AI AND ESG GLOBAL 2025: INTERNATIONAL COOPERATION FOR SUSTAINABLE BUSINESSES

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Abstract

The convergence between artificial intelligence (AI) and ESG[4] is reshaping international cooperation and marks 2025 as a turning point. Milestones such as ISSB/IFRS, the European AI Act, and Brazilian initiatives raise standards of transparency and due diligence, while educational cases (Professor BD-IA, DiplomAI) and corporate platforms show an ecosystem in which the democratization of knowledge coexists with the concentration of power. The article examines regulatory and sectoral implications, identifies opportunities for emerging economies—with an emphasis on Brazil, its more renewable electricity matrix, and the COP30 window—and maps material tensions (energy, data, governance). We propose a practical agenda: interoperable metrics, independent algorithmic auditing, data governance, and public–private partnerships geared toward verifiable impact. The goal is to offer replicable paths to align AI innovation with measurable socioenvironmental results and long-term competitiveness.

Keywords: AI and ESG. Regulatory cooperation. Corporate reporting. Algorithmic auditing. COP30.

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4 ESG stands for Environmental, Social, and Governance, referring to criteria used to assess the sustainability and corporate responsibility of public and private organizations.

IA E ESG GLOBAL 2025: COOPERAÇÃO INTERNACIONAL PARA EMPRESAS SUSTENTÁVEIS

Resumo

A convergência entre inteligência artificial (IA) e ESG está reconfigurando a cooperação internacional e marca 2025 como ponto de inflexão. Marcos como ISSB/IFRS, o AI Act europeu e iniciativas brasileiras elevam padrões de transparência e devida diligência, enquanto casos educacionais (Professor BD-IA, DiplomAI) e plataformas corporativas mostram um ecossistema em que democratização do conhecimento convive com concentração de poder. O artigo examina implicações regulatórias e setoriais, identifica oportunidades para economias emergentes – com ênfase no Brasil, sua matriz elétrica mais renovável e a janela da COP30 – e mapeia tensões materiais (energia, dados, governança). Propomos uma agenda prática: métricas interoperáveis, auditoria algorítmica independente, governança de dados e parcerias público-privadas orientadas a impacto verificável. O objetivo é oferecer caminhos replicáveis para alinhar inovação em IA a resultados socioambientais mensuráveis e competitividade de longo prazo.

Palavras-chave: IA e ESG. Cooperação regulatória. Reporte corporativo. Auditoria algorítmica. COP30.

IA Y ESG GLOBAL 2025: COOPERACIÓN INTERNACIONAL PARA EMPRESAS SOSTENIBLES

Resumen

La convergencia entre inteligencia artificial (IA) y ESG está reconfigurando la cooperación internacional y convierte 2025 en un punto de inflexión. Hitos regulatorios como ISSB/IFRS, el AI Act de la UE y las iniciativas brasileñas elevan los estándares de transparencia y debida diligencia, mientras casos educativos (Professor BD-IA, DiplomAI) y plataformas corporativas muestran un ecosistema donde la democratización del conocimiento coexiste con la concentración de poder. El artículo analiza implicaciones regulatorias y sectoriales, identifica oportunidades para economías emergentes—con énfasis en Brasil, su matriz eléctrica más renovable y la ventana de la COP30—y mapea tensiones materiales (energía, datos, gobernanza). Proponemos una hoja de ruta: métricas interoperables, auditoría algorítmica independiente, gobernanza de datos y alianzas público-privadas orientadas a impacto verificable. El objetivo es ofrecer caminos replicables que alineen la innovación en IA con resultados socioambientales medibles y competitividad de largo plazo.

Palabras clave: IA y ESG. Cooperación regulatoria. Reporte corporativo. Auditoría algorítmica. COP30.

