

Predictions 2025: Energy and Utilities

An industry leveraging technology to fuel the future

Today's energy and utility leaders are under pressure to meet rising demands for power. Economic growth and technological advancements are driving voracious electricity consumption across the globe, with the equivalent of Japan's annual electricity demand projected to be added to global grids every year.¹

In a capital-intensive sector, companies are drawing from a broader range of energy sources to meet power needs and control costs for both their business and for customers. And leaders are using technology to develop more secure and sustainable energy systems. By applying technologies like AI, energy and utility companies can proactively problem solve. They can use distributed energy resources (DER) and virtual power plants, implement predictive maintenance processes for power system equipment, and optimize power load during high demand.

But 75% of leaders — more than those in other key industries — say their organizations struggle to keep up with the pace of technological change.² Many companies still rely on IT estates that are burdened by technical debt, bloated application portfolios and siloed data — obstacles that limit the full benefits of newer technologies like generative AI.

Further, only a third of leaders feel prepared to manage cyberattacks, a stark finding in a sector heavily reliant on end-of-life assets. To manage the multiplying threats aimed at critical infrastructure, leaders must sharpen their focus on cyber resiliency, ensuring they're ready to anticipate, withstand and recover from adverse events.

In the coming year, the sector's technology leaders will look to balance investments in new technology with efforts to refresh outdated systems. They'll work to strengthen their resilience against extreme weather and grid disruptions. And they'll identify more opportunities to remove technology barriers that stand in the way of efficiently, securely and reliably delivering power far into the future.

¹ *World Energy Outlook 2024*, International Energy Agency

² *Kyndryl's Readiness Report*, 2024 October



The readiness paradox



87% of leaders in the energy and utilities sector are confident their IT infrastructure is best-in-class.



67% of leaders in the energy and utilities sector are concerned that their IT tools or processes are outdated or close to end-of-life.



Only **32%** report their IT infrastructure is completely ready to manage future risks, which is below the overall average of 39%.

2025 outlook

- As companies prepare to meet growing power demand, they will apply technology to accelerate innovation around distributed energy resources (DER). Building networks from transmission to distribution locations can be costly and complex, inhibiting companies' ability to meet demand. DER are smaller-scale energy storage and generation devices and technology— like battery storage and solar panels — that are situated closer to where electricity is used to improve reliability, resilience and efficiency.
- Proactive companies will prioritize cybersecurity and resilience as attacks targeting critical infrastructure increase. Their efforts will expand to protect IT and operational technology, which includes industrial systems. Although this IT/OT convergence enables energy and utility companies to monitor conditions in real-time and make better use of their data, it also creates more entry points for an attack. Companies will also aim to strengthen their supply chain resiliency as geopolitics and cyber threats converge.
- With investments in AI and demand for AI datacenters on the rise, energy and utility companies will prepare to meet these increasing power needs while also using AI to increase efficiency. In 2025, more companies will explore how smart grid technologies and AI can help them use real-time data to optimize energy flow, forecast energy generation, assess climate risks and more. Implementing these technologies can improve overall grid resiliency and help ensure grid stability as AI's power consumption grows.

Market activity

Kyndryl is working with a major UK electricity distributor to accelerate the connection of new sources of distributed energy resources. Through a platform supported by a cloud-based environment that enables the management of electric network capacity, Kyndryl is supporting an initiative to connect more generation and batteries in the network that otherwise would have been delayed awaiting transmission network reinforcements.³

³ [*Fiscal 2024 Corporate Citizenship Report, pg. 43*](#)

“The energy and utilities sector faces a modernization challenge. Leaders are under immense pressure to not only meet the explosive energy demands of the developing global economy but build capacity to meet the demands of the future. At each step in their transformations, enterprises are scrutinizing their technology investments and accelerating those that make the greatest business impact.”

— *Onofrio Pirrotta, Senior Vice President, Managing Partner and leader of Kyndryl U.S. Manufacturing and Energy Market*





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