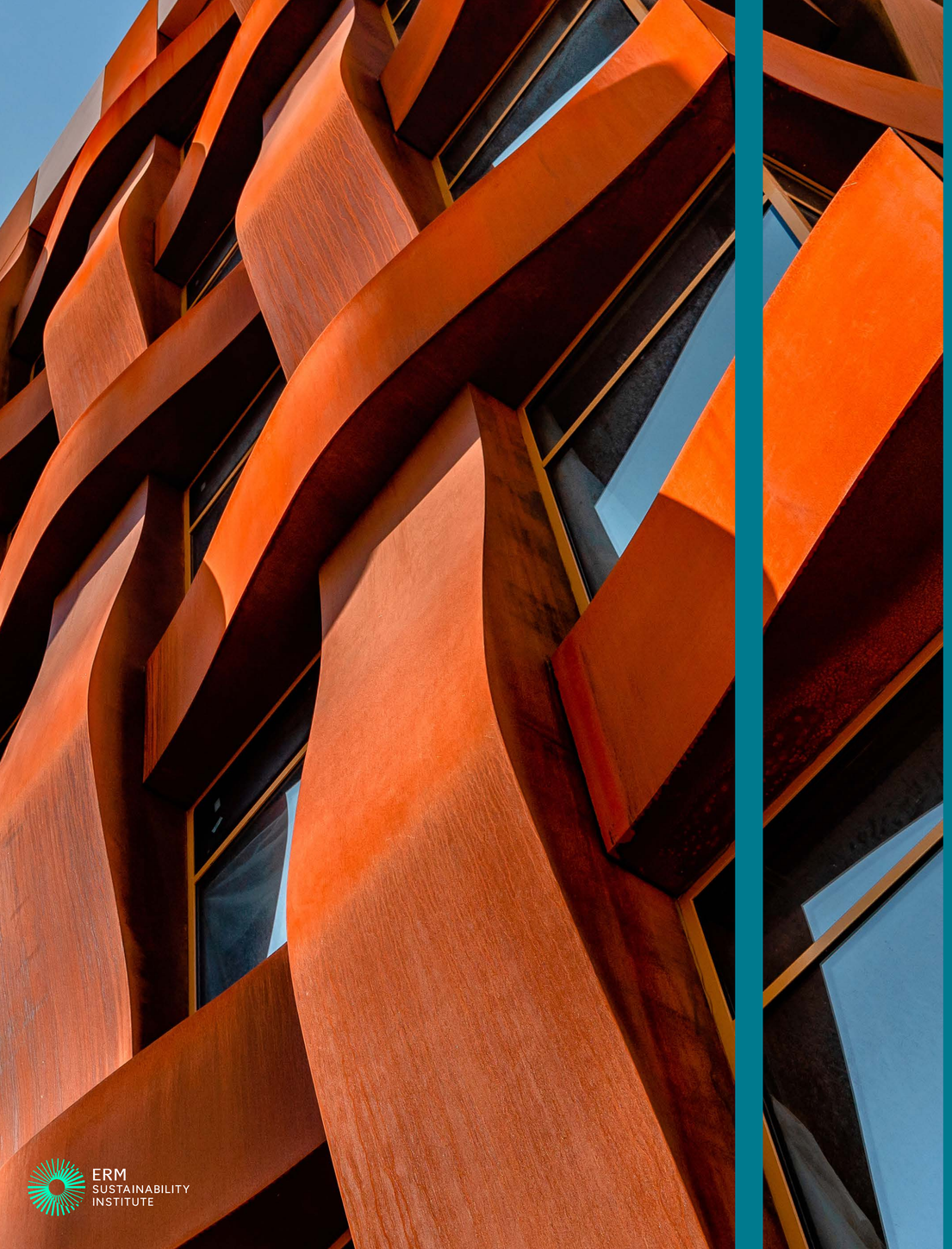
ERM
SUSTAINABILITY
INSTITUTE

2026 ANNUAL TRENDS REPORT:

Competing Pressures, New Approaches

January 2026



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Executive Summary

Every new year brings a mix of anticipation and unpredictability: excitement about the possibilities ahead and apprehension over the uncertainties that loom. Entering 2026, this duality is front and center for business leaders, especially regarding sustainability goals and programs that have endured consistent challenges over the past year. ERM expects several areas of tension to shape sustainability efforts in 2026.

In the fight against climate change, capping warming to 1.5°C, as set out in the Paris Agreement, looks like it will be increasingly hard to achieve. However, companies continue to invest heavily in renewable energy and resilience measures.

The political landscape remains fraught. Armed conflicts rage across the world, and states are turning to heavy-handed interventions as they position themselves for an increasingly multipolar world. Still, sustainability remains a policy priority in many countries. China's clean energy exports, for example, are accelerating decarbonization far beyond its borders, while countries including Australia, Japan, and Singapore recently advanced new sustainability disclosure initiatives.

The global economic landscape is likely to continue to fragment in 2026. The unprecedented use of tariffs, export bans, and other trade measures will continue to make life complicated for companies, putting sustainability efforts under pressure. Companies are adapting by prioritizing sustainable value creation and operational efficiencies that help maintain financial performance, a shift accelerated by changing external circumstances.

Lastly, exuberance about AI's potential to accelerate economic growth and solve intractable problems, as well as worries about technology's environmental impact and AI investment bubbles live side by side. Although concerns about technology are valid, companies are already benefiting from AI's ability to unlock operational efficiencies and streamline disclosure processes, thereby enhancing sustainability.

The year 2026 looks likely to be full of dichotomies such as the conflict between a desire to stimulate economic growth and control inflation. However, rather than slowing down, we expect companies to continue to advance their sustainability ambitions, both as a counterweight to uncertainty and as a performance catalyst.

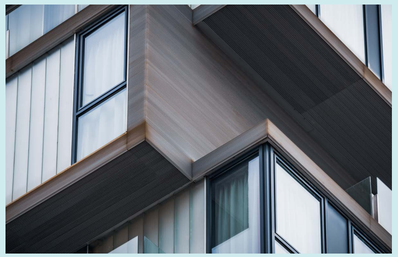
ERM's 2026 Annual Trends Report distills today's biggest sustainability issues, highlighting the drivers behind them and the actions companies are taking in response. This report looks a bit different than in recent years. We have organized it around four trends rather than under 10 headings as in previous editions to better align with the ever-evolving nature of sustainability.

Many themes will be familiar—think sustainability strategy and disclosure, energy and decarbonization, and the intersection of technology and sustainability, while the focus on Environmental, Health, and Safety (EHS) is new, reflecting the ongoing operationalization of sustainability within organizations.

The world does not stand still. Neither does ERM. As corporate sustainability evolves, we will partner with you to develop the understanding and approaches needed to thrive in 2026 and the years ahead.

TREND ONE:

Sustainability that pays: A new age of action emerges



Companies are shifting sustainability focus to actions that deliver measurable financial value

Tariffs, trade disputes, policy shifts, and geopolitical tensions are putting pressure on corporate sustainability efforts. However, concerns should not overshadow the search for sustainability-related opportunities to protect and create value. Proactively shifting sustainability pursuits to actions that clearly contribute to the bottom line can mitigate financial risks while also opening new commercial avenues.

Environmental and social performance is increasingly recognized as a major driver of capital project success

A responsible development strategy is critical for completing capital projects without costly delays or cancellations. Taking environmental and social aspects into consideration in the design phase, genuinely engaging stakeholders, and sharing benefits with affected communities are essential for successful delivery.

Companies need to make changes to fully leverage improved sustainability data

Despite the softening of sustainability regulations in some regions, the global trend is toward stricter, more comprehensive standards globally. Stringent regulatory and investor compliance requirements require comprehensive preparation and investments in sustainability data collection and management systems that deliver both cost savings and value creation.

TREND TWO:

Energy conundrums: Complexity deepens as demand rises

Diversified energy strategies are pivotal to corporate competitiveness and resilience

Companies are moving towards diversified energy strategies that include renewables, fossil fuels, nuclear, and other energy sources. These broad, technology-neutral approaches will remain key during geopolitical tumult, given the critical role that affordable and sustainable energy plays in competitiveness and resilience. Still, it is worth remembering that renewable energy continues to be the cheapest and fastest way to expand energy capacity.

Amid a grid investment surge, decentralized solutions receive increased attention

With the growth of intermittent power sources globally, investments to expand capacity and avoid congestion, blackouts, and interconnection delays are vital. While improvements are being made, they are unlikely to be completed fast enough to evade bottlenecks, making decentralized solutions, such as on-site storage, standalone mini-grids, and smart load management, essential to ensuring power continuity.

AI, community resistance, and skill shortages drive power approach revamps

The power sector and its corporate consumers face a steep learning curve. Partnerships and new technologies hold great promise for better managing the grid and meeting power needs. However, power sector players increasingly need to find answers to non-technological issues. Community resistance to infrastructure projects and a shortage of skilled employees are growing concerns that many companies are still struggling to address.

TREND THREE:

Sustainability meets the digital era: Challenges and possibilities ahead

Quick and sustainable data center expansion is a priority

As demand for digital services surges and data center construction expands to meet it, there are fears that sustainability and stakeholder impacts may become secondary to growth. While these fears are understandable, accounting for these factors is not only the right thing to do, it is central to minimizing public pushback and permitting challenges, and thus delivering faster buildouts.

Energy and water supply challenges have developers pursuing direct sourcing and efficiencies

Sufficient energy and water supplies are critical to data centers. However, securing the necessary resources is often a challenge for companies. Rather than being an insurmountable barrier, addressing energy and water needs through direct sourcing and efficiency gains can be a channel for companies to minimize operational disruptions while building support for their presence within local communities.

Companies treat AI as a driver of sustainability, not a barrier

Although AI may, in the short term, potentially hinder corporate sustainability ambitions, it is also poised to drive progress in the long term. The technology is likely to drive operational performance improvements, enhance transparency, and tie sustainability to value creation. Responsible adoption and careful analysis of AI's environmental and social footprint, however, remains critical to not losing sight of potential impacts.

TREND FOUR:

EHS transformation: Driving performance and value creation

Companies recalibrate EHS investment to keep pace with risks and create value

EHS is entering a new era, one where risk mitigation and commercial value creation objectives stand side by side. Investment recalibration will be central, as companies will need to align spending with their greatest risk exposures and value creation opportunities if their EHS approaches are to evolve to meet the moment.

AI, hybrid resourcing, and centralization help beat current EHS challenges

A new suite of solutions is required to overcome current EHS bottlenecks and meet demand for robust EHS data. Technology and AI, in-house capacity combined with hybrid resourcing, and centralized models underpinned by process standardization are all essential for continued high-quality EHS delivery. The unification of internal EHS data will be pivotal to making it all work.

Overlapping remediation risks and opportunities drive holistic approaches

Changing environmental and societal expectations, along with increasing physical climate risks, call for remediation approaches that assess all overlapping risks and opportunities. Flexibility is key to reaching various remediation goals simultaneously, whether by anticipating shifting environmental standards, accounting for physical climate impacts, or preempting resistance by creating community benefits.

Sustainability that pays:

A new age of action emerges

Sustainability is moving farther beyond goals and ambitions into execution and impact. Confronted with political and economic volatility, rising stakeholder expectations, and intensifying climate risks, companies are increasing their focus on value creation, using decarbonization, adaptation, and responsible capital project delivery to protect value and improve performance. At the same time, regulatory and investor pressure is accelerating the use of sustainability data as a strategic and financial asset.

Unlocking sustainable value creation and returns

A mix of economic and political pressures, shifting stakeholder expectations for sustainability benefits, and physical climate impacts are reshaping how companies approach corporate sustainability. Companies are zeroing in on value creation by reframing sustainability as a commercial business driver and increasing emphasis on decarbonization and adaptation initiatives.

WHY NOW?

Trade tensions put corporate sustainability under pressure

Trade tensions in 2025 have raised uncertainty across global operations, putting sustainability programs under real pressure to prove their financial value.

Critical drivers

- A global analysis of more than 9,000 public companies **found** that they could expect to pay at least $1.2 trillion more in expenses in 2025 than they anticipated because of new tariffs and other trade factors.
- The same analysis estimates that companies are likely to see $907 billion in lost profit in 2025 as they offset costs and pass tariff burdens to consumers.
- For sustainability specifically, 66 percent of sustainability executives at large U.S. firms **said** in a 2025 survey that tariffs will slow their progress on their sustainability goals.
- Another survey **found** that 56 percent of U.S. executives believe trade tensions will force them to reduce their sustainability ambitions.

Stakeholder expectations for sustainability to drive value are rising

Company stakeholders are increasingly demanding that sustainability programs demonstrate clear financial value, as sustainability shifts from “nice to have” to a corporate essential.

Critical drivers

- A survey of global institutional investors’ 2025 priorities found that 77 percent are **focusing** their sustainability engagements on issues with clear financial relevance.
- Eighty-five percent of chief investment officers at leading global investment funds are **willing** to pay a premium for companies that clearly link their sustainability initiatives with financial performance.
- The European Union’s (EU) Corporate Sustainability Reporting Directive (CSRD) **requires** companies to disclose how sustainability issues affect their finances (financial materiality) and how their operations and value chains affect people and the environment (impact materiality).

- The International Sustainability Standards Board's (ISSB) International Financial Reporting Standards (IFRS) S1 and S2 disclosure standards define material information in sustainability-related financial disclosures as information that can influence the decisions of users of company financial reports by affecting financial value.

Figure 1: How global institutional investors plan to respond to sustainability pushback

85% We expect regulation to drive engagement

79% Our clients continue to demand ESG engagement updates and outcomes

77% We will focus more on sustainable financial materiality

35% We will focus less on overly prescriptive shareholder proposals

Note: Respondents could choose multiple options
Source: Georgeson

Climate change is redefining how commercial value opportunities are shaped

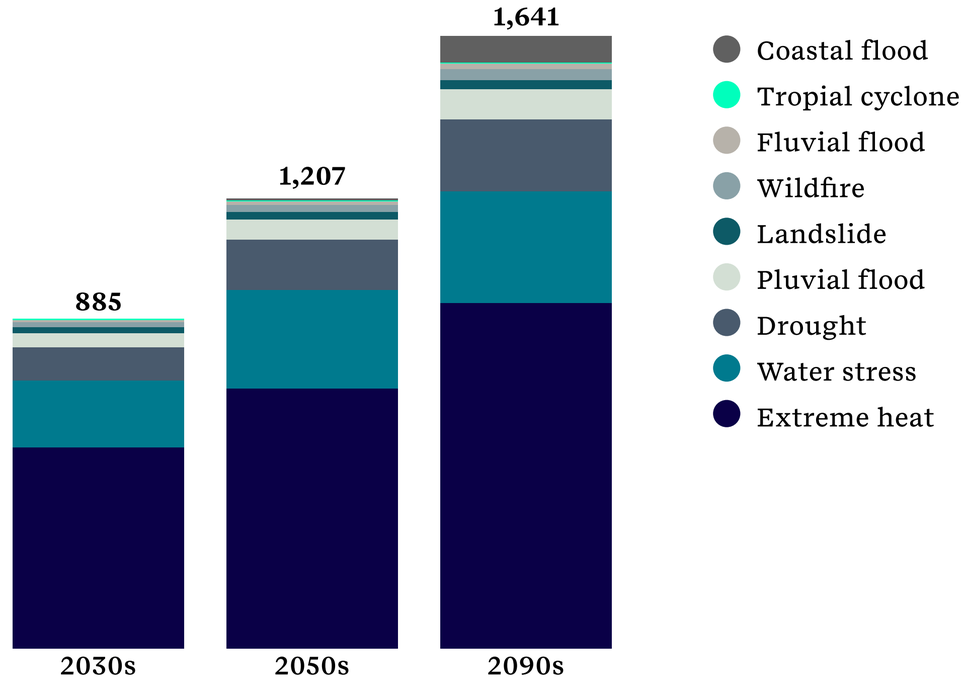
The worsening impacts of climate change are squeezing the global economy. In a twist of fate, this squeeze is opening new value creation opportunities.

Critical drivers

- In 2024, physical climate impacts cost the global economy at least $1.4 trillion, almost 10 times the total in 2000.
- Under current emissions trajectories, climate change may reduce global GDP by $23 trillion by 2050.
- Globally, 53 percent of companies reported operational impacts from climate-related events between June 2024 and June 2025, while a further 75 percent believe it likely that physical climate risks will negatively impact their operations in the next five years.
- One August 2025 analysis found that in 2024, approximately 2,100 companies generated over $1.2 trillion in revenue from climate adaptation-related products and services, almost double than 2016 revenue.
- Global revenue from the climate adaptation market could potentially reach $4 trillion by 2050.

Figure 2: Projected physical climate risk costs for S&P Global 1200 companies

Large companies projected to face $1.2 trillion in annual physical risk costs in the 2050s
Total annual financial impact on S&P Global 1200 companies in the 2050s under the SSP2-4.5 scenario ($B)



Notes:
- SSP = Shared Socioeconomic Pathway.
- SSP2-4.5 is a medium climate change scenario that contemplates strong mitigation, in which total greenhouse gas emissions stabilize at current levels until 2050 and then decline to 2100. This scenario is expected to result in global average temperatures rising by 2.7 degrees C (2.1 degrees C-3.5 degrees C) by the end of the century.
- No inflation assumptions are applied and results are presented in nominal 2024 prices.