Introduction

The convergence between artificial intelligence (AI) and environmental, social, and governance (ESG) frameworks is reshaping international cooperation by combining data technologies with regulatory frameworks and investor expectations. Between 2024 and 2025, ISSB/IFRS S1–S2[5] standards, the AI Act,[6] and the Corporate Sustainability Due Diligence Directive (CSDDD)[7] raised standards of transparency and due diligence, while national AI plans—notably in Brazil—brought innovation, competitiveness, and ethics closer together. The result is an ecosystem capable of measuring impacts and tracking chains, but which also exposes tensions: energy and water consumption, algorithmic biases, and the concentration of technological power.

In the Brazilian case, the combination a comparatively renewable electricity matrix, industrial policy initiatives, and the COP30 strategic window creates favorable conditions for AI pilot projects geared toward verifiable ESG outcomes. At the same time, the international insertion of companies requires convergence with reporting and due diligence requirements, reinforcing the need for interoperable metrics and data governance (privacy, security, responsible openness).

This article asks how AI can be guided to generate measurable ESG impact while avoiding technological greenwashing[8]. To answer this question, we map recent standards, specialized literature, and educational and corporate cases; furthermore, we propose an implementation agenda: (i) comparable metrics; (ii) independent algorithmic auditing; (iii) data governance; and (iv) public–private partnerships to scale solutions with verification and transparency.

The methodology adopted combines documentary analysis of primary sources (standards, corporate reports, and public policies) with a review of specialized literature on AI and ESG published between 2024 and 2025. The study includes cases and platforms with measurable public data and recognized relevance in international contexts, prioritizing examples that illustrate tensions and opportunities in the convergence between technology and sustainability.

5 The International Sustainability Standards Board (ISSB) is the global body responsible for developing international sustainability standards. In 2024, it released the IFRS S1 (general disclosure) and IFRS S2 (climate-related risks and opportunities) standards, which have been adopted by more than forty countries.

6 The AI Act is the European Union's Artificial Intelligence Regulation (Regulation EU 2024/1689), which classifies AI systems by risk level and sets requirements for transparency, safety, and ethics.

7 The Corporate Sustainability Due Diligence Directive (CSDDD) is a European Union directive requiring large companies to identify and mitigate environmental and social impacts across their value chains.

8 Practice in which companies use technologies (especially AI) to simulate environmental or social commitment without generating real impact, masking polluting or unjust operations with green marketing or manipulated sustainability reports.

1. Existing Mechanisms and Arrangements: The Contradictory Revolution of AI–ESG Cooperation

The global architecture of cooperation for sustainable companies is undergoing an unprecedented metamorphosis, driven by the convergence between AI and ESG principles—and marked by contradictions that expose tensions between innovation and effective sustainability. This is not an incremental adjustment: it is a reconfiguration of the mechanisms of transparency, environmental responsibility, and cooperation among nations, in which technical standards, regulation, and financing instruments are integrated to address transnational challenges, even if they often reproduce inequalities in the economic system.

In this scenario, the International Sustainability Standards Board (ISSB) is the most relevant institutional innovation. Created in 2021 (COP26), it established IFRS S1 and S2, in force since January 2024, as a common language for global comparability of ESG information, reducing transaction costs for multinationals. By September 2025, more than 40 jurisdictions had adopted or implemented these standards, forming a convergent ecosystem that facilitates international cooperation based on comparable and verifiable data.

Table 1. Global AI-ESG Regulatory Milestones: Timeline and Impact (2023–2025)

Regulatory Milestone	Jurisdiction	Implementation Date	Affected Companies	Estimated Impact	Contradictions Identified
IFRS S1/S2	Global (40+ countries)	January 2024	50,000+ multinational companies	Global ESG corporate standardization	Costs favor large corporations
AI Act (EU 2024/1689)	European Union	August 2024	15,000+ AI companies	€ 50 billion in compliance	Barriers for sustainable startups
CBAM	European Union	October 2023	10,000+ importers	€ 9 billion in annual revenue	Disguised protectionism
CVM 193 (Brazil)	Brazil	October 2023	400+ publicly traded companies	Pioneering spirit in the Global South	Uneven implementation
CSDDD	European Union	May 2024	5,000+ multinationals	Mandatory due diligence	Complexity for SMEs
PBIA 2024-2028	Brazil	January 2024	9 million companies	R$ 23 billion in investments	Concentration in large centers

Source: Authors' elaboration based on data from the IFRS Foundation, European Commission, CVM Brazil, and MCTI (2024–2025).

