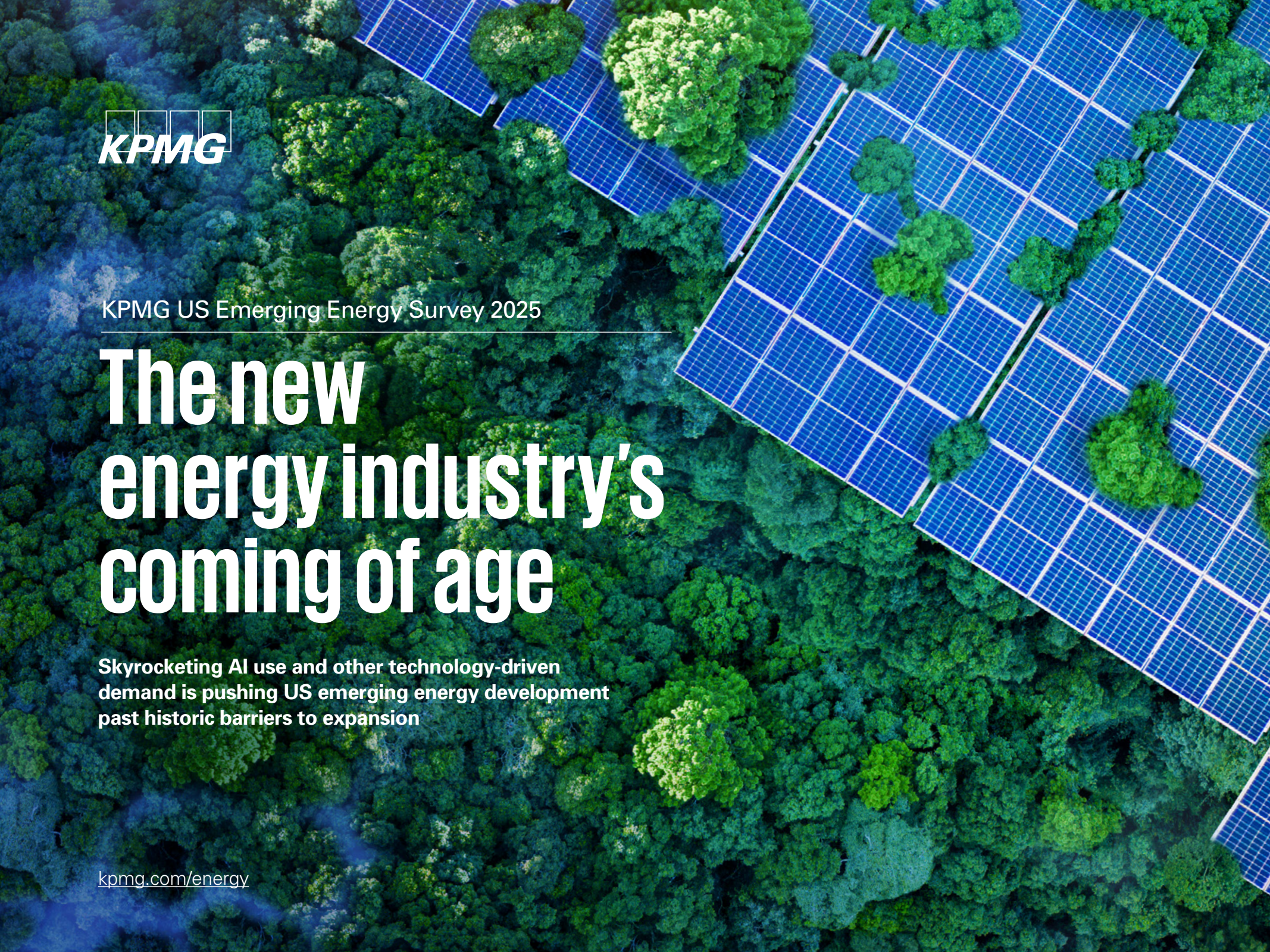


KPMG US Emerging Energy Survey 2025

The new energy industry's coming of age

Skyrocketing AI use and other technology-driven demand is pushing US emerging energy development past historic barriers to expansion

kpmg.com/energy



The emerging energy industry is at a crossroads.

Growth is not being driven solely by government policy or environmental mandates, but by raw, unstoppable demand.

Power-hungry artificial intelligence (AI) grabs headlines, and indeed, AI data center energy needs are estimated to expand 10 times in just the next five years by one account.[1] But electrification across industries, electric vehicle uptake, and other developments combined with AI expansion make the inclusion of emerging energy an absolute necessity to support our technology-driven future.

Not that challenges don't remain—they do: high costs, ongoing supply chain disruption, political uncertainty, and talent shortages, to name a few. This year's survey of emerging energy leaders reveals both resilience and the search for solutions amid constant change. The sector's transformation is not just about keeping the lights on—it's about reimagining how energy is sourced, stored, transmitted, and financed.

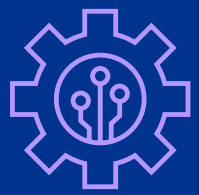
Our survey participants

KPMG surveyed more than 100 c-suite executives and senior leaders at emerging energy companies primarily with US headquarters, across a mix of private, public, and privately held pass-through ownership structures, as well as several non-profit and government/public sector organizations.

1 Source: Axios, "AI power demand to grow tenfold by 2030, new report says" (October 7, 2025)

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Highlights from our survey of emerging energy executives.