Source: S&P Global

THE CORPORATE RESPONSE

Amid economic and political pressures, companies are utilizing sustainability as a strategic lever to create value and deliver measurable returns.

Companies are reframing sustainability as a commercial performance driver

Confronted with macro-environment and stakeholder pressures, companies are turning to sustainability to boost corporate performance, rather than pulling back or reallocating funds.

Key responses

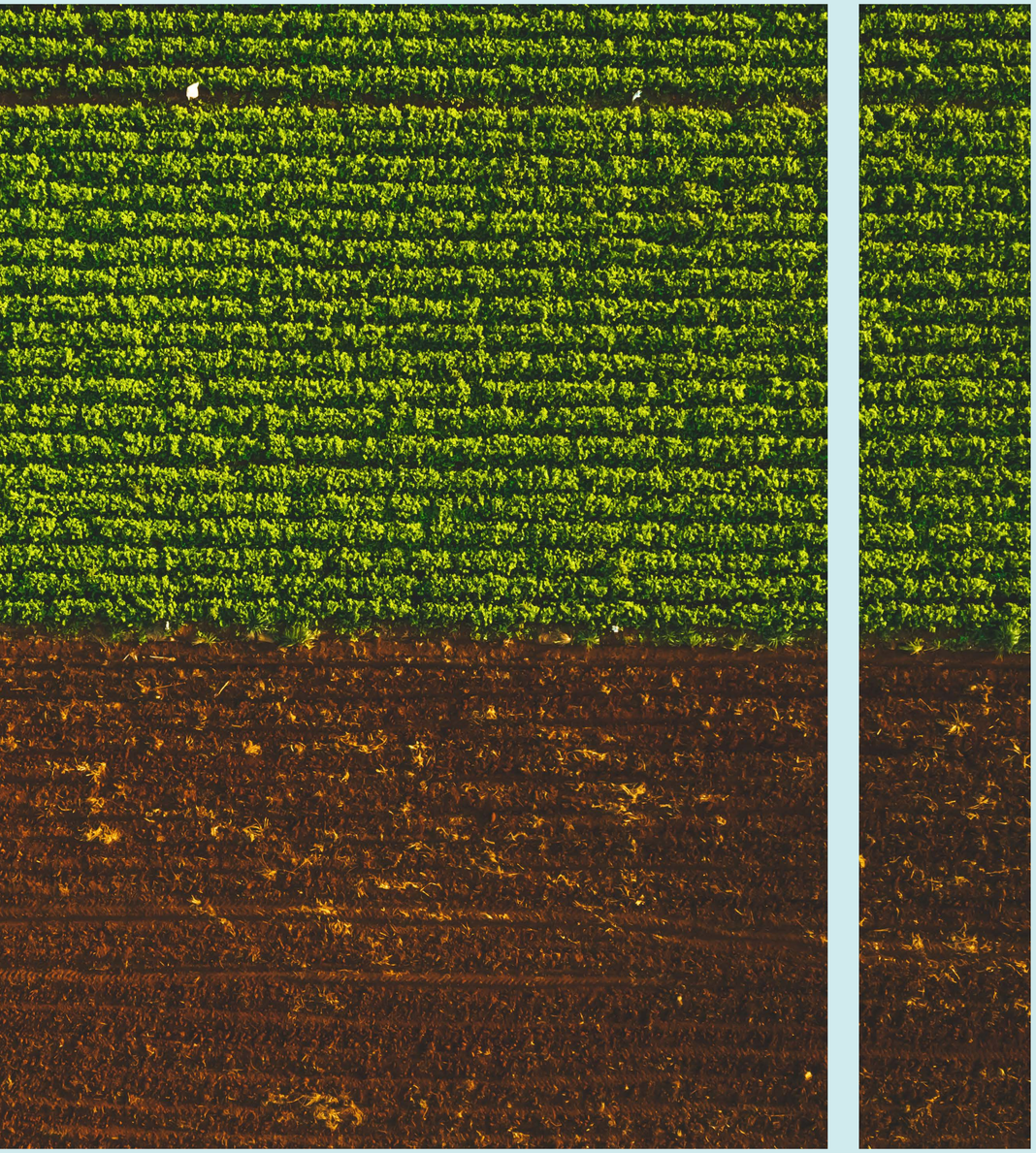
- A global 2025 **survey** found that 83 percent of companies had increased their sustainability spending over the past year, with respondents citing revenue generation as the primary motivator of their sustainability actions.
- Even in the U.S., where political pushback has been most intense, 87 percent of companies said they had either maintained or **boosted** sustainability spending in 2025.
- Another survey from December 2025 **found** that 95 percent of companies view sustainability as a commercial opportunity, with a further 99 percent expecting it to deliver competitive advantage in the next three years.
- Upcycling is emerging as an area where sustainability is driving additional value. For instance, jewelry retailers such as Tiffany, Pandora, and Signet are **repurposing** recycled materials into their products, with Signet recovering at least $35 million in metals.
- Anglo American's water management investments have **driven** $80 million in water savings since 2019 droughts caused significant production losses and annual revenue to fall five percent.

Focus on decarbonization increases, as commercial returns become more measurable

Facing economic shifts that are exerting downward business pressures, companies are prioritizing ways decarbonization creates value, saves money, and delivers clear ROIs.

Key responses

- Eighty-two percent of companies responding to a global 2025 survey **reported** capturing economic benefits from decarbonization, with six percent seeing returns greater than 10 percent of annual revenue.
- ERM delivered $7.3 million in annual estimated cost savings for a global auto parts manufacturer through an energy savings program that generates yearly CO_2 reductions of 40,000 tons.
- Contemporary Amperex Technology Co. Ltd. (CATL) is **committed** to buying more from suppliers who deliver emission reductions and help CATL reduce its own Scope 3 emissions.
- A 2025 Science Based Target initiative (SBTi) survey **found** that 95 percent of companies with science-based targets have seen improved investor relations, while 67 percent have seen positive competitiveness improvements vis-à-vis their peers.



Companies embrace climate adaptation as both a value protector and value creator

As climate risks intensify, companies are embracing adaptation strategies that not only safeguard operations and preserve value but also create new opportunities for growth and investment returns.

Key responses

- Seventy-eight percent of companies now **assess** their future climate risks, according to a global 2025 survey, as the scale of potential losses increase and the benefits they may gain from climate adaptation measures rise.
- A June 2025 study of 320 climate adaptation and resilience investments totaling $133 billion across 12 countries **found** that for every $1 spent, companies generated over $10 in benefits over a ten-year period (equal to a potential ROI of more than $1.4 trillion).
- A study of Japanese companies came to similar conclusions, **finding** that for every $1 they invest in physical climate risk mitigation, they could generate up to $12 in returns.
- Mars **launched** a $5 million program in August 2025 to develop a climate-resilient peanut after extreme weather and pests led to 30 percent harvest losses in recent years. The program has led to new varieties that boost peanut yields by 30 percent.
- McDonald's is **investing** $200 million in regenerative grazing practices, habitat restoration, and water and wildlife conservation to boost the resilience of its U.S. beef supply chains.

WHAT TO WATCH NEXT

Sustainability and value have always been intertwined, even if explicit connections were less common. Now front and center, the next evolutions in sustainability are likely to be growth-focused.

Commitments to measurable outcomes:

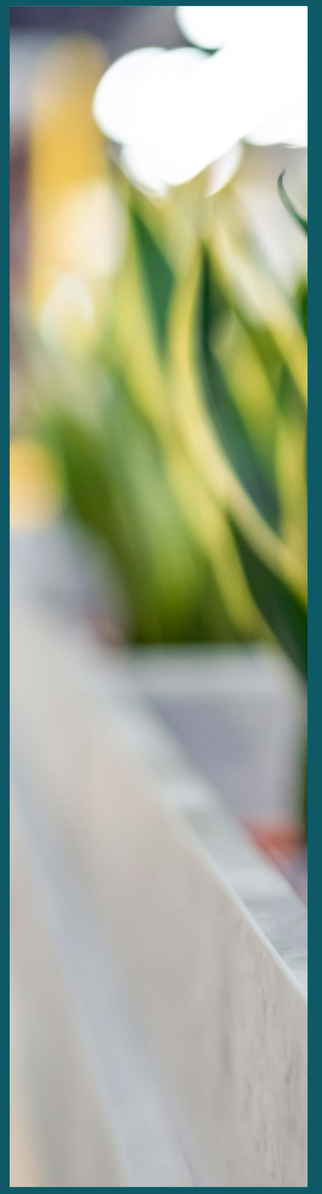
The days of commitments dominating corporate sustainability trends are over. In this new era, measurable business outcomes are key. Companies that link sustainability to tangible financial and operational performance improvements are likely to thrive.

Decarbonization as a financial engine:

Expect decarbonization to become an ever-larger financial engine for companies keen to drive operational efficiencies that generate bottom-line benefits in an era of financial stress.

Adaptation, not simply minimization:

Physical climate risks require adaptation approaches that enable companies to not only minimize their exposures but maximize benefits such as investment returns and more productive supply chains.



Linking sustainability to successful capital projects

Permitting and social and environmental challenges are raising capital project costs and extending timelines, making early planning and stakeholder engagement critical. In a more volatile political and economic environment, companies are focusing on community engagement, environmental impact management, and cost optimization.

WHY NOW?

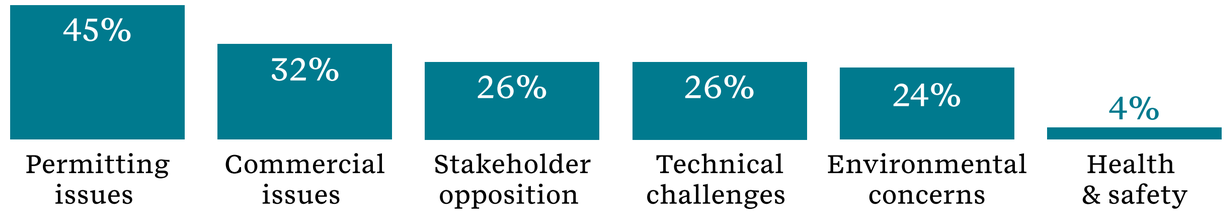
Responsible development is becoming central to capital project delivery

A mix of permitting issues and social and environmental factors are driving up capital project costs and stretching development timelines by years, making planning and engagement critical to successful project delivery.

Critical drivers

- For example, ERM research found that 45 percent of delays to mining projects were caused by permitting issues, 26 percent due to stakeholder opposition, and 24 percent due to environmental concerns (Figure 3).
- ERM further calculated that mining projects with capital expenditures between $3 billion and $5 billion lose roughly $20 million in Net Present Value (NPV) for every week of delay.
- One study on large infrastructure projects in the U.S. calculated that it takes the average proposed project dollar between four and five years to progress through the permitting process, with projects requiring environmental impact statements experiencing the longest wait times.
- An October 2025 study determined that more than 25 percent of global copper projects are stalled by issues including community and indigenous opposition, land use concerns, and local protests.

Figure 3: Most common cause of mining project delays



Source: ERM

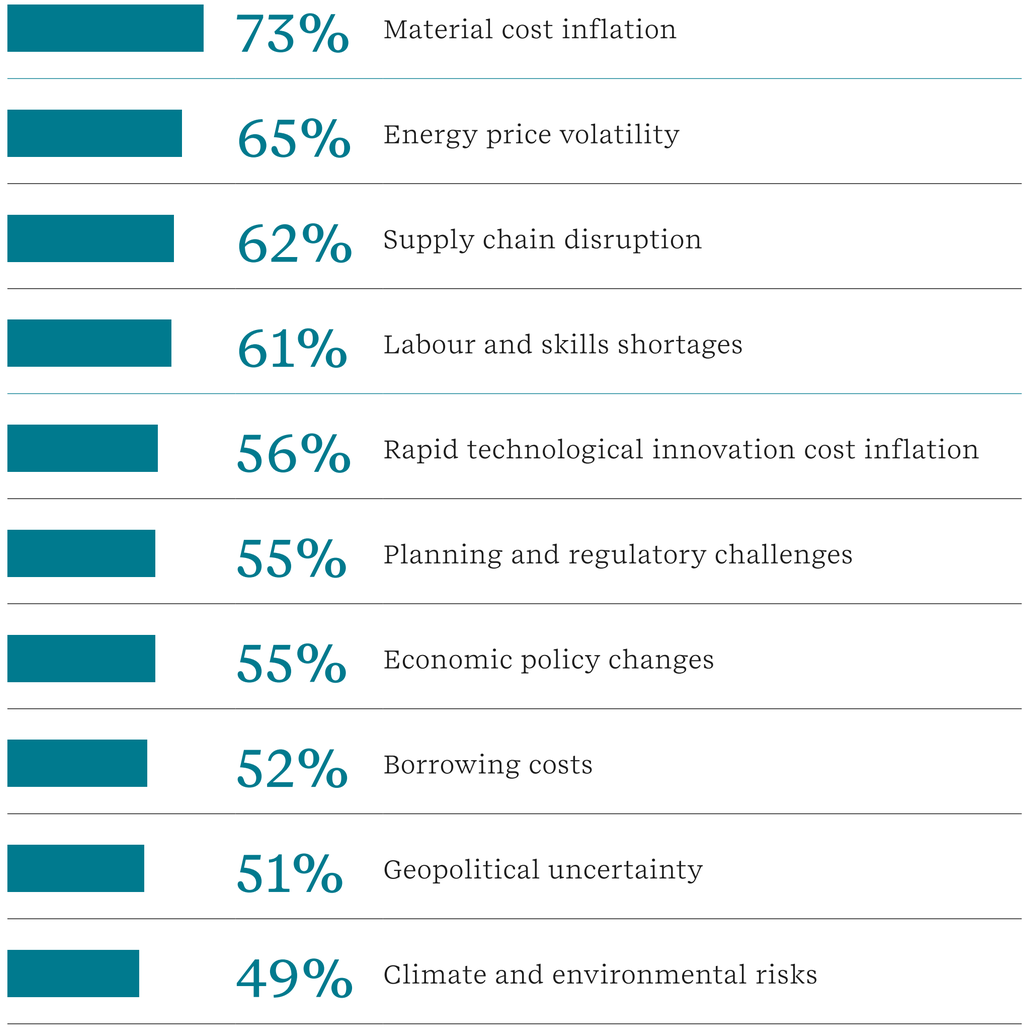
Changing political landscape affects capital projects

A volatile political and economic environment, especially in the U.S. and Europe, is also increasing uncertainty for capital project delivery, creating both new risks and opportunities for developers.

Critical drivers

- A global 2025 survey of 1,000 senior decision makers in construction and infrastructure **found** that most view global risks, including energy price volatility (65 percent), supply chain disruptions (62 percent), and geopolitical uncertainty (51 percent), as having a “high impact” on project goals.
- Another 2025 survey **reported** that 46 percent of U.S. businesses are postponing significant new capital investments because of tariff-driven cost pressures and policy uncertainty.
- The U.S. federal government’s December 2025 orders to **pause** offshore wind projects underscores these survey results, highlighting that even projects well past the investment stage and almost operational may not enter into service.
- Governments are implementing industrial policy programs to decarbonize, potentially creating capital project opportunities. Germany, for example, **launched** its Carbon Contracts for Difference program in 2023 to reimburse industrial firms for decarbonization investments, and in October 2025 **expanded** it to carbon capture and storage with an additional $7 billion in funding.
- The EU’s **Clean Industrial Deal** has similar objectives. Launched in February 2025, the plan will mobilize over $118 billion to support clean manufacturing in the bloc through a mix of state aid and financial guarantees.

Figure 4: Top global risk factors affecting construction and infrastructure projects in 2025



Source: Currie & Brown

THE CORPORATE RESPONSE

Companies pursue community agreements tailored to local needs

Community benefit is rising to the forefront of capital project delivery considerations, with companies leveraging support plans to minimize local opposition and costly project delays.

Key responses

→ U.S. pipeline company Tallgrass successfully **negotiated** a community benefit agreement when converting a pipeline from natural gas to CO_2 transport between Nebraska and Wyoming. Under the agreement, Tallgrass offered landowners multiple payment options for hosting the pipeline and agreed to provide over $1 million in local community support.

→ Stillwater Mining Co. **turned** opposition into 25 years of support after it established a community benefit agreement during a mine expansion in rural Montana that included commitments to safeguard local water supplies and reduce traffic flows associated with mine activities.

→ ERM research **shows** that as renewable energy projects gain momentum in Africa, they frequently intersect with traditional lands and livelihoods of Indigenous Peoples, drawing intense national and local scrutiny. To help facilitate community dialogue, a solar developer in southern Kenya created a formal dispute resolution process and helped local communities register land titles after concerns about land tenure and displacement.

