable performance under both normal operating conditions and grid disturbances.²

In this context, microgrid technology is emerging as a critical enabler of next-generation energy systems. By integrating distributed energy resources such as solar photovoltaic systems, energy storage, and controllable (dispatchable) power sources with advanced control systems, microgrids can balance supply and demand in real time and maintain reliable power under changing conditions. These systems can operate in coordination with the grid under normal conditions and transition seamlessly to independent (islanded) operations during disruptions, ensuring a continuous power supply to critical loads.

Building on this technological foundation, Ameresco develops and deploys advanced microgrid systems that

Intelligent System Architecture and Control

Ameresco applies a system-level design approach to integrate generation, storage, and load management into coordinated energy architectures that respond dynamically to real-time operating conditions. A

¹ [Energy Allies: Communities and Utilities Building Resilience Together- Ameresco](#)

² Company Website - [Infrastructure Solutions Provider](#) | [Efficiency & Analytics](#) | [Ameresco](#)

defining feature of this architecture is the use of advanced control systems that manage distributed energy resources in real time. These controls optimize energy dispatch based on demand, availability, and system priorities, while enabling seamless transitions between grid-connected and islanded modes. This ensures operational continuity in environments where power reliability is critical.

While real-time distributed energy resource management is a standard capability across leading energy solution providers, Ameresco’s differentiation lies in its role as an independent system integrator that combines diverse technologies into application-specific microgrid configurations rather than relying on proprietary hardware platforms.

The company’s technology-agnostic model enables it to integrate a range of energy assets, including renewable generation, energy storage, and controllable power sources, such as combined heat and power

“The company’s engineering approach addresses real-world constraints, including regulatory requirements, existing infrastructure limitations, and economic considerations, by adapting microgrid configurations to site-specific conditions. This enables deployment in environments where conventional grid solutions may be insufficient or impractical.”

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systems. This flexibility supports site-specific optimization while maintaining interoperability and long-term adaptability. In contrast to competitors that often deploy vertically integrated or vendor-specific ecosystems, Ameresco’s approach allows it to select and integrate best-in-class components based on customer requirements, enhancing customization and reducing technology lock-in risks.

Ameresco’s systems further incorporate energy management systems and supervisory control platforms that provide real-time system visibility, performance monitoring, and automated response to disturbances. Similar digital control capabilities are also present in other competing platforms; however, Frost & Sullivan points out

that Ameresco’s true value lies in how these systems are configured to manage multi-asset hybrid microgrids across diverse, often mission-critical environments. These capabilities enhance operational efficiency and enable continuous system optimization over time. By supporting localized operation during grid disruptions, Ameresco’s microgrid systems reduce reliance on centralized infrastructure and strengthen overall energy resilience.

Engineering Adaptive Microgrid Systems for Complex Environments

Ameresco demonstrates its creativity through its ability to configure microgrid systems for diverse and complex operating environments. It treats each deployment as a customized system design problem in which energy resources are arranged to meet specific load requirements, infrastructure constraints, and operational priorities.

Within these systems, different energy sources are coordinated to function cohesively, allowing for dynamic prioritization of available resources. For example, it facilitates the utilization of renewable generation when available, with storage and controllable generation supporting stability and reliability. This adaptability is particularly critical in mission-critical environments such as military installations and

data centers, where microgrid systems must ensure uninterrupted power supply and rapid response to fluctuating demand conditions.³

The company's engineering approach addresses real-world constraints, including regulatory requirements, existing infrastructure limitations, and economic considerations, by adapting microgrid configurations to site-specific conditions. This enables deployment in environments where conventional grid solutions may be insufficient or impractical. Through continuous refinement based on real-world deployment experience, Ameresco ensures its microgrid solutions evolve to become increasingly effective and adaptable to emerging energy challenges.

Disciplined Execution for Scalable Microgrid Deployment

Ameresco drives its stage-gate efficiency using an integrated project delivery model that aligns engineering design, project development, financing, construction, and long-term operations within a unified framework. This approach minimizes fragmentation across project phases and reduces delays typically associated with multi-stakeholder energy infrastructure development. By maintaining continuity from concept through deployment, the company ensures a smoother progression through each stage of the project lifecycle.

A key enabler of this efficiency is early-stage feasibility assessment combined with proactive stakeholder engagement. By addressing permitting requirements, interconnection challenges, and regulatory considerations at the initial stages, Ameresco reduces uncertainty and accelerates project approvals. This structured approach enables a faster transition from project concept to execution while mitigating the risks of delays and cost overruns.

Ameresco's consistent delivery of complex microgrid and distributed energy projects for federal agencies, municipalities, and commercial customers, often under long-term performance-based contracts, demonstrates its ability to manage extended development cycles efficiently while maintaining high execution reliability.

The use of a standardized yet modular microgrid architecture further strengthens stage-gate performance. By leveraging proven system configurations adaptable to site-specific requirements, Ameresco reduces engineering complexity and shortens design cycles. This repeatable framework allows the company to scale deployments efficiently without compromising system performance or reliability. Additionally, Ameresco integrates financial structuring into the early stages of project development through mechanisms such as energy savings performance contracts, which typically span up to 20 years and serve as indicators of lifecycle accountability, system performance, and sustained operational delivery. This alignment of technical and financial planning reduces barriers to project initiation and enables faster customer decision-making, thereby accelerating deployment timelines.⁴

³ Company Website - [Infrastructure Solutions Provider | Efficiency & Analytics | Ameresco](#)

⁴ [Frost & Sullivan Discussion with Ameresco](#)

Through the integration of delivery, early risk mitigation, modular system design, and aligned financial structuring, Ameresco demonstrates a disciplined approach to executing complex microgrid projects efficiently and at scale.

