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**BRAZILIAN ELECTRICITY
SECTOR:
INVESTMENT OPPORTUNITIES
AND MARKET OUTLOOK**

MARCH 2026

TABLE OF CONTENTS

1. BRAZIL'S ENERGY LANDSCAPE

2. HYDROPOWER IN BRAZIL

3. ENERGY TRADING MARKET IN BRAZIL

4. POWER TRANSMISSION IN BRAZIL

5. BESS MARKET IN BRAZIL

6. DATA CENTERS AND THE POWER
SECTOR

1

**BRAZIL'S
ENERGY
LANDSCAPE**

BRAZIL'S ENERGY LANDSCAPE

Major figures and market opportunities



Leader in energy generation in the LATAM region



88.2% of electricity generation comes from **renewable** sources



Energy supply to the grid will grow by an average of **3.3%** per year until 2035



PLANNED EXPANSION UNTIL 2035

- Hydropower plant (UHE): 3,622 MW
- Small hydro (PCH)/CGH: 4,314 MW
- Biomass, biogas, rsu: 4,388 MW
- Solar photovoltaic power (UFV): 8,947 MW
- Wind power plant (EOL): 14,487 MW

BRAZILIAN ENERGY MIX IN 2025

RENEWABLES | 50%



Sugarcane biomass
16.7%



Hydropower
11.6%



Wind
2.9%



Firewood and charcoal
8.5%



Other renewables
8.1%



Solar
2.2%

NON-RENEWABLES | 50%



Petroleum and oil products
34%



Natural gas
9.6%



Coal
4.5%



Uranium
1,3%



Other non-renewable
0.6%

Source: EPE, 2025

BRAZIL'S ENERGY LANDSCAPE

Renewable dominance

In the context of the **energy transition**, renewable sources will continue to expand
Brazil has a **diversified electricity matrix**, rich in renewable sources and complemented by non-renewable ones

According to the Energy Research Company (EPE, in Portuguese abbreviation), additional power supply will be required starting in 2027, and an increase in energy supply will be needed from 2028 onward

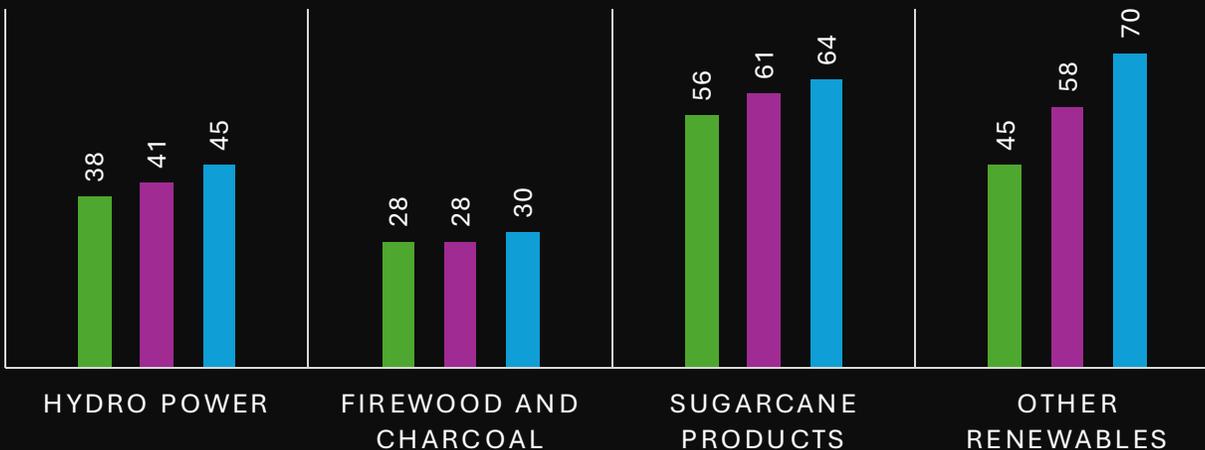
Financing from development banks (e.g., BNDES, BNB), commercial banks, and capital markets, taking into account collateral typical of project finance structures

Distributed generation has an important role in connection with sustainable renewables expansion - losses reduction, diversify the energy mix and promote the renewable sources

- **The world's leader in hydroelectric power generation**, with great opportunities for renewable energy generation
- **Non-hydro power's** capacity expected to grow from 117 GW in 2024 to 217 GW in 2034
- World's 7th largest installed **wind energy capacity**
- **Grid bottlenecks & curtailment**
 - a) Restrictions on renewable generation
 - b) Challenges for grid connections of large consumers such as data centers (timing and costs)
 - c) Default risk is low but should be considered

DOMESTIC ENERGY SUPPLY

■ 2025 ■ 2030 ■ 2035



2035 TEN-YEAR ENERGY EXPANSION PLAN (PDE 2035)

Energy Expansion Plan which indicates the future expansion prospects of the energy sector in Brazil

An estimated average growth of 2.2% per year in renewable energy in the Internal Energy Supply, reaching 51% by 2035

2

HYDROPOWER IN BRAZIL

HYDROPOWER IN BRAZIL

Strategic role in the power system

Hydropower remains the backbone of the Brazilian power system, providing flexibility and reliability to the National Grid (**SIN**).