Companies cut costs and tap government support through sustainable capital investment

Companies are advancing sustainable capital project delivery by cutting costs, reducing their environmental footprints, and leveraging growing government support.

Key responses

→ Starbucks is fast **approaching** its goal to build and verify 10,000 stores under its Greener Stores initiative. In the U.S., the initiative has **delivered** approximately $60 million in annual operating cost savings through 30 percent reductions in both water and energy use.

→ SSAB is **advancing** plans to construct an electric arc steel plant in Luleå, Sweden. Once operational, the plant will produce steel with 90 percent less CO_2 emissions than a previous facility on the same site, all while cutting fixed costs in half.

→ BASF **used** funding from Germany's Ministry for Economic Affairs and Climate Action to install the world's most powerful heat pump at its chemical complex in Ludwigshafen, Germany in late 2024. The heat pump will use waste heat from an on-site steam cracker to produce formic acid with up to 98 percent fewer greenhouse gas (GHG) emissions than traditional production.

→ Sustainability-related government support for capital projects is shifting amidst changing political winds. In August 2025, Fortescue **announced** it secured a $2 billion loan from China to support its decarbonization efforts. It framed the move as one driven by the U.S.'s federal retreat from green technology investment, noting that China's ambitions were more aligned with its own.

WHAT TO WATCH NEXT

Linking sustainability to capital projects offers companies an opportunity to turn assets into catalysts for long-term value creation and stability.

Keeping track of changing policy winds:

The policy landscape changed significantly in 2025 and is likely to change again in the year ahead. Companies will need to stay ahead of changes to trade and industrial policy that, depending on direction, may either facilitate or hinder accelerated and sustainable capital project delivery.

Community engagement a non-negotiable:

Comprehensive community engagement is no longer a choice for capital project developers. Not accounting for community dimensions is likely to lead to project delays and even cancellations, putting downward pressure on budgets already stressed by economic uncertainty and trade barriers.

Prioritizing cost savings:

Amid an increasingly cost-conscious operating environment, companies that integrate sustainability into capital projects can unlock savings and secure the financial backing needed to sustain their broader sustainability efforts.

Meeting sustainability data demands

Expanding external reporting guidance, investor demands, and greenwashing risks are compelling companies to prioritize robust sustainability data and reporting practices. As a result, sustainability reporting and assurance are accelerating globally, with companies increasingly using this information to support strategy and financial performance.

WHY NOW?

Reporting pressures emphasize the importance of sustainability information

A mix of mandatory and voluntary reporting framework evolutions are pressuring companies to provide more comprehensive sustainability information.

Critical drivers

- The EU Omnibus that would amend the CSRD, Corporate Sustainability Due Diligence Directive (CSDDD), EU Taxonomy, and Carbon Border Adjustment Mechanism (CBAM) received considerable attention in 2025, as the bloc moved to streamline reporting. In late December, the European Parliament **approved** the Omnibus and the package now awaits European Council approval to enter into force.
- China began to implement its **Chinese Sustainability Disclosure Standards** (CSDS) under a pilot and voluntary adoption phase in 2025 before mandatory reporting starts in 2026 for major listed firms who must report FY 2025 information.
- In India, the Ministry of Finance released a draft of its **Climate Finance Taxonomy** in May 2025, which will classify sustainable economic activities that align with India's climate-related goals, to facilitate capital flows to these activities.
- Numerous jurisdictions are also now **utilizing** the ISSB standards, reaching a total of 36 in June. About half have finalized their approach, with 14 "fully adopting" the ISSB standards.
- With much change and demand, companies **expect** both mandatory and voluntary reporting frameworks to be the primary drivers of their corporate sustainability spending over the next two years.

Investors and capital markets continue to demand sustainability information

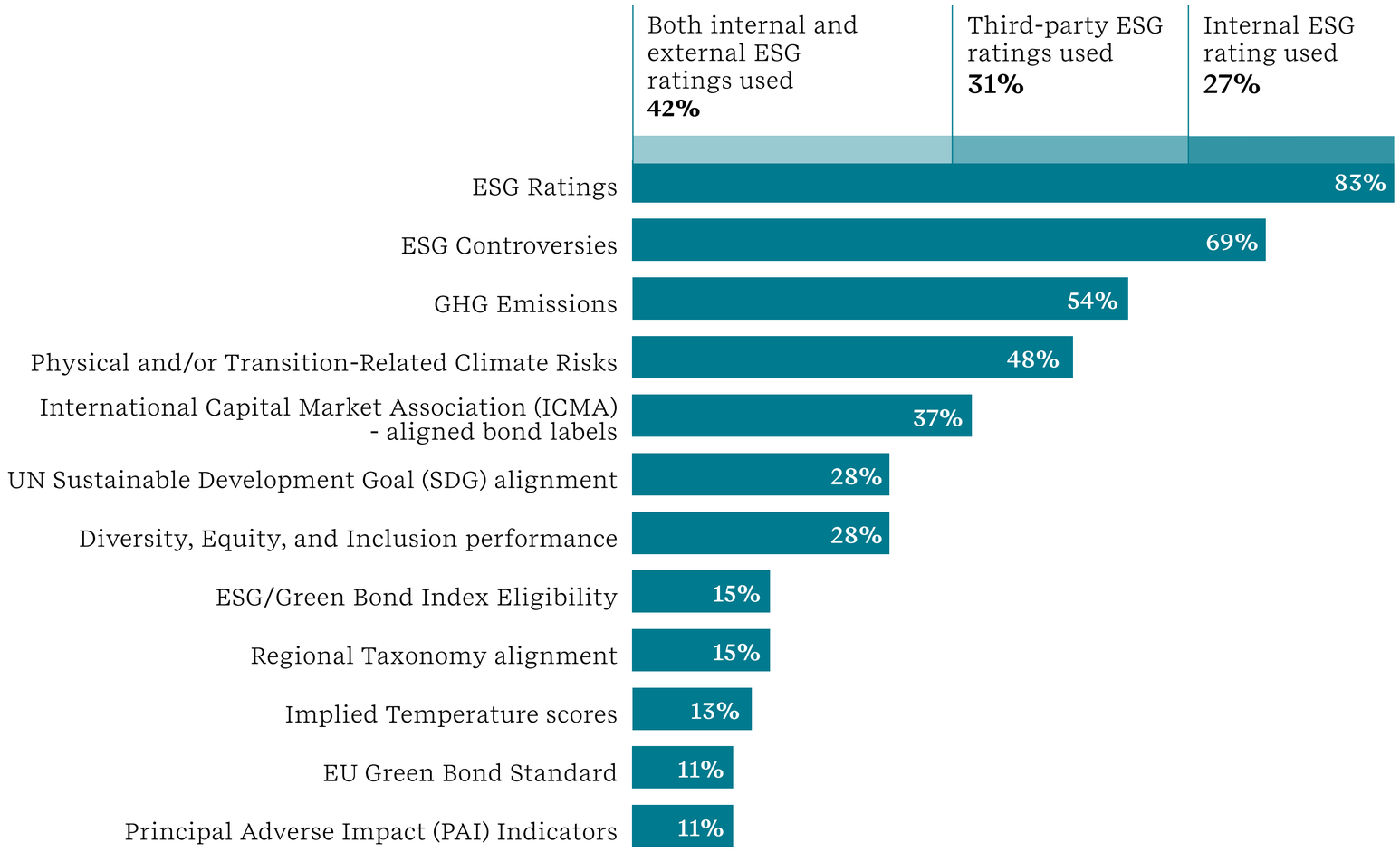
Despite political upheaval and financial pressures, investors continue to view sustainability information as essential to their investment decisions.

Critical drivers

- A global survey of asset managers **found** that 80 percent incorporate sustainability information into their asset allocation plans.

- More than 80 percent of institutional investors shared in another global survey that they **leverage** internal or third-party sustainability ratings to inform investment decisions.
- In September 2025, RBC BlueBay **reiterated** that sustainability remains "extremely important" for investors and that sustainability information enables better investment performance.
- BlackRock's 2025 U.S. proxy voting guidelines **note** that it still expects companies to provide robust disclosures related to their material sustainability-related risks and opportunities.
- A majority of companies subject to CSRD or ISSB disclosure requirements **said** in a September 2025 survey that stakeholder pressures to provide sustainability reporting and data have continued to increase over the past year, despite regulatory pullbacks.

Figure 5: Types of sustainability information institutional investors use in investment decisions



Source: RBC

Greenwashing is still a pertinent reputational risk for companies

As disclosure pressures intensify, stakeholders are demanding credible, evidence-based claims. Misleading or vague statements—whether intentional or not—are resulting in legal action, fines, and reputational damage.

Critical drivers

- Canada **finalized** guidelines for environmental claims in June 2025 to help companies comply with anti-greenwashing laws enacted in 2024 that prohibit environmental claims that are not properly substantiated.
- Singapore's Ministry of Trade and Industry's Competition and Consumer Commission of Singapore (CCCS) **released** corporate anti-greenwashing guidance in 2025 following a CCCS-funded **study** that found over half of online products from the city-state's most visited e-commerce sites contained vague environmental claims without sufficient backing.
- Globally, over 2,700 environmental claims-related cases had been **filed** as of early 2025—more than double the number of cases in 2020. This growth in litigation and regulatory scrutiny is reflected in a series of high-profile cases, including:
  - The Italian Competition Authority **fined** Shein €1 million for greenwashing through misleading environmental messaging of products on its website.
  - A court in France **ruled** that TotalEnergies' energy transition narrative in its "reinvention" campaign and its net zero by 2050 ambition statement were likely to mislead consumers, the first instance of a court ruling that a major oil and gas company's carbon neutrality commitment statements were unlawful.
  - In the U.S., Tyson Foods **settled** a lawsuit over its net-zero and "climate-smart" beef claims, agreeing to remove certain marketing language after an activist group challenged the accuracy of these statements.

THE CORPORATE RESPONSE

Both corporate sustainability reporting and assurance are accelerating globally, as companies respond to stakeholder demands and leverage sustainability information for strategic and financial gains.

Corporate sustainability reporting continues its rise, as companies recognize its strategic value

Companies are expanding sustainability disclosures due to a combination of strong stakeholder demand and a growing recognition that reporting delivers tangible business benefits.

Key responses

- According to the Organization for Economic Co-operation and Development's (OECD) **Global Corporate Sustainability Report 2025**, roughly 12,900 companies (91 percent of global market capitalization) disclosed sustainability-related information in 2024, up from 86 percent in 2022.
- Ninety-nine percent of S&P 500 companies **published** sustainability reporting in 2024, while 94 percent of Russell 1000 companies did the same.
- There has also been increased uptake of topic-specific sustainability disclosures, such as the Task Force on Nature-related Financial Disclosures (TNFD), with companies **publishing** over 500 TNFD reports since the TNFD launched in 2023.
- Robust climate data and disclosure practices can **yield** an ROI of up to $21 gained for every dollar spent, according to CDP research.
- Another 2025 analysis **shows** sustainability initiatives like reporting can boost firm value by up to 36 percent, profitability by 21 percent, and sales by 20 percent, while a Global Reporting Initiative (GRI) study **confirms** that 73 percent of empirical studies link sustainability reporting to improved financial performance.

Companies turn to sustainability assurance to meet stakeholder demands and derive benefits.

Companies are turning to sustainability assurance to meet stakeholder demands for reliable and verifiable sustainability information.

Key responses

- A 2025 study by the International Federation of Accountants **shows** that 73 percent of large companies from G20 countries obtained some sort of assurance for their sustainability disclosures in 2023, up from 69 percent in 2022 and 51 percent in 2019.
- An analysis of the 362 S&P 500 companies that obtained sustainability assurance or verification of certain metrics in 2023 **found** that the majority (360) sought assurance for their GHG emissions, with subsets also seeking assurance of water, waste, energy, employee health and safety, and human capital information.
- Most companies are **starting** with limited assurance, which confirms there are no material issues with the reporting, but does not confirm that the reporting is materially correct. However, the bar is rising globally, as regulators like those in the EU begin to require reasonable assurance.
- A 2025 World Economic Forum case study on Allianz **describes** how shifting from limited to reasonable assurance in preparation for the CSRD has driven more robust internal data governance and enabled management to better use sustainability information for steering business decisions and risk management.

WHAT TO WATCH NEXT

Companies should consider which sustainability metrics investors are prioritizing today, and how regulatory changes affect their corporate sustainability investments.

Continually evolving regulatory requirements and frameworks:

Ongoing changes to global, national, and subnational sustainability reporting standards mean companies need to stay alert to new or revised disclosure obligations, assurance requirements, and timelines.

Rising expectations for data quality and assurance:

Investor-grade, assured sustainability data is becoming the norm. Companies will need to respond to stakeholder pressures for decision-useful data that meets the rigor of financial reporting.

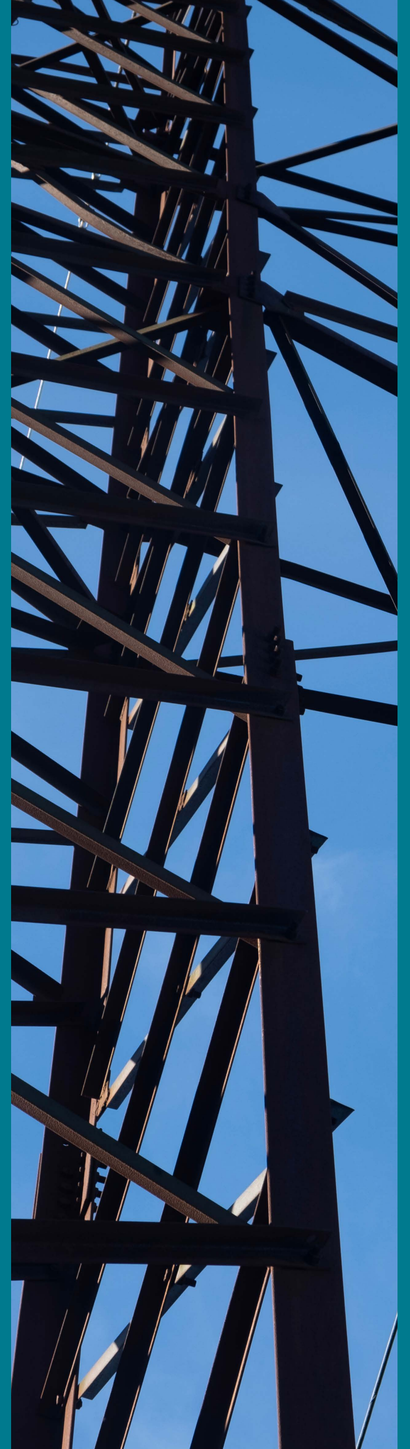
Greenwashing mitigation remains critical:

With regulatory and legal scrutiny intensifying, companies should consider monitoring new anti-greenwashing guidance, enforcement actions, and litigation trends to ensure their sustainability claims are substantiated and defensible.

Energy conundrums:

Complexity deepens as demand rises

The energy landscape is increasingly complex. Rising demand, shifting policy priorities, and volatile geopolitics are putting a premium on corporate energy strategies that strike a balance between reliability, affordability, and sustainability factors. Power systems also face demand and policy changes, that, when coupled with growing resilience and capacity concerns, have companies moving quickly to ensure grids can meet the moment through a mix of investment, community engagement, and technologies. After years of limited evolution, energy and change now go hand in hand. While the scope of action extends beyond decarbonization, sustainability will remain a central factor.



Balancing energy reliability, affordability, and sustainability

Demand increases, changing policies, and geopolitical volatility define the present energy landscape. In response, companies are moving to secure reliable, affordable energy supplies that reduce exposure to changing political winds while maintaining sustainable, low-carbon sourcing.

WHY NOW?

Increasing worldwide energy demand is prompting investment, while geopolitical and energy security considerations push all-energy-source approaches to the forefront.

