



From Planning to Progress: AI-Driven Sustainability in Practice

The Global Sustainability Barometer

NOVEMBER 2025

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Microsoft

Introduction

Energy demand is surging, driven by industrial growth, urbanization, and population increases in emerging economies.

At the same time, extreme weather is raising electricity needs, creating a self-reinforcing cycle of emissions and environmental pressure. Climate change is not a distant scenario – it is already disrupting supply chains, straining resources, and affecting markets and communities.

As these pressures intensify, the line between environmental responsibility and business performance is disappearing. Meeting investor expectations, responding to customer demands, and staying competitive requires reducing emissions, using resources efficiently, and building resilience. Environmental sustainability now directly influences financial performance and market relevance and should be core to long-term strategy.

Quantifiable environmental sustainability impact requires a data-driven, enterprise-wide approach that unites strategy, people, and processes. Real progress means moving beyond isolated initiatives to embed sustainable practices across operations, supply chains, and product lifecycles. By pairing short-term efficiency gains with long-term resilience, organizations can cut waste, enable circularity, and deliver measurable business and societal value.

In 2024, global energy demand grew 2.2%, outpacing the past decade's average.

Global electricity consumption surged by nearly 1,100 TWh – more than twice the typical annual increase – driven by extreme heat, the rise of electric vehicles, industrial expansion, and a 20% jump in data center capacity.

Record temperatures further fueled electricity demand for cooling, generating ~300 million tons of CO₂ emissions, half of which could have been avoided if weather patterns had remained stable.

[GLOBAL ENERGY REVIEW, 2025 \(IEA\)](#)



Technology, particularly AI, makes this shift possible.

Predictive AI helps forecast emissions, resource use, and operational impacts, while Agentic AI autonomously plans and executes multi-step sustainability actions such as enhancing energy efficiency, managing recycling flows, and streamlining supply chains. Deploying these self-optimizing systems transform environmental sustainability from a reactive obligation into proactive, data-driven decision-making, continuously aligning operations with strategy and empowering employees through real-time insights.

Through the third edition of the Global Sustainability Barometer Study, Ecosystem, in collaboration with Kyndryl and Microsoft, provides organizations with actionable insights and guidance. By pinpointing gaps and recommending practical steps, the study helps businesses turn environmental sustainability commitments into measurable impact, leveraging AI and advanced technologies to optimize operations, support communities, and protect the planet.



About the Study

The third edition of the **Global Sustainability Barometer Study**, commissioned by **Kyndryl and Microsoft**, captures the perspectives of **1,286** enterprise leaders across **20** countries and nine industries.

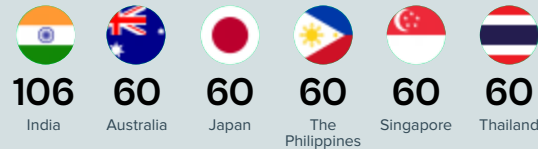
Conducted between August and September 2025, the study explores how organizations are translating environmental sustainability commitments into action through strategy, data, and AI. With an even split between technology and sustainability leaders from diverse business functions, the study provides a comprehensive view of not only current priorities but also how approaches, expectations, and organizational mindsets have shifted since last year's survey.

Country

AMERICAS



ASIA PACIFIC



EUROPE



Industry

40%

Financial Services

15%

Manufacturing

15%

Retail

5%

Construction & Real Estate

5%

Energy & Utilities

5%

Hospitality

5%

Primary Industries

5%

Media & Telecom

5%

Transport & Logistics

Organization Size (number of employees)



26%

201 - 499



28%

500 - 999



26%

1,000 - 4,999



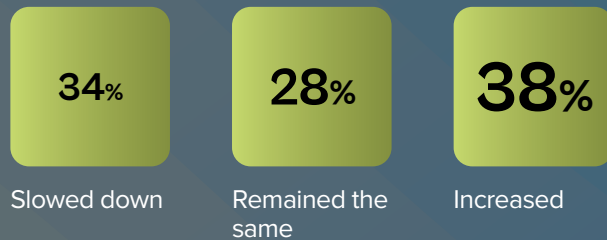
20%

More than 5,000

SPOTLIGHT

Progress Snapshot: What's Changed Since Last Year

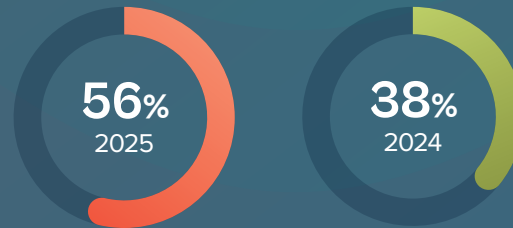
ENVIRONMENTAL SUSTAINABILITY COMMITMENT CONTINUES TO GROW



Q: Have your sustainability goals, reporting, and execution slowed down or increased over the past 12 months?

In the past year, 66% of organizations maintained or raised their environmental sustainability goals and program execution. While down from 76% the year before, it reflects steady progress.

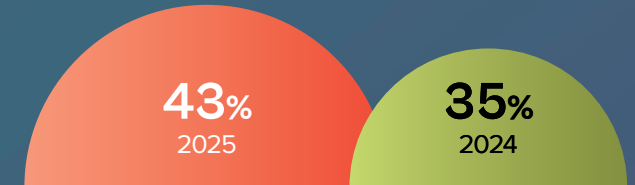
BEYOND IT: TECH TEAMS ARE POWERING ENTERPRISE SUSTAINABILITY



Q: What is the extent of the involvement of IT in achieving your organization's sustainability goals?

As technology and data complexity grow, IT has become the enterprise's data steward, positioned to lead environmental sustainability initiatives that align technology with business goals.

MORE ORGANIZATIONS CONSIDER THE ENVIRONMENTAL IMPACT OF AI



Q: Does your organization consider the environmental impact (e.g., energy consumption, carbon footprint) when implementing AI solutions?

More organizations are embedding environmental sustainability into AI strategy and decision-making, paving the way for autonomous systems to optimize energy, manage resources, and deliver measurable impact.

AI-Driven End-to-End Environmental Sustainability

Organizations are committing to emissions and energy reduction targets, driven by investors, customers, supply chain partners, employees, and regulatory requirements. This reflects a growing recognition that embedding environmental sustainability not only enhances resilience and competitiveness but also creates market differentiation, while neglecting it exposes businesses to financial losses, reputational damage, and operational disruptions.

Technology now underpins every aspect of business operations, but are organizations leveraging it, and AI in particular, to embed sustainability into core processes? Are they using data to set targets, track performance, guide decisions, and drive meaningful action?

Their approach will determine the measurable impact of their sustainability efforts. The third edition of the Global Sustainability Barometer Study examines how proactively businesses are using AI to overcome sustainability challenges and accelerate progress. By evaluating both STRATEGIC ALIGNMENT and TECHNOLOGY ENABLEMENT, the study provides actionable insights for organizations aiming to transform sustainability from a compliance requirement into a measurable driver of performance.

53% of surveyed organizations report on environmental sustainability performance, with 23% doing so voluntarily; another 20% monitor performance internally without public disclosure.



73%

of global organizations report strong alignment between technology and sustainability teams.

YET ONLY

35%

leverage AI centrally to drive environmental sustainability and inform decisions.



STRATEGIC ALIGNMENT FOR ENVIRONMENTAL SUSTAINABILITY

Connecting Policy, People, and Purpose

IMPACT DRIVER #1

Demonstrating ROI & Business Value

IMPACT DRIVER #2

Engaging the Ecosystem

IMPACT DRIVER #3

Ensuring People & Strategic Alignment

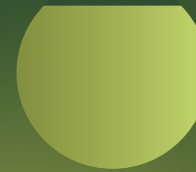
While environmental sustainability is on the executive agenda, many organizations still struggle to translate intent into meaningful action.

Initiatives often remain siloed, compliance-driven, or unevenly implemented across regions. Global political realities, differing regulatory environments, and local market conditions add layers of complexity, requiring organizations to act differently in different geographies while still pursuing coherent sustainability objectives.

Addressing these challenges requires a structured approach. An effective sustainability strategy rests on three pillars: generating tangible value from sustainability actions, aligning people and organizational objectives to deliver that value, and integrating the broader ecosystem of stakeholders – including suppliers, partners, customers, and investors. Clear policies, aligned goals, and the right skills are essential to make the outcomes tangible. Data and AI then act as powerful enablers, forecasting emissions, optimizing resource use, and supporting coordinated environmental sustainability initiatives across the enterprise and its extended network.

