

Strategic Transition and ESG Performance Analysis of Centrais Elétricas Brasileiras S.A. (AXIA Energia): A Longitudinal Evaluation of Corporate Governance, Sustainability Reporting, and Socio-Environmental Integration (2014–2026)

Comprehensive Corporate Identification and Institutional Architecture

Centrais Elétricas Brasileiras S.A., historically and predominantly known as Eletrobras, represents the logistical and operational backbone of the Brazilian power sector.¹ As of the market close on November 10, 2025, the corporation underwent a definitive rebranding process, adopting the name AXIA Energia to reflect its post-privatization identity and strategic pivot toward becoming a "True Corporation".³ The entity is a publicly traded company incorporated under the laws of the Federative Republic of Brazil, with its primary corporate headquarters located at Rua da Quitanda 196, Centro, Rio de Janeiro.²

The corporation operates as an integrated holding company, maintaining a dominant presence in the generation, transmission, and commercialization of electricity.¹ In terms of scale, AXIA Energia is the largest utility company in Latin America and ranks as the tenth-largest power company globally.² Its infrastructure is essential to Brazil's National Interconnected System (SIN), where it controls approximately 37% to 38.49% of the country's total transmission network, encompassing over 73,800 kilometers of high-voltage lines and 414 substations.¹ In the generation segment, the company manages an installed capacity of 44.4 gigawatts (GW), contributing approximately 17% to 22% of Brazil's total energy supply.¹

The technical classification of the company within global financial markets is defined by the following metrics:

- **Legal Name:** Centrais Elétricas Brasileiras S.A. – Eletrobras.¹
- **Operating Identity:** AXIA Energia (effective November 2025).³
- **Sector:** Utilities.⁷

- **Industry:** Electric Utilities & Independent Power Producers (IPP).⁷
- **Primary Business Activity:** Generation, transmission, and trading of electric power.⁵

The company's securities are dual-listed on domestic and international exchanges. On the B3 in São Paulo, common shares trade under the ticker AXIA3 (formerly ELET3), and preferred shares trade under AXIA5 and AXIA6 (formerly ELET5 and ELET6).³ On the New York Stock Exchange (NYSE), the company's American Depository Receipts (ADRs) are traded under the symbol AXIA (formerly EBR).³ Identification of these entities and their ticker transitions is verified through official investor relations disclosures, exchange filing portals (CVM), and financial data providers such as Bloomberg and Investing.com.³

Operational Metric (2025/2026)	Specification
Total Installed Generation Capacity	44.4 GW ³
Transmission Line Length	73,800 - 74,000 km ¹
Share of National Transmission	37% - 38.49% ¹
Percentage of Clean Energy Matrix	96.5% - 97% ¹
Number of Substations	414 ³
Transmission Towers	157,716 ³

The corporate history is marked by a transition from a state-owned enterprise (established in 1962) to a private corporation in June 2022.¹ This transformation was solidified through a capitalization process that reduced the Brazilian government's direct voting stake from approximately 68.6% to 40.3%.² The current governance model prohibits any single shareholder from holding more than 10% of the voting capital, effectively dispersing control and aligning the company with international corporate standards.²

Longitudinal Analysis of ESG and Sustainability Reporting (2014–2023)

The evolution of the corporation's Environmental, Social, and Governance (ESG) reporting during the decade preceding its rebranding reflects the broader shift in the Brazilian power sector toward institutionalized transparency and climate resilience. The reporting journey has

progressed from basic compliance to a sophisticated, multi-framework integrated model.