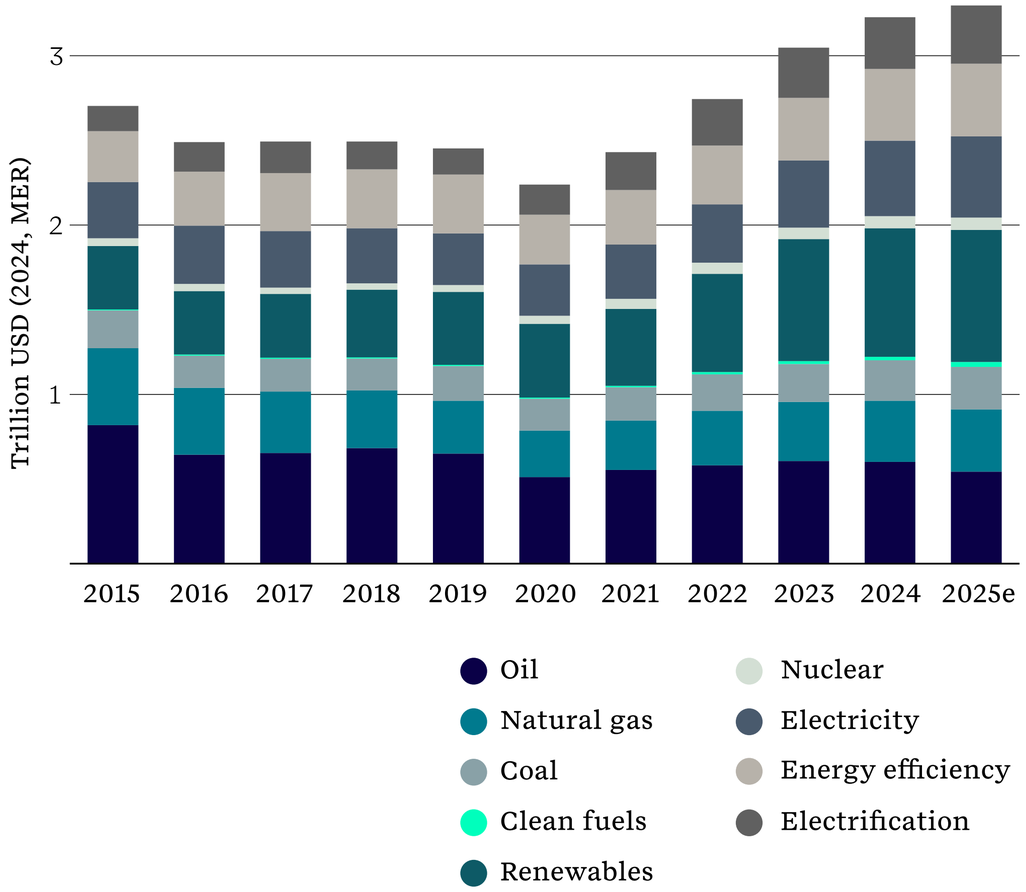
Escalating energy needs fuel surge in energy investment

Global energy demand is surging, driving record investment across diverse sources to ensure energy availability.

Critical drivers

- According to the International Energy Agency (IEA), global energy demand **grew** 2.2 percent in 2024, faster than the average rate over the past decade. While developing countries **accounted** for over 80 percent of this growth, demand in advanced countries rose by almost one percent after years of stagnation and decline.
- In 2025, global energy investment was set to **reach** a record $3.3 trillion. Around $2.2 trillion of this money went to low-carbon options, twice as much as went to fossil fuels.
- In the renewable energy space, investments **set** a record in the first half of 2025, rising 10 percent from the same period last year.
- Spending on new nuclear plants and upgrades is expected to **exceed** $70 billion in 2025. While increasing, the amount falls short of the $150 billion per annum needed to fulfil the global commitment **made** at COP28 to triple nuclear capacity by 2025.

Figure 6: Global energy investment by source 2015-2025e



Source: IEA

Countries shift to more diversified energy portfolios

Energy demand growth is compelling governments and multilaterals to pursue a diverse range of sources while still balancing climate goals with energy security, availability, and affordability.

Critical drivers

- More countries are adopting "all of the above" energy policies to meet growing demand and secure reliable and affordable energy supplies. In the U.S., the current administration's "all of the above" energy approach tilts towards fossil fuels, nuclear, and geothermal at the expense of solar and wind.
- The European Union (EU) launched the EU Energy and Raw Materials Platform in July 2025 to diversify the sourcing of strategic energy resources like Liquefied Natural Gas (LNG) and hydrogen to the bloc, with the aim of strengthening supply security and competitiveness.
- China continues to lead on renewables development, exporting large amounts of clean-energy technology and capacity at lower cost, expanding access to affordable renewables domestically and in energy markets around the world. However, the country still consumes large amounts of oil, gas, and coal.
- Also in Asia, Indonesia is promoting geothermal, aiming to commission its first nuclear power plant by 2034, and attempting to grow renewables capacity to 74 percent of overall power demand by 2034.
- In line with broader country moves towards diversification, the World Bank announced in April 2025 that it would pursue a diversified-energy-portfolio approach to energy project funding in lower-income countries, departing from its prior renewables funding focus.

Geopolitical upheaval puts energy security and pricing on the map

Geopolitical events like the war in Ukraine, instability in the Middle East, leadership change in Venezuela, and global trade tensions are disrupting energy markets, prompting governments and investors to prioritize energy security and diversify supply sources.

Critical drivers

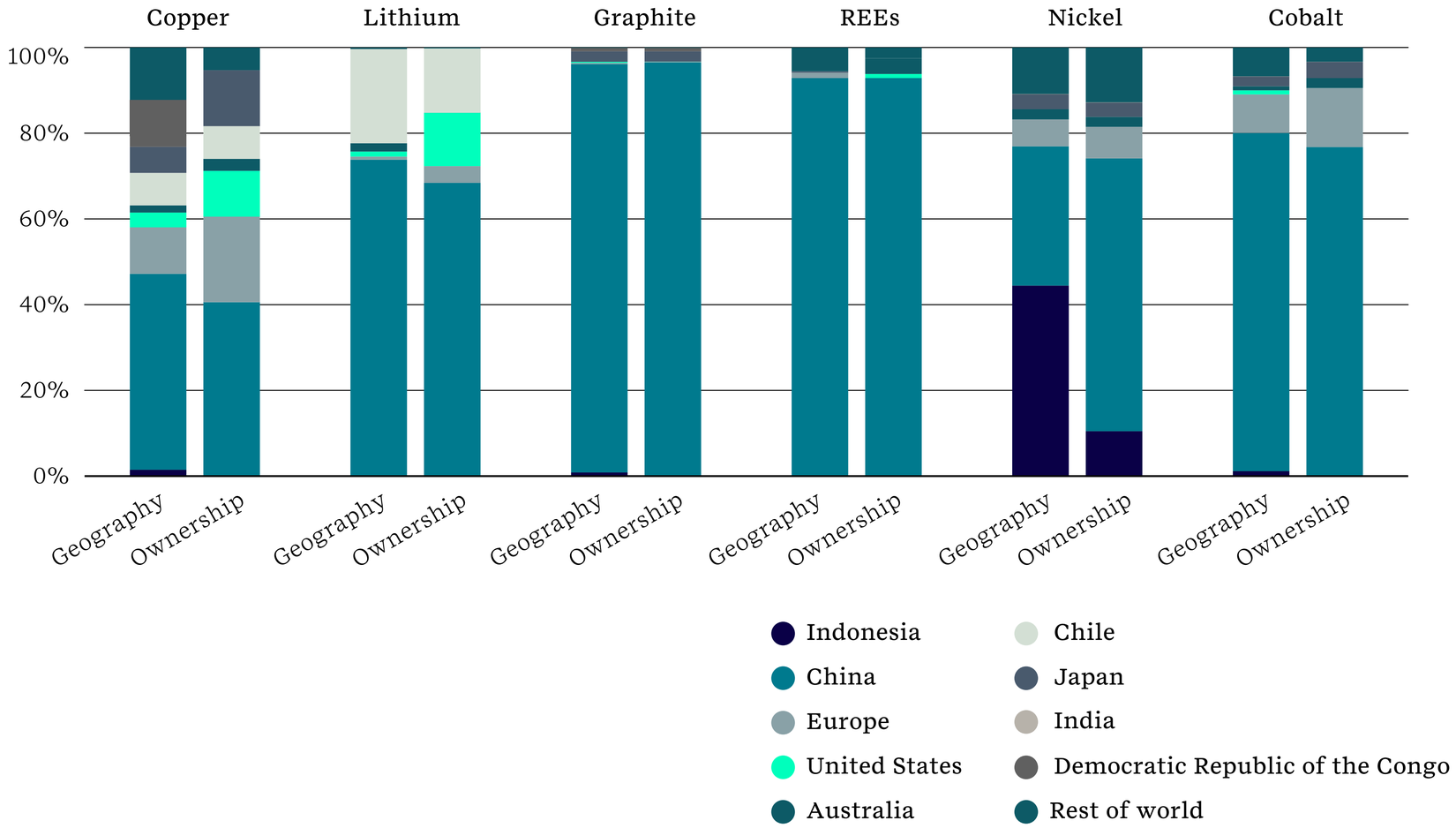
- The EU continues to implement its REPowerEU plan to reduce its dependence on Russian fossil fuels.
- Energy prices in 2025 were volatile, with oil markets fluctuating from issues ranging from oversupply concerns to acute supply security fears, and European gas

prices spiking during periods of Middle East unrest.

- Energy markets were further rattled in early January 2026, with the U.S.'s capture of Venezuelan President Nicolás Maduro, and the potential oil supply implications the move may have.
- In May 2025, the IEA forecasted that global critical mineral demand will need to triple by 2030 and quadruple by 2040 to meet net zero goals.
- Critical mineral supply chains, however, are particularly concentrated, heightening energy security concerns. China controls approximately 60 percent of global critical mineral extraction and up to 90 percent of global processing and refining capacity, putting these minerals at the center of global trade tensions.
- In response, governments are moving to reduce critical mineral import dependencies and boost domestic production. The Quad Critical Mineral Initiative and G7 Critical Minerals Action Plan are just two of the many deals the U.S. and other countries are pursuing to diversify critical mineral supplies.

Figure 7: Critical mineral refining by geography and ownership

REEs refers to Rare Earth Elements



Source: IEA

THE CORPORATE RESPONSE

In response to mounting macro-pressures, companies are focusing on energy reliability and affordability while keeping their sustainability goals in reach.

Companies tighten focus on securing supply and bringing down costs

Companies are doubling down on energy security and cost optimization to combat economic and geopolitical pressures and increase competitiveness.

Key responses

- Several Supermajors have recently shifted focus to their core businesses amidst market volatility, which has made energy security and cost central to performance. For example, bp **sold** its U.S. onshore wind business to LS Power as part of a $20 billion divestment program to "simplify and focus" its business.
- Shell **stopped** its Dutch Biofuels plan in a bid to boost profitability, **turning** to LNG projects, with plans to expand LNG sales from four to five percent annually until 2030.
- Cost optimization hit the offshore wind industry particularly hard in 2025, as regulatory changes, inflation, and high interest rates impacted project economics. Mitsubishi **exited** three offshore wind power projects in Japan, citing rising construction costs.
- Companies like South Korea's **Hanwha Group** and Japan's **Eneos Group** are increasing LNG investments to ensure a stable and affordable energy supply.
- Companies are also prioritizing energy efficiencies. Rolls-Royce **achieved** a 50 percent reduction in energy usage across its operations and facilities, delivering a 50 percent increase in operating profits in 2025's first half.
- Tesco similarly **delivered** £510 million (over $686 million) in efficiency savings in the 2024/25 financial year driven by improvements to refrigeration and a switch to an electric delivery fleet.

Businesses double down on renewable energy commitments

To address both sustainability targets and long-term affordability, companies outside the energy sector are ramping up investments in renewable energy.

Key responses

- In 2024, BloombergNEF **reported** a 35 percent rise in corporate renewable Power Purchase Agreements (PPAs), as companies move to secure predictable energy costs and reliable supply.
- Technology firms are leading in the PPA space. For example, Google **signed** a 21-year PPA with TotalEnergies in 2025 to support data center operations in Malaysia, while Microsoft **signed** two 2025 PPAs with Iberdrola in Spain.
- More broadly, Lightsource bp **committed** in February 2025 to providing 1.3 GW of renewable capacity through 10 global PPAs with corporates like H&M who are prioritizing energy security and cost stability.

- Corporate renewable strategies are expanding to supply chains and regional markets. In September 2025, Mars **signed** U.S. clean energy contracts with Enel to support its Renewable Acceleration program, which aims to transition its global value chain to 100 percent renewable energy.

Nuclear and advanced energy technologies gain momentum

Companies in the energy sector and beyond are turning to nuclear and advanced energy technologies to ensure reliable, low-carbon energy supply.

Key responses

- After years of stagnation, there is now clear corporate momentum behind nuclear energy, with a coalition of tech giants, financial institutions, and energy companies **pledging** in March 2025 to help triple global nuclear capacity by 2050.
- Companies are also turning to next-generation nuclear technologies like fusion. Google, for example, **signaled** confidence in these solutions by signing the largest-ever corporate fusion energy purchase agreement in July 2025.
- Modular reactors are in focus too. The UK energy company Centrica **partnered** with X-energy in September 2025 to introduce them in the UK, while **NuScale Power, TerraPower**, and **X-energy** are advancing projects in the U.S.
- Other advanced energy solutions beyond nuclear are making headway. In the U.S., Europe, and Indonesia, companies such as **Fervo Energy**, **Ormat**, **Turboden**, and **Pertamina Geothermal** are using next-generation geothermal to generate low-carbon baseload for increasingly volatile grids.
- Meanwhile, hydrogen leaders including **Adani Green**, **Reliance Industries**, **Siemens Energy**, **Nel ASA**, and **ITM Power** are building large-scale green hydrogen and ammonia projects, positioning the moves as future export and decarbonization engines.

WHAT TO WATCH NEXT

The energy landscape is in a period of heightened uncertainty, demanding more adaptability and strategic foresight from companies.

Greater alignment of energy strategy and resilience planning:

With recent volatility exposing the risks of relying too heavily on any single energy source or region, companies will face pressure to demonstrate more balanced and resilient energy portfolios that integrate energy reliability, affordability, and sustainability into long-term planning.

Evolving carbon accounting rules:

Proposed updates to the GHG Protocol's **Scope 2 guidance** are set to tighten electricity-related emissions reporting. At the same time, emerging initiatives like **Carbon Measures** are advancing product-level carbon intensity standards to help companies differentiate their products and reduce emissions at low cost. Keeping track of these evolutions will be key for companies with significant sources of these emissions and who are looking to benefit from related emissions reduction initiatives.

Rising methane expectations:

As more firms join the Oil and Gas Methane Partnership (**OGMP 2.0**) framework, and regulators signal firmer methane-reduction requirements, companies are likely to benefit from assessing their methane emissions exposure to prepare for tightening standards and evaluate where they can achieve related cost savings.

Delivering future-ready grids and linear infrastructure

Power grids are reaching a critical point, one where demand growth, capacity concerns, and physical risks all threaten operational disruptions. Despite significant hazards, companies are moving forward, trusting the power of partnerships, technologies, and stakeholder engagement to ensure reliable power delivery.

WHY NOW?

Surging power demand, grid resilience, and regulatory factors make future-ready grids and linear infrastructure adoption a necessity.

Surging power demand puts pressure on energy systems

As global power demand rises, energy systems face unprecedented pressures, underscoring the urgent need for grid modernization and robust infrastructure.

Critical drivers

- Global power demand increased by four percent in 2024, the third largest absolute increase in the last decade. Demand is projected to rise by close to 30 percent by 2035.
- Integration of intermittent renewable electricity is further straining existing grids, which were typically designed to accommodate predictable, centralized sources of baseload power.
- Supply is another bottleneck. A 2025 report on the U.S. power grid and energy supply warned that over half of all assessed North American regions will face energy shortfalls within the next decade.
- In Latin America, total electricity consumption growth between 2023 and 2024 (3.8 percent) far outpaced supply growth (2.2 percent).

Grid resilience and capacity become increasingly critical

Extreme weather and rapid clean energy expansion are further exacerbating grid challenges, putting resilience measures at the forefront.

Critical drivers

- During European heatwaves in late June and early July 2025, daily electricity demand surged by up to fourteen percent in Spain, nine percent in France, and six percent in Germany. High temperatures also forced reductions and shutdowns at thermal and nuclear power plants and decreased hydroelectric generation potential.
- In Latin America and Africa, extreme weather is leading to blackouts. A severe 2024 drought in Ecuador caused an electricity

capacity deficit of 1,080 MW that led to blackouts of up to 14 hours a day. Droughts also caused hydropower-related blackouts in Malawi, Zambia, and Zimbabwe in 2023-24.

- In North America, extreme weather was the primary cause of the most severe power outages in 2024, with 27 weather-related events across the region causing more than $1 billion in losses.
- Renewables growth is further complicating global grid situations and leading to energy wastage. China has rapidly built renewable power capacity, yet over the first half of 2025, the curtailment rate (the share of potential electricity generation that is intentionally not produced because the grid cannot accommodate it) climbed to 5.7 percent for solar (from three percent in 2024) and to 6.6 percent for wind (from 3.9 percent in 2024).

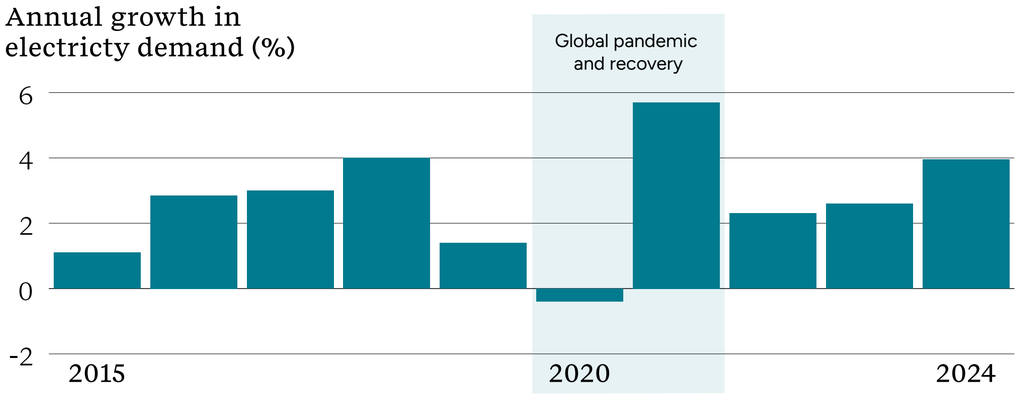
Regulatory and policy reforms quicken

Governments and regulators worldwide are pursuing targeted reforms, increased investment, and policies aimed at bolstering grid infrastructure and accelerating clean energy deployment.

