Alibaba Cloud

DRIVING SUSTAINABILITY WITH AI

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A guide to partnering with technology service providers

EXECUTIVE SUMMARY

As sustainability becomes a central pillar of business strategy, organisations are turning to technology to close the gap between aspiration and execution. In 2025, sustainability is no longer optional; it is a commercial and strategic imperative. Businesses globally are under increasing pressure to prove their environmental commitments, with investors, regulators, and customers demanding tangible, transparent results.

The Tech-Driven Sustainability Trends and Index 2024 commissioned by Alibaba Cloud shows that while out of the 80% of the organisations interviewed have set sustainability targets, 92% have committed to emission reductions, but only one-third (33%) have made net-zero commitments backed by science-based targets (SBTs). Meanwhile, 76% of businesses see technologies like AI and cloud computing as vital tools to close the gap between aspiration and action to achieve sustainability goals.

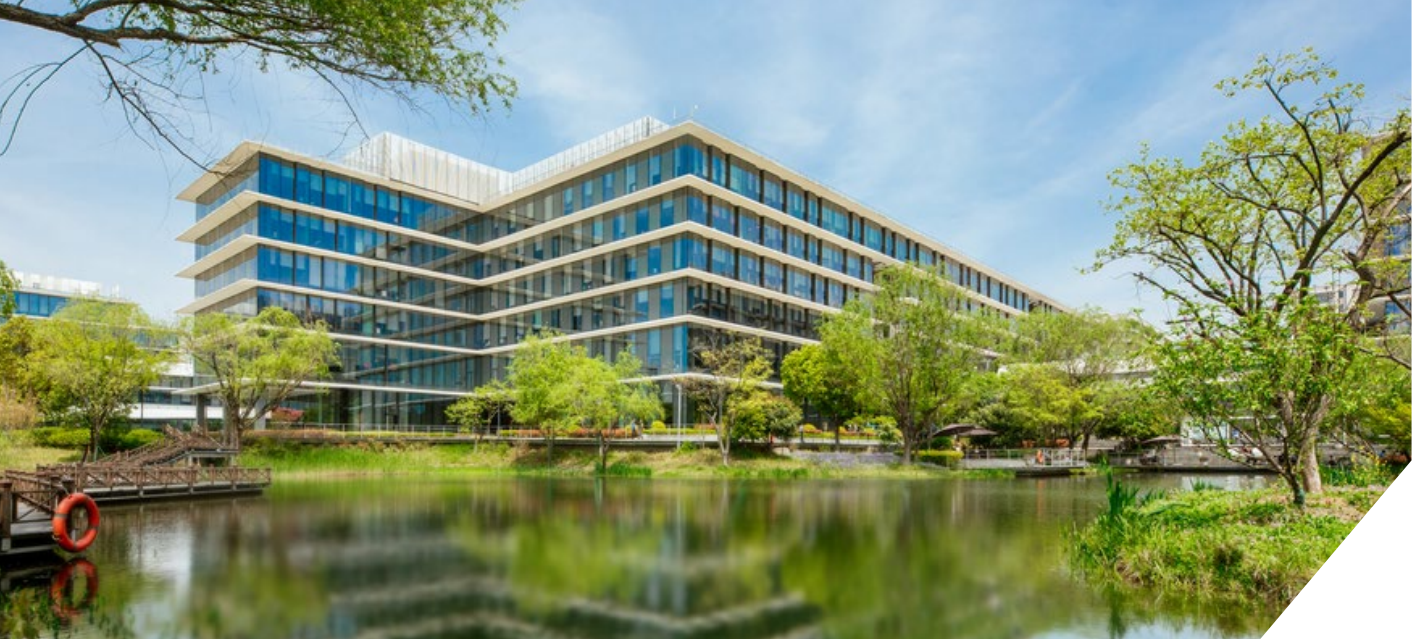
Yet significant barriers remain. 59% of businesses lack clarity on how digital technology can support sustainability goals. 53% still use manual tools to measure performance, and 61% are concerned about the energy consumption of digital technologies, particularly AI. Compounding this challenge, 71% cite cybersecurity as a blocker, and 69% worry that digital risks may outweigh benefits.

To overcome those challenges, organisations must work with trusted, innovation-led technology providers who are building sustainable solutions from the ground up. Alibaba Cloud exemplifies this new breed of providers, combining low-carbon infrastructure, secure architecture, and AI innovation with practical, customer-proven tools.