71% say the energy mix must expand to meet surging technology-driven demand, especially from AI and data centers



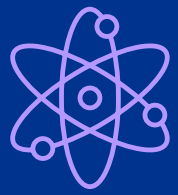
31% see traditional financing as the most relevant mechanism for scaling the emerging energy sector, signaling a shift away from reliance on tax credits



48% are prioritizing energy storage technologies, making battery storage the top focus for expansion



62% say the political environment is impacting their investment decisions, up significantly from last year



72% expect significant growth in nuclear energy



49% cite tariffs as a top supply chain issue, and **9 out of 10** point to increased materials costs

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Unprecedented demand is rapidly reshaping priorities across the energy landscape

Technology's big energy appetite and the burden on power utilities

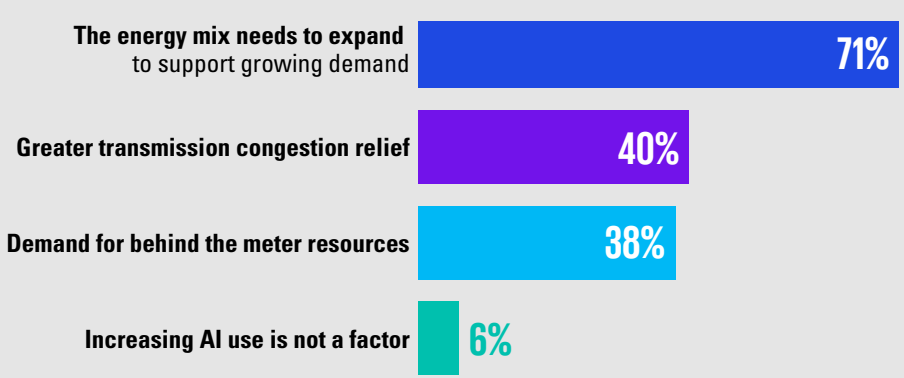
Technology-driven demand—especially from AI and data centers—is fueling a surge in power needs that no single energy source can satisfy alone. Most executives (71 percent) say the industry must broaden its energy mix to keep pace.

Tech giants concerned about grid reliability continue to strike deals directly with energy providers to build dedicated resources adjacent to their data centers. We may see a pickup in Federal Energy Regulatory Commission approvals for behind-the-meter (BTM) systems since the US Department of Energy directed the agency to assert jurisdiction over load interconnections and establish standardized procedures to support US commitment to "revitalizing domestic manufacturing and driving American AI innovation."[2] With only 38 percent of survey respondents expecting growth in BTM resources, most companies are still looking to utilities shoulder the surge.

Now utilities need to think about where to source energy, how to connect it to the grid, and how to deliver power where it's needed most to meet the intensifying energy demand. The 40 percent of respondents citing congestion relief concerns underscores the looming transmission challenges.

2 Source: Department of Energy, "Secretary of Energy s Direction that the Federal Energy Regulatory Commission Initiate Rulemaking Procedures and Proposal Regarding the Interconnection of Large Loads Pursuant to the Secretary s Authority Under Section 403 of the Department of Energy Organization Act" (October 23, 2025)

What is the impact of increasing energy demand from artificial intelligence, including GenAI?*



* Respondents selected all that apply



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Unprecedented demand *continued*

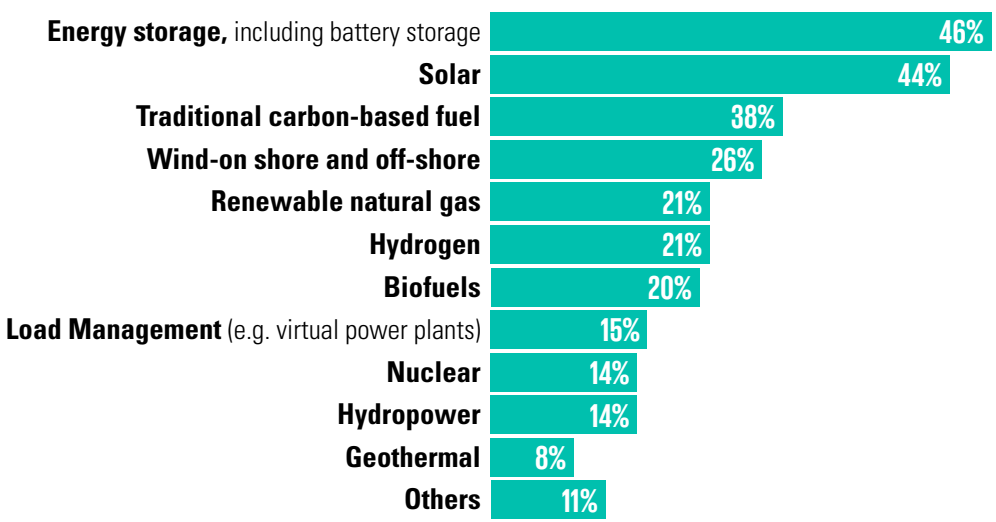
Battery storage: The great enabler

Nearly half of companies surveyed are prioritizing energy storage, somewhat outpacing interest in solar and traditional carbon-based fuels. Battery storage isn't just a trend—it's the top focus for expansion, with 40 percent looking into solar-plus-storage development, more than any other emerging technology. Carbon capture and utilization (CCUS) and standalone battery storage round out the top three.