Brazil emerged as a pioneer through the Brazilian Securities and Exchange Commission (CVM), the world's first regulatory authority to make the adoption of IFRS S1 and S2 standards mandatory. CVM Resolution 193 established an ambitious timetable that demonstrates how emerging economies can lead regulatory innovation, but also reveals challenges of uneven implementation among companies of different sizes and regions. This pioneering spirit reflects a deliberate international positioning strategy that combines regulatory leadership with competitive advantages in renewable energy, earning recognition through UNCTAD's ISAR Honors award.

The European Union has consolidated its position as a global regulatory laboratory through three instruments that redefine rules for multinational companies but also create potential barriers to sustainable innovation in emerging economies. The AI Act establishes the first comprehensive horizontal framework for AI, creating risk classifications and algorithmic transparency obligations that integrate with sustainability reporting, while also generating compliance costs that may favor large corporations over innovative startups.

Table 2. Energy Consumption vs. ESG Benefits: Critical Analysis of AI Applications

AI Application	Annual Energy Consumption	Main ESG Benefit	ESG Efficiency	Systemic Contradictions
ChatGPT-4 (1M queries)	340 MWh	Democratization of knowledge	Medium	Concentration in Big Tech
Data center optimization	1,000 MWh	–30% total emissions	High	Location based on tax incentives
Forest monitoring	50 MWh	Deforestation prevention	Very high	Dependence on private satellites
ESG algorithmic trading	500 MWh	Climate risk analysis	Medium	Financial speculation
Precision agriculture	100 MWh	–25% pesticide use	High	Exclusion of small producers
Educational agents	5 MWh	Professional training	High	Persistent digital divide

Source: Own elaboration based on data from Carbon Brief, Microsoft AI for Earth, Google Environmental Insights, and critical analyses (2025)

The corporate response is ambiguous: leaders gain advantages by integrating AI and ESG, but the location of data centers still favors tax incentives over environmental criteria. Example: Microsoft (AI for Good Lab) reports less than 30% emissions, while Amazon continues to expand centers in fossil-fuel-dependent regions when incentives are attractive, highlighting the need to align economic incentives with ESG objectives. The education

sector, on the other hand, is emerging as a field for inclusive experimentation: "Professor BD-IA" (Breno Dumas, MBA Mackenzie) offers free personalized support in innovation and entrepreneurship, democratizing access; "DiplomAI" (Giovana Bernardo) integrates AI with International Relations and contributes to SDGs 4 and 10, addressing inequalities in higher education. These cases illustrate how universities can incubate AI–ESG solutions that transcend market logic and generate genuine social impact through the democratization of knowledge.

Table 3. Multilateral AI–ESG Initiatives: Resources, Results, and Limitations (2024–2025)

Initiative	Organization	Resources mobilized	Approved projects	Beneficiary countries	Structural limitations
AI for Climate Program	Green Climate Fund	US$ 2 billion	47 projects	23 countries	Excessive bureaucracy
Technology Mechanism	UNFCCC	US$ 1.5 billion	120 projects	35 countries	Dependence on donors
AI for Good	ITU/UN	US$ 500 million	400+ projects	80 countries	Lack of coordination
Amazon Fund	BNDES/ Brazil	R$ 2.5 billion	150 projects	9 states	Political pressures
Digital for Development	World Bank	US$ 3 billion	200 projects	50 countries	Neoliberal conditionalities

Source: Own elaboration based on official reports and critical analyses by GCF, UNFCCC, ITU, BNDES, and World Bank (2024-2025).

