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Harnessing AI in Sustainability: Emerging Use Cases

September 2025

Introduction

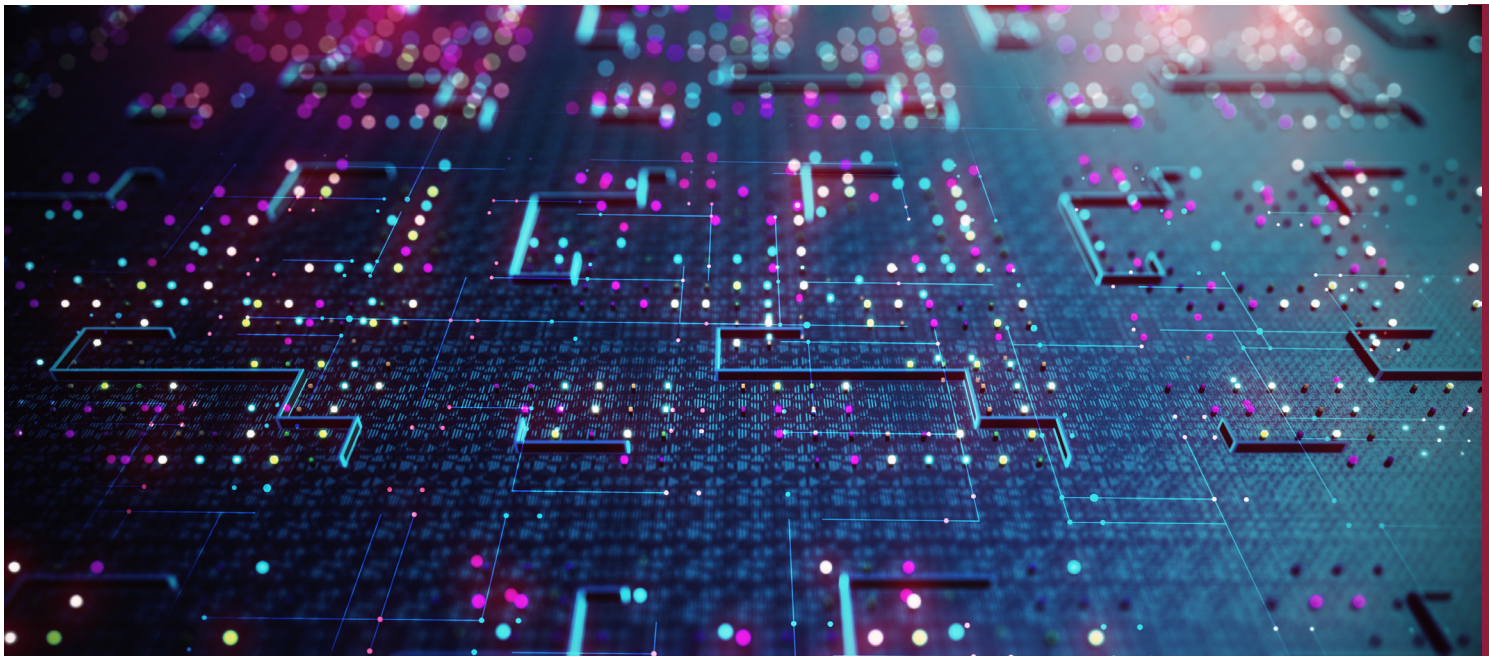
AI is rapidly transforming how the global economy operates—and sustainability teams are no exception. From streamlining compliance reporting to identifying climate risks and accelerating stakeholder engagement, the potential use cases are plentiful and overwhelming.

BSR interviewed representatives from 20 corporate sustainability teams in August 2025, representing a breadth of regions and industries, as well as levels of maturity with their AI use. Some were Chief Sustainability Officers who are just dipping their toes in AI, but know they need to use it more. Others held dedicated roles focused on AI in Sustainability.

Sustainability teams that have begun experimenting with AI are discovering real productivity gains, new insights, and strategic value. Yet these benefits are emerging unevenly, and challenges remain around data quality, responsible use, and team and tool capacity.

> The responses suggest most sustainability leaders expect AI to significantly change their work in the next 12 months, but only a minority believe they currently have the skills to fully leverage it—highlighting a capacity gap.

This briefing outlines how AI is beginning to change the way corporate sustainability teams work, and key considerations for CSOs as they lead their organizations through this pivotal transformation.