Critical drivers

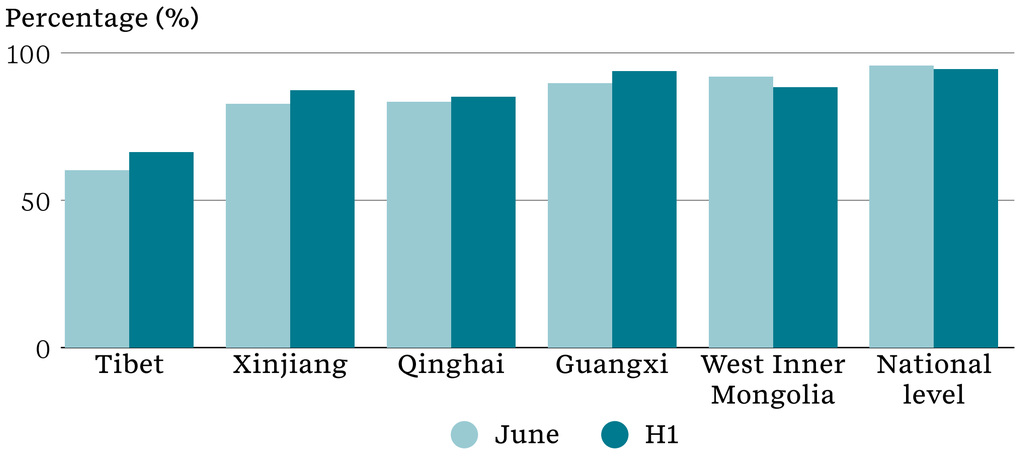
- In April 2025, the White House issued an executive order to strengthen grid reliability and security, directing the Department of Energy to analyze reserve margins and identify and retain critical generation resources to ensure adequate capacity.
- The Asian Development Bank and World Bank, with the Association of Southeast Asian Nations (ASEAN) Secretariat and ASEAN Centre for Energy, launched the ASEAN Power Grid Financing Initiative (APGF) in October 2025 to expand and integrate electricity networks across Southeast Asia.
- Similarly, in November 2025, the Inter-American Development Bank Group (IDB Group) launched the Power Transmission Acceleration Platform (PTAP) to help countries in Latin America and the Caribbean expand and modernize their power grids.
- Policymakers are also pursuing faster grid expansion, with Australia overhauling its Environment Protection and Biodiversity Conservation Act 1999 to streamline approvals for energy and mining projects, including grids.
- In the EU, the European Commission introduced the Grids Package and the Energy Highways initiative in December 2025 to accelerate grid development and ensure reliable energy flows.

Figure 8: Global electricity demand growth 2015-2024



Source: Ember Energy

Figure 9: Regional solar utilization in China, June 2025 and first half 2025



Source: Bloomberg

THE CORPORATE RESPONSE

Amidst a new demand reality, power companies are forging ahead to deliver more energy and minimize operational impacts and emissions.

Grid-related joint ventures and partnerships gain ground

As the power sector undergoes significant evolution, industry actors and those outside are entering into joint ventures and partnerships.

Key responses

- Google is **working** with PJM Interconnection, the largest U.S. grid operator, to deploy AI tools that accelerate grid interconnections by automating parts of the review and planning process for projects waiting for PJM connection.
- Among more traditional joint ventures, Dutch grid operator TenneT is **partnering** with the UK's National Grid to build BritNed, a high-voltage interconnector between the Netherlands and the UK to connect offshore wind installations to both countries' grids.
- NextEra Energy and ExxonMobil are **working** together to develop a 1.2 GW natural gas plant with carbon capture technology that will power a data center in a yet to be announced location.
- At COP30, the Utilities for Net Zero Alliance **set** a goal to mobilize $1 trillion in energy transition investments by 2030, where for every dollar spent on renewables, they will spend $1.24 on grids and storage.
- Lastly, a joint venture between automakers including BMW, Honda, and Ford and PSEG Long Island will enroll electric vehicles (EVs) in the utility's Peak Load Reduction program. The program will **integrate** the automaker's EVs into the power grid and determine optimal timing, duration, and intensity for EV charging, building grid stability in the process.

Community engagement front of mind in power development

Faced with growing community pushback as they bolster and expand infrastructure, power companies are implementing new strategies to minimize impact and share benefits.

Key responses

→ In the U.S., the developers behind the SOO Green HVDC Link, energyRe and Copenhagen Infrastructure Partners, are **building** the 350-mile, 2,100 MW underground transmission line on land with existing transportation rights of way for railroads and highways, minimizing community impact.

→ Also in the U.S., the North Plains Connector, LLC, the developer of a 420-mile transmission line of the same name, **prioritized** local community engagement and used the input to help inform the final line route, which was 14 percent longer but minimized substantial opposition that could slow down development.

→ In Australia, the developers of the proposed RAPAD Power Grid in Central Western Queensland **put forward** a Community Benefit Royalty Agreement that would deliver approximately $13 million in annual cash flows to communities along the route for social and economic infrastructure development.

Technology advancements poised to boost energy delivery

Technology advancements, including AI, are likely to raise power company performance and enable more seamless and reliable energy delivery.

Key responses

→ India's Maharashtra State Electricity Distribution Company Ltd. (MSEDCL) is **partnering** with the Global Energy Alliance for People and Planet (GEAPP) to modernize its grid with AI and other technologies. GEAPP will help MSEDCL apply AI and machine learning to grid monitoring, load management, and demand forecasting applications with the aim to stabilize supply, optimize peak demand, and manage distributed renewable energy assets.

→ State Grid Brazil Holding is **deploying** AI via an image-recognition system that increases the efficiency of manual transmission line inspections and improves fault detection, all while reducing inspection costs and boosting reliability.

→ Enel X, the innovation arm of Italy's Enel, is leveraging AI for grid management, **achieving** a 40 percent reduction in power disruptions since a 2021 adoption, while planning to **invest** roughly $21 billion with a specific focus on AI solutions and grid digitalization by 2027.

→ Georgia Power **deploys** drones to more efficiently and accurately inspect transmission lines for safety and reliability issues. Since their introduction, drones have reduced inspection times by 40 percent on average at a cost savings of 60 percent compared to traditional methods.

WHAT TO WATCH NEXT

The power sector faces a period of unprecedented change that will test its ability to keep pace to meet demand. The industry's future approaches will have broad implications for the wider economy.

Continued grid bottlenecks:

With power demand unlikely to decrease, grid interconnection challenges are likely to remain. Both power and non-power companies will need to account for potential bottlenecks in projects relying on new grid connections to avoid delays or even cancellations.

A growing need for energy storage:

With grids facing a mix of infrastructure shortcomings and physical threats, demand for reliable energy storage is expected to grow. Companies will need to assess how vulnerable their energy supplies may be to disruption and evaluate what role storage may play in minimizing interruptions.

Talent shortages could threaten growth:

The power sector faces a talent shortage that could negatively affect future growth. Companies can adapt by identifying external support sources, whether in the form of outsourcing or offshoring, or adopting technological solutions that enable more efficient service delivery.

Sustainability meets the digital era:

Challenges and possibilities ahead

Sustainability and technology are converging. As AI and other digital capabilities rapidly advance, companies face mounting pressure to expand digital infrastructure while meeting sustainability expectations and to use technology to measure, manage, and reduce environmental and social impacts. In 2026, technology will increasingly shape how companies pursue responsible, profitable growth.

ERM SUSTAINABILITY INSTITUTE

Building and operating data centers efficiently and sustainably

Demand for AI, cloud services, and emerging compute models is accelerating, driving a rapid buildout of data center infrastructure. But physical constraints—especially power, water, and grid interconnection—are now materially shaping project timelines, siting decisions, and cost. In some markets, permits are being challenged, utilities are pushing back, and community opposition is organizing. Developers are responding by integrating sustainability and risk mitigation into design, procurement, and operations to protect schedules and reduce impact.

WHY NOW?

The data center landscape is entering a period of structural transformation as the scale, density, and geographic concentration of new facilities pressure power systems, water resources, and permitting processes.

Explosive demand for AI and cloud services accelerating data center expansion

Rapid advances in AI models, widespread enterprise adoption, and the continued shift to always-on digital business models are driving a step-change in compute intensity. As workloads grow denser and more time-sensitive, the limiting factor is increasingly physical infrastructure, especially power, grid capacity, and water.

Critical drivers

- Recent advances in AI models have led to widespread adoption of the technology, with 88 percent of companies **reporting** using AI in 2025.
- At the same time, AI compute demand across training, inference, and edge workloads is rising, driving exponential growth in processing requirements and requiring greater data center capacity. For example, since 2010, the computing capacity required to develop AI models has **grown** at a rate of 4.4x per year.
- Continued expansion of cloud-based business models is also increasing baseline demand for data center infrastructure. Non-AI applications like cloud services represent the majority of current data center demand. These applications are forecast to **represent** roughly 55 percent of demand by 2028, as their always-on nature outweighs more power-dense but smaller AI workloads.
- Quantum computing is another important, if nascent, demand factor. Demand is likely to increase, with 53 percent of companies across Asia Pacific, Europe, and North America **planning** to integrate quantum computing into their workflows, according to a 2025 survey.

- Overall, increasing digital demands are driving rapid data center growth, with more than 6,100 data centers operational worldwide now and 8,300 expected by 2030.

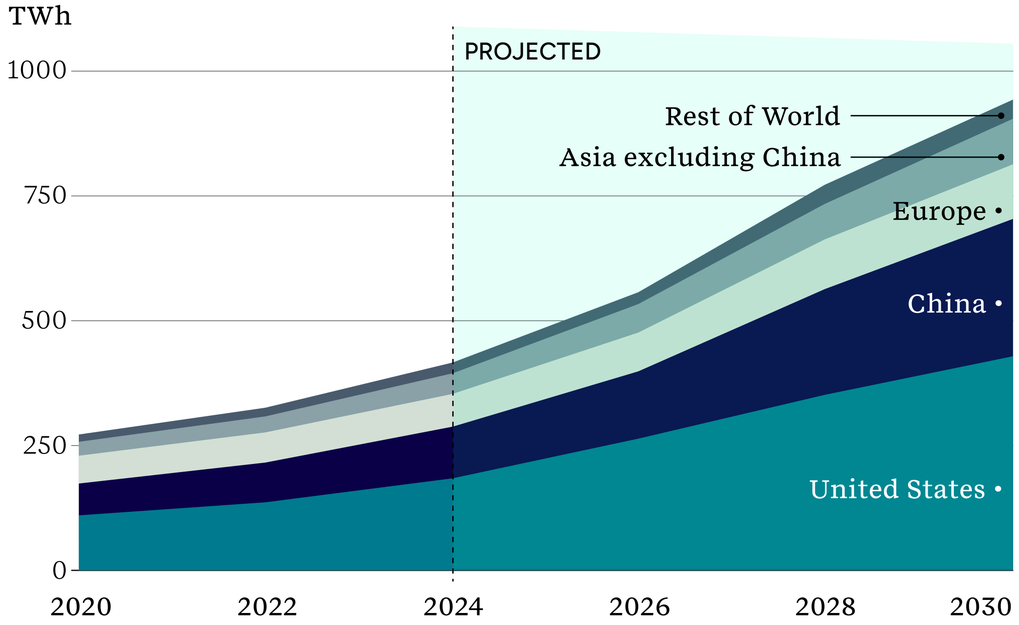
Rising energy consumption and power constraints

Rising energy consumption constrains data center development. As AI and cloud-driven demand accelerates, the availability of reliable, affordable, and timely power is increasingly determining where data centers can be built, how quickly they can be delivered, and at what cost.

Critical drivers

- Data center electricity demand is experiencing exponential growth, driven by AI, cloud, and high-density computing workloads. Demand is **projected to quintuple** by 2040, reaching five percent of all global electricity. In 2024, data centers were **responsible** for 1.5 percent (415 TWh) of the world's total yearly electricity consumption.
- While energy demands rise, there is limited spare capacity in existing power and grid infrastructure, particularly in major data center markets. In the U.S., power availability issues are **extending** data center construction timelines by up to 72 months in some instances.
- Timelines for grid interconnection and power procurement are getting longer, creating material delays to project delivery. The International Energy Agency (IEA) **projects** that approximately 20 percent of planned data centers globally are at risk of significant delay because of interconnection timelines that can stretch to as long as a decade.
- There is also often a geographic mismatch between available power generation and preferred data center locations, forcing developers to reconsider siting strategies. Developers in the UK, for example, sometimes **locate** data centers up to 40 miles away from their preferred operating areas in search of better power availability.
- Competition for power capacity with other sectors and national economic priorities is elevating data centers into broader energy policy debates. Some jurisdictions have introduced restrictions or tighter requirements for new data center development (e.g., capacity caps, siting limits, or pauses on large-load connections) due to grid capacity shortfalls.

Figure 10: Data center electricity consumption by region 2020-2030



Source: IEA

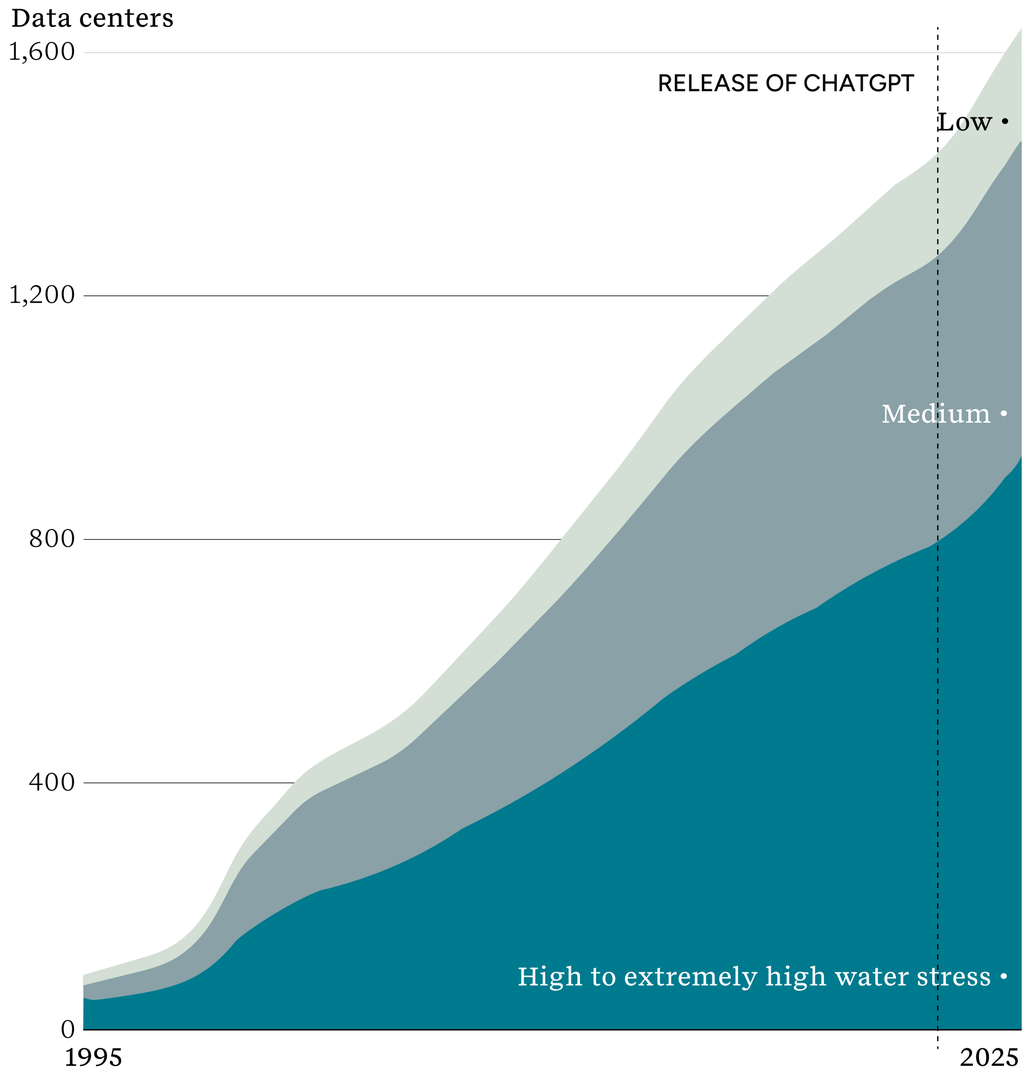
Water availability further complicates data center buildout

Water availability, and its intersection with social and regulatory factors, is emerging as a critical constraint on data center development. As hyperscale and AI-driven capacity expands, developers are increasingly required to secure reliable water supplies, manage cumulative watershed impacts, and address heightened community and stakeholder scrutiny.