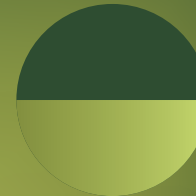
Organizations that successfully combine these elements – strategy, people, data, AI, and ecosystem engagement – can move from isolated projects to a fully end-to-end environmental sustainability model.

There is still a notable gap between ambition and fully integrated action.



85%

of organizations rate environmental sustainability as a top strategic priority.



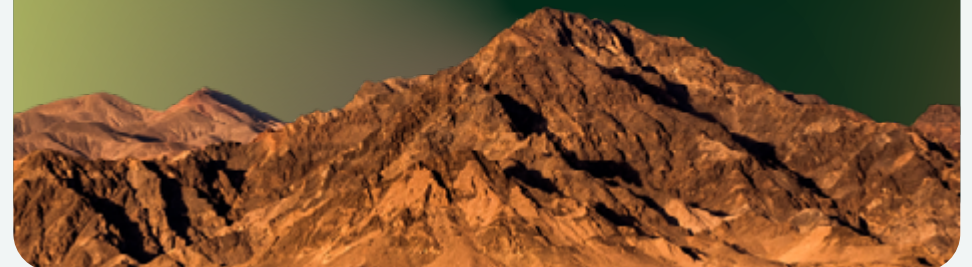
Yet 50%

are driving environmental sustainability through proactive or consistent initiatives.



Even fewer 17%

have embedded it as a core driver of innovation, cost savings, and long-term resilience.



IMPACT DRIVER #1

Demonstrating ROI & Business Value

As regulatory pressure eases as a primary motivator in some markets, organizations are reframing environmental sustainability as a source of business value. It now drives efficiency, brand trust, risk management, and innovation – delivering both near-term gains and long-term resilience.

TOP DRIVERS OF ENVIRONMENTAL SUSTAINABILITY MEASURES



Q: In which 3 areas has your organization seen – or expects to see – the most benefit from sustainability efforts?

A WORD ON REGULATIONS

Despite regulatory rollbacks in some countries, such as the US, sustainability regulations are more influential now than in the previous two editions of the Global Sustainability Barometer Study. The “Brussels Effect” continues to extend EU standards globally. At the same time, US states like California are enforcing robust climate and disclosure laws, creating a patchwork of regulation that directly impacts corporate strategy and the value organizations can generate from proactive environmental sustainability actions.



Many environmental sustainability initiatives lose momentum after the initial wave of investments and reporting because their financial or strategic value, while often present, is not clearly identified or communicated.

With most of the easy wins already achieved, the remaining initiatives tend to be harder to abate, delivering longer-term or less tangible benefits. Without visible links to cost savings, efficiency gains, new revenue, or intangibles like trust and innovation, it becomes increasingly difficult to justify continued investment, creating inertia even as organizations strive toward net zero.

48%

cite the lack of clear ROI and difficulty measuring impact as the biggest barrier.

54%

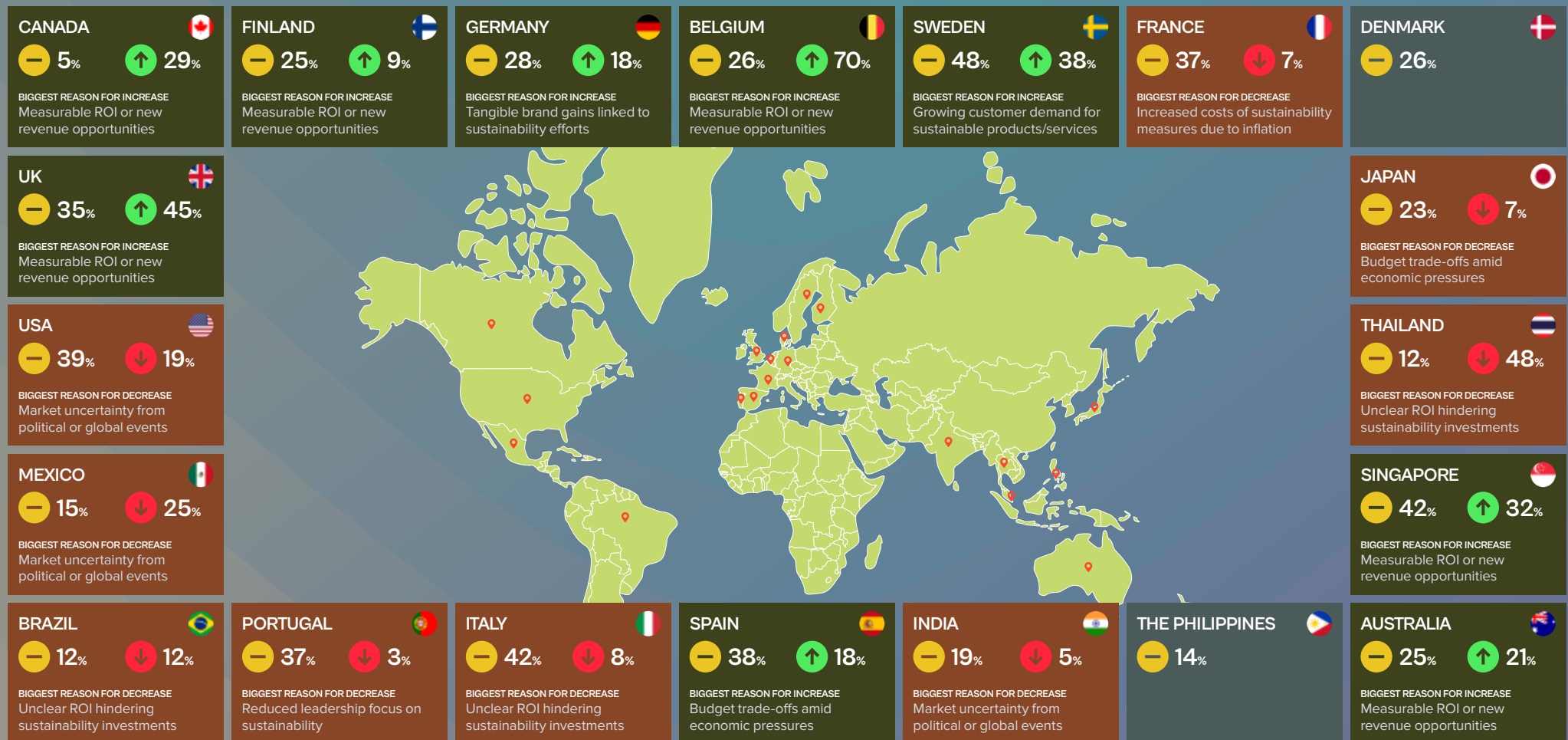
of organizations that accelerated environmental sustainability initiatives last year did so thanks to a stronger business case, clearer ROI, and new revenue opportunities.



SPOTLIGHT

Momentum Matters: Countries Gaining or Losing Ground

Sustainability momentum depends on clarity of business value gained: organizations that link initiatives to tangible ROI and new revenue opportunities accelerate progress, while unclear ROI, budget pressures, and market uncertainty slow it.



Q: Have your sustainability goals, reporting, and execution slowed down or increased over the past 12 months? What are the main reasons?

% Increased Pace*
 % Retained Pace
 % Decreased Pace*

* Percentage of organizations that increased sustainability actions minus percentage that slowed down

IMPACT DRIVER #2

Engaging the Ecosystem

Environmental sustainability cannot be an isolated initiative – it requires an ecosystem of stakeholders working together to create meaningful progress and quantifiable impact. Investors and shareholders need clear evidence of ROI and long-term value; customers and employees must see how environmental sustainability drives everyday decisions and innovation; supply chain partners should be aligned on low-impact, circular practices; and regulators, banks, and rating agencies require transparent, data-backed reporting.



Driving Sustainable Supply Chains

Sustainability extends beyond an organization's boundaries – it includes suppliers, partners, and the organization's role within the supply chains of banks, investors, and other stakeholders. Effective management requires collaboration to address resilience, responsible sourcing, and environmental impacts. Technology is critical: data platforms, AI, and digital tools track supplier performance, monitor emissions across Scope 1, 2, and 3, flag risks, and can enable proactive interventions. By combining clear expectations with real-time visibility, insights, and alignment with global standards, organizations can scale sustainable practices, ensure regulatory compliance, and deliver measurable value across the entire ecosystem.

TOP VOICES SHAPING ENVIRONMENTAL SUSTAINABILITY ACTION



47%

Investors/Shareholders



45%

Customers



41%

Supply Chain Partners



40%

Employees



37%

Governments/Regulators



34%

Banks/Credit Providers



21%

Rating Agencies

Q: Who are the top 3 influential voices advocating sustainability policies and practices in your organization?