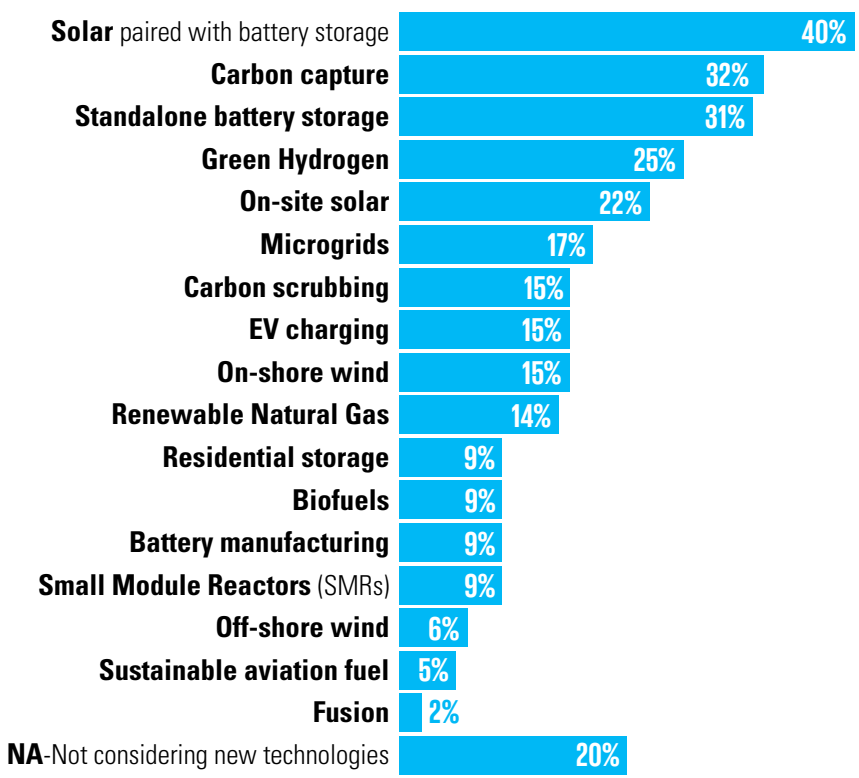
The most promising application for battery storage is unsurprisingly pairing it with renewables, according to 41 percent of respondents. Government initiatives like the One Big Beautiful Bill Act (OBBBA) are fueling momentum, offering tax credits, flexible financing, and manufacturing incentives through the 2030s. But it's not all smooth sailing: companies must navigate new supply chain sourcing and partnership rules and avoid foreign-controlled components while domestic production ramps up.

48% of companies in the renewable sector are focused on energy storage technologies.

Current energy portfolio*



Energy portfolio expansion under consideration*



* Respondents selected all that apply

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Unprecedented demand *continued*

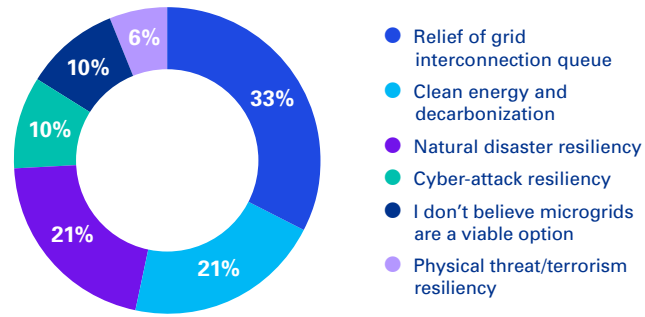
Carbon capture: Cross-sector appeal

The industry's accelerated expansion into CCUS technologies is driven by both incentive and need. The OBBBA significantly modified the federal Section 45Q tax credit incentives for CCUS, particularly for projects capturing CO_2 from industrial and power facilities, as well as for direct air capture.[3] Such projects increasingly appeal to industries like cement, steel, and chemical production as offering the most feasible decarbonization technology.

Microgrids: Relieving congestion and boosting resilience

One-third of executives cite grid interconnection relief as the main driver behind microgrid expansion. The combination of microgrid and battery storage technology creates resilient, reliable, and clean local energy systems, which in turn provides additional relief on the grid. Globally, the microgrid market is expected to grow at a compound annual growth rate of more than 17 percent through 2030 spurred by international growth in household and industrial sectors.[4]

Over the next five years, what is going to be the main growth driver for microgrids?



3 Source: Carbon Capture Coalition, "The One Big Beautiful Bill Act of 2025" (June 2025)

4 Source: Grand View Research, Microgrid Market (2024 - 2030)

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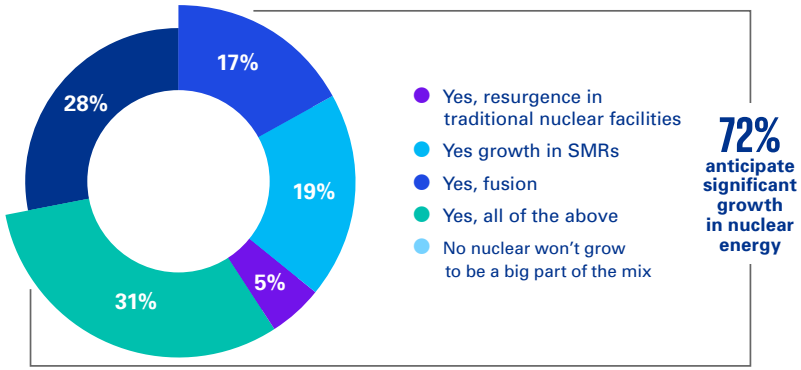
Unprecedented demand *continued*

Nuclear: A renaissance in clean power

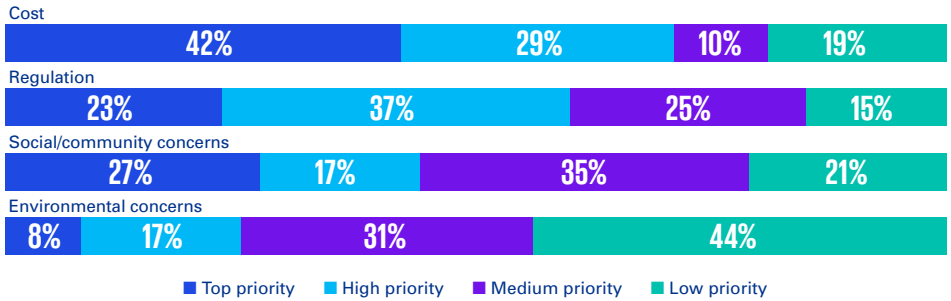
A striking 72 percent of executives anticipate a comeback for nuclear energy, buoyed by White House support for new small modular reactors (SMRs) and efforts to keep aging plants online. Meanwhile, private equity and venture capital investment in advanced nuclear companies last year surpassed total deal value of the previous 15 years combined.[5]

Still, nearly a quarter of executives surveyed remain unconvinced that nuclear will play a major role. Utility-scale nuclear faces some significant hurdles, particularly high costs and regulatory complexity.