Critical drivers

- Rapid growth in hyperscale and AI-driven data center capacity is raising absolute water demand. The IEA **estimates** that a 100 MW facility consumes approximately two million liters per day and that the data center sector as a whole consumes more than 560 billion liters annually.
- The typically high-water intensity of traditional cooling technologies (e.g., chilled water systems, cooling towers, etc.) used in many large-scale, high density, and AI-optimized facilities is a major demand factor.
- This significant water consumption is not always an issue. There is plenty of water in parts of the world. However, many new data centers are concentrated in water-stressed regions because of factors including power availability, land cost, tax incentives, and network latency requirements. In the U.S., close to two-thirds of new data centers since 2022 have **been** built in high water stress regions, while 43 percent of data centers globally are **located** or being built in high water stress regions.
- Water availability questions are often triggering community scrutiny and stakeholder resistance, creating material permitting and schedule risk. In December 2025, more than 230 U.S. NGOs **called** on Congress to consider restrictions on new data center development, citing water consumption concerns. This move reflects rising policy attention even where formal action has not yet followed.

Figure 11: Number of U.S. data centers built by year and water stress zone



Source: **Bloomberg**

THE CORPORATE RESPONSE

Companies are designing and building data centers with sustainability in mind as they move to responsibly meet surging demand while minimizing potential constraints and opposition.

Securing sufficient and sustainable energy for data centers

Companies are prioritizing power strategies that leverage low-carbon energy to reduce emissions intensity and improve project viability, as constrained power supplies make efficiency essential.

Key responses

→ Confronted with power constraints, data center developers are securing energy supplies and prioritizing sustainability whenever possible. For example, **Amazon** and **Google** signed agreements in 2025 with Talen Energy and NextEra Energy, respectively, for nuclear energy that will be used to power their data centers.

→ Google also **announced** a renewable energy power purchase agreement (PPA) with TotalEnergies in 2025 to support its data center operations in Ohio and **signed** a geothermal power deal in Taiwan. Late in the year, the company **agreed** to buy the clean energy developer Intersect Power to provide clean energy directly to its data centers.

→ Beyond external energy sourcing, developers are exploring on-site power solutions. A January 2025 report **found** that approximately 30 percent of U.S. data center developers plan to include onsite power generation at their data center sites by 2030.

→ On-site power generation has so far been a mix of fossil fuels and low-carbon energy. xAI, for example, **added** 20 natural gas turbines to its Colossus data center cluster in Memphis, Tennessee in 2025, while Equinix is **adding** 30 MW of Bloom Energy's solid oxide fuel cells to complement its 75 MW of existing fuel cell capacity at data centers throughout the U.S.

→ Lastly, developers are pursuing data center and renewable energy colocation. In April 2025, Soluna Holdings **announced** it will build a 100 MW data center colocated with a 145 MW wind farm in South Texas.

Prioritizing water efficiency and sufficient supply

Water is top-of-mind for companies as they look to secure supply and support local community water needs. Cooling and heat-rejection choices are increasingly central to both power and water outcomes, making integrated energy-water strategies a core design requirement.

Key responses

→ Data center developers are turning to water supply agreements to ensure their projects have the water they need while also benefiting local communities. Amazon, for example, **signed** an agreement with Hermiston, Oregon, in February 2025 to construct a water pump to take water from the Columbia River during low-demand months for underground storage and eventual use in high-demand months by the company's local data centers and local residents.

- Meta is also addressing water-related community impacts. The company **announced** in November 2025 that its 30th data center in Beaver Dam, Wisconsin, will restore 100 percent of the water it uses to local watersheds, while also restoring 570 acres of wetlands and prairie surrounding the campus.
- Companies are also pursuing water-saving innovations. In April 2025, Microsoft **published** a lifecycle assessment of its data center chip-cooling technologies and found that shifting from traditional air cooling to liquid-based systems can cut data center water consumption by 31-52 percent across a full data center lifecycle. The company will use the results to inform future decisions about data center design and operation.
- Crusoe, as the developer for a new OpenAI data center in Abeline, Texas, is **deploying** non-evaporative cooling approaches designed to reduce freshwater consumption, using air-cooled heat rejection and recirculating loops rather than relying on evaporative losses.

Reducing the other environmental impacts of data centers

Companies are focused on reducing the other environmental impacts of their data centers, aiming to improve sustainability performance and strengthen their social licenses to operate, factors which are increasingly critical to permitting approvals.

Key responses

- Microsoft **built** a first-of-its-kind data center from cross-laminated timber (CLT), estimating that the method will lower embodied carbon by 35 percent compared with conventional steel, and 65 percent compared with typical precast concrete.
- Amazon is working to maximize resource efficiency while minimizing waste through its **re:Cycle** Reverse Logistics hubs, which **extend** the life of data center hardware by recovering and reusing components. In 2024, over 99 percent of decommissioned server racks sent to these hubs were reused, resold, or recycled.
- Beyond hardware, companies are also tackling energy waste. In Mäntsälä, Finland, **Nebius's** sustainable data center redirects about 20,000 MWh of recovered energy each year to directly heat roughly 2,500 homes.
- Dwindling availability of suitable sites combined with larger campuses also means that data centers increasingly encroach on natural habitats and green spaces. To minimize impact and enhance local environmental health, Vantage Data Centers **built** a buffer zone of multiple tree species at its Milan, Italy, data center campus to enhance the local ecosystem and support phytoremediation.
- Meta has similarly **designed** dedicated unbuilt outdoor spaces on more than 50 percent of data center campuses where it restores native habitat and removes turf and exotic ornamental species. Meta also **uses** its Data Center Community Action Grants program to encourage environmental conservation and education in areas it has data centers.

WHAT TO WATCH NEXT

Over the next 12-36 months, data center development will be shaped less by demand signals and more by permitting, interconnection, community acceptance, and financing constraints.

Contrasting regulatory approaches:

Diverging federal, state, and local permitting priorities will increase uncertainty as some jurisdictions will accelerate approvals while others tighten requirements or slow growth to manage local impacts. Monitoring how regulatory priorities evolve across jurisdictions and adapting strategies in response will be critical to navigating potential delays and keeping projects on track.

Grid interconnection reform and prioritization:

Interconnection policy, reform, and load prioritization will determine project timelines and viable markets. Expect continued development focus on markets with faster interconnection, clear permitting, and available power and water. Developers will also pursue on-site or dedicated generation (gas, fuel cells, and potentially nuclear small modular reactors (SMRs) over time) to de-risk schedules, raising new permitting and emissions tradeoffs.

Utility-developer contracting models:

New power contracting structures (e.g., firm vs. flexible load, curtailment, cost-sharing for upgrades) will reshape data center project economics.

Water rights, reuse mandates, and “low/zero-water” cooling:

Water constraints will increasingly become a siting and permitting issue, pushing reuse, non-evaporative cooling, and local watershed impact requirements.

Community opposition scaling into policy:

Local resistance is evolving into coordinated political action, making stakeholder strategy a schedule-critical discipline.

Using technology to advance sustainable impact

The corporate landscape is undergoing a technological shift where data demands, policy requirements, and economic factors are spurring adoption of digital tools that help companies increase efficiencies across sustainability initiatives. These tools help streamline disclosure, support people, and unlock operational efficiencies.

WHY NOW?

Pressures to digitize sustainability are accelerating as disclosure regimes move into auditable reporting cycles, sustainability programs expand into supply chains, and leadership teams face higher expectations for traceability, controls, and cost discipline. As a result, manual reporting is becoming operationally and legally untenable, pushing companies towards integrated data platforms and automation.

Sustainability data demands and manual reporting burdens have companies turning to technology

Companies face an ever-evolving sustainability landscape where complex data demands and manual reporting burdens have them searching for technological solutions.

Critical drivers

- Sustainability demands have dramatically increased with the emergence of frameworks and standards that raise the performance bar. Additionally, the guidelines all have slightly different objectives. Many companies are also using more than one. A February 2025 study finds that 86 percent of companies use multiple sustainability reporting standards at the same time.
- Companies today are required to report on more sustainability data points than in the past. No one definitive estimate exists, however, in one example, more than 3,600 companies reported Scope 3 emissions to CDP in 2024, a significant increase from just over 2,000 in 2023.
- Data complexity and fragmentation is also increasing as sustainability expands into supply chains, product portfolios, and multi-jurisdiction reporting.

Companies must now collect data for things like human rights due diligence and Scope 3 emissions, while also facing a labyrinth of varying data quality and measurement types that can make it difficult to develop clear and uniform pictures.

- Cost and resourcing pressures are growing as well, increasing demand for automation, standardization, and scalable operating models. One global 2025 survey found that 90 percent of the second wave of companies required to report under the Corporate Sustainability Reporting Direction (CSRD) still rely on spreadsheets for sustainability data collection and management.
- Another survey found that "time consuming manual processes" were the third biggest sustainability data collection challenge faced by European companies in 2025.

Regulatory and policy requirements are likely to spur faster technology adoption

Policies and regulations are structurally changing sustainability operating models, turning reporting into an auditable, controls-based process.

Critical drivers

- Growing regulatory pressure and auditability requirements are forcing companies to ensure their sustainability data meets financial-grade controls, traceability, and assurance standards. In 2025 alone, countries proposed or enacted more than 2,500 climate-related laws and policies, creating a complex compliance landscape requiring centralized governance and integrated technology systems to manage across jurisdictions.
- A growing number of sustainability regulatory roadmaps flag 2025–2028 as the critical window when multiple major regimes (CSRD, California climate laws, etc.) are likely to move from rulemaking into active reporting cycles. This convergence will place heightened demands on sustainability programs that many may seek to resolve with technology.
- Heightened sustainability governance and liability demands are another influencing factor, as inconsistent data creates exposure across disclosures, claims, and stakeholder scrutiny. The CSRD, for example, requires in-scope companies to produce auditable sustainability information on up to 1,100 data points with data quality, traceability, and internal controls similar to financial reporting. Companies must also submit this information in machine-readable formats and verify it through third-party assurance.
- India's mandatory Business Responsibility and Sustainability Report reporting framework for its largest public companies requires similar digital reporting as the CSRD, with firms being asked to submit their reports in both PDF and machine-readable formats.

The push and pull of economic pressures and incentives

Economic factors are making it more attractive for companies to adopt technological solutions within sustainability programs.

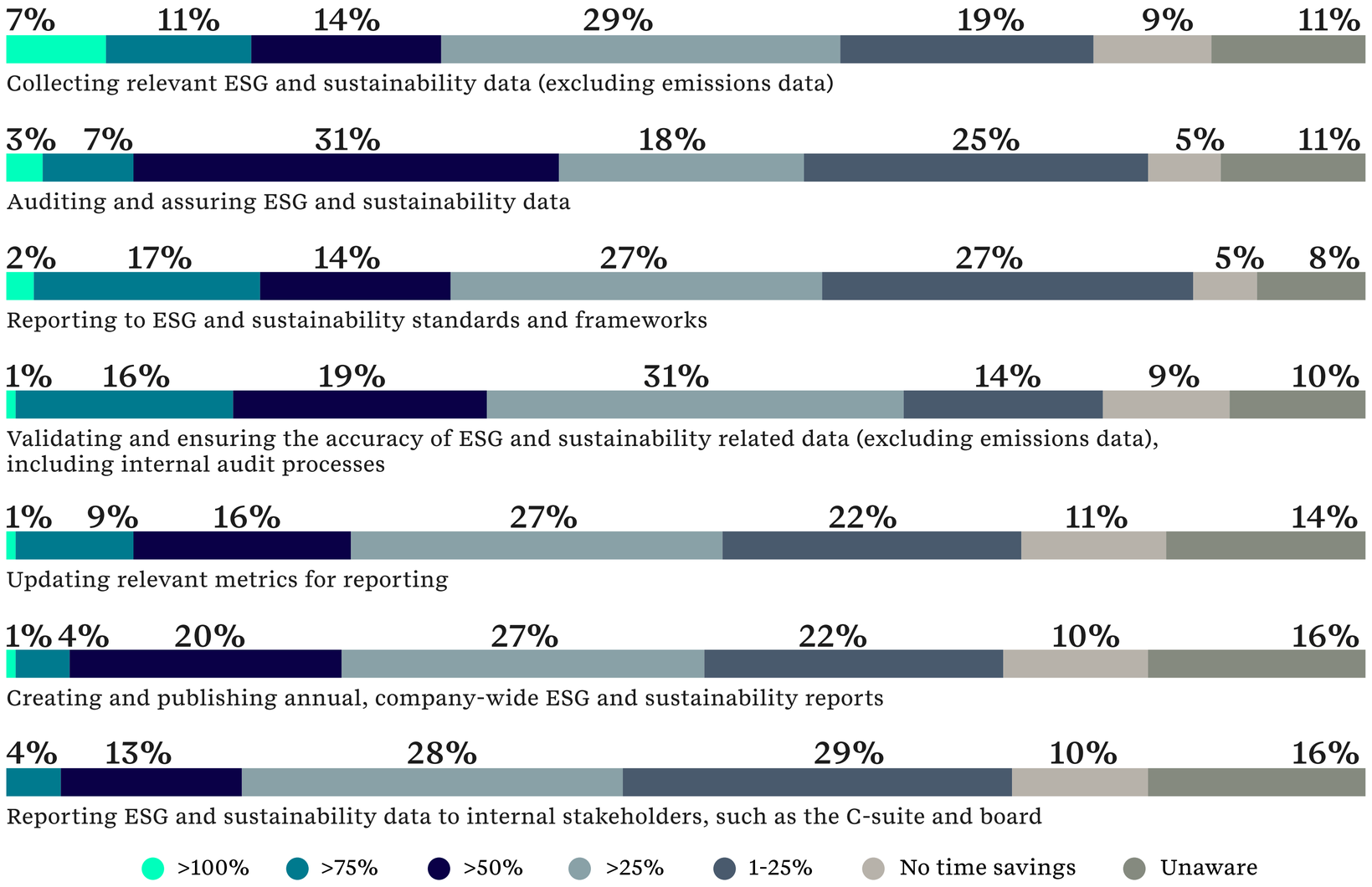
Critical drivers

- Increasing budget pressures from recent sustainability backlash and broader economic factors are sometimes forcing sustainability teams to prove ROI and reduce the cost of compliance, making automation more attractive.
- Technologies are attractive as cost-reduction levers and for their ability to reduce cycle time and control failures, lowering audit risk and internal burden.

One 2024 analysis found that over 60 percent of global companies experienced time savings of at least 25 percent when using software to collect and validate sustainability data. The same analysis found that 86 percent of companies experienced efficiency boosts within their sustainability teams after adopting sustainability-related software.

- AI and analytics for sustainability are moving from experimentation to operational efficiency, especially for data validation, anomaly detection, and workflow automation. The market for AI sustainability applications is growing accordingly, reaching an estimated $182 billion in 2024, with $847 billion in further growth expected by 2032.
- Firms that have a clear, visible AI strategy, for instance, are twice as likely to see real business value in the form of revenue growth and 3.5 times more likely to experience broader benefits than those using it ad hoc or not using it at all.
- The market for sustainability software platforms (e.g., carbon accounting, ESG data management, etc.) is also growing, reaching $1.3 billion in 2024 before growing to a projected $3.7 billion by 2029.

Figure 12: Estimated time savings when using software for sustainability reporting use cases



Source: Nasdaq

THE CORPORATE RESPONSE

Companies are replacing manual sustainability reporting with integrated digital platforms and turning to AI-powered tools to advance their broader sustainability goals.

Digital tools for accurate and timely disclosure

Digital reporting tools are transforming corporate sustainability disclosures, as adoption improves data quality, helps cut costs, and enables more timely, consistent reporting.

Key responses

- A 2025 global survey **found** that, among companies that have already reported under new disclosure regimes, more than half now use digital tools. The same survey notes that the percentage of corporate respondents using AI for sustainability reporting nearly tripled from 2024 to 2025, from 11 percent to 28 percent.
- Thirty percent of companies responding to the S&P Global Corporate Sustainability Assessment (CSA) **report** utilizing AI to help improve sustainability outcomes through applications like enhanced energy efficiency, resource management, and product quality.
- At the company level, Unilever **deploys** digital tools, including IoT devices and cloud analytics, to monitor energy use and emissions in real time, improving the quality of data feeding into its sustainability reporting. The company has also built an internal AI chatbot to help teams quickly retrieve data gathered during sustainability reporting.
- Google **released** its AI Playbook for Sustainability Reporting in December 2025, outlining a five-step process for organizations to streamline and enhance their sustainability reporting with AI.
- ERM and Workiva **formed** a strategic partnership in 2024 that combines ERM's sustainability and climate disclosure expertise with Workiva's cloud platform for reporting. The partnership helps companies collect and manage sustainability data in real time, map it to multiple reporting frameworks, and streamline climate and sustainability disclosures.

Using technology stands to benefit people and workers

Companies are also using technology to better support workers and communities, from platforms that surface employee concerns to software that helps social impact programs.