STAKEHOLDER INFLUENCE

Compared with the previous two editions of the Global Sustainability Barometer Study, investors, shareholders, and supply chain partners are becoming more influential in advocating environmental sustainability policies and practices. Regardless of regulatory context, there is growing recognition that environmental factors are key drivers of long-term financial performance and risk management.

IMPACT DRIVER #3

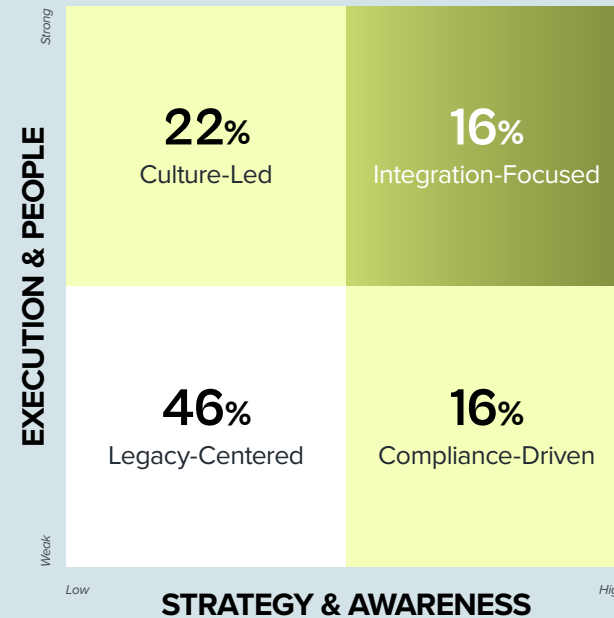
Ensuring People & Strategic Alignment

Employees remain influential in advocating for environmental sustainability policies and practices. Real impact depends on aligning strategy with execution – it cannot sit solely with the Board or sustainability teams but requires enterprise-wide action. Engaging employees early ensures environmental sustainability is embedded in the core strategy rather than treated as a side project. Equipping employees with data, tools, and training, and fostering ownership and accountability, enables them to make sustainability part of everyday decisions.

However, many organizations stop at defining strategies and policies, leaving them disconnected from employees, daily operations, and proactive action.

Even when shaped by regulations or market expectations, initiatives often stay centralized, creating a gap between strategy and execution. In some cases, employees are committed, but efforts remain fragmented or hard to scale due to weak strategic alignment.

Strategy-People Alignment Often Lacking in Organizations



Integration-Focused. Environmental sustainability is embedded in the core business, with empowered employees aligned to objectives. Strategy and culture reinforce each other, driving measurable business value and lasting impact.

Culture-Led. Strong people engagement but weaker strategic alignment. Employees actively participate in environmental sustainability initiatives, but efforts can be fragmented or hard to scale.

Compliance-Driven. Goals are well-defined and often shaped by regulations or market pressures, yet initiatives stay centralized, creating a gap between strategy and execution.

Legacy-Centered. Environmental sustainability is treated as a side activity or compliance task. Actions are reactive, engagement is limited, and goals remain disconnected from daily operations and culture.

Modeled by Ecosystem based on responses across multiple questions

SPOTLIGHT

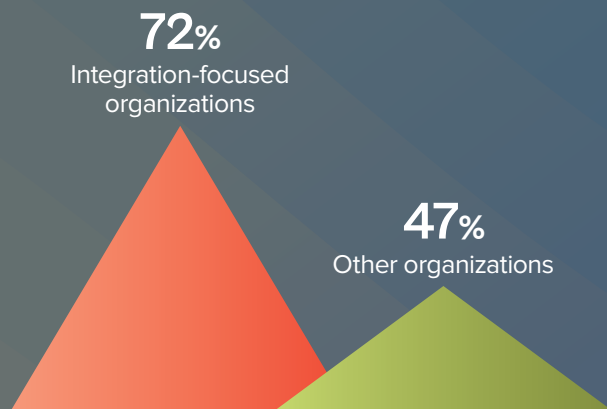
Integration-Focused Organizations

Organizations that embed environmental sustainability into their core operations and empower employees to take meaningful action lead in overall sustainability practices. By leveraging data and AI, they turn environmental sustainability from a compliance obligation into a value-creation driver, enhancing resilience, competitiveness, and market differentiation.

Better Success Rates

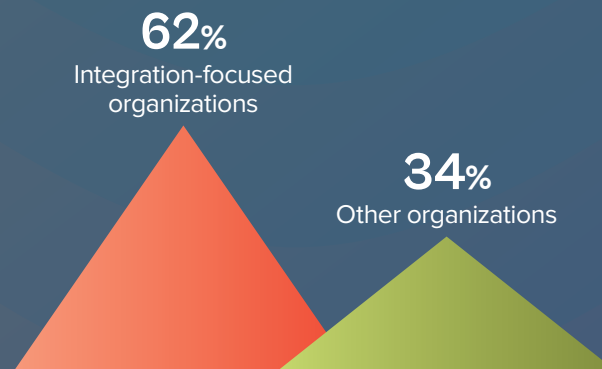
PROACTIVE INITIATIVES

Drive environmental sustainability through consistent efforts, turning pilots into scalable, mature practices



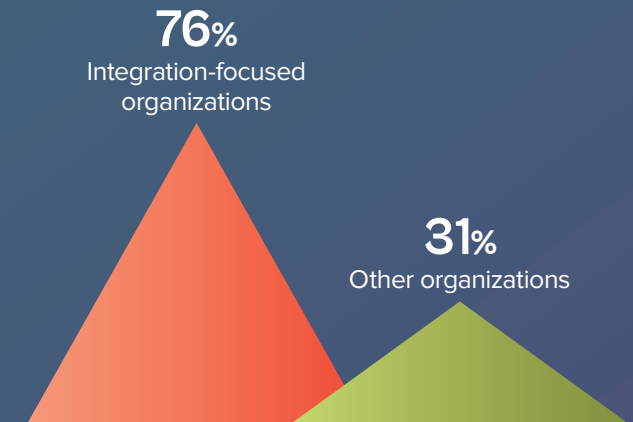
CORE DRIVER OF STRATEGY

Embed environmental sustainability into innovation, cost savings, and resilience, shifting it from reporting to a core business lever



ACCELERATION

Accelerated goals, reporting, and execution in the past year, showing that linking sustainability to business outcomes boosts speed and agility

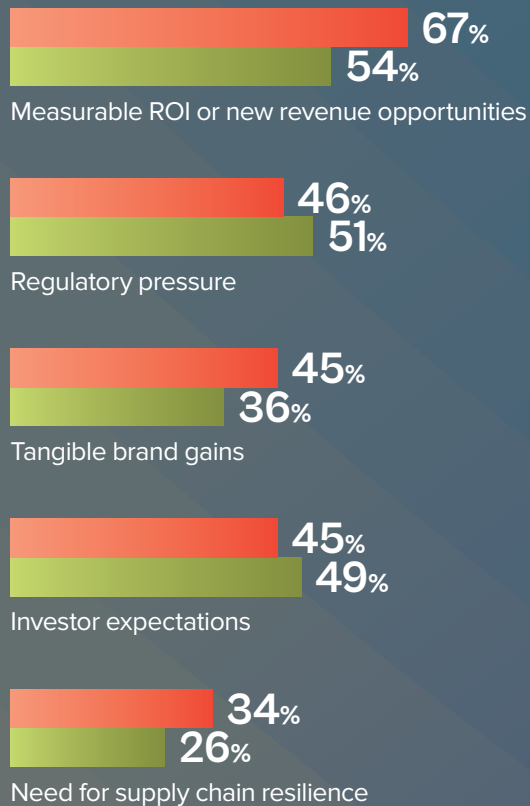


What They Do Differently: Embedding Environmental Sustainability into Strategy, Tech, & Results

STRATEGIC PRIORITIES

Prioritize ROI, brand value, and supply chain resilience over compliance or pressure, using environmental sustainability as a competitive differentiator

Reasons for Accelerating Sustainability



IT INVOLVEMENT

Involve IT in achieving environmental sustainability goals, making technology a key enabler through data, automation, and AI



PERFORMANCE MANAGEMENT

Measure, manage, and act more across operations, supply chains, assets, and workforce, turning commitments into visible, trackable results