How Sustainability Teams Are Using AI Today

AI is being used by sustainability teams across industries in four main areas:

1 Productivity and Communications

Sustainability teams are leveraging AI to boost day-to-day efficiency. While these use cases are not specific to sustainability, they are particularly valuable for teams that are often small and resource-constrained. Common applications include:

- **Drafting reports, summaries, and emails** to speed up and tailor communications across stakeholders, and reduce the time burden of writing and editing.
- **Summarizing and benchmarking** external data, reports, and regulations.
- **Translating documents and creating presentations** to increase accessibility and cross-regional or cross-functional collaboration.
- **Preparing for internal or external meetings** by synthesizing large volumes of material into focused briefings, talking points, and meeting minutes.
- **Analyzing survey results** (e.g., employee surveys) and identifying key takeaways.
- **Reviewing documents from multiple perspectives** (e.g., investor, media, NGO, critic) to pre-empt external reactions and tailor messaging accordingly.

One team reported using AI to simulate investor and journalist reviews of their draft sustainability report, uncovering blind spots and helping prepare better responses. Others noted that AI summaries helped executives engage more effectively with complex material. Many teams noted that AI has shifted the shape of their work: research and first drafts that once took weeks now take hours or minutes.

> AI may reduce demand for entry-level roles and increase the need for judgement and experience, altering how sustainability teams are staffed in the future.

2 Reporting, Data Collection, and Compliance

AI is proving especially valuable in supporting core sustainability tasks such as:

Reporting and Compliance: Drafting sustainability reports aligned with frameworks such as the Corporate Sustainability Reporting Directive (CSRD) and the International Sustainability Standards Board (ISSB), comparing language year over year, and pre-validating claims. One team uses AI to generate first drafts of the Carbon Disclosure Project (CDP) report and other disclosures based on structured inputs from internal subject matter experts, noting that creating a cohesive first draft used to be more challenging due to the input of multiple stakeholders.

Data Collection and Validation: Consolidating ESG data from decentralized sources (e.g., utility bills), checking for completeness, and flagging anomalies or inconsistencies. AI systems are helping some teams automate material portions of data validation. Ideally, they also have the potential to change how data is collected and used.

> We don't want only to get data at year-end. AI should let us report ESG performance in real-time, directly linked to the metrics investors use.

Claims Verification: Reviewing sustainability claims in reports and marketing materials, and checking for compliance with regulatory language and internal standards. One company has integrated AI into their content compliance workflows to reduce review cycles by up to 75%.

These efficiencies free up resources, which teams are deploying to focus more on interpreting insights and setting strategy rather than managing spreadsheets and narrative drafts.

> It used to take three months to go through facility audits. Now, with AI, we got it down to two or three days—and instead of 100 unanswered questions, we have one or two.

3 Strategy and Risk Management

While most executives we interviewed are starting with operational improvements, some see potential for strategy and risk mapping. This starts with improving many of the "inputs" into strategy, such as:

Materiality Assessments: Reviewing a wide set of inputs—from internal data to NGO reports—to identify and prioritize issues.

Scenario Planning: Analyzing physical risk data (e.g., flooding, heat stress) to map potential climate exposure across operations and supply chains. AI is increasingly used as a scenario stress-testing tool. Companies are experimenting with 'what-if' models that allow leadership to test opposing possibilities, such as alternative climate scenarios, to pressure-test strategies more dynamically.

Facility or Supply Chain Risk Identification: Using geospatial data and satellite imagery to assess deforestation risk or water scarcity near locations. Similarly, using AI to identify human rights risks (e.g., forced labor, employee health and safety) in the company's supply chain. One sustainability leader cautions that some countries/regions have less recorded data about such issues, which may lead to less accurate results and an increased risk of hallucinations.

Trend Detection: Monitoring news, research, and stakeholder activity to identify themes that may affect long-term sustainability positioning. One team uses AI to flag when a customer has set a new sustainability goal, which is sometimes buried in a 100-page ESG report.

One team described using AI to build and test strategy assumptions from multiple lenses—equity, innovation, and risk—which helped inform leadership decisions and create more inclusive planning processes.

> AI helps us identify true hot spots—whether it's water risks, chemicals, or social media concerns—so we can focus our resources where they matter most.

4 Stakeholder Engagement

Stakeholder engagement may be the function most ripe for AI transformation—though it comes with risks. Some companies are beginning to use AI for:

Responding to Inquiries: AI-powered agents or research hubs that triage, answer, and customize sustainability inquiries from customers, investors, and sustainability rating agencies (or the related internal teams)—trained on internal data and reviewed by humans for accuracy. This approach not only saves staff time but also provides business value by enabling faster responses to customer Request for Proposals (RFPs) and investor inquiries. One global tech company now meets 30% of incoming sustainability inquiries with AI-generated drafts, freeing teams to focus on complex or sensitive cases. Another estimates an 80% reduction in time spent answering emissions data questions.