Key responses

- In October 2025, EcoVadis **launched** Worker Voice Connect, a digital grievance mechanism to help organizations and procurement teams more effectively address worker concerns in global supply chains. It combines confidential reporting with real-time monitoring to address concerns, while meeting human rights due diligence standards.
- Companies are also utilizing digital tools and AI to support employee mental health and well-being. Hearst, for instance, **partnered** with Spring Health to develop a precision mental health platform that uses AI to match employees to the right care and track outcomes.

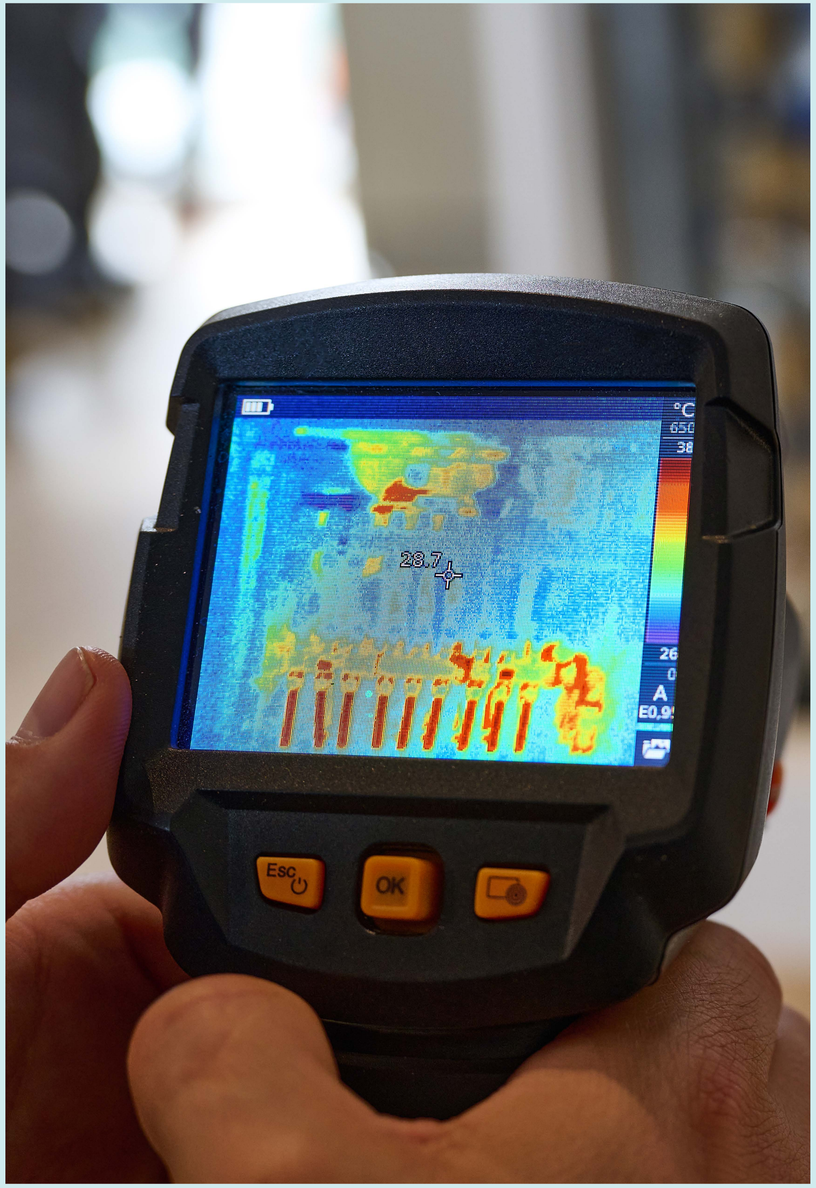
- Platforms like Deed are **embedding** AI into corporate social responsibility (CSR) and volunteering software to help corporate social impact teams validate donations and volunteer hours, surface relevant opportunities, and make faster program decisions.
- Companies are also retraining workforces to help them benefit from AI. IKEA **launched** an AI literacy program in 2025 to help tens of thousands of store and office employees create efficiencies within their roles. Overall, the furniture retailer aims to train all its workers on AI by FY27.

Leveraging AI to advance sustainability performance

Corporate sustainability teams are increasingly using AI to automate analysis, surface optimization opportunities, and accelerate performance improvement across operations, energy use, and product design.

Key responses

- Trane Technologies **launched** BrainBox AI Lab in August 2025 to develop predictive control systems that reduce energy waste and improve building performance. The Lab is focused on AI-driven optimization of heating, ventilation, and air conditioning (HVAC) and building systems to support lower-carbon operations across the built environment.
- ERM's **emissions.AI** enables operations teams to identify excess energy use and hidden emissions by creating an energy and emissions digital twin of a facility. This allows teams to test different plant configurations and quickly identify optimization opportunities without disrupting operations.
- Colgate-Palmolive is **using** the AI-powered platform Zya to virtually design biopolymer packaging materials that meet performance requirements while reducing environmental impact.
- While these applications demonstrate the potential of AI to materially improve sustainability performance, moving from targeted use cases to enterprise-wide deployment remains complex. Scaling these tools requires integration with core systems, robust data governance, and sustained investment, often in the face of budget pressure and shifting priorities. As a result, the next phase of adoption will be shaped as much by organizational and political realities as by technical capability.



WHAT TO WATCH NEXT

Sustainability technology adoption will be influenced by implementation complexity, budget pressures, and contested priorities as organizations move from experimentation to compliance-grade, enterprise-wide deployment.

Integration complexity and capital constraints:

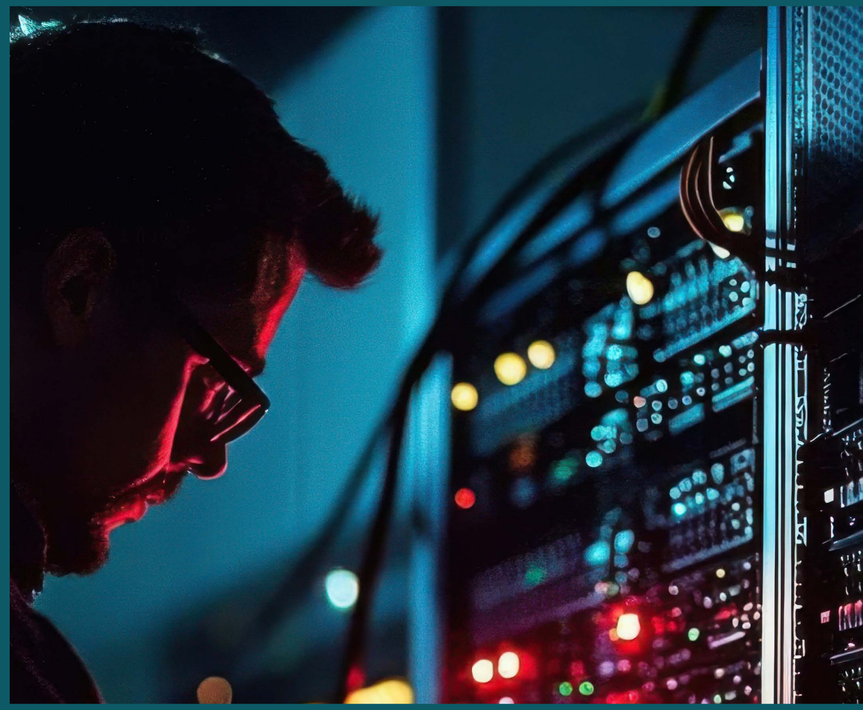
Scaling sustainability technology requires integrating new tools with legacy IT and Enterprise Resource Planning infrastructure, standardizing data definitions, strengthening governance and controls, and training teams, while competing for limited capital against core business priorities. Clear integration roadmaps, ownership, and credible ROI cases will be critical to sustained adoption.

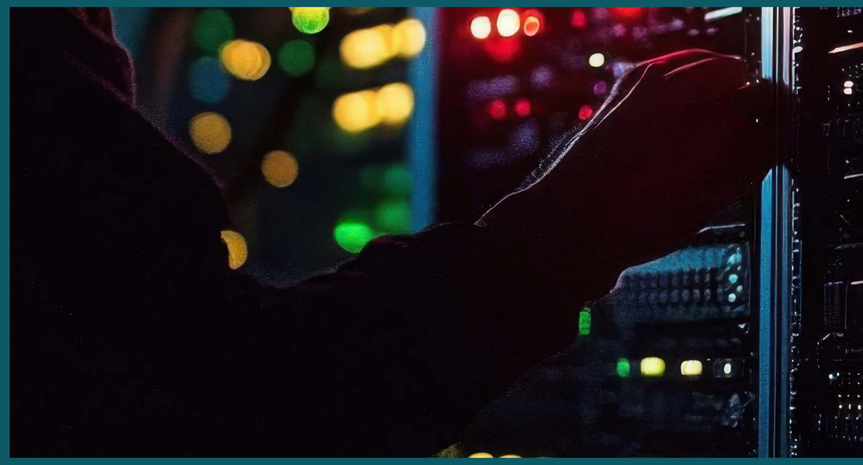
AI auditability and accountability gaps:

AI tools are only as reliable as the underlying data and controls. Without strong traceability, validation, and documentation, AI-enabled forecasting, anomaly detection, or automated narratives may create assurance challenges and increase disclosure risk. Organizations will need robust data quality management, model governance, and clear human oversight to use AI credibly in sustainability programs.

Pushback and shifting priorities:

Sustainability investments remain contested in some markets, increasing pressure to reduce spend or narrow scope. This will intensify internal scrutiny of technology deployments and raise the bar for demonstrating operational benefits—such as reduced reporting burdens, improved compliance readiness, and measurable performance improvements.





EHS transformation:

Driving performance and value creation

A transformation is underway within EHS programs, one in which evolving operating circumstances, regulatory demands, and workforces are prompting companies to recalibrate investments to mitigate risks better while also adopting new ways of working and technologies to continue delivering value. A similar transformation is occurring in environmental remediation work, where historical priorities such as contamination cleanup and emerging issues like Per- and polyfluroalkyl substances (PFAS) and climate resilience are converging to usher in a new era of risk reduction and resilience.

Enabling future-ready EHS service delivery

As sustainability shifts from ambition to execution, environmental health & safety (EHS) has moved to the center of business performance and resilience. Shifting strategies, growing regulatory uncertainty, and workforce constraints are pushing companies to revamp EHS approaches and to view them as commercial value and resilience drivers rather than compliance costs. As part of this modernization drive, organizations are recalibrating spending to address risk realities, adopting new work models to sustain performance, and deploying digital tools to streamline workflows and improve risk management.

WHY NOW?

External and internal forces are converging to reshape EHS programs by making more efficient service delivery and value creation an essential element to future success.

Evolving operating conditions elevate EHS

Shifting corporate strategies and greater focus on value creation are raising expectations that companies address EHS issues more quickly, effectively, and thoroughly.

Critical drivers

- Corporate investment in EHS functions has not increased greatly for ten years. A February 2025 analysis found that, on a median basis, EHS budgets have not changed in the past decade and have even declined on a per FTE basis.
- Recently, the EHS budget picture has begun to change. A 2025 survey of senior EHS leaders at global companies with annual revenues or budgets of over $500 billion found that 78 percent expected to increase EHS spending in the next three years.
- Expectations for increased budgets are rising for multiple reasons. One is the overlap between EHS and sustainability programs within organizations and the impact this has on viewing EHS as value driver rather than cost center.
- Even though EHS functions are often not the “owner” of sustainability information, certain data points (e.g., incident rates, process safety events, etc.) are directly related to EHS work. As sustainability information is increasingly scrutinized like financial data, CFOs are looking at EHS programs through a new lens, one that prioritizes directing spending where risk is highest and value is provable.
- Similarly, there is an ongoing realization within companies that EHS is a business-critical function that can deliver significant performance benefits. The same 2025 survey of senior EHS leaders found that 81 percent believed their EHS initiatives are helping increase commercial value.

Heightened regulatory demands make policy expertise essential

An ever-expanding volume and complexity of EHS and sustainability regulations is spurring demand for tools that help companies track shifting regulatory demands and determine responses that strengthen compliance and reduce risks.

Critical drivers

- EHS regulatory demands are intensifying, with new rules emerging across many jurisdictions worldwide, despite softening in some regions. For example, the 2024 and 2025 editions of ERM's Global Regulations Radar tracked over 40 new EHS regulations likely to affect companies with global operations.
- As the volume of rules increases, traditional regulation monitoring services have fallen behind. These expensive subscriptions frequently overwhelm EHS teams with high-volume, non-contextualized updates that do not translate into clear, operationally actionable insights. These shortcomings are making it harder for organizations to effectively manage compliance at speed and scale.
- While existing tools are often insufficient, demand for enterprise-ready regulatory insights is accelerating. One analysis predicts the aggregated product compliance and EHS regulatory software markets will more than double from $689 million in 2022 to over $1.4 billion by 2028, a 13.4 percent Compound Annual Growth Rate (CAGR).
- Demand for more flexible technological tools is growing as well. One analysis projects that the market for EHS software solutions will more than double from $1.9 billion in 2023 to $4.5 billion by 2029, a 14.6 percent CAGR.
- To close capability gaps, organizations are investing in regulatory intelligence tools that strengthen compliance confidence and increase risk management capacity via specificity that other solutions lack. ERM Libryo, for example, is an end-to-end, configurable platform that translates complex EHS law into actionable lists of obligations relevant to different companies' operations and geographies.

Changing workforce dynamics challenge EHS staffing

Changing workforce dynamics are making it more difficult to find and hire the talent that companies need to advance their EHS programs.

Critical drivers

- The rise of corporate sustainability programs in recent years has led to considerable growth in sustainability-related jobs. For instance, Trellis' most recent State of the Sustainability Profession report found that 74 percent of large companies (revenue >$1 billion) reported increased sustainability team headcount in 2023 and 2024.
- Green jobs more broadly (e.g., roles that improve environmental outcomes) have outpaced non-green jobs in recent years. In the UK, they expanded by nine percent in 2024 while the overall job market contracted by 22.5 percent.
- This recent sustainability job growth has absorbed talent that might previously have flowed into traditional EHS roles, contributing to tighter hiring pipelines and talent constraints across both functions.
- Other factors continue to make it harder for companies to hire and retain EHS workers. A global 2025 survey of EHS professionals found that 55 percent report high turnover and hiring challenges as the biggest issues hindering the progress of their EHS programs.
- At the same time, EHS workforces are often older than those of other professions and programs will likely have to replace retiring talent sooner. In the U.S., the average health and safety specialist was almost 47 years old in 2024, compared to a median worker age of 42.2 years old, while the largest age cohort was between 45 and 54 years of age.
- Older workforces and potential retirements may challenge corporate teams already missing middle layers and a strong funnel to direct younger talent to replace retiring senior leaders. One global analysis found that 41 percent of companies laid off middle managers in 2025, continuing a trend from previous years.

Figure 13: Biggest challenges hindering EHS progress in 2025

Source: Benchmark Gensuite

THE CORPORATE RESPONSE

Faced with changing business priorities, intensifying regulatory requirements, and workforce shifts, companies are pursuing a blend of spending adjustments, new resourcing and delivery models, and technology solutions to reinvigorate their EHS programs.

Recalibrating EHS investment to match real risk

Companies are aligning their EHS spending to where the greatest risks are within their businesses to strengthen risk management and bolster corporate performance.

Key responses

- As the external operating environment evolves, many companies are finding that corporate EHS spending is misaligned with current risks, whether from new regulations, supply chain shifts, or business model changes.
- To better address risks, increase efficiencies, and convince senior leaders of the utility of EHS functions, companies are recalibrating their EHS spending based on risk exposure analyses.
- ERM and Enablon, for instance, worked with MOL Group to create a risk register for process safety risks across five downstream production facilities that the firm then used to inform their EHS budget allocations designed to reduce exposure.
- Companies that reallocate EHS spending often see clear performance benefits beyond EHS itself. For example, 73 percent of EHS leaders at global companies responding to a 2025 survey noted that EHS investments had helped reduce costs during operational disruptions, while 79 percent reported significant operational efficiency improvements.
- Companies are also beginning to integrate EHS into their enterprise risk and resilience decision making. Wendy's, for instance, connected their EHS program

with its larger enterprise risk management (ERM) program under a unified risk management system, enabling it to more clearly see how EHS management directly affects corporate performance.

Hybrid EHS resourcing and centralized delivery models take off

Companies are adopting hybrid resourcing and centralized delivery models that build flexibility into EHS workflows and help preserve institutional knowledge.