Early Phase: Framework Foundations and Water Crisis Resilience (2014–2015)

In 2014, the company published its Annual and Sustainability Report, which served as a critical baseline for its ESG performance. This report was aligned with the Global Reporting Initiative (GRI) 1.2 guidelines, focusing on the company's contribution to the Ten-Year Energy Expansion Plan (PDE).⁹ A significant theme during this period was "water resilience," as Brazil faced an unprecedented water crisis that severely impacted hydroelectric output.⁹ The 2014 disclosure prioritized the social and economic impact of generation constraints and the subsequent need for expensive thermal generation to stabilize the grid.⁹

During 2015, the company continued to refine its sustainability indicators, though the period was clouded by the onset of governance challenges related to national anti-corruption investigations.¹⁰ The focus remained on environmental licensing for major projects like Belo Monte, with reports detailing the implementation of Basic Environmental Plans (PBA).¹²

The Governance Crisis and Compliance Overhaul (2016–2017)

The middle of the decade represented a "stress test" for the company's governance pillars. In 2016, the company faced significant scrutiny due to corruption investigations (Operation Lava Jato), which led to delayed financial filings and a downgrade in its management and governance score from "fair" to "weak" by S&P Global Ratings.¹⁰ The 2016 Annual Report, prepared under GRI G4 "Core" guidelines, was verified by KPMG Brasil, marking a crucial step in re-establishing auditor confidence.¹³

This period saw the first comprehensive external assurance statements for the company's sustainability data, as the International Standard on Assurance Engagements (ISAE 3000) was applied to verify the accuracy of non-financial disclosures.¹³ These steps were essential to maintain the company's registration with the US Securities and Exchange Commission (SEC) and to address internal control weaknesses identified by outside counsel.¹¹

Transition to Integrated Reporting and Climate Alignment (2018–2020)

A pivotal shift occurred in 2018 when the corporation adopted the Integrated Reporting (IR) framework.¹⁴ This framework aimed to move beyond siloed environmental and social disclosures, instead presenting how the company manages "six capitals": financial, manufactured, intellectual, human, social and relationship, and natural.¹⁴

Simultaneously, the company began supporting the Task Force on Climate-related Financial Disclosures (TCFD).¹⁵ This commitment led to the publication of supplemental climate reports

that mapped physical and transition risks associated with global warming.¹⁵ The 2020 report, in particular, emphasized the "Sustainability 4.0" program, which aimed to integrate ESG factors directly into the corporate risk matrix, covering 140 different indicators.¹⁴ During this time, the company maintained its voluntary participation in the CDP (formerly Carbon Disclosure Project), reporting on both Climate Change and Water Security.¹⁴

Privatization Readiness and Strategic Maturity (2021–2023)

In the years leading up to and immediately following its 2022 privatization, the company reached a high degree of reporting maturity. The 2021 and 2022 reports integrated Sustainability Accounting Standards Board (SASB) metrics for the electric utilities sector, providing standardized data points for institutional investors.¹⁴

The 2022 Annual Report, audited by PwC Brasil, provided a definitive look at the "EESG Journey" (Economic, Environmental, Social, and Governance), utilizing 100 specific indicators.¹⁴ By 2023, the company replaced its "Sustainability 4.0" program with the "Gaia ESG Action Plan," a comprehensive roadmap intended to guide the corporation through 2027.¹⁴ A cornerstone of the 2023 reporting cycle was the commitment to the Science Based Targets initiative (SBTi), establishing a roadmap to achieve Net Zero emissions by 2030.¹⁵

Reporting Framework / Disclosure	Year of Initial/Key Adoption	Primary Purpose
GRI G4 Core	2016	Standardized ESG reporting following governance reforms. ¹³
Integrated Reporting (IR)	2018	Connectivity between financial and non-financial capitals. ¹⁴
TCFD Support	2018	Disclosure of climate-related financial risks. ¹⁵
SASB Standards	2022	Industry-specific metrics for global comparability. ¹⁴
SBTi (Science Based Targets)	2023	Scientific validation of Net Zero 2030 goal. ¹⁵

Technical Evaluation of ESG Framework Adoptions and Assurance Metrics

The technical rigor of AXIA Energia's ESG strategy is evidenced by its adherence to internationally recognized standards and the consistent use of third-party assurance. These mechanisms are designed to mitigate "greenwashing" and provide reliable data for ESG rating agencies.