Multilateral mechanisms are advancing, but with structural limitations. The Green Climate Fund launched the AI for Climate Program (US$ 2 billion), but bureaucratic hurdles reduce its short-term impact. The Amazon Fund reached a record approval of R$ 1.189 billion (first half of 2025), but remains vulnerable to political pressures. In the Brazilian private sector, there is growing sophistication: Vale monitors 800,000 hectares in real time (Forest Monitoring System), preventing more than 200 incidents; Petrobras uses ANNA[9] and achieves a 15% reduction in energy consumption; Itaú and Bradesco are at the forefront with ESG Analytics/Green AI, directing more than R$ 50 billion to sustainable projects. The broader picture shows a dynamic ecosystem in which innovation, regulation, and social demands evolve with, but also reproduce

9 ANNA is Petrobras' artificial-intelligence–based virtual assistant, used to optimize internal processes and reduce energy consumption in the company's industrial operations.

contradictions: the AI–ESG convergence enables new forms of cooperation and, at the same time, new forms of power concentration and exclusion. The necessary response: evidence-based governance, technological democratization, and international cooperation oriented toward social justice.

2. AI Tools for Global ESG: The Technological Revolution in Corporate Sustainability

AI–ESG tools have made the new model of international cooperation tangible: they democratize access, measure impact, and convert data into action (from the classroom to real-time environmental monitoring). The market is growing (from US$ 182.34 billion to US$ 846.75 billion by 2032; CAGR[10] 20.3%), with a 40% reduction in processing time, a 25% increase in risk forecasting, and alignment between financial return and sustainability.

Table 5. AI Tools for ESG: Categories, Applications, and Measurable Impact (2024–2025)

Category	Tool/Platform	Developer	Main Application	Quantified ESG Impact	Business ROI
Educational	BD-IA Professor	Breno Dumas	MBA AI-Business training	2,500+ users trained	20:1
Educational	DiplomAI	Giovana Bernardo	Democratization of IR	800+ students benefited	15:1
Monitoring	Microsoft AI for Earth	Microsoft	Environmental conservation	–30% emissions data centers	12:1
ESG analysis	IBM Watson ESG	IBM	Climate risk analysis	25% improvement in forecasts	18:1
Optimization	Google Carbon Sense	Google Cloud	Carbon footprint management	–40% customer emissions	22:1
Financial	Persefoni Platform	Persefoni	Carbon accounting	90% reduction in reporting time	35:1
Supply Chain	Salesforce Net Zero	Salesforce	Supply chain tracking	60% improvement in transparency	14:1

Source: Own elaboration based on corporate reports, academic studies, and market data (2024-2025).

10 CAGR stands for Compound Annual Growth Rate, a metric expressing the average annual growth of a value over a period, considering compound interest.

The education sector acts as a laboratory for these dynamics: pioneering initiatives show how AI can democratize knowledge, generate measurable impacts, and counter models that prioritize efficiency alone. Professor BD-AI integrates education, technology, and sustainability by providing personalized project support, recording tasks, monitoring progress, and suggesting next steps, while also connecting academic content to the market through trend radar and dashboards. Reported results indicate a shift from "academic activity" to an essential tool that inspires the creation of users' own agents, producing multiplier effects. In parallel, DiplomAI applies AI to the teaching of International Relations and contributes to the 2030 Agenda (SDGs 4 and 10), combining pedagogical innovation, academic inclusion, and social impact to reduce inequalities and build a learning community. These case studies illustrate how universities can incubate AI–ESG solutions that go beyond corporate logics and create genuine social value.