Based on breakthroughs in fusion technology and recent announcements of nuclear plant revivals, do you expect to see significant growth in nuclear energy?



What are the barriers to including utility-scale nuclear as part of the energy mix moving forward? (Ranked by priority)



5 Source: S&P Global, "Private equity flows to advanced nuclear companies hit record high in 2024" (February 4, 2025)

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Industry leaders aren't waiting for stability—they're moving ahead despite uncertainty

New energy in the new political environment

Energy companies are feeling the effects of a new political environment in the United States. In 2024, only 23 percent of industry executives said that politics had impacted their investment decisions. In 2025, that number has soared to 62 percent, with respondents pointing to uncertainty and a pullout by investors as leading to more delayed and canceled US projects.

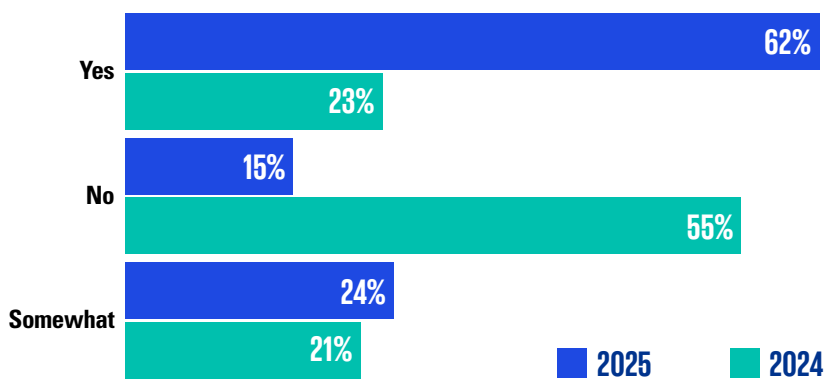
"We have billions in short-term investments and commitments to new renewable projects in the US," according to one executive surveyed. "These… will remain on pause until clear policies emerge supporting the investments." Uncertainty "makes the United States unattractive" and "drives investments to other geographies," according to other respondents.

Sixty percent of respondents say that renewable portfolio standards (RPS) do not impact their project pipeline decisions, in line with 57 percent last year. The remaining 40 percent continue to see RPS as key to driving emerging energy uptake. "Many large-scale renewable projects are premised on RPS requirements and associated regulations. Without them, these projects would not advance," one survey respondent said. Added another, "Predictable demand helps to derisk capital."

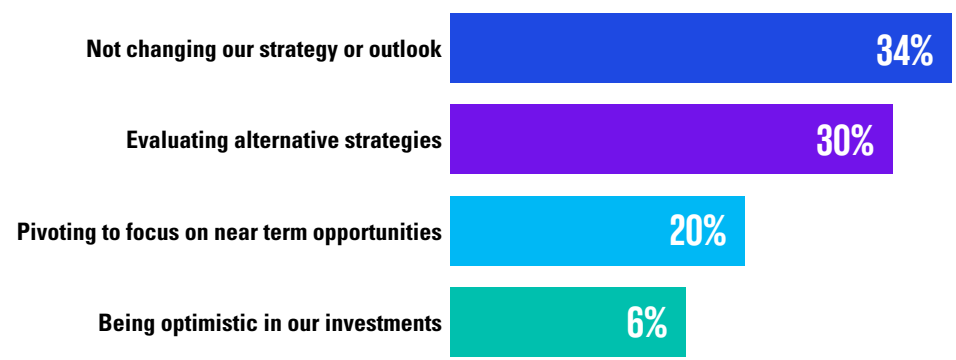
The OBBBA repeals EV purchase credits and accelerates the phase-out of federal renewable energy tax credits to 2031, squeezing the pipeline for future solar and wind projects. By mid-2025, an estimated $22 billion in clean energy projects had been cancelled or delayed, representing 16,500 jobs.[6] Some organizations are accelerating their investments to beat the clock on incentives sunsetting in the near future and to grandfather in their pipelines of projects. Meanwhile, trade policies, including tariffs on steel, aluminum and battery minerals, threaten to make a difficult situation worse.

Some positive news: the OBBBA and other measures provide technology-neutral incentives, supporting certain renewable and emerging energy technologies and providing a degree of certainty the sector needs. Nuclear energy in particular fits into the administration's "energy dominance" strategy. Meanwhile, the OBBBA extends credits for carbon capture and biofuels, and some projects may benefit from the administration's relaxed permitting.

Do the shifting political winds affect your investment decisions?



How has your strategy or outlook changed under the current regulatory environment?



6 Source: E2, "$22 Billion in Clean Energy Projects Cancelled in First Half of 2025; $6.7 Billion Cancelled in June" (July 24, 2025)

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The percentage of executives who believe more than 10 years of government incentives is necessary dropped to

12% from 30%

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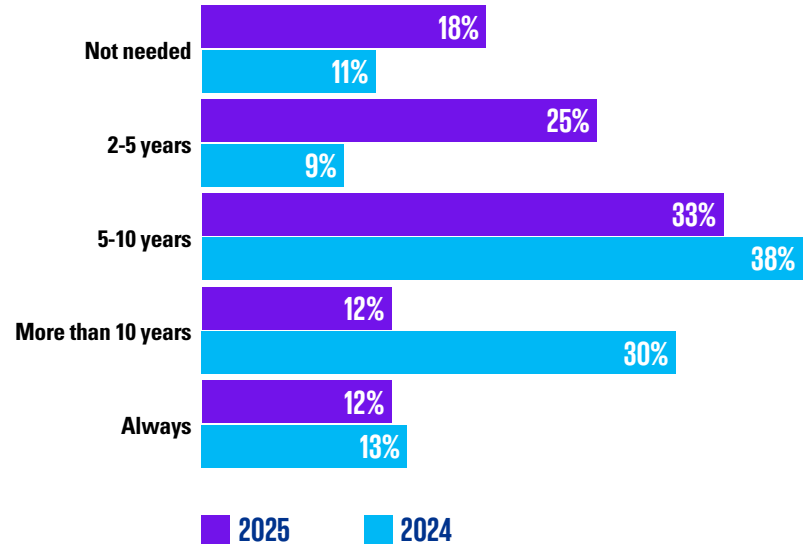
Industry leaders are moving ahead *continued*