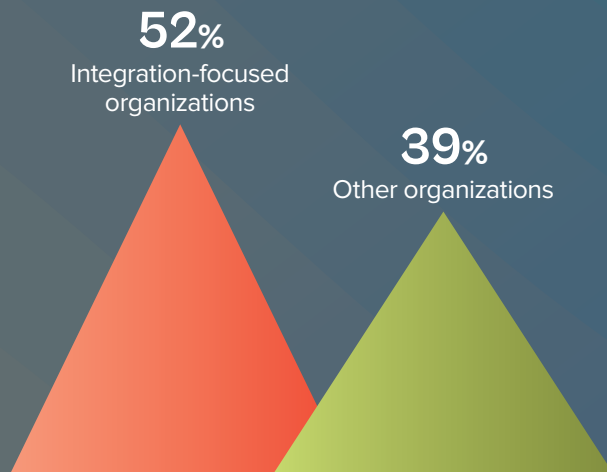
Tech for Environmental Sustainability



What They Do Differently: Data & AI for Decision-Making

INTEGRATED, ACTIONABLE DATA

Drive real-time optimization across functions, delivering faster insights and sharper interventions



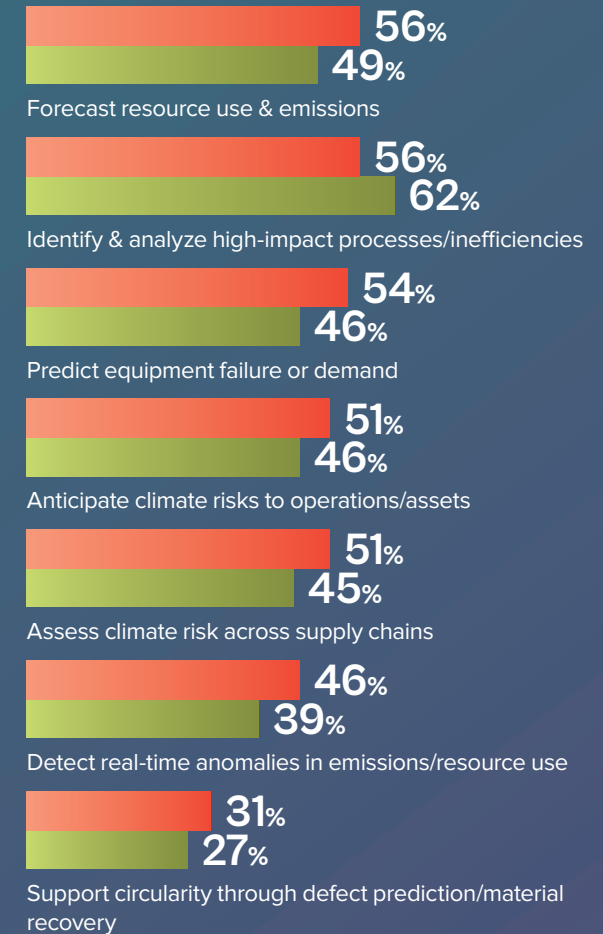
AI-DRIVEN AUTOMATION

Use Agentic AI to support environmental sustainability outcomes, signaling leadership in automation and self-optimizing systems



FORWARD-LOOKING INTELLIGENCE

Use Predictive AI more to anticipate and act than to track and analyze



Connecting Policy, People, and Purpose

To shift the needle, organizations must treat environmental sustainability not as a checklist, but as a driver of growth, resilience, and long-term value:

01

Quantify ROI

Identify key stakeholders and conduct a data-backed assessment of expected tangible gains (energy efficiency, cost savings, sustainable revenue) and intangible benefits (brand trust, customer loyalty, talent retention). Establish baselines to track progress and demonstrate clear returns.

02

Integrate into operations

Embed environmental sustainability into workflows, investments, and daily decisions. Monitor progress against SMART goals and KPIs in real time, flag deviations, and ensure compliance.

03

Align across the enterprise

Connect departmental objectives through centralized dashboards, highlighting dependencies, identifying gaps, and driving coordinated improvement.

04

Empower employees

Provide role-specific KPIs, dashboards, and actionable insights. Link performance to incentives for clearer accountability and measurable impact.

05

Engage the ecosystem

Collaborate with investors, customers, suppliers, regulators, and partners, leveraging digital platforms to track impact, coordinate efforts, and scale sustainable practices across the extended network.



TECHNOLOGY ENABLEMENT FOR ENVIRONMENTAL SUSTAINABILITY OPTIMIZATION

Connecting Data, AI, and Action

TECH LEVER #1

Embedding Sustainability in Modernization

TECH LEVER #2

Moving Beyond Energy & Emissions

TECH LEVER #3

Enabling Shared & Measurable Approach

TECH LEVER #4

Optimizing Core Data for Insights

TECH LEVER #5

Predicting Future Risks with AI

TECH LEVER #6

Enabling Autonomous Action with Agentic AI

From building an effective strategy to tracking progress against SMART goals and engaging employees and external stakeholders, technology is central to strategic alignment.

Its greater role lies in operationalizing an end-to-end environmental sustainability model – collecting and analyzing the right data, using insights to anticipate future challenges and outcomes, and driving autonomous corrective actions.

Technology is often seen as supporting environmental sustainability, with close collaboration between IT and management teams. Yet, while many organizations embed efficiency into modernization roadmaps, the focus often remains on energy and emissions, overlooking broader value opportunities. Predictive AI is also applied mainly for analysis, not for driving proactive action or uncovering optimization potential.

With advances in Agentic AI, organizations now have an opportunity to continuously assess and identify opportunities that can quantifiably embed environmental sustainability efficiency into their operating models, to enable actions that respond dynamically – in real time – to risks and priorities. This is the level of agility needed to create quantifiable value that can be tracked and monitored; and the technology exists to make it happen, provided IT and sustainability teams work in close alignment.

Organizations that embed data, insights, and AI into their sustainability strategy, risk and opportunity identification, and goal tracking are best positioned to create long-term business value through measurable progress and lasting impact.

Real alignment between IT and sustainability teams remains limited.

73%

of organizations report high alignment between the teams.

ONLY

57%

of technology teams actively support broader sustainability goals.

JUST

26%

of sustainability leaders hold a formal role in IT governance, influencing strategy and investment decisions.

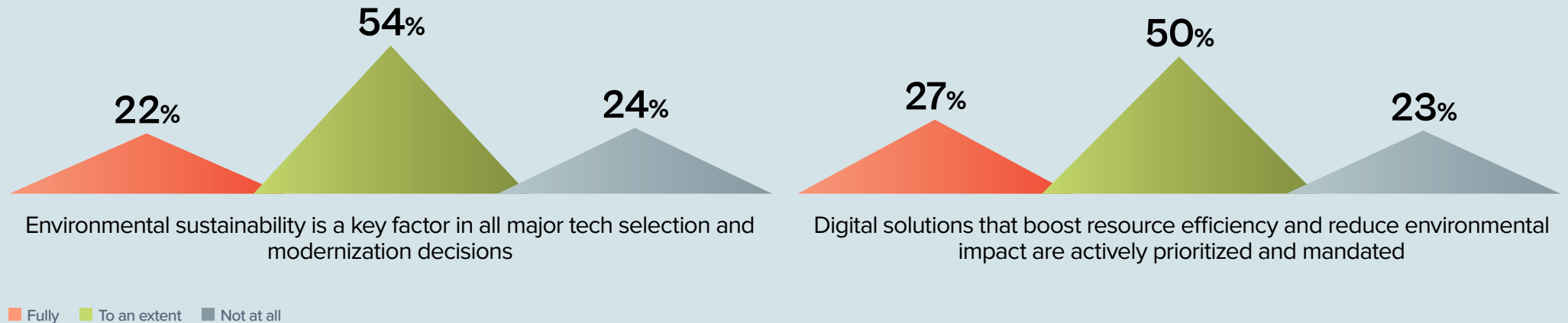


TECH LEVER #1

Embedding Sustainability in Modernization

Environmental sustainability is emerging as one of the key drivers of technology modernization, but early initiatives – such as hardware refreshes, cloud adoption, and server virtualization – have often been motivated more by cost and efficiency than by environmental impact. Driving value through quantifiable environmental sustainability requires technology teams to evaluate decisions through a data-driven, evidence-based environmental lens, assessing legacy systems not only for performance, complexity, and vendor support but also for their broader ecological footprint.

ENVIRONMENTAL SUSTAINABILITY REMAINS AN AFTERTHOUGHT IN TECH MODERNIZATION



TECH LAG

Although IT now has a bigger role in enterprise sustainability, environmental practices are still not fully integrated into technology operations. IT is also not yet fully supporting the wider business in managing the carbon footprint of increased digitization, even though some digital initiatives are already reducing emissions in certain business functions.

The growing adoption of AI and digital solutions add both opportunity and responsibility for technology teams.

AI's energy use – especially for training and inferencing – is often invisible, yet can significantly impact an organization's carbon footprint. Considering these effects alongside modernization decisions helps ensure AI builds value while enabling smarter, data-driven operations.