The Six Capitals of Integrated Reporting

By following the Integrated Reporting (IR) framework since 2018, the company has attempted to quantify the intangible value generated by its operations. The "Natural Capital" disclosure is particularly robust, detailing the management of river basins and the preservation of biodiversity in the Amazon and São Francisco regions.¹⁴ "Human Capital" reporting focuses on the transition toward a meritocratic culture following privatization, including the reduction of personnel expenses and the implementation of employee training programs through dedicated structures.¹⁹

Assurance and Audit Protocols

The reliability of these disclosures is verified through annual external assurance engagements. Historical audits show a consistent pattern of involving "Big Four" accounting firms to validate sustainability metrics:

- **2016:** KPMG Brasil provided assurance in accordance with NBC TO 3000 and ISAE 3000 standards.¹³
- **2020:** PwC Brasil assured the sustainability data for the corporate reports.²¹
- **2022:** PwC Brasil again served as the independent auditor, verifying 100 ESG indicators against international parameters.¹⁴

These assurance reports typically cover material topics such as greenhouse gas emissions (Scopes 1, 2, and 3), water withdrawal volumes, occupational safety metrics, and compliance with socio-environmental licensing conditions for major assets like the Belo Monte Hydroelectric Complex.¹²

Climate Strategy and Net Zero 2030 Trajectory

The commitment to SBTi in 2023 represents the company's most ambitious climate benchmark. The goal of reaching Net Zero by 2030 is predicated on several operational levers:

- **Decarbonization of Isolated Systems:** Replacing diesel-fueled generation in the Amazon region with renewable energy and battery storage.¹⁴
- **Asset Divestment:** The company finalized the sale of its remaining thermoelectric (coal and gas) assets in October 2025 to ensure its generation portfolio is 100% clean.³

- **Carbon Sequestration:** Utilizing reforestation and forest preservation in Permanent Preservation Areas (APP) to offset the remaining 10% of residual emissions.¹⁵

The use of an internal carbon price allows the company to shadow-price its future emissions, providing a financial incentive for business units to prioritize low-carbon expansion.¹⁵ This technical integration ensures that the Net Zero goal is not merely a marketing claim but a factor in capital allocation decisions.

External ESG Assessments, Indices, and Ratings History

AXIA Energia's ESG performance is monitored by a wide array of global rating agencies and index providers. These external assessments provide an objective counterpoint to the company's self-reported data.

Sustainability Indices and Market Recognitions

The company's inclusion in sustainability indices serves as a proxy for its "best-in-class" status within the Brazilian and global markets.

Index / Award	Year of Inclusion/Award	Relevance
B3 Corporate Sustainability Index (ISE B3)	2005 - 2024 (17 times)	Highlights top-tier governance and social responsibility on the B3 exchange. ⁸
S&P Global Sustainability Yearbook	2021, 2022, 2023	Recognizes the top 15% of sustainable companies globally in the utility sector. ¹⁴
B3 Carbon Efficient Index (ICO2 B3)	2022, 2023	Validates transparency in GHG emissions and commitment to low-carbon transition. ¹⁴
Bloomberg Gender-Equality Index	2022, 2023	Recognizes excellence in gender-related data disclosure and female leadership. ¹⁴

Transparency Trophy (ANEFAC)	2021, 2022	Awarded for high standards in financial and accounting disclosure transparency. ¹⁴
Pro-Ethics Company (CGU)	2022-2023	Recognized by the Brazilian government for robust anti-corruption and integrity programs. ²²

Credit and ESG Ratings Trends

The trajectory of the company's ratings reflects its improved risk profile post-privatization. While ESG-specific letter ratings from providers like MSCI and Sustainalytics are often proprietary, the public snippets indicate a generally positive trend.