Anticipating Feedback: Feedback simulation approaches that assess how different stakeholder groups might respond to a given strategy or disclosure.

Broadening Perspectives: A wider landscape of inputs that has the potential to "democratize" the perspectives that a company can access, rather than relying only on those who know how or are willing to engage directly with business. Yet it also raises the stakes for true, local engagement for those voices that are still excluded from the online systems.

These tools can dramatically increase responsiveness while reducing the burden on overstretched sustainability staff and stakeholders burdened by engagement fatigue. However, several leaders cautioned against over-relying on AI for relationship management or even reporting, emphasizing that trust still depends on human connection. For example, one warned that AI-generated reports can 'hit every note,' but risk losing nuance, individuality, and credibility if not carefully reviewed. Another worried that AI's ability to find every data point or statement ever made may have a chilling effect on transparency.

Opportunities Beyond the Sustainability Team

The potential of AI extends into sustainability-adjacent teams:

Procurement: Assessing supplier risk, improving tender responses, and managing sustainability criteria in sourcing decisions.

Facilities: Supporting energy, water, and waste optimization, as well as local environmental impact assessments, including site selection tools informed by ecosystem data.

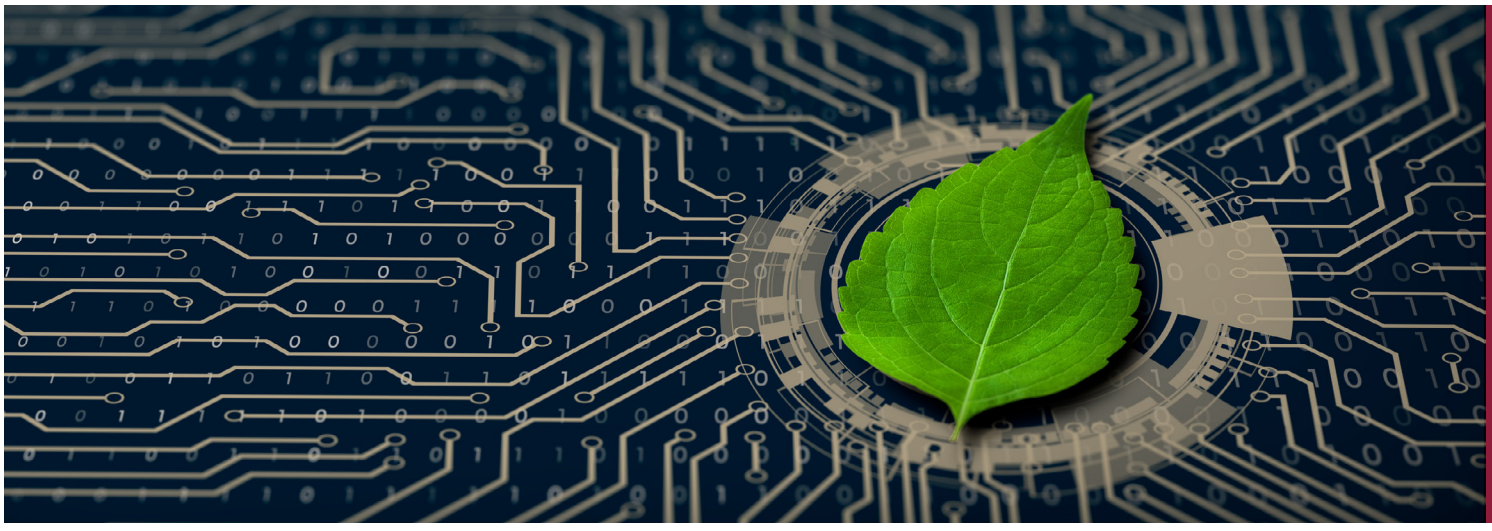
Logistics: Identifying the most efficient routes in transport and logistics, optimizing fuel spend in fleet management.

Product and Service Design: Assisting R&D and product teams in identifying lower-impact materials, circular models, and emissions trade-offs, simulating processes and models to optimize for efficiency.

Finance & ESG Investing: Identifying ESG signals from unstructured data and enhancing portfolio screening.

Energy Management: Optimizing loads in real-time across a network. One telecom is already seeing emissions reductions of 20% from such an application.