According to the ONS installed-capacity outlook for 2026–2030:

- Hydropower capacity in 2026: 108,896 MW (43.6% of total installed capacity)
- Hydropower capacity in 2030: 109,308 MW (40.1% of total installed capacity)

Strategic importance:

- Provides system flexibility to balance variable renewable sources (solar and wind);
- Reservoirs function as large-scale energy storage;
- Supports security of supply and system stability;

Hydropower continues to be a key asset for integrating growing renewable generation in Brazil.

→ Hydropower therefore remains one of the most relevant long-term investment segments in the Brazilian electricity sector.



Hydropower plants across Brazil (UHE, PCH and CGH). Source: ANEEL, 2026

STRUCTURAL CHANGES (LAW 15.269/2025)

- Hydropower concessions may be extended for up to 30 years based on IPP regime;
 - Applies to plants larger than 50 MW granted before 2003;
 - Concessionaires will assume hydrological risk
- Creates long-term investment visibility in the hydropower sector

HYDROPOWER AUCTIONS AND CAPACITY MECHANISMS



HYDROPOWER PROJECTS PARTICIPATE IN BRAZIL'S ENERGY AUCTIONS MODEL, WHICH IS THE MAIN MECHANISM FOR EXPANDING GENERATION CAPACITY

2025 A-5 Auction:

- - 65 projects contracted
- Contracted energy: 384.5 average MW
- Average contracted price: R\$ 392.84/MWh



IN ADDITION TO TRADITIONAL ENERGY AUCTIONS, HYDROPOWER CAN ALSO PARTICIPATE IN CAPACITY RESERVE AUCTIONS (LRCAP).

Purpose of LRCAP:

- ensure security of supply
- contract firm capacity for the power system
- support reliability in a system with increasing renewable generation



REMUNERATION IN HYDROPOWER AUCTIONS

Hydropower projects may be remunerated through different contractual mechanisms depending on the auction model.

Energy Auctions:

- Long-term Power Purchase Agreements (PPAs);
- Contracted electricity supply to the regulated market;
- Predictable long-term revenues

Capacity Reserve Auctions (LRCAP):

- Remuneration based on capacity availability, not only energy generation.

Key characteristics:

- Fixed annual revenue
- Monthly payments
- Inflation indexation
- Contracts typically between 10–15 years

This model provides stable and predictable revenue streams for investors.

3

ENERGY TRADING MARKET
IN BRAZIL

TRADING MARKET IN BRAZIL

Structure and regulatory trends

MARKET STRUCTURE & REGULATION

- 
- Energy trading in Brazil operates under a dual market model:
 - Regulated Market (ACR): Energy contracted via public auctions
 - Free Market (ACL): Consumers negotiate directly with generators or traders
 - Trading activities include bilateral contracts, short-term market operations, and financial guarantees

IMPACTS OF LAW NO. 15,269/2025

- 
- Full market liberalization by 2027, including residential consumers
 - End of renewables discounts/benefits for new contracts after Nov 2025
 - Creation of Supplier of Last Resort (SUI) for contract failures



REGULATORY AGENDA (2025 – 2026)

2025 PRIORITIES:

- Improve rules for energy trading and market monitoring
- Update PLD (spot price) calculation methodology
- Enable regulatory framework for energy storage systems

2026 OUTLOOK:

- Regulate financial guarantees for short-term market
- Define rules for “constrained-off”
- Establish controlled regulatory environments for ancillary services
- Implement operational rules for full retail market opening
- Trading rules improvement

4

**POWER
TRANSMISSION IN
BRAZIL**

POWER TRANSMISSION IN BRAZIL

Grid expansion

- The growing demand for electricity, driven by investments in Brazil's energy matrix, including the expansion of renewable sources and new technologies such as green hydrogen and data centers' connectivity, demands the continuous expansion of the National Grid to meet these needs
- **The Brazilian Government conducts two to three annual auctions for granting new transmission facilities. Next dates:**
 - a) March 2026
 - b) October 2026
 - c) April 2027
- Forecasts investments of BRL 116.9 billion until 2035, with a **main focus on the North–Northeast integration, the strengthening of the Southeast/Central-West corridor, and new reinforcements for the South region**, according to EPE
- **The terms and conditions of the Transmission Auctions have been consolidated over the past decade, offering predictability to the market and attracting foreign investors, especially due to the fixed remuneration of transmission assets**
- The government projects to **expand the electric transmission network** from 200,730 km in 2025 to 229,511 km by 2035 to meet growing demand and integrate renewable energy sources
→ especially relevant for investors interested in long-term regulated infrastructure with a direct link to renewable integration

TRANSMISSION AUCTION REMUNERATION

→ Transmission assets in Brazil are remunerated through the **RAP (Receita Anual Permitida)** mechanism

Main characteristics of the remuneration model:

- Fixed annual permitted revenue
- Monthly payments
- Inflation indexation
- Remuneration is not dependent on the volume of electricity transported (only on COD)

Within the auctions, the winner is generally the bidder offering the lowest RAP, which creates a competitive process while preserving long-term revenue predictability.

This model combines:

- **long-term regulatory visibility;**
- **stable and indexed revenue;**
- **low merchant risk relative to other segments of the power sector**

POWER TRANSMISSION IN BRAZIL