In 2016, S&P Global Ratings viewed the company's governance as "weak" due to the Lava Jato controversy.¹⁰ However, by 2025, Moody's Ratings upgraded the company's baseline credit assessment (BCA) to ba2 and its Corporate Family Rating to Ba1, specifically citing advancements in governance and the corporate simplification strategy.²⁰ The rating action highlighted the reduction in exposure to the Angra 3 nuclear project and the settlement of disputes with the Federal Government regarding the company's voting structure.²⁰

Sustainalytics' ESG Risk Ratings (which measure unmanaged ESG risk) categorize companies into five risk levels: Negligible, Low, Medium, High, and Severe.²⁴ While specific scores for Eletrobras/AXIA fluctuated during the restructuring, the company was recognized as a "CDP Supplier Engagement Leader" in 2021 and 2022, suggesting effective management of environmental risks within its extensive supply chain.¹⁴

Material Controversies and Socio-Environmental Mitigation Strategies

The path to ESG leadership for AXIA Energia has not been without significant obstacles. The company's historical and current operations involve material controversies that require ongoing management and public disclosure.

The Legacy of "Operation Lava Jato"

The corruption investigation that began in 2014 uncovered systemic bid-rigging and bribery involving some of the company's projects.¹¹ This governance failure led to a thorough internal inquiry and the signing of tolling agreements with the US Department of Justice (DOJ) and the SEC.¹¹ The company ultimately reformed its procurement processes and strengthened its Compliance Department, leading the DOJ to close its investigation in 2018 without further enforcement action.¹¹ This event was a catalyst for the company's current "Pro-Ethics" focus

and the adoption of more stringent board oversight.²²

Social Impacts of the Belo Monte Hydroelectric Complex

As the largest 100% Brazilian hydroelectric plant, Belo Monte is also a primary source of ESG friction. Located on the Xingu River, the plant has faced allegations of human rights violations related to the displacement of riverside communities and the impact on indigenous lands.²⁷

Critics, including NGOs like Amazon Watch, argue that the consultation process for indigenous groups was flawed and that the project has caused a loss of biodiversity, including the risk of extinction for endemic fish species like the zebra pleco.²⁷ In response, the company (through the Norte Energia consortium) implements the Basic Environmental Plan for the Indigenous Component (PBA-CI), which includes 30 specific projects to support indigenous health, education, and cultural preservation.¹² In 2024, Norte Energia reported that 20 obligations related to its environmental license had been validated by IBAMA, while 38 remained in progress, including ongoing monitoring of the "Reduced Flow Stretch" (TVR) of the Xingu River.¹²

Privatization and the "Gas Mandate" Controversy

The 2021 law that enabled the privatization of the company included "jabutis"—unrelated legislative amendments that mandated the contracting of 8 GW of natural gas-fired thermal power plants in specific regions of Brazil.²⁹ This requirement was criticized by environmental groups and energy analysts who argued that it would increase Brazil's greenhouse gas emissions and raise electricity prices by diverting investment away from cheaper wind and solar sources.²⁹

While AXIA Energia has subsequently divested from its own thermal assets, the mandatory contracting of gas power within the national energy matrix remains a point of regulatory and environmental debate.³ The company's legal and sustainability teams continue to manage the implications of this mandate within the broader context of Brazil's National Energy Plan.²⁶

Reference Table and Source Reliability Assessment

The integrity of this analysis is supported by the following primary and high-quality secondary sources. Each source is evaluated for credibility based on authority, transparency, and recency.

#	Reference (APA 7th Edition Format)	Source Type	Credibility Score	Justificatio n for Score	Relevance

1	Centrais Elétricas Brasileiras S.A. (2023). <i>Annual and Integrated Report 2022.</i>	Primary (Audited)	10	Official corporate disclosure audited by PwC; adheres to IR, SASB, and TCFD. ¹⁴	Core source for ESG indicators and timeline.
2	AXIA Energia. (2025). <i>Corporate Profile: Legacy of Transformation.</i>	Primary (Official)	10	Official IR page reflecting the rebranding and post-privatization strategy. ³	Verified rebranding and ticker changes.
3	Moody's Ratings. (2025, May 19). <i>Moody's upgrades Eletrobras to Ba1; outlook stable.</i>	Secondary (Agency)	9	High-authority independent credit assessment with detailed governance analysis. ²⁰	Independent validation of governance progress.
4	S&P Global Ratings. (2016, May 19). <i>Eletrobras 'BB' Ratings Affirmed; SACP Revised to 'b+'.</i>	Secondary (Agency)	9	Objective historical analysis of the Lava Jato impact on corporate governance. ¹⁰	Crucial for the 2014-2016 controversy period.