Approximately one-third of companies are sticking to their plans, the likely path for traditional utility companies. However, a greater percentage of companies surveyed are exploring alternative strategies or pursuing quick wins over longer-term bets. Among these are PE-funded companies that can be more opportunistic. M&A activity has picked up, with $121 billion in global power and renewable generation deal value announced within the first eight months of 2025 compared to $119 billion for all of 2024.[7]

A changing perspective on incentives

Emerging energy executives increasingly believe that incentives are no longer needed for more established renewable technologies like wind and solar, 18 percent compared to just 11 percent in 2024. Furthermore, those who prefer incentives stay in place don't see a need to keep them for a lengthy period. The percentage of executives who believe more than 10 years is necessary dropped to 12 percent from 30 percent the prior year.

For existing technologies, i.e. wind and solar, how long do you think government incentive/financing programs need to stay in place until such projects can stand on their own?



7 Source: S&P Global, "Global power and renewables M&A review" (October 2, 2025)

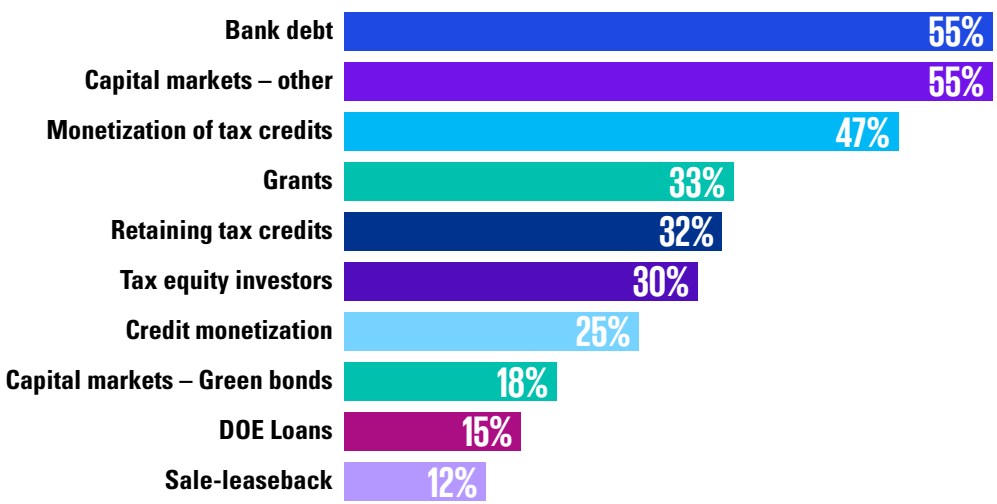
Industry leaders are moving ahead *continued*

A return to more traditional forms of financing

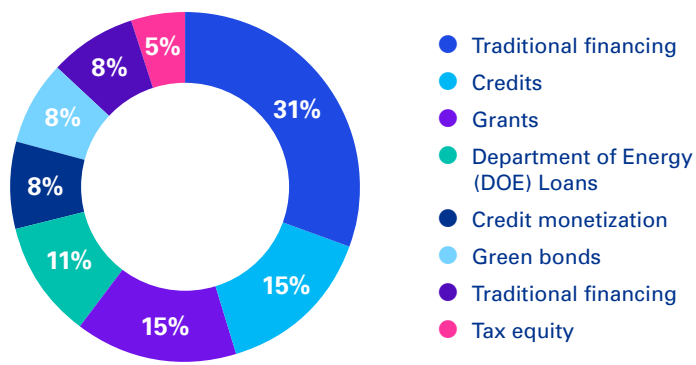
In our 2024 executive survey, tax credits emerged as the leading choice for financing existing projects and the most relevant mechanism for industry growth. Now nearly half of respondents still say their organizations are monetizing tax credits but even more are turning to capital markets or bank debt. Additionally, nearly one-third identify traditional financing as the most relevant approach for scaling the emerging energy sector.

1/3 of executives view traditional financing as the leading mechanism to fund the future of emerging energy.

What financing mechanisms is your organization leveraging?*



What do you think will be the most relevant mechanisms for growing the emerging energy industry?



* Respondents selected all that apply

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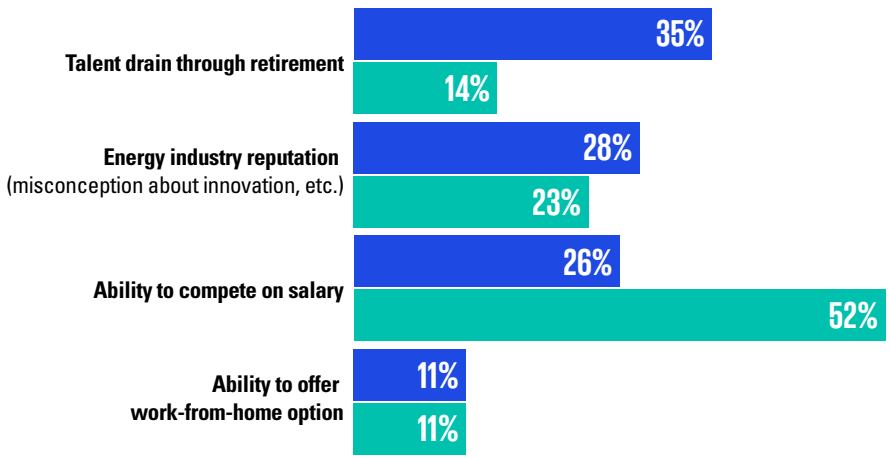
Industry leaders are moving ahead *continued*