To support business leaders navigating the digital sustainability shift, this paper offers five strategic recommendations:

1. **Align AI and cloud adoption with sustainability KPIs.**
2. **Choose transparent, green tech providers with published energy metrics.**
3. **Make security an integral part of sustainability strategies.**
4. **Embrace open and trustworthy AI to boost innovation and energy efficiency.**
5. **Advocate for stronger public-private collaboration on green digital infrastructure.**

In the right hands, sustainability is a growth lever. The businesses that will lead in this next chapter are those who turn ambition into action, partnering with providers who can deliver environmental performance, digital trust, and future-proof innovation.



INTRODUCTION – WHY SHOULD WE CARE ABOUT SUSTAINABILITY?

Sustainability is crucial. It can be a key differentiator and growth catalyst for businesses. By embracing sustainability, companies can reduce costs and mitigate risks. Additionally, it can drive innovation, attract investment, and shape corporate reputation.

In 2025, the connection between business resilience and sustainable practice has never been clearer. Companies are not just expected to declare environmental commitments, they are expected to deliver measurable impact. Sustainability reporting is now shaping corporate strategy and decision-making, according to the World Economic Forum, helping leaders steer their organisations through long-term risks and opportunities.

Moreover, businesses that embed sustainability at the core of their operations are outperforming their peers. Forbes reports that 78% of global executives believe sustainability is critical for long-term success, with nearly half citing cost savings as a tangible benefit. As markets become more competitive and regulated, sustainable differentiation offers strategic advantage.

Global marco-economic uncertainty, shifting regulations, and supply chain disruptions have pushed sustainability further up the corporate agenda. And yet, as global leadership advisory and executive search firm Stanton Chase observes, sustainability is not a casualty of turbulence, it is increasingly the strategy that enables businesses to profit despite it.

Against this backdrop, digital transformation and in particular AI and cloud computing has emerged as a key enabler. Technology can turn sustainability from ambition into action, helping businesses measure, optimise, and deliver impact at scale.

This whitepaper explores how businesses can partner with green-focused technology providers to overcome the challenges, drawing on survey insights, market priorities, and Alibaba Cloud's innovations and real-world customer impact, particularly findings and statistics derived from the recent Tech-Driven Sustainability Trends and Index 2024.

The report collected feedback from 1,300 decision makers across 13 markets in Asia, Europe, and the Middle East, covering a wide range of sectors such as technology, finance, healthcare, transportation, retail, and manufacturing.

THE URGENCY OF SUSTAINABLE TRANSFORMATION

Businesses are under growing pressure from regulators, consumers, and the increasing realities of climate change. Sustainability is no longer just a reputational issue; it is becoming a competitive necessity.

The big question is: Do businesses actually agree and are they implementing measurable sustainability plans?