Key responses

- There is an ongoing shift towards hybrid EHS resourcing models that blend onshore capacity with offshored and outsourced support. These approaches help businesses maintain flexible EHS resourcing delivery when staff availability and efficiencies are at a premium.
- ERM, for example, provided onsite EHS support and outsourcing guidance for a global pharmaceutical company that ensured regulatory compliance across its global locations. ERM also deployed subject matter experts across critical areas of the company's business such as Process Safety Management and biosafety to augment the client's own EHS capabilities.
- There is often a clear dividing line between onshore and offshore roles, with onshore capacity focused on business-critical tasks such as EHS compliance oversight, while offshore and outsource capacity is applied to process-driven tasks like data analysis.
- Companies are also adopting centralized delivery models, where a global center handles all function tasks across the organization. For example, ERM helped Eramet **centralize** EHS activities like audits, inspections, and incident management using a software as a service (SaaS) solution from Cority.
- Companies often pair centralized delivery models with EHS process standardization. ERM partnered with Evonik to **unify** its EHS processes in ways that enhanced transparency and efficiency while driving better EHS outcomes. The work focused on replacing multiple legacy systems with a digital platform to enable standardized EHS incident reporting across the company.

Data and AI solutions help drive digital EHS transformation

EHS teams are pairing new resourcing and delivery models with data and AI solutions to help companies transform workflows and adapt to new operational realities.

Key responses

- Modern EHS programs depend on robust data management to ensure compliance and inform decision making. Digital solutions help, with companies using them to cleanse, centralize, aggregate, and review data as well as to replace obsolete legacy systems.
- Enablon's EHS risk management software helps companies transition from disaggregated to streamlined data management. For example, the company **worked** with a global auto manufacturing firm to aggregate siloed EHS data into one cloud-based system that makes data management easier while enhancing risk identification and mitigation.
- EHS teams traditionally have manually organized and reviewed data. Today, as available data grows thanks to sensor-rich operations, AI tools are helping companies automate the management and analysis of the records in ways that extract more value. Cority's Cortex AI, for example, **uses** AI to help firms automate time-consuming EHS tasks such as incident data entry and analysis, organizing outputs in a single space for easy access.
- Historically, companies have tracked changing EHS regulatory requirements manually. Now AI-powered regulatory intelligence tools like **ERM Libryo are making** that manual world obsolete.
- Unilever, for instance, had previously used a mix of time-consuming manual and digital regulatory tracking methods. The firm **replaced** these methods with ERM Libryo for eight of its sites in South Africa, using the tool to quickly identify and summarize relevant EHS legal requirements and standards across jurisdictions and providing senior management a clear view of compliance activities.

WHAT TO WATCH NEXT

As EHS programs navigate a period of exceptional change with new technological tools and transformative restructuring, they will need to balance innovation with preparation to deliver impact.

EHS as an assurance engine:

Future EHS transformation will be focused more on reorienting programs as an assurance engine rather than just a reporting engine, where lagging metrics are replaced by critical control assurance and funding projects follow accordingly.

Growing climate change workforce impacts:

Worsening climate impacts will heighten EHS risks exposures such as heat stress, with implications for worker health, safety, and productivity. EHS programs will need to better align their work with other initiatives focused on business continuity, emergency management, and operational resilience.

EHS and cybersecurity risks converge:

As technology adoption increases within EHS programs or applications (e.g., remote access and monitoring, drone usage, and AI enabled workflows), EHS and cyber security risks will merge closer together. EHS and IT functions are likely to more frequently collaborate and partner on key decisions to adopt and manage new technologies.

Scaling environmental remediation to reduce risk and boost resilience

The scope of environmental remediation work is widening. Historically important responsibilities like addressing contamination and managing industrial asset closure remain central. However, factors including PFAS liabilities, retirement demands, and growing attention to environmental justice and climate resilience require expanded approaches. Companies are responding by emphasizing strategic risk management, pursuing operational efficiencies, and integrating community benefit and climate resilience in their remediation activities.

WHY NOW?

Always a feature of environmental remediation work, corporate liability exposures like contaminated groundwater and downstream air pollution are changing with the rise of PFAS risks and growing retirement burdens as industrial assets reach end-of-life. Coupled with an increasing focus on environmental justice and physical climate risk, thoughtful remediation approaches are essential.

The rise of PFAS risks

PFAS liabilities and associated clean-up costs pose growing financial and operational risks to companies as regulatory scrutiny and stakeholder attention to PFAS-related issues increases.

Critical drivers

- PFAS are a **group** of thousands of manufactured chemicals in common use that are **known** to potentially pose significant health risks.
- The scale of PFAS liabilities globally is significant. At current yearly emissions rates of PFAS still in use, annual clean-up costs could **exceed** global GDP (approximately $110 trillion in 2024).
- Despite significant PFAS liabilities, related regulatory frameworks are inconsistent and often limited. The U.S., for example, **set** PFAS drinking water standards in 2024 for six members of a chemical family that stretches into the thousands. In 2025, the U.S. narrowed the standards, **applying** them to only two compounds (PFOA and PFOS).
- Still, even the narrow controls in the U.S. and Europe are relatively stringent, with variation across jurisdictions when compared to the minimal controls just emerging in Asia and Latin America.
- In the absence of clear and comprehensive regulatory guidance and control, stakeholders have pursued civil damages

litigation and greater regulatory enforcement as ways to address or at least limit PFAS contamination. Litigation has grown rapidly since the first major lawsuit was filed in 1999 in the U.S. Since then, more than 10,000 complaints have been filed against close to 500 companies in the U.S. alone, and known settlements now exceed $16 billion.

- Enforcement action has seen similar growth, with more than half of U.S. State Attorneys General having pursued enforcement actions against PFAS manufacturers and users, while the EU's Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) regulation has been used as the foundation for a multitude of country-level enforcement actions taken by EU members.

Asset retirements place heightened demands on companies

Industrial asset retirements (e.g., end-of-life shutdowns of chemical refineries, power plants, etc.), are increasing as facilities age, creating additional pressures on the companies that own those assets and who must devise strategies for their cost-effective and responsible closure.

Critical drivers

- Many industrial assets are reaching the end of their useful lives. Power generation assets in advanced economies particularly are showing their age, with the average coal plant in the U.S. and EU now 40 and 33 years old, respectively, while the average coal plant in Association of Southeast Asian Nations (ASEAN) countries will reach 28 years by 2040.
- As of January 2025, countries and companies had marked 395 GW of coal power capacity for closure globally by 2035, a significant increase over the 47 GW marked for closure in 2025.
- Other market trends provide additional insight into the growth in volume of assets needing to be retired in the near- to medium-term. For example, the offshore oil and gas infrastructure decommissioning market is expected to grow at a CAGR of 7.44 percent between 2025 and 2030.
- As companies retire aging assets, they are likely to confront significant costs. One study from BNP Paribas found that eight industrial sectors collectively face $8 trillion in decommissioning liabilities globally over the coming decades. **(Figure 14)**

Environmental justice and physical climate risk take on new importance

Environmental justice and physical climate risk are growing topics in remediation circles due to shifting policy environments and increasingly clear operational exposures that make their management essential.

Critical drivers

- Environmental remediation has historically centered on investigating contamination and implementing remedies. This focus is now expanding, driven by growing awareness of environmental justice (EJ), which encompasses the human right to a clean and healthy environment and to have input in environmental decisions.
- In the U.S., the federal government has rolled back EJ initiatives. However, many U.S. states and local governments are still pursuing EJ-related actions. New York, for instance, amended its state superfund program in June 2025 to better direct clean-up funds to sites located within disadvantaged communities.
- Elsewhere in North America, Mexico launched a "Justice Plan" in December 2025 to guide the clean-up of the Sonora River Basin after a 2014 spill of

toxic chemicals. The plan emphasizes community participation and ensuring access to safe drinking water.

- In March 2024, the Inter-American Court of Human Rights ordered Peru to go beyond cleaning up pollution from an industrial smelter in the town of La Oroya by also providing financial compensation and specialized medical care for lead exposure. The ruling marked the first time the court held that industrial pollution could violate the human right to a healthy environment.
- Physical climate risks are also taking on greater urgency as they can destabilize contaminants, damage remediation systems, and create new exposure pathways. In the U.S., for instance, a federal government study found that 60 percent of the country's Superfund sites are at risks of inland flooding and hurricane storm surges.
- Other geographies face similar remediation exposures. Of the UK's over 21,000 historic landfills (i.e., closed landfills), almost 3,000 are located in flood plains and another 1,200 in low-lying coastal areas.

Figure 14: Estimated decommissioning costs across sectors and by region (USD bn)

	Renewables	Nuclear	Oil & Gas	Coal	Mining	Industrials	Shipping	Landfills waste	Total
Africa	39	5	53	8	32	26	5	7	175
Asia	799	753	199	190	555	769	206	333	3,805
Australia	16	0	60	5	37	5	1	2	126
Europe	280	461	81	26	189	161	155	67	1,421
North America	234	732	486	44	138	103	24	195	1,956
South America	177	9	20	1	252	40	4	6	509
Total	1,544	1,960	899	274	1,203	1,105	395	611	7,991

Source: BNP Paribas Asset Management

THE CORPORATE RESPONSE

Companies are adjusting their remediation strategies to address emerging risks, optimize costs, and embed community and climate considerations into their actions.

Strategic risk management helps companies manage changing remediation realities

Emerging contaminants like PFAS and new community- and climate-related risks are prompting companies to update their approaches to minimize liabilities and impacts.

Key responses

→ Companies are taking practical steps to manage PFAS and other contaminants before they become larger issues. One manufacturing company in Germany, for example, worked with ERM to identify PFAS-related soil and groundwater contamination in a firefighting training pit and to develop a long-term treatment plan to clean up the contamination and minimize future risks to the surrounding environment.

→ Companies are also adapting their remediation approaches to ensure they help address community- and climate-related risks. For instance, CSX **installed** a fence line monitoring system at one of its Maryland properties to track particulate matter conditions in the surrounding community and inform mitigation measures.

→ The Augusta Canal Authority **used** climate vulnerabilities to inform its remediation of a historic textile manufacturing site in Georgia, selecting cleanup options that decreased the likelihood that physical climate impacts like more frequent and intense storms would release contamination or result in unintended groundwater infiltration.

→ Lastly, companies are adjusting risk management plans as their risk exposures evolve (e.g., because of policy revisions, portfolio composition changes, changes in business plan and priorities, etc.). ERM helped a global manufacturing firm identify and document environmental liabilities across its operational footprint after it expanded via acquisitions, generating information the company then used to establish a funding reserve to address these liabilities.

Companies pursue cost savings via efficient retirement and remediation

As companies navigate new pressures, they are working to make asset retirement and remediation more efficient to reduce costs and optimize compliance.

Key responses

→ Most companies have targeted retirement plans for asset end-of-life, particularly because accounting principles like the U.S.'s GAAP (Generally Accepted Accounting Principles) **require** businesses to report retirement obligations on their balance sheets as liabilities.

→ However, retirement plan execution is changing as companies prioritize greater efficiencies. A major energy firm, for example, helped develop a methodology for integrating circular economy principles into power plant decommissioning, thereby reducing externalities like community impacts while still retaining infrastructure value after decommissioning.

→ Taking things a step further, Glencore **designed** its mining operations in Australia with closure and end-of-life efficiency in mind. Often surrounded by agricultural operations, the company progressively closes land that is no longer needed for mining operations and restores it, using native grasslands essential to local livestock grazing, for example.

→ Companies are also working with regulators to drive cost savings and other benefits during asset retirement. Consumers Energy, for instance, **developed** a plan with state regulators to use $677 billion in securitized bonds to finance the retirement of its Michigan coal plants, **saving** ratepayers approximately $126 million.

Community benefit and climate resilience come into focus

Companies are embedding community benefit and climate resilience into their remediation and decommissioning activities to turn legacy sites into safe, sustainable assets.

Key responses

- → Delivering community benefits is another growing focus for companies. For most organizations, benefit sharing starts with engaging local communities who may be affected by remediation or asset retirement projects.
- → ERM, for instance, helped a global mining company engage a coalition of ten different stakeholder groups (e.g., local government, First Nations, etc.) of a smelter and refinery it owned in Canada to develop an economic diversification plan to help minimize the impact that an estimated 500 job losses would otherwise have on the local community.
- → Companies are also integrating community benefit directly into projects. Honeywell **helped** lead the cleanup of toxic pollutants in the Buffalo River and present at a nearby decommissioned chemical facility in New York, transforming the area into an environmental, economic, and community resource.
- → The integration of climate resiliency is helping companies ensure the long-term sustainability of sites well after the end of their useful life. The remediation of a former automotive manufacturing site in upstate New York, for example, **focused** on reducing flooding vulnerability. The site's remediated landfill was raised 15 feet above the historic average height of the nearby St. Lawrence River and fitted with efficient drainage systems to help reduce flooding-induced contamination.

WHAT TO WATCH NEXT

Environmental remediation is no longer only about cleaning up contamination. With new risks and considerations at hand, mitigation and resilience measures are equally important, as is remediation's potential to bolster corporate performance.

Emerging contaminants, continued risk:

Contaminants like PFAS are not going anywhere. Even if regulatory pressures to address them change, the overall direction of travel points to a growing liability landscape for companies, many of which have not adequately prepared to mitigate future challenges and associated cost and reputational impacts.

Remediation as a value driver:

Rather than being viewed solely as a cost, environmental remediation is increasingly seen as a value driver. By adopting a mindset that prioritizes value opportunities, companies can shift the narrative and extract performance benefits from remediation.

Delivering efficiency with technology:

AI and other technologies are likely to bring new efficiencies to environmental remediation, helping organizations optimize their delivery and monitoring through predictive modeling and automated data analysis. Change management processes and data foundations will likely be essential to maximizing impact.

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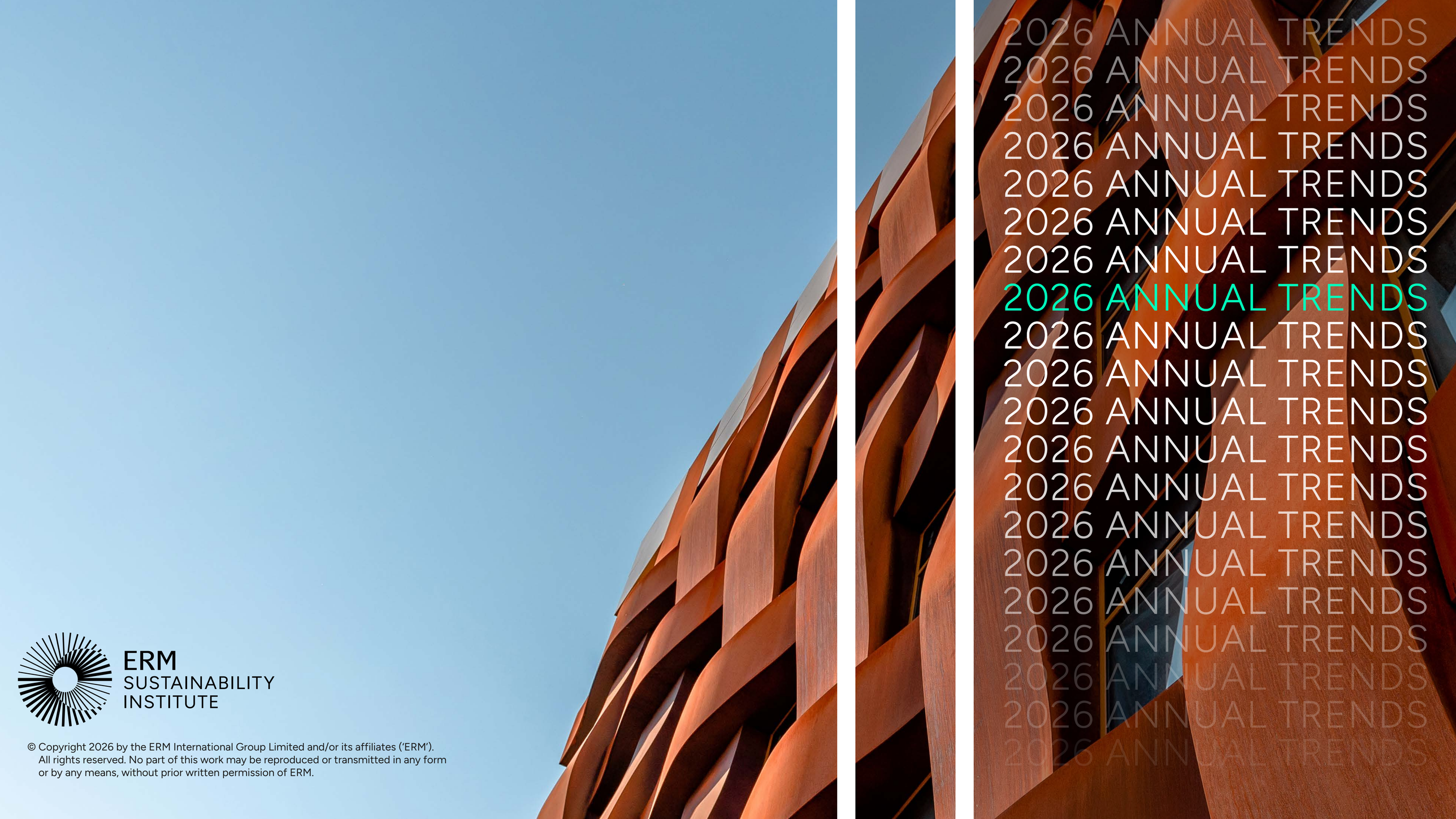

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