Blended Modernization for Impact

Organizations are shifting from “rip-and-replace” to blended modernization. Instead of fully discarding legacy systems, they modernize critical platforms while integrating efficient infrastructure, software, and AI-enabled digital solutions. This balances stability, business value, and environmental performance. Even partial steps – like moving select workloads to greener environments or refactoring software with energy-conscious coding – help deliver measurable sustainability gains.

43%

of organizations consider environmental impact when deploying AI. While this is up from 35% last year, it needs to become standard practice.

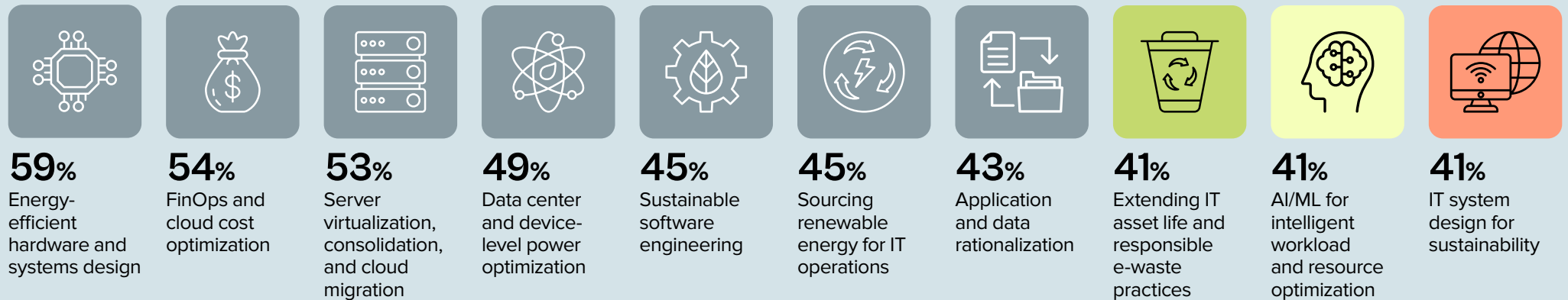


TECH LEVER #2

Moving Beyond Energy & Emissions

Most technology teams start with “low-hanging fruit” such as energy efficiency and emissions reduction, delivering quick wins in cost savings and operational performance. While these actions are important, environmental sustainability requires going beyond energy and emissions to address the entire technology lifecycle – from software design and workload optimization to responsible procurement, asset lifecycle management, and circular approaches.

TECH ACTIONS TO CUT CARBON FOCUS ON ENERGY & EMISSIONS



■ Energy & Emissions Optimization ■ Resource & Material Efficiency ■ Operational Resilience ■ Product & Design for Sustainability

Q: What actions does your IT/Technology team take to reduce their carbon footprint?

THE GROWING IMPORTANCE OF FINOPS

FinOps helps organizations optimize costs while improving energy efficiency. Rightsizing workloads, shutting down idle instances, and monitoring usage not only cut expenses but also reduce the carbon footprint of cloud operations, a critical consideration for AI workloads with high compute demands. Embedding energy and emissions metrics into cloud financial management helps ensure that cost optimization directly supports measurable environmental impact.



Extending Impact Through Strategic Modernization

Beyond basic operations, IT can advance enterprise-wide sustainability by rationalizing software portfolios, modernizing infrastructure, and optimizing workloads. Environmental sustainability should be considered across procurement, operations, software, and disposal. Smarter software design, efficient workloads, data-driven decision-making, and circular practices reduce environmental impact while delivering measurable long-term value. By shifting the approach to make everyday technology modernization deliver sustainability value, and coupling these initiatives with sensors, automation, and AI, organizations can benefit from continuous monitoring, proactive interventions, and quantifiable results – positioning IT as a driver of efficiency, resilience, and broader environmental performance.



TECH LEVER #3

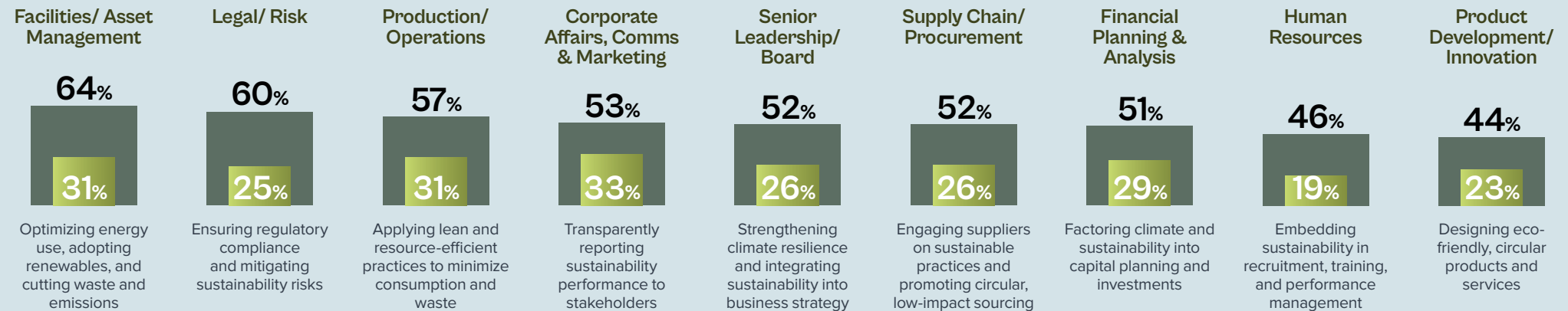
Enabling Shared & Measurable Approach

IT is expanding its role in helping organizations achieve environmental sustainability goals through technology and data. At the same time, business functions are developing their own sustainability practices, which is encouraging. However, true impact requires all stakeholders to operate from a shared, coordinated approach – and technology teams are ideally positioned to enable this unified, data-driven strategy.

56%

of organizations report that IT now goes beyond managing its own carbon footprint to support enterprise-wide environmental sustainability goals, up from 38% in 2024.

TECHNOLOGY UNDERUSED IN BUSINESS FUNCTIONS' ENVIRONMENTAL SUSTAINABILITY PRACTICES



■ Leveraging Tech to Achieve Commitments

Q: What are the key sustainability practices your organization is implementing across business functions? Where is your organization using technology to support sustainability practices?

INTEGRATED INSIGHTS

A unified digital platform brings together real-time data, dashboards, and AI insights to track progress, measure environmental impact, and link sustainability initiatives to business outcomes. This approach uncovers high-impact opportunities, enables smarter decision-making, and shifts environmental sustainability from isolated projects to an integrated, measurable part of enterprise operations.

TECH LEVER #4

Optimizing Core Data for Insights

Effective environmental sustainability relies on the availability, quality, and integration of data. Organizations need accurate and timely information to track progress, measure impact, and make sustainability actionable. Centralizing data is not enough – without integrating it across systems and using it for decision-making, efforts remain fragmented and have limited impact on environmental and operational performance.

NEARLY

69%

of organizations track environmental metrics centrally

YET ONLY

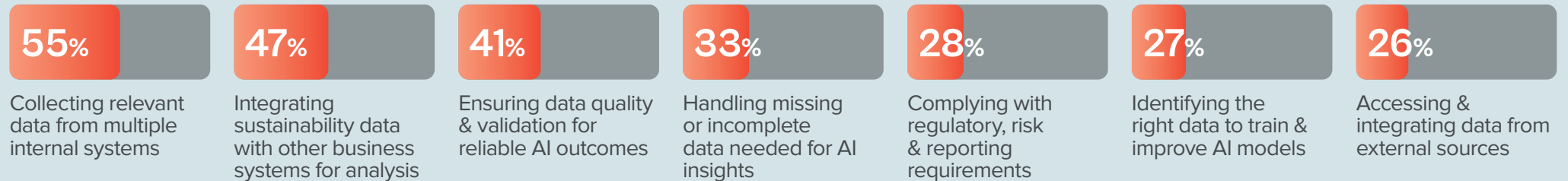
40%

use this data to guide decisions and optimize performance; the rest focus on data primarily for reporting



The barriers to achieving this integration are not new. Information is often fragmented, inconsistent, and difficult to trust, making it hard to connect processes, ensure reliability, or generate actionable insights.

DATA REMAINS A KEY BARRIER TO ENVIRONMENTAL SUSTAINABILITY



Q: What are the top 3 challenges your organization faces in managing data to support AI-driven sustainability initiatives?

DATA INTEGRATION

Compared with last year, integrating sustainability data with core business systems has become a bigger challenge. Organizations must manage massive, diverse datasets, ensure audit-ready quality, and overcome legacy system limitations and siloed operations. This growth in complexity signals a shift toward more mature, operational integration, linking environmental sustainability performance directly to financial and operational outcomes.