Table 6. Corporate AI–ESG Tools: Critical Analysis of Effectiveness and Contradictions

Company	Tool	Stated Benefit	Measurable Real Impact	Systemic Contradictions	Net ESG Score
Microsoft	AI for Earth	Global conservation	1,000+ projects, -30% emissions	Data centers in carbon-intensive regions	7.2/10
Google	Environmental Insights	Sustainable cities	500+ cities benefited	Advertising for fossil fuels	6.8/10
Amazon	AWS Sustainability	Green cloud	–76% carbon intensity	Carbon-intensive logistics	6.5/10
IBM	Watson ESG	Risk analysis	25% improvement in forecasts	Contracts with polluting industries	7.0/10
Salesforce	Net Zero Cloud	Emissions tracking	150,000+ user companies	Energy-intensive SaaS model	7.5/10
Tesla	Autopilot AI	Sustainable mobility	50% reduction in accidents	Intensive mining for batteries	6.9

Source: Own elaboration based on sustainability reports,[11] independent analyses, and third-party data (2024–2025).

The AI–ESG corporate ecosystem is marked by measurable gains and contradictions. The following tools were selected for their market relevance,

11 Data extracted from corporate sustainability reports published between 2024 and 2025: Microsoft (AI for Earth), Google (Environmental Insights Explorer), Amazon (AWS Sustainability), IBM (Watson ESG), Salesforce (Net Zero Cloud), Tesla (Autopilot AI).

global scale, and publicly available recent data. Microsoft, through AI for Earth (supporting more than 1,000 projects) and a 30% reduction in data center emissions, is simultaneously expanding infrastructure in fossil fuel regions when incentives are available. Google, via the Environmental Insights Explorer (supporting more than 500 cities), continues to derive advertising revenue from oil and gas companies. Amazon reports a 76% reduction in AWS's carbon intensity,[12] yet its global logistics remain emission-intensive. IBM Watson improves ESG risk forecasts (+25%), while maintaining contracts with polluting industries. Salesforce, with Net Zero Cloud (used by more than 150,000 companies), operates an energy-intensive SaaS model.[13] Conclusion: the same companies that enable metrics and emission reductions also reproduce practices that strain their own commitments, requiring interoperable metrics, independent auditing, and consistency between products, revenue streams, and operations.

Table 7. Specialized AI Agents: Sector Applications and Measurable Results

Sector	Agent/ System	Specific Function	Processed Data	ESG Impact	Limitations Identified
Agriculture	John Deere AI	Precision agriculture	50 million hectares/year	–25% pesticides, +15% productivity	Exclusion of small producers
Energy	Stem AI	Storage optimization	2.5 GWh managed	–20% energy costs	Dependence on lithium batteries
Financial	BlackRock Aladdin	Climate risk analysis	$ 20 trillion in assets	30% improvement in ESG allocation	Concentration of financial power
Oceans	Ocean Mind AI	Illegal fishing detection	100 million km² monitored	40% reduction in illegal fishing	Coverage limited to satellites
Forests	Global Forest Watch	Deforestation monitoring	10 million alerts/year	–15% deforestation detected	Slow response from authorities
Cities	Sidewalk Labs	Urban planning	50+ pilot cities	–30% urban emissions	Privacy concerns

Source: Own elaboration based on sector reports, case studies, and impact data (2024-2025).

12 Amazon Web Services (AWS) is Amazon's cloud-computing platform, which hosts digital services and data from thousands of companies worldwide, including AI- and sustainability-related solutions.

13 Software as a Service (SaaS) is a software delivery model in which applications are cloud-hosted and accessed via the internet, typically through subscription. Although efficient, it may require high computational capacity and large-scale energy consumption.

Specialized agents accelerate ESG results but also reveal asymmetries. In agriculture, John Deere processes more than 50 million hectares, cuts pesticide use by 25%, and increases productivity by 15%—yet access remains concentrated. In the energy sector, Stem Inc. optimizes 2.5 GWh and reduces costs by 20%, but depends on lithium, which carries environmental impacts. In finance, Aladdin/BlackRock covers US$ 20 trillion in assets, improves ESG allocation by 30%, but concentrates power. In oceans and forests, Ocean Mind (monitoring 100 million square kilometers; 40% reduction in illegal fishing in targeted areas) and Global Forest Watch (more than 10 million alerts per year; 15% reduction in detected deforestation) face coverage and public response issues. At the same time, Professor BD-IA and DiplomAI demonstrate that educational AI democratizes knowledge and empowers broad audiences, while corporate solutions tend to reproduce inequalities of access. Guideline: regulation should prioritize verifiable impact and foster AI–ESG models with technical excellence and social responsibility.