5	Norte Energia S.A. (2024). <i>Sustainability Report 2023.</i>	Primary (Audited)	9	Detailed environmental and social data on the Belo Monte project. ³²	Primary source for Belo Monte mitigation data.
6	SEC. (2019, April 30). <i>Form 20-F: Brazilian Electric Power Company - Eletrobras.</i>	Primary (Regulator)	10	Legally mandated filing with the US securities regulator. ⁴	Historical governance and legal disclosure.
7	Investing.com. (2025, Nov 6). <i>Eletrobras Q3 2025 Earnings Call Transcript.</i>	Secondary (News)	8	Reliable financial news reporting on real-time earnings and corporate announcements. ⁷	Financial performance and recent corporate moves.

Transparency, Data Limitations, and Independent Verification Pathways

While the corporation has significantly improved its ESG transparency over the last decade, several limitations remain for external analysts.

Constraints and Verified Facts

The classification of the company as AXIA Energia is a recently verified fact effective as of November 2025.³ The commitment to Net Zero by 2030 and the divestment from thermal assets are publicly documented strategic goals.³ However, the "Unverified" elements include the precise future impact of the "gas mandate" on the company's long-term carbon intensity if regulatory shifts require the holding company to resume thermal investments through its

remaining minority interests. Furthermore, while the company reports on indigenous health and education projects, the "success" of these programs is often contested by local communities, leading to divergent "facts" depending on the source (e.g., corporate reports vs. NGO complaints).¹²

Data Access and Cutoff

The knowledge cutoff for this analysis includes all primary corporate disclosures through December 2025 and preliminary financial/rating data from the first quarter of 2026. Data regarding private settlement values for specific labor or environmental lawsuits is often paywalled or subject to confidentiality agreements, limiting the ability to assess the full financial impact of social litigation.

Recommendations for Independent Verification

Users seeking to independently verify the company's ESG performance are encouraged to consult the following authoritative databases:

1. **B3 (Brasil, Bolsa, Balcão) - Empresa.NET**: The official portal for all regulatory filings in Brazil (Fatos Relevantes and ITRs).
2. **CDP (Climate Disclosure Project) Database**: Accesses full historical responses for the company's Climate and Water Security questionnaires dating back to 2010.
3. **Global Reporting Initiative (GRI) Content Index**: Most recent integrated reports provide a line-item index of all ESG indicators against the GRI standards.

Synthesis and Strategic Conclusions

The decade-long trajectory of Centrais Elétricas Brasileiras S.A. (AXIA Energia) serves as a case study for the transformation of a state-owned utility into a market-facing sustainability leader. The journey from the 2014 water and governance crises to the 2025 rebranding highlights the "Governance Dividend" that follows privatization and institutional reform.

The company has successfully leveraged its inherent advantage—a generation matrix that is 97% clean—to position itself as a primary beneficiary of the global energy transition. By institutionalizing frameworks like the TCFD and SASB, and by committing to scientifically validated Net Zero targets through the SBTi, AXIA has aligned its financial and environmental goals. The transition to Integrated Reporting has been critical in this regard, ensuring that natural and human capitals are viewed as essential to long-term value creation rather than as externalities.

However, the "social" pillar remains the most complex and volatile dimension of the company's ESG profile. The ongoing socio-environmental commitments at Belo Monte and the residual regulatory tensions from the privatization "jabutis" indicate that governance maturity must be matched by a proactive and empathetic approach to community relations. The future of AXIA Energia will likely depend on its ability to maintain its "True Corporation" status while fulfilling

the enormous expectations of the Brazilian public and global investors as the axis of a sustainable energy ecosystem.

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