Solving the talent drought

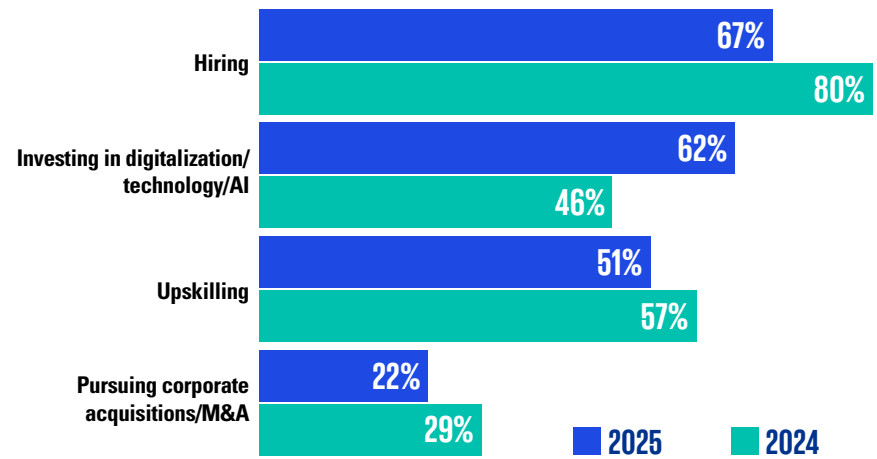
Continued progress hinges on complementing skilled workers with digital technology. However, the energy industry continues its struggle to compete against other industries for employees and to fill seats vacated by an aging workforce, the top challenge and one that's become more impactful this year, according to executives.

To meet talent needs going forward, 67 percent of companies are hiring, although that percentage dropped from 80 percent in the previous year. Investment in digital technologies like GenAI, AI agents, and robotic process automation to improve efficiencies has increased year over year, allowing organizations to do more with less.

What are the greatest challenges to establishing the right talent pool?



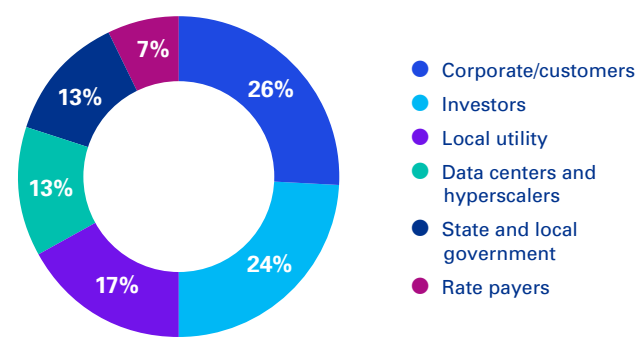
To meet future human capital demands are you:



Development is customer-driven

Emerging energy companies have strong market demand behind their pursuit of renewable and other new energy projects. As survey respondents indicated last year, customer influence on project pipeline decisions has grown while the importance of government and ESG mandates has subsided.

What stakeholders are the most relevant in your project pipeline development strategy?



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The battle against rising costs continues

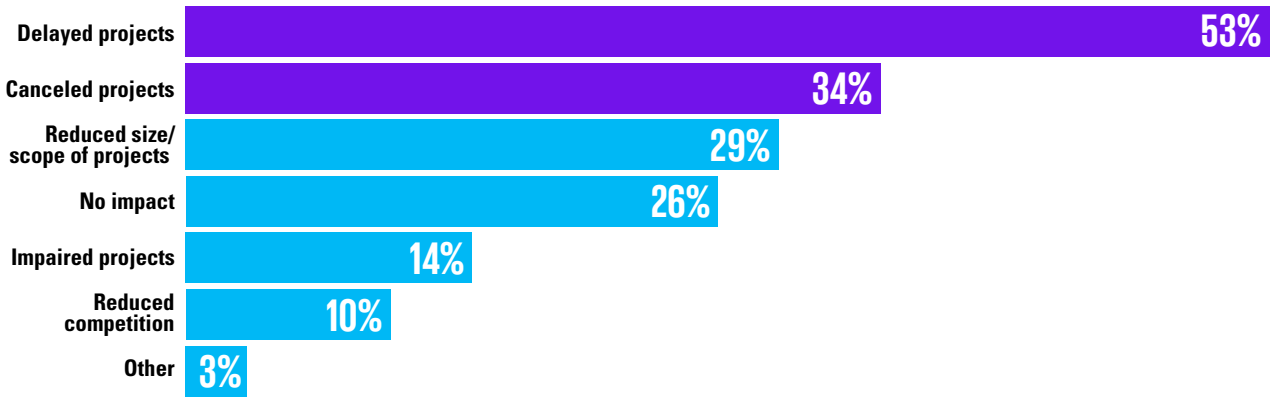
High capital costs are stalling energy projects

Delays remain the biggest inflationary impact year over year, affecting more than half of companies in our survey. More than one-third have canceled projects outright, while 29 percent reduced project size or scope. The higher cost of capital "raised the bar for project viability," a survey respondent said.

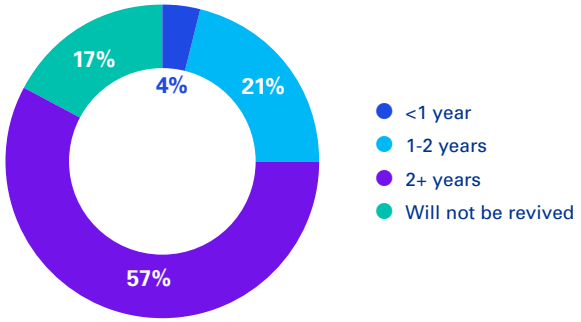
Relief looks further and further away. Among those who canceled or delayed projects, the largest percentage, 57 percent, think it will be two or more years before barriers fall and progress resumes. Another 17 percent don't believe their projects will be revived at all.