Operationalizing Sustainability Intelligence

The solution lies in building a strong foundation: digitizing reporting workflows, enforcing governance, and integrating environmental sustainability data into core business systems. Agentic AI can then take this further – automating collection, cleaning, and integration of structured and unstructured data, ensuring accuracy and timeliness. By also running proactive analyses and triggering real-time actions, it transforms sustainability data from a reporting obligation into a strategic operating asset.

TECH LEVER #5

Predicting Future Risks with AI

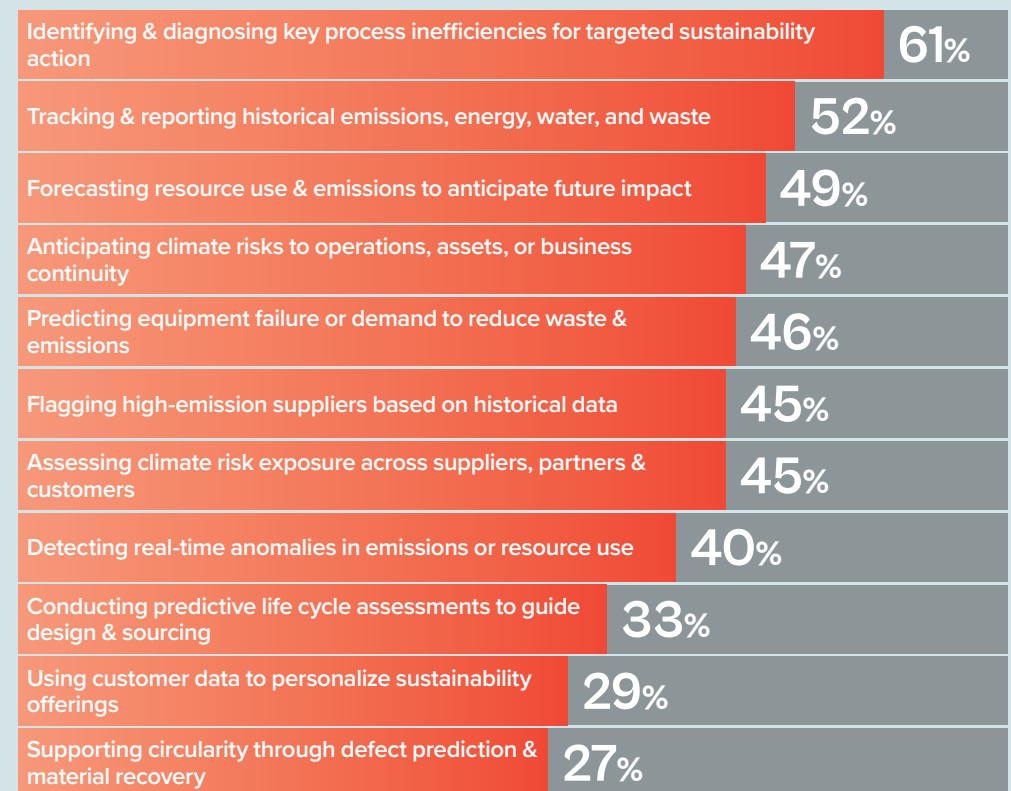
To turn environmental sustainability into a business advantage, organizations must move beyond reactive compliance and use AI to anticipate climate impacts, supply chain risks, and resource needs. Many still miss opportunities to reduce waste, improve operations, and anticipate future impacts. Advanced tasks that require time-series and risk models – such as forecasting climate risks to operations and assets, predicting equipment failure or demand, and flagging high-emission suppliers – remain underutilized.



Predictive AI as a Strategic Lever

Organizations can leverage Predictive AI for high-impact sustainability applications: real-time anomaly detection, predictive life cycle assessments, customer segmentation for sustainable offerings, and defect prediction for material recovery. These capabilities allow companies to anticipate risks, optimize resources, and translate environmental initiatives into measurable operational and business outcomes.

PREDICTIVE AI FOR ENVIRONMENTAL SUSTAINABILITY



Q: How does your organization use predictive AI to reduce risks, capitalize on opportunities, or improve sustainability outcomes?

SHIFTING FOCUS

Organizations are moving from reactive analysis to forward-looking prediction. Compared with last year, 49% now forecast resource use and emissions to anticipate future impact (up from 37%), while 47% focus on anticipating climate risks, rising from 30%. This shift signals a growing emphasis on proactive, data-driven environmental sustainability.

TECH LEVER #6

Enabling Autonomous Action with Agentic AI

Predictive and Agentic AI together form a closed-loop system for environmental sustainability. Predictive AI forecasts future outcomes and identifies risks or opportunities, while Agentic AI autonomously acts on these insights in real time. This creates a self-optimizing cycle where strategy and execution are seamlessly linked, driving continuous, proactive improvement across operations. Traditional efforts have been limited by fragmented data, human oversight, and gaps between strategy and execution. By automating complex, multi-step tasks, Agentic AI allows organizations to move from reactive processes to real-time, data-driven actions. It monitors data streams – from sensors to supply chains – identifies inefficiencies and triggers corrective measures.

ADOPTION OF AGENTIC AI IS STILL IN ITS EARLY STAGES



9%

Already deploying Agentic AI for sustainability



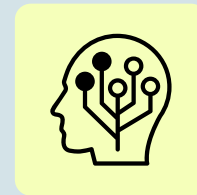
22%

Actively piloting or implementing Agentic AI use cases, including for sustainability



28%

Considering future adoption, but not yet developing or testing



29%

Not currently part of our sustainability plans



12%

Not familiar with Agentic AI or its relevance to sustainability

Q: How is your organization currently using Agentic AI to support sustainability outcomes?

SUSTAINABILITY AUTOMATION

As awareness grows and the technology matures, more organizations are expected to explore the potential of Agentic AI to address traditional sustainability challenges. Applications range from optimizing energy use across buildings, data centers, and factories, to managing product lifecycles for maximum material recovery, and continuously analyzing suppliers to flag non-compliance and reduce carbon emissions.



The Future Outlook

With AI workloads consuming a growing share of global electricity, embedding environmental sustainability into AI architecture has become critical. Agentic AI can optimize energy use, manage resources efficiently, and execute complex, multi-step actions across sectors – from power and supply chains to climate research – turning environmental sustainability from a compliance requirement into an operational capability.

For businesses, this means AI not only enhances productivity but actively advances climate goals, from reducing emissions to enabling circularity. As investors, regulators, and customers increasingly demand accountable, energy-conscious AI, organizations can leverage Agentic AI to turn technology from a potential environmental risk into a measurable driver of lasting positive impact.



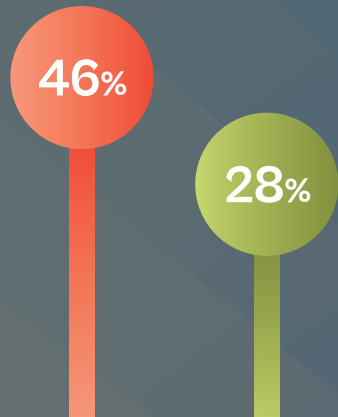
SPOTLIGHT

How Agentic AI is Delivering Results for Environmental Goals

Organizations deploying Agentic AI for environmental sustainability report measurable results, boosting compliance, efficiency, innovation, and overall environmental outcomes.

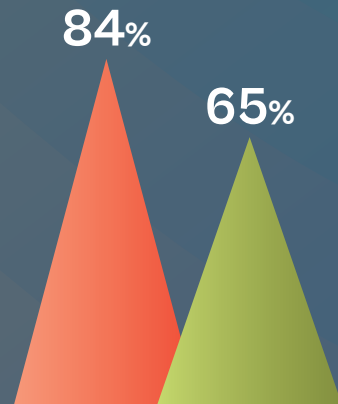
COMPLIANCE TRACKING

Are required to conduct mandatory sustainability reporting, driving the need for accuracy, traceability, and compliance



ACCELERATED EFFORTS

Retained or accelerated environmental goals, reporting, and execution



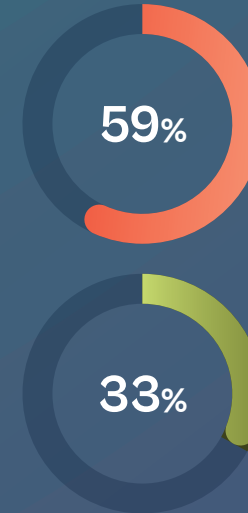
VALUE CREATION

Turn environmental sustainability initiatives into measurable financial impact and competitive advantage



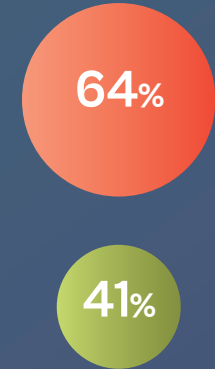
COORDINATED IMPACT

Centralize AI deployment across departments to harness emerging technologies and drive sustainability at scale



SUSTAINABLE AI

Actively monitor AI's environmental impact, turning technology from a potential risk into a measurable sustainability driver



SPOTLIGHT

Industries Leading in Agentic AI Adoption & Experimentation

Leading sectors are focusing on Agentic AI beyond energy and emissions optimization, targeting operational resilience, resource efficiency, and sustainable product design. Many also have extensive back-end operations supporting customer experience, where Agentic AI can further improve efficiency.