Such use cases, although not necessarily within the purview of the sustainability team, support the company's overall sustainability objectives and goals. Many companies said that these are often the use cases with the biggest sustainability impact. Companies need to identify the value-added opportunities unique to their sector and achieve a competitive advantage.



Responsible Use and Limitations

While this briefing specifically highlights the opportunities of AI for advancing sustainability objectives, it's equally important to acknowledge the real sustainability-related risks and remain intentional about when AI is or is not appropriate to use. Sustainability leaders agree that these risks are an important barrier against AI adoption.

Risks and concerns include:

Hallucinations (incorrect or misleading results) and factual inaccuracies, requiring teams to continuously fact check the outputs of AI

Bias in the data or algorithms, resulting in hesitation to use AI for people-related use cases and DEI objectives.

Concerns around the confidentiality of data, causing companies to be cautious in using non-vetted AI tools.

Risk of false confidence, making leaders concerned that AI-generated outputs may look polished and persuasive but mask inaccuracies or bias.

Lack of representation and access to frontline communities in training data and AI-generated outputs, raising concerns over using AI for stakeholder engagement and other use cases.

Data quality and integrity limitations for emissions tracking, forecasts, and analysis, though this concern was not universal among those interviewed.

Reduced rigor and critical thinking in analysis, limiting the use of AI for strategy development. There may also be concerns among some teams that the use of AI for strategies and decision-making may reduce their long-term influence and value inside the business.

There are also broader implications of AI use, which sustainability teams themselves should identify and help manage for their companies:

Potential loss of jobs and the related economic and societal impact—an area of concern for many companies, yet few are actively planning for it.

The environmental impacts of AI infrastructure (e.g., water and energy usage), which most companies struggle to understand given dependence on cloud providers, lack of transparency, and the rapid evolution of the technology.

BSR's recent Insights+ publication, "A Business Guide to Responsible and Sustainable AI," introduces the social and environmental risks of AI, and how sustainability teams can help address emerging issues.

Enabling Conditions for Success

Despite all the innovative examples shared, the interviews made it clear that AI adoption is still in its early stages—even for the most advanced companies.

There is a huge variety of both understanding and access to tools, and it is challenging to keep up with the pace of change. Further, many companies don't have a solid enough foundation of sustainability data to be able to take full advantage of AI.

Many of the sustainability teams we spoke with are in early experimentation stages, and there didn't seem to be much commonality of approach yet. So, while those interviewed said AI would impact their work in the next 12 months, they were less clear on how.

Harvard Law School's Forum for Corporate Governance rated AI as the 10th most important corporate sustainability priority for 2025 and highlighted that the topic brings a lot of conflicting perspectives. Companies clearly recognize both the opportunities and risks in leveraging AI for sustainability.

Companies recognize both opportunities and risks in leveraging AI for sustainability purposes

Q: Do you see AI as more of an opportunity or a risk for your company's sustainability efforts?

Note: Survey of 256 companies.
Source: *Flash Survey: The Sustainability Opportunities—And Risks—Companies See in AI*, S&P Global, January 2025

To help, those interviewed pointed to several factors that accelerate successful adoption:

Governance

Many companies are setting guardrails to minimize risks in the development and deployment of AI, including:

- **Responsible AI Guidelines**
  Principles-based approaches are emerging as a flexible response to fast-moving technology. These are typically based on ethics or human rights-based approaches, or a combination of both.
- **Transparency and Oversight**
  Teams are developing internal review protocols or working groups, and avoiding full automation in sensitive areas.
- **Compliance with AI regulation**
  Both the developers and deployers of AI need to comply with new legislation, such as the EU AI Act.

Internal Collaboration

Sustainability and IT/data teams need to work together to enable successful implementation of AI solutions.[1] In some companies, sustainability leads or team members act as AI champions and help bridge gaps between sustainability, IT, and data teams.

Availability and Quality of Tools

AI-enabled software tools dedicated to sustainability use cases need to be available to companies that don't have the capacity to develop these tools in-house, while also meeting rising performance expectations and managing data privacy effectively.

Clear Use Cases

Success often starts with specific, high-impact problems, such as automating RFP responses or scenario planning, rather than vague innovation goals.

Data Governance

AI tools are only as reliable as the data and validation processes behind them. Several organizations are investing heavily in building or refining ESG data lakes to ensure a trusted and centralized data foundation.

External Partnerships

One leader summed it up: "We don't need every company to reinvent the wheel. What we need is for more solution providers to bake AI into the tools we already use."

Training and Culture

Teams that encourage experimentation, embrace AI, give feedback, and create a safe space for learning are seeing faster uptake. Such training also includes ensuring that teams understand the inherent challenges with AI data quality and learn how to mitigate them.