Still, a resilient one-quarter of respondents say they haven't experienced any inflationary impact on their development and funding strategies.

In recent years, how has the higher cost of capital impacted your company's energy development and funding strategy?



If you responded to the previous question that your company canceled or delayed projects, what does the time horizon look like for relieving any barriers?

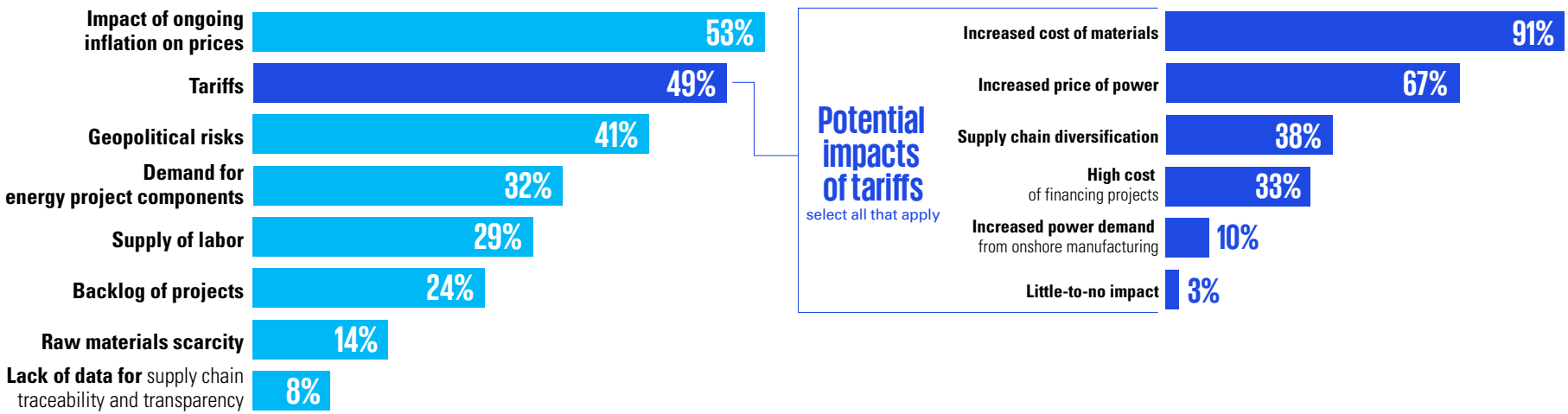




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The battle against rising costs *continued*

What are the most significant supply chain issues impacting your company's energy project(s)?*



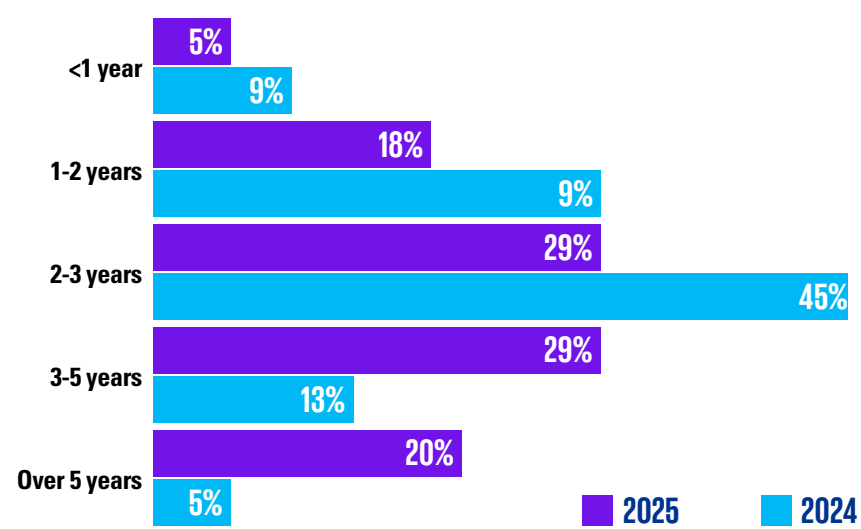
Supply chain troubles drag on

Demand for new energy is exacerbating existing supply chain bottlenecks, and energy executives have grown more pessimistic. Relief won't come for more than five years, according to 20 percent of respondents; just 5 percent said the same a year ago.

More than half of emerging energy executives say that inflationary prices are the greatest challenge in the supply chain, and nearly the same percentage point to tariffs. The impact is upending how and where companies are sourcing materials.

Companies are seeking new suppliers and locations, but domestic manufacturing can't keep up. Nearly 40 percent believe it will take over five years to build onshore capacity that leverages tax credits, and more than 10 percent doubt it will ever happen.

Projected timelines for supply chain relief are getting longer

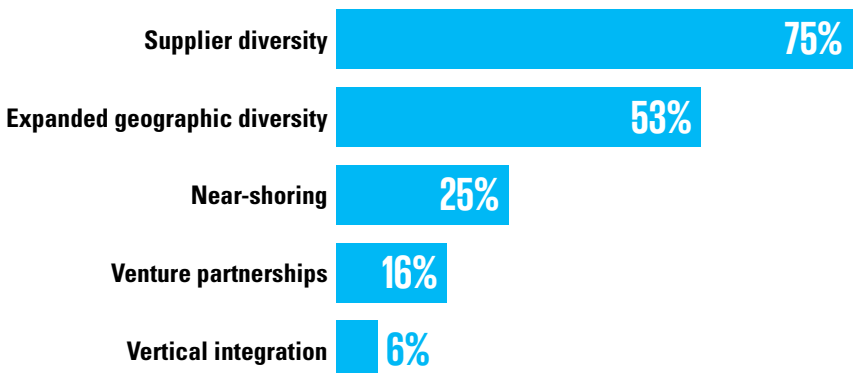


* Respondents selected all that apply

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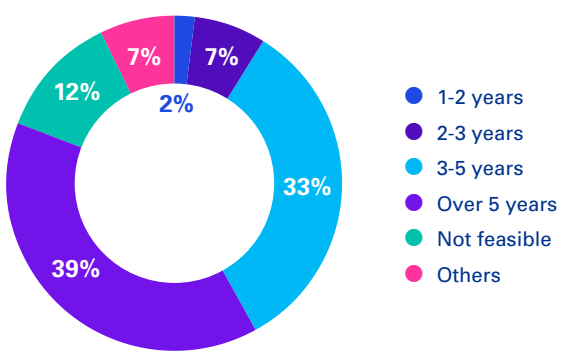
The battle against rising costs *continued*