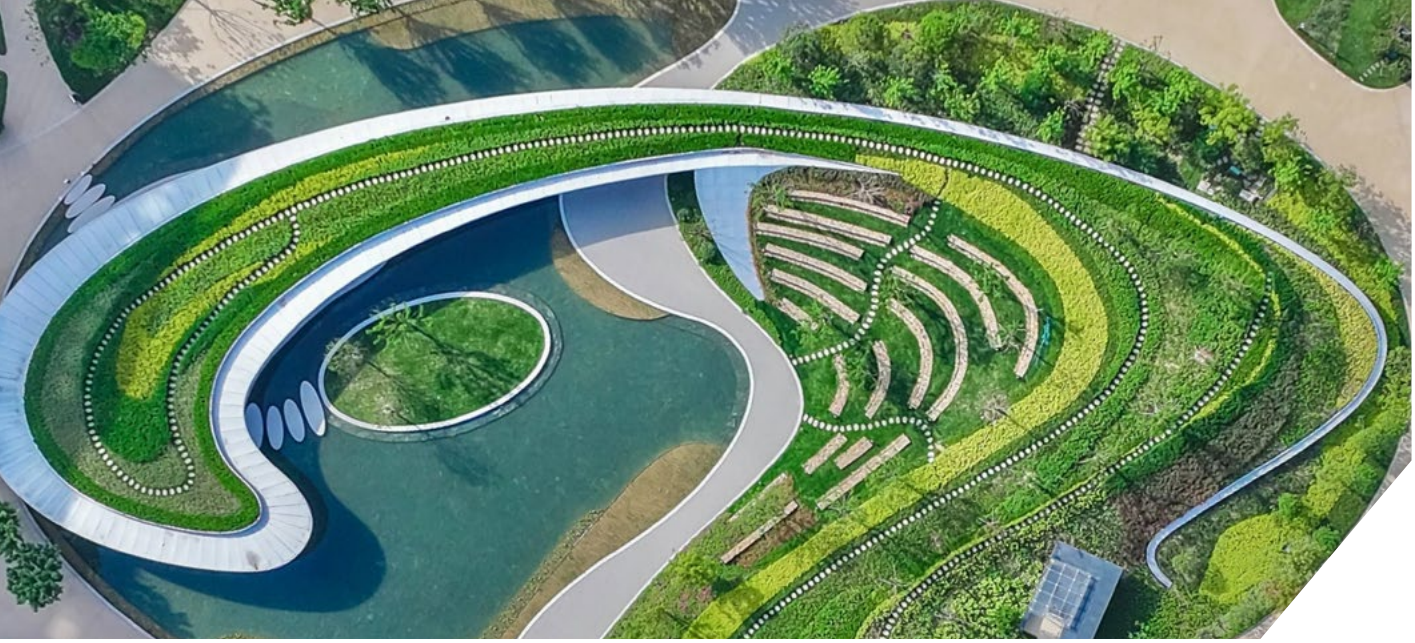
The Tech-Driven Sustainability Trends and Index 2024 found that:

- **80%** of businesses have set sustainability targets
- Among the **80%** who have set up targets, **92%** of those have defined emission reduction goals
- More than half (**56%**) of those who have set or plan to set targets see sustainability as a driver of business growth

It's a clear indication that compliance (54%) is important as a driver for sustainability, but also that there is an increased recognition that sustainability can mean more than just ticking boxes. Businesses understand the reputational and regulatory stakes, but they also see commercial opportunity.

More than three quarters (78%) of businesses agree that technology plays a pivotal role in achieving global sustainability goals. Viewed as a critical bridge, technology is capable of turning climate goals into bottom-line outcomes. But 82% of businesses believe it is also important that technology is developed sustainably.

The growing demand for solutions that align environmental responsibility with business value sets the stage for technology providers to lead. As Deloitte points out in its 2024 CX Trends on Sustainability report, "…customers, employees, and investors increasingly expect brands to take decisive climate action. Companies that fail to demonstrate real impact risk losing relevance in the eyes of the very people they seek to serve."



AI AND SUSTAINABILITY: CHALLENGES AND BARRIERS

Despite clear interest in technology, execution hurdles remain. According to the Tech-Driven Sustainability Trends and Index commissioned by Alibaba Cloud, there are some concerns among organisations as to which technologies can actually help and whether or not those technologies themselves are sustainable. The Index found that:

- **59%** of businesses admit to not understanding how digital technologies support sustainability. There are clear knowledge gaps.
- **62%** feel behind in adopting AI and cloud.
- **61%** worry about the high energy consumption of digital tech outweighing the benefits, especially AI.
- **53%** still use manual processes to measure sustainability performance.

These barriers reflect both capability gaps and confidence gaps.

This is where Alibaba Cloud steps in. Its Energy Expert platform provides a tangible solution: carbon footprint measurement, real-time energy analytics, and ESG performance tools with AI-driven insights designed to support internal compliance and external reporting needs.

GREEN AI: BRIDGING AMBITION AND ACTION

While digital solutions are increasingly used to accelerate sustainability initiatives, many businesses remain cautious. The energy intensity of AI models, and uncertainty about their long-term impact, means that trust in providers is essential.

This is reflected in the Index findings:

- **82%** of organisations say it's important that technology is developed sustainably.
- When choosing a "green" cloud provider:
    - **51%** prioritise cloud providers using renewable energy.
    - **46%** look for energy-efficient infrastructure.
    - **42%** seek partners with defined carbon reduction strategies.

Alibaba Cloud meets those expectations through its sustainability-first approach to AI development. Its self-built data centres operate with an average Power Usage Effectiveness (PUE) of 1.20, and 56% of its electricity already comes from clean energy sources. New green data centre designs, such as CUBE DC 5.0, combine wind-liquid hybrid cooling and modular builds to further reduce energy consumption.