1. A 2025 report by ERM, GlobeScan, and others, "Sustainability Value Triangle" identified the IT department as a key enabler of sustainability value creation.

What's Next: A Call to Action

For CSOs and their teams, AI presents a once-in-a-decade opportunity to scale impact, reduce overhead, and shift time toward higher-value work. Key steps to advance responsibly:

1

Start Small, but Start Now

Identify 1-2 immediate use cases where AI can save time or improve quality. At the same time, work with other teams to identify high-impact AI use cases that can help achieve sustainability goals

2

Invest in Internal Capacity

Build skills across your team. Include AI in sustainability training and leadership development. Being up to date with the latest knowledge and knowing when to implement AI is important.

3

Establish Guardrails

Develop principles and governance in partnership with legal, human rights, ethics, and IT teams.

4

Modernize Your Data

Create or enhance your ESG data infrastructure to support AI-readiness.

5

Collaborate and Learn

Join peer networks to exchange lessons and co-develop standards, especially around shared risks like Scope 3 data or responsible AI assurance.

Conclusion

As businesses face increasing demands with limited resources, AI offers a powerful set of tools to boost productivity, strategy, and stakeholder engagement. For the sustainability team, it can reduce time spent on manual tasks—such as managing spreadsheets and drafting narratives—and allow more focus on impactful projects. The use of AI beyond the sustainability team can also bring immense benefits to achieve sustainability objectives.

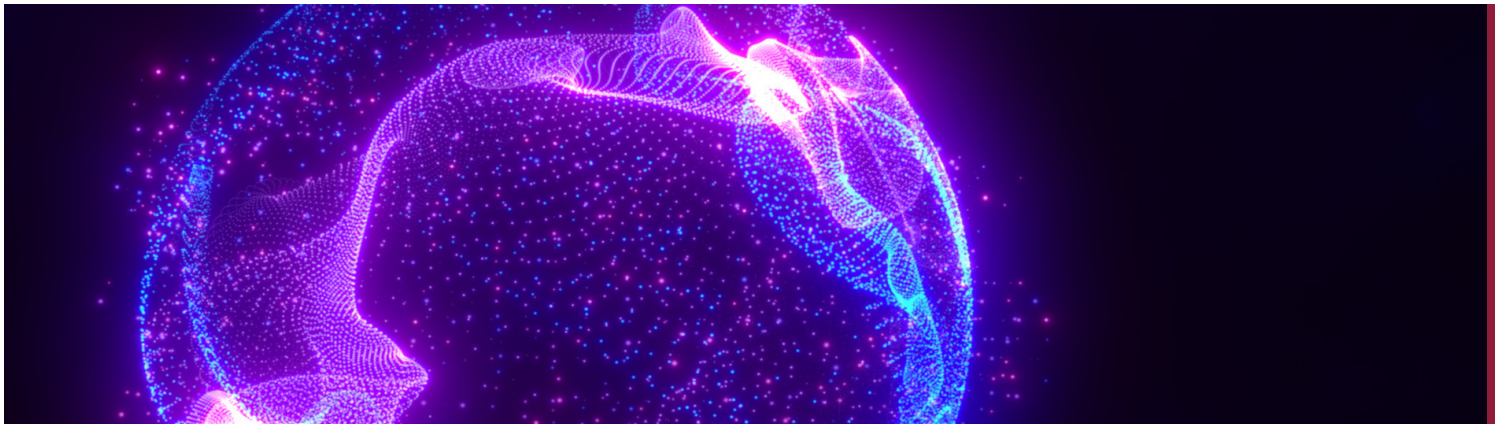
However, AI also brings new risks, from data integrity to job displacement and environmental impacts. To navigate this landscape, business leaders must embrace AI thoughtfully and identify high-impact opportunities within their sector, building internal capabilities and embedding responsible governance. Those who manage this well will be better positioned to lead their business through the decade ahead.

How BSR Can Help

BSR is working with its members to advance the use of AI in sustainability while ensuring the responsible use of AI across business. If you're interested in learning more:

- **Join us online.** Dive deeper into these emerging use cases with BSR experts to learn how companies are using and experimenting with AI within their sustainability teams. Register for our Harnessing AI in Sustainability: Emerging Use Cases webinars for Americas/EMEA session on October 22, or for Asia/EMEA session on October 22/23.

- **Explore our roundtables,** including the AI in Sustainability Roundtable and the Responsible AI Working Group for Deployers.



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