Proven Commercial Deployment of Microgrid Systems

Ameresco demonstrates strong commercialization success through the large-scale deployment of microgrid systems across diverse applications. These systems have moved beyond pilot stages into fully operational infrastructure, delivering measurable performance in mission-critical environments. Ameresco's execution track record includes deployments for federal agencies, utilities, and municipalities, including projects with the U.S. Department of Defense, where microgrids are designed to ensure uninterrupted power supply for critical operations, directly supporting energy resilience and operational continuity.

A defining aspect of this success is the repeatability of its microgrid deployment model. By leveraging a standardized yet adaptable architecture, Ameresco has scaled its solutions across multiple sectors while maintaining consistent performance and reliability. For example, projects such as the Kūpono Solar and battery storage system in Hawaii (42 MW) and United Power's battery energy storage installations in Colorado (78 MW/313 MWh) underscore the company's ability to deploy large-scale, integrated energy systems that enhance grid reliability, enable renewable integration, and support peak load management.⁵ Additional deployments, including municipal and wastewater infrastructure projects, demonstrate measurable outcomes, such as reduced energy costs through on-site generation and efficiency improvements, and emissions reductions through increased use of renewable energy. These systems also provide backup power capabilities that reduce downtime during grid disruptions, directly contributing to resilience at the facility and community levels.

Its portfolio of operational projects across North America provides strong evidence of market validation, with systems consistently delivering real-world performance across federal, utility, and commercial applications. Compared to competitors that often emphasize proprietary platforms or equipment, Ameresco differentiates itself by deploying integrated, multi-technology solutions across a broader range of project types, particularly in federally funded and performance-contracted environments.

This reflects a strong capability in translating advanced microgrid technology into commercially viable infrastructure. The company's focus on lifecycle performance, supported by long-term contracts and operational oversight, ensures sustained value, reinforces customer confidence, and enables ongoing engagement across projects.

Scaling Microgrid Applications Across Sectors

Microgrid technology serves as the central platform enabling Ameresco's application diversity and growth potential. These systems are deployed across federal, municipal, utility, and commercial environments, demonstrating adaptability across a wide range of operational conditions. Ameresco's applications span

⁵ [Energy Allies: Communities and Utilities Building Resilience Together - Ameresco](#)

sectors such as defense infrastructure, wastewater treatment facilities, campuses, and data centers, reflecting the versatility of microgrid systems across public and private sector use cases.

The growing need for resilient, decentralized power, particularly in mission-critical and energy-intensive environments, is accelerating microgrid adoption. Increased frequency of grid disruptions and rising electricity demand reinforce this trend, driving greater reliance on localized energy systems such as microgrids.⁶ Ameresco's expertise in designing and deploying advanced microgrid systems positions it to meet this growing need. Collaborations with utilities, municipalities, and government agencies further support growth by facilitating the integration of microgrids into broader energy systems and expanding deployment opportunities.

By enabling multiple outcomes within a single system, including resilience, cost optimization, and emissions reduction, microgrids enhance value for customers while supporting broader energy transition goals. This alignment with structural market trends, combined with the ability to replicate and scale deployments, positions Ameresco for sustained growth.

Operational Excellence Supporting Financial Strength

Ameresco attributes its robust operational and financial performance to the efficiency and reliability of its microgrid systems. Through advanced control and optimization, these systems ensure efficient energy utilization while maintaining consistent performance over time. The company reported total revenues of approximately \$1.93 billion in 2025, reflecting steady growth driven by expanding project deployments and energy asset operations.⁷

Real-time monitoring and continuous optimization enable microgrids to operate at peak efficiency, reducing energy waste and improving system reliability. This operational discipline extends to project execution, ensuring consistent, high-quality delivery. The company also maintains a multi-billion-dollar contracted project backlog, providing strong visibility into future revenue and reflecting sustained demand for microgrid and distributed energy solutions.

From a financial perspective, Ameresco benefits from diversified revenue streams supported by long-term contracts tied to system performance. A strong contracted backlog and recurring revenue structure provide visibility into future growth and financial stability. By combining system-level optimization with ongoing operational oversight, Ameresco ensures that its microgrid solutions deliver reliable and efficient performance over their lifecycle.⁸

⁶ [Energy Allies: Communities and Utilities Building Resilience Together- Ameresco](#)

⁷ [Ameresco Annual Report](#)

⁸ [Frost & Sullivan Discussion with Ameresco](#)

Conclusion

Frost & Sullivan applauds the way that Ameresco clearly distinguishes itself through its leadership in energy innovation, advancing and deploying microgrid technology as a scalable solution to modern energy challenges. By integrating distributed energy resources within intelligent, adaptive systems, the company delivers infrastructure that simultaneously addresses resilience, efficiency, and decarbonization.

Aligned with the structural shifts shaping the energy sector, including decentralization, electrification, and rising demand from high-intensity applications, Ameresco is well-positioned for sustained growth. Its ability to translate microgrid technology into reliable, real-world deployments reinforces its role in advancing next-generation energy systems. Collectively, these strengths present a compelling and well-substantiated case for recognition as a technology innovation leader.

With its strong overall performance, Ameresco earns the 2026 Frost & Sullivan Technology Innovation Leadership Recognition.

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