Beyond infrastructure, Alibaba Cloud's open-source innovation is also making AI more accessible and efficient. The Qwen family of foundation models - including Alibaba's recent debut of hybrid reasoning models in its Qwen3 series, and video generation model Wan2.1 series - has seen over 100,000 derivatives published to Hugging Face. These models are designed to lower development time and resource usage across industries.

Lightblue is a Japanese AI start-up that has built a high-performance Japanese-language model using Alibaba Cloud's open-source Qwen LLM. This has enabled Lightblue to develop localised solutions with reduced costs and computing overheads, showcasing how Green AI can scale across borders without scaling emissions.

AI's greatest strength lies in its adaptability. When paired with sustainable infrastructure, it delivers measurable impact in a wide range of industries - from manufacturing and retail to logistics and utilities.

For example, to enhance the supply chain transparency for recycled plastics, Alibaba Cloud partnered with polymer material manufacturer Covestro, to help Chinese beverage maker Nongfu Spring to measure and optimise the full lifecycle emissions of its recycled water barrels, which are repurposed into gel pens.

Those are not isolated cases. In FY24 alone, Alibaba Cloud's green computing infrastructure helped clients cut 9.884 million tons of emissions - a significant 44% increase year-on-year.

The examples show how green technology not only improves operational performance, but also helps companies embed sustainability at the heart of their digital strategies.

DE-RISKING CYBERSECURITY WITH SUSTAINABILITY TECH

It's a challenge that 71% of organisations surveyed believe cybersecurity concerns are slowing the adoption of digital sustainability tools. Also, 69% feel that cybersecurity risks outweigh the benefits of broader digital adoption.

This presents a paradox. Businesses understand that AI and cloud services are key to improving environmental impact but fear the potential vulnerabilities those technologies might expose.

Alibaba Cloud addresses this challenge with a multi-layered security strategy that embeds protection into every layer of its digital services:

- Alibaba Cloud Security Center enables real-time detection of potential risks across multi-cloud and hybrid cloud environments, with 700+ product configuration checks.
- Edge Security Acceleration (ESA) provides DDoS protection, Web Application Firewall (WAF), and bot management across more than 3,200 global nodes.
- Qwen LLM-powered anomaly detection identifies and mitigates security threats, launches defense mechanisms, and provides security consulting services.
- 140+ security and compliance certifications ensure global businesses can operate with confidence.

This robust foundation ensures that sustainability transformation is not hindered by risk, but powered by trusted technology.

5 STRATEGIC RECOMMENDATIONS FOR THE ROAD AHEAD

The path to sustainable transformation isn't just about adopting tools. It's about choosing the right partners, setting the right goals, and building trust. Based on survey insights and customer learnings, we recommend the following strategic actions:

1. Adopt AI-aligned sustainability targets

Link sustainability KPIs with digital infrastructure strategies. Whether totalling carbon across supply chains or optimising operations with predictive maintenance, digital tools must be integrated into your measurement frameworks.

2. Partner with transparent, green tech providers

More than half (51%) of businesses now prioritise cloud partners powered by renewable energy. Organisations should favour providers that publish energy usage and emissions data, adopt green architecture like CUBE DC, and support circular cloud infrastructure.

3. Embed security into sustainability

Avoid stalling transformation efforts by choosing partners with enterprise-grade, AI-enabled security architecture. Sustainability and cybersecurity are now two sides of the same resilience coin. But don't forget the human role. 81% of businesses feel human oversight is needed in guiding the development of digital technologies, including AI tools.

4. Support innovation through open AI

Leverage open-source AI to reduce costs, improve energy efficiency, and localise AI applications. The Qwen family of models demonstrates how accessible, low-carbon AI can accelerate transformation.

5. Advocate for public-private collaboration

82% of respondents believe governments must take a more active role in supporting technology adoption. Businesses should encourage policies that accelerate digital sustainability through incentives, education, and regulation.

SUMMARY

Sustainability in 2025 is more than a mission; it is a market expectation. To succeed, businesses need to embed sustainability into the DNA of their technology operations. This means working with providers who can deliver measurable environmental performance, secured by strong governance, and driven by innovation.

In the right hands, sustainability is an opportunity. Alibaba Cloud's commitment to energy-efficient infrastructure, open AI, secure cloud, and climate-aligned customer outcomes makes it a strong partner in this journey.

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