Energy & Utilities

Handle vast, complex operations and make autonomous, real-time decisions that optimize resource use and reduce emissions.

53%

Detect & repair methane leaks rapidly via satellite, drones & sensors

50%

Enhance carbon capture & storage through advanced modeling

47%

Provide personalized energy efficiency insights to customers

Banking

Navigate complex data, model financial risks, and automate climate and sustainability-related compliance.

43%

Embed sustainability criteria in loan approvals & credit scoring

43%

Boost energy efficiency across branches, data centers & facilities

42%

Conduct climate risk scenario analysis & stress testing for portfolios

Transport & Logistics

Coordinate multiple agents and time-critical decisions, reducing fuel use and emissions across complex logistics networks.

45%

Optimize EV fleet deployment & charging with telematics

44%

Support sustainable fuel & tech development using AI-driven research

43%

Improve traffic & fleet management to minimize energy use & delays

Manufacturing

Optimize distributed operations to reduce waste, improve efficiency, and embed environmental sustainability across the value chain.

37%

Monitor & optimize operational energy use

35%

Design sustainable, durable & recyclable products

34%

Track materials across the value chain to enable reuse & closed-loop systems

Insurance

Automate complex risk modeling and optimize resource use, supporting operational efficiency and sustainable product offerings.

33%

Cut energy use in office operations & claims processing

29%

Model climate risks to price & manage insurance portfolios

28%

Integrate environmental data into underwriting decisions

Retail

Streamline operations, coordinating energy use, supply chains, and product-level sustainability data to reduce environmental impact.

31%

Optimize lighting, HVAC & refrigeration in retail spaces

29%

Automate carbon footprint labeling for products

28%

Plan last-mile delivery routes to reduce fuel emissions

Telecom

Optimize energy use across complex, dispersed, energy-intensive networks and infrastructure.

29%

Enhance service delivery & end-user device efficiency

27%

Reduce energy consumption in network infrastructure, facilities, & fleet operations

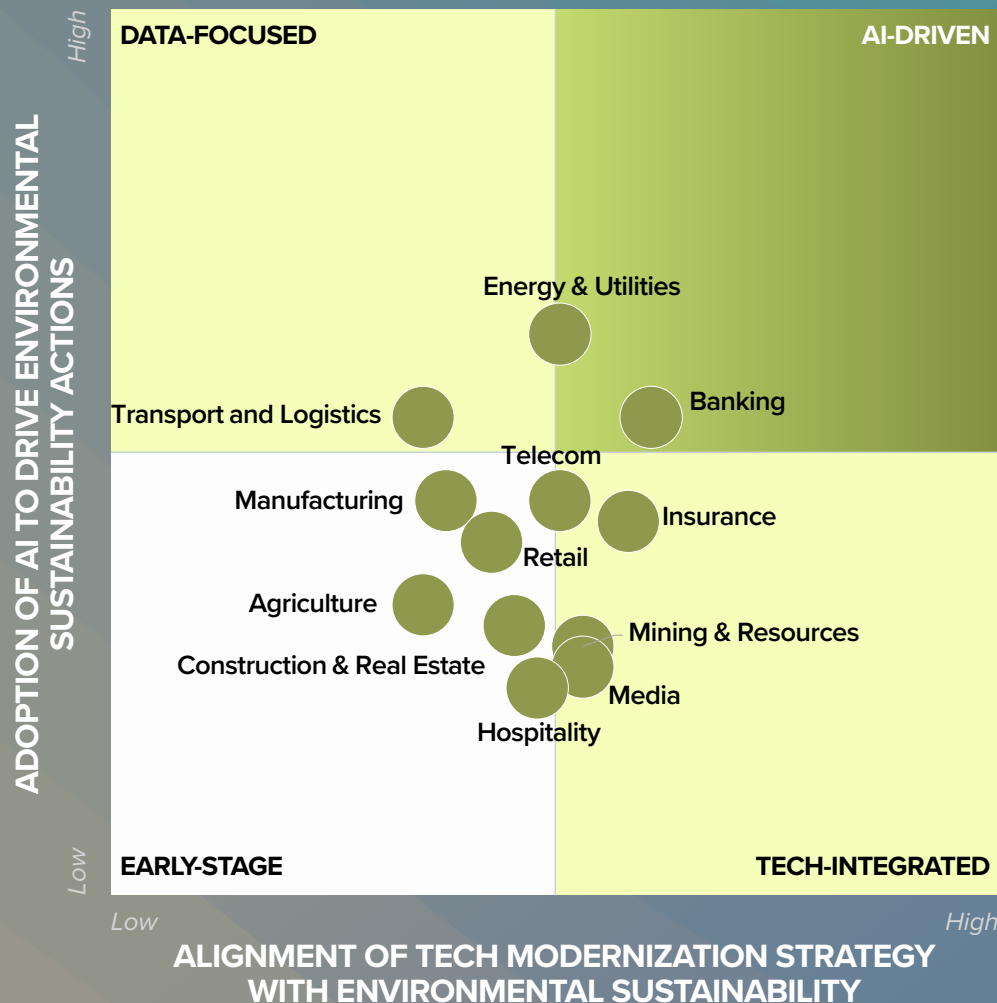
Connecting Data, AI, and Action

To achieve meaningful environmental sustainability outcomes, organizations must integrate strategy, technology, and actionable insights across operations and the value chain.

- 
- 01 Ensure unified visibility and strong data governance**
Collect, map, and consolidate operational and sustainability data across cloud and on-premises systems using dashboards and AI. This foundation supports accurate reporting, regulatory compliance, and actionable AI insights for continuous performance tracking.
 - 02 Develop AI-powered sustainability strategies**
Design integrated roadmaps that align environmental sustainability goals with business priorities, using materiality and maturity assessments to guide regulatory compliance and decarbonization initiatives. AI acts as an enabler, turning strategy into measurable operational outcomes.
 - 03 Embed sustainability into technology decisions and modernization**
Ensure that all technology upgrades consider environmental sustainability alongside performance, cost, and efficiency. Modernize IT infrastructure and applications to reduce carbon emissions, lower compute costs, and optimize code and application portfolios for energy efficiency.
 - 04 Experiment with advanced technology today**
Pilot Agentic AI, IoT sensors, and digital twins with the goal of integrating and acting on data from all sources in real time. Use these insights to identify inefficiencies, test interventions, and measure early improvements in costs, energy use, and emissions reduction.
 - 05 Position IT as a catalyst**
Expand IT's role from internal efficiency to enterprise-wide environmental sustainability. Guide collaboration with business units on climate and energy assessments, predictive lifecycle analysis, and value-chain optimization to accelerate decarbonization, resilience, and innovation.

SPOTLIGHT: INDUSTRY PERSPECTIVES

Tech & AI Adoption for Environmental Sustainability by Industries



AI-DRIVEN: Leading in environmental sustainability by leveraging Predictive and Agentic AI to optimize operations, anticipate trends, and unlock innovation.

DATA-FOCUSED: Taking a data-centric approach, using analytics to guide decisions and track environmental sustainability progress.

TECH-INTEGRATED: Embedding environmental sustainability into technology modernization and digital solutions, though AI adoption remains limited.