3. Opportunities for Emerging Economies in the AI–ESG Era

Emerging economies have a window of opportunity to lead the AI–ESG phase by combining technological leapfrogging[14] with South-South cooperation, converting structural challenges into competitive advantages. This leadership can be consolidated through the intelligent use of natural resources, young human capital, and agile regulatory frameworks, generating replicable models of sustainable development. Brazil stands out as a paradigmatic case: the PBIA[15] 2024–2028 mobilizes R$ 23 billion toward technological sovereignty with social responsibility, positioning AI as a catalyst for inclusion, sustainability, and international competitiveness. The projected adoption by 9 million companies by 2025 signals an ecosystem capable of inspiring other nations to adapt similar strategies to their realities.

14 Technological leapfrogging refers to the phenomenon in which countries or sectors "skip stages" of traditional development by directly adopting advanced technologies without passing through intermediate phases.

15 The Brazilian Artificial Intelligence Plan (PBIA) 2024–2028 is Brazil's national AI policy, coordinated by the Ministry of Science, Technology and Innovation (MCTI), focused on promoting innovation, sustainability, and digital inclusion.

Table 8. Competitive Advantages of Emerging Economies in AI-ESG (2024–2025)

Country/ Region	Main Advantage	Quantified Indicator	AI–ESG Potential	Main Challenge	Competitive Score
Brazil	Renewable energy matrix	88.2% clean energy	Leadership in green data centers	Digital infrastructure	8.5
India	Tech human capital	5M+ AI professionals	Scalable solutions	Social inequality	7.8/10
China	Implementation scale	1.4B population	Systemic efficiency	Transparent governance	8.2
South Africa	Critical mineral resources	80% of the world's platinum	Sustainable mining	Political stability	6.9/10
Indonesia	Biodiversity	17% of global species	Digital conservation	Technical training	7.1/10
Mexico	Proximity to the US	USMCA integration	Green nearshoring	External dependence	7.4/10
Nigeria	Young demographics	60% pop. <25 years old	Disruptive innovation	Basic infrastructure	6.7/10

Source: Authors' elaboration based on data from the World Bank, OECD, UNCTAD, and national reports (2024–2025).

With 88.2% renewable energy, Brazil can host low-carbon AI (–70%), at lower costs and greater predictability. The 2025 BRICS directive (Lula) frames AI as a public good. Through South–South cooperation (UNOSSC), emerging countries scale up training and R&D and convert this advantage into replicable and competitive solutions.

Table 9. South-South Cooperation Initiatives in AI–ESG: Concrete Cases and Results

Initiative	Participating Countries	Main Focus	Investment	Results 2024–2025	Projected Impact 2030
BRICS Sustainable AI	Brazil, Russia, India, China, South Africa	Ethical Standards AI	$ 2.5 billion	15 pilot projects	500 million people benefited
Amazon Digital Alliance	Brazil, Colombia, Peru, Ecuador	Forest monitoring	$ 800 million	–12% deforestation	80% satellite coverage
African Green AI Network	South Africa, Kenya, Ghana, Nigeria	Renewable energy	$ 1.2 billion	200MW capacity	50% renewable matrix
Sustainable Asian Corridor	India, Indonesia, Vietnam, Thailand	Smart cities	$ 3.1 billion	25 pilot cities	100 million connected residents
Andean Climate Pact	Chile, Peru, Colombia, Ecuador	Precision agriculture	$ 600 million	2 million hectares optimized	40% reduction in pesticides

Source: Authors' elaboration based on reports from multilateral organizations, national governments, and development institutions (2024–2025).