How has your organization adjusted sourcing materials to address supply chain challenges, domestic content benefits and potential tariff risks?*



* Respondents selected all that apply

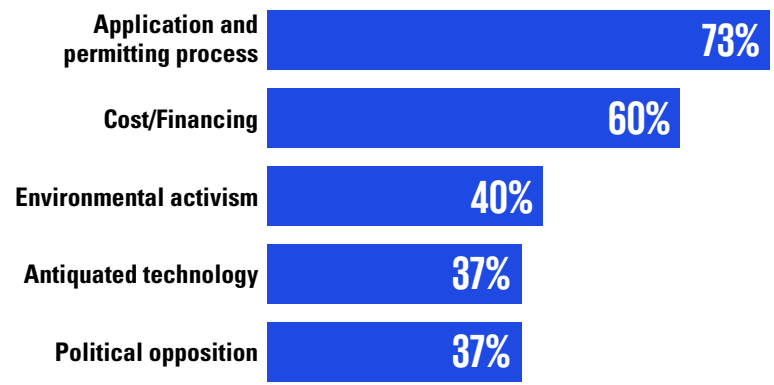
How long do you think it will take to develop onshore manufacturing that can take advantage of tax credits?



Cost is a rising challenge to improving energy transmission

While application and permitting remain the biggest hurdles to expanding transmission, cost and financing have surged to become the second-largest barrier, cited by 60 percent of industry leaders.

What are the most significant barriers to energy transmission?*



* Respondents selected all that apply

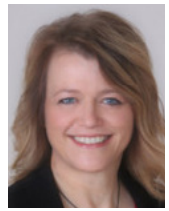
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Authors



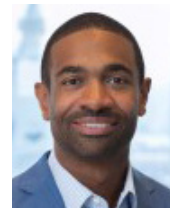
Todd Fowler
Partner
U.S. Sector Leader, Energy, Natural Resources & Chemicals, KPMG LLP

Todd leads KPMG's energy practice which includes a portfolio of audit, tax and advisory clients in the energy, natural resources and chemicals sector. He is responsible for ensuring that clients receive top-quality service from a dedicated team of professionals with deep industry expertise in the sector. He works to provide insights on energy industry trends, best practices, and resources for energy clients and KPMG professionals.



Kim Sucha
Partner
Tax, Power and Utilities, KPMG LLP

Kim is a senior lead Tax partner in the KPMG Power & Utilities and National Renewable Energy practices. She has worked extensively with a broad range of P&U clients including investor-owned utilities, renewable developers, and regulated municipal utilities. Kim advises clients on tax equity financing, renewable energy incentives, and structuring for large-scale energy projects. Her expertise includes federal and state tax matters, tax planning, and compliance.



Rob Wilson
Partner
Audit, Power and Utilities, KPMG LLP

Rob specializes in providing audit and advisory services in the P&U industry and has nearly 20 years of experience working with renewable generation companies, independent power producers; regulated utilities and gas supply, electric supply, and gas distribution companies. He is a member of the KPMG National Power & Utilities team overseeing technical accounting matters and has served as the industry accounting fellow for the Edison Electric Institute and the American Gas Association.



Brooke Harris
Director
Energy Transition, KPMG LLP

Brooke Harris is a Director in KPMG's Advisory practice with 18 years of experience in the energy industry. Her background extends from energy policy to commercial strategy in upstream exploration, LNG, and natural gas marketing across global markets. Brooke is a trusted advisor to organizations navigating the complexities of the energy transition. Her expertise in sustainability, climate and decarbonization, and environmental markets enables her to provide clients with strategic guidance on their most pressing challenges.

In summary

The 2025 KPMG US Emerging Energy Survey results paint a picture of an industry that has reached a turning point. If the United States expects to win the global AI race, it must also win the global energy race. No longer defined by its dependence on government support, emerging energy is becoming a foundation upon which our technological future depends.

Success amidst ongoing challenges belongs to energy organizations that can:

- Navigate uncertainty rather than wait for stability
- Build resilient supply chains despite tariffs and inflation
- Attract top talent while leveraging automation
- Maintain long-term vision in a short-term political world

With the industry learning to stand on its own feet, the focus now turns from potential to execution.

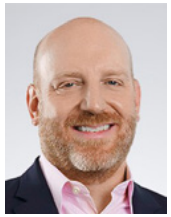
How KPMG can help

KPMG works with traditional and emerging energy companies globally to navigate the industry's challenges and opportunities, including accelerating energy demand from AI and other technology innovation. We provide a broad range of advisory, tax, and audit services while also tailoring our approach to address the specific needs of each organization.

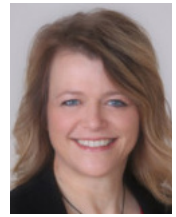
Our professionals help US energy companies understand the complex and evolving policy, regulatory, and business issues of energy projects to enhance incentives and execute on monetization strategies. We work with companies across the lifespan of each project, from developing business strategies and determining the impact of costs incurred before development, to the sale of existing projects, eligibility for credits and incentives, and tax and financial reporting implications.

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