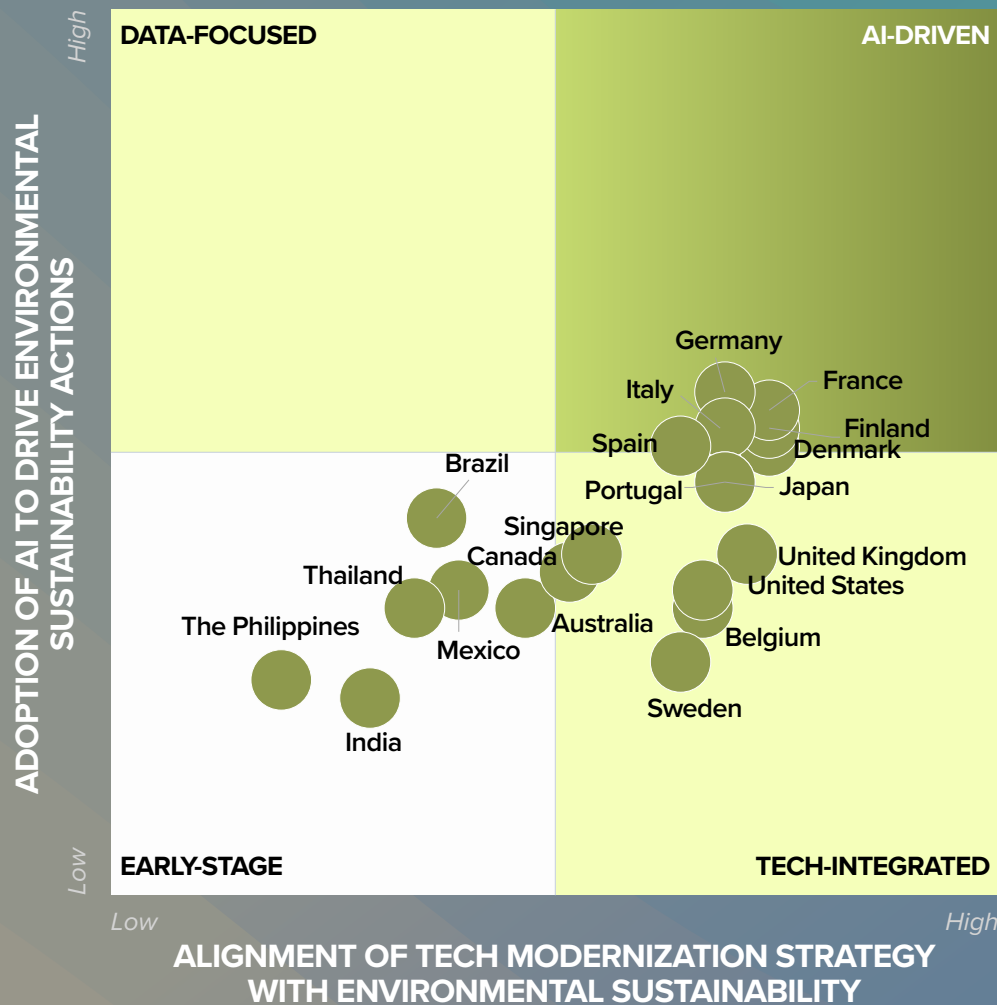
EARLY-STAGE: Just beginning the environmental sustainability journey, focused on foundational strategies with minimal technology integration.

The higher adoption of AI for environmental sustainability reflects industry characteristics that make AI both feasible and impactful. Energy & Utilities operate complex, capital-intensive grids with massive, real-time data streams, where AI can optimize operations, reduce emissions, and enhance reliability. Banking uses digital-first, data-rich systems that can be used to assess climate-related financial risks, structure green finance, and ensure regulatory compliance. Transportation relies on large, dynamic fleets where AI-driven route optimization and predictive maintenance can deliver immediate energy savings and emissions reductions.

In contrast, sectors like Hospitality and Media face structural challenges that slow AI adoption. Fragmented data systems, low digital maturity, human-centric operations, high upfront investment, and ethical considerations make implementing AI for environmental sustainability more difficult, even where strategic intent is high.

SPOTLIGHT: COUNTRY PERSPECTIVES

Tech & AI Adoption for Environmental Sustainability by Countries



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EARLY-STAGE: Just beginning the environmental sustainability journey, focused on foundational strategies with minimal technology integration.

Globally, the drive to leverage technology for environmental sustainability consistently outpaces AI adoption. Advanced economies such as the US, UK, Sweden, and Belgium demonstrate strong strategic intent but slower execution, often due to private-sector-led AI development and fragmented infrastructure. Countries such as Germany, France, Finland, Italy, and Denmark show tighter alignment between technology modernization and AI adoption for sustainability, supported by structured strategies and EU regulations promoting accountable, trustworthy AI.

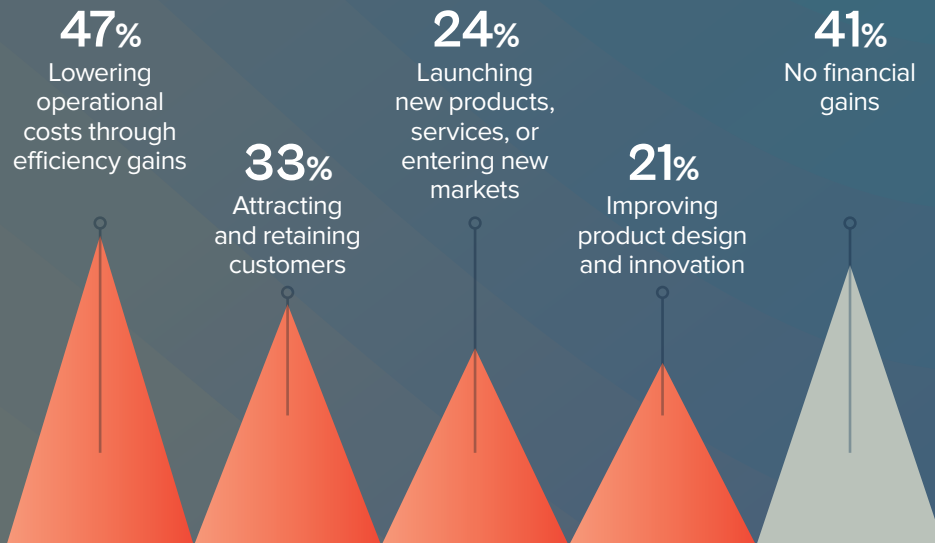
Emerging economies like Brazil, the Philippines, and Thailand focus on high-impact, rapidly implementable sustainability actions. With AI – particularly Agentic AI – they have the opportunity to leapfrog and deliver measurable environmental outcomes.

SPOTLIGHT

A Final Word on ROI: Early Wins Build Lasting Momentum

WHERE HAVE ORGANIZATIONS SEEN FINANCIAL GAINS

The good news is that many organizations are beginning to see their environmental sustainability investments pay off. 59% say their sustainability agenda is already translating into financial gains – with the biggest contribution coming from lowering operational costs. As these early wins become more tangible, environmental sustainability will become a recognized driver of performance and growth.



Q: How is your organization's sustainability agenda generating financial gains?

NOW ADDING AI TO THE EQUATION

The next wave of momentum will come from AI. Over the next three years, leaders expect AI to extend environmental sustainability's impact well beyond efficiency, into areas like supply chain resilience, governance, emissions reduction, transparency in reporting, and even creating entirely new sustainable products and business models.



Q: In the next three years, how do you expect AI to most impact your organization's sustainability outcomes?

If cost savings is the first chapter of ROI, AI promises to unlock the next: scaling environmental sustainability as a growth engine across the enterprise.

Conclusion

As organizations move beyond compliance and efficiency, environmental sustainability is increasingly shaping how businesses operate, innovate, and create value.

Progress often starts with incremental improvements – optimizing existing processes and reducing impact step by step – which lays the foundation for more sophisticated, predictive, and integrated sustainability use cases. Over time, organizations expand into reimagining products, services, and operating models, embedding environmental sustainability deeply into strategy and execution. Across the three editions of our study, adoption of predictive applications has steadily grown, showing that impact increases as capabilities mature. Agentic AI is the next step, enabling autonomous, real-time decision-making and action across operations, turning environmental sustainability from a strategic goal into an operational capability.

Technology, especially AI, connects data, insights, and execution. Fully integrated systems allow organizations to move from reactive reporting to continuous, proactive optimization, improving efficiency, resilience, and environmental outcomes simultaneously.

Organizations that align strategy, technology, and cross-functional collaboration can reduce risk, lower emissions, and embed sustainability into core operations. The next phase of environmental sustainability is measurable, operational, and scalable – and it begins with organizations applying advanced technologies to act on insight in real time.



About Ecosystem

Ecosystem is a Digital Research and Advisory Company with its global headquarters in Singapore. We bring together tech buyers, tech vendors and analysts onto one integrated platform to enable the best decision-making in the evolving digital economy. Ecosystem has moved away from the highly inefficient business models of traditional research firms and instead focuses on research democratisation, with an emphasis on accessibility, transparency, and autonomy. Ecosystem's broad portfolio of advisory services is provided by a team of Analysts from a variety of backgrounds that include career analysts, CIOs and business leaders, and domain experts with decades of experience in their field. Visit ecosystem.io

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