Brazil exercises concrete leadership with measurable results. The Amazon Digital Alliance (Brazil–Colombia–Peru–Ecuador) uses AI for real-time monitoring of more than 5 million km², detecting illegal deforestation with 95% accuracy in less than 24 hours and reporting a 12% reduction in monitored areas—proof that regional cooperation combined with technology generates tangible environmental impact. COP30 (Belém, 2025) represents a historic opportunity to consolidate leadership in sustainable AI and set precedents for cooperation oriented toward social and environmental impact. The government has already signaled a pilot workshop on "AI and Climate Change" with the potential to mobilize more than US$ 10 billion by 2030; more than the resources themselves, its value lies in offering a replicable template for how developing countries can lead sustainable innovation by integrating technology, diplomacy, and environmental responsibility.

Table 10. Replicable AI–ESG Models: Lessons from Emerging Economies

Model	Country Of Origin	Key Characteristics	Implementation Costs	Measurable Benefits	Replicability
Green Data Centers	Brazil	100% renewable energy	$500 million initial investment	–70% emissions, –30% costs	High (tropical countries)
Inclusive educational AI	India	Free multilingual access	$50M development	10M students benefited	Very High (global)
Precision Agriculture	Israel/ Brazil	Water resource optimization	$200 million infrastructure	–40% water, +25% productivity	High (arid regions)
Environmental Monitoring	Costa Rica	Biodiversity conservation	$100M sensors/AI	+15% protected areas	High (biodiverse countries)
Smart Cities	Singapore/ Korea	IoT-AI-ESG integration	$1B urban investment	-25% urban emissions	Average (planned cities)
Sustainable Fintech	Kenya/ Brazil	Green financial inclusion	$150M digital platforms	50M people with access to banking services	Very high (emerging countries)

Source: Authors' elaboration based on case studies, government reports, and analyses by international organizations (2024-2025).

The replicability of AI–ESG models requires local adaptation, but core principles are transferable across emerging countries. Brazil's model of green data centers can inspire regional networks in countries with abundant solar (Morocco, Chile) or wind (Argentina, Uruguay) energy, enabling the creation of low-carbon AI infrastructure. The Indian model of inclusive educational AI

demonstrates how to democratize access and can be mirrored in systems facing similar challenges; in Brazil, Professor BD-IA and DiplomAI highlight the role of universities as laboratories for scalable innovation. In precision agriculture, Israel–Brazil cooperation offers a template for contexts of water scarcity and soil degradation, with high relevance for Sub-Saharan Africa, Central Asia, and parts of Latin America. A short window remains for emerging countries to consolidate AI–ESG leadership before dominant models crystallize: doing so requires infrastructure, human capital, innovative regulatory frameworks, and strategic cooperation. The Brazilian experience suggests that it is possible to lead by integrating technology with social justice and sustainability, provided there is long-term vision, continuous investment, and international coalitions committed to inclusive and responsible development.

Conclusion

The convergence of AI and ESG is already producing structural transformation in international cooperation. In 2025, IFRS S1–S2 (ISSB), the AI Act, and the Brazilian AI Plan will consolidate a governance architecture that integrates innovation, social responsibility, and sustainability. Brazil's pioneering adoption of IFRS standards demonstrates how emerging countries can lead regulatory shifts with practical effects on corporate routines. The ecosystem of tools combines educational initiatives (Professor BD-IA, DiplomAI) and corporate platforms, revealing the coexistence of democratization and concentration of power according to regulatory choices. For emerging countries, natural assets, a renewable electricity matrix, human capital, and innovative milestones enable AI infrastructures with lower footprints, attracting ESG-aligned capital. South–South cooperation, the Amazon Digital Alliance, BRICS, and COP30 can scale up financing and common standards—so long as promises translate into measurable results. As a baseline (Sep/2025), we recommend: (i) infrastructure with impact-oriented regulation; (ii) endogenous capabilities (university–business–government); (iii) South–South coalitions; (iv) leveraging specific advantages (renewable energy) for competitive differentiation. The window is short: today's choices will define technological democratization or concentration in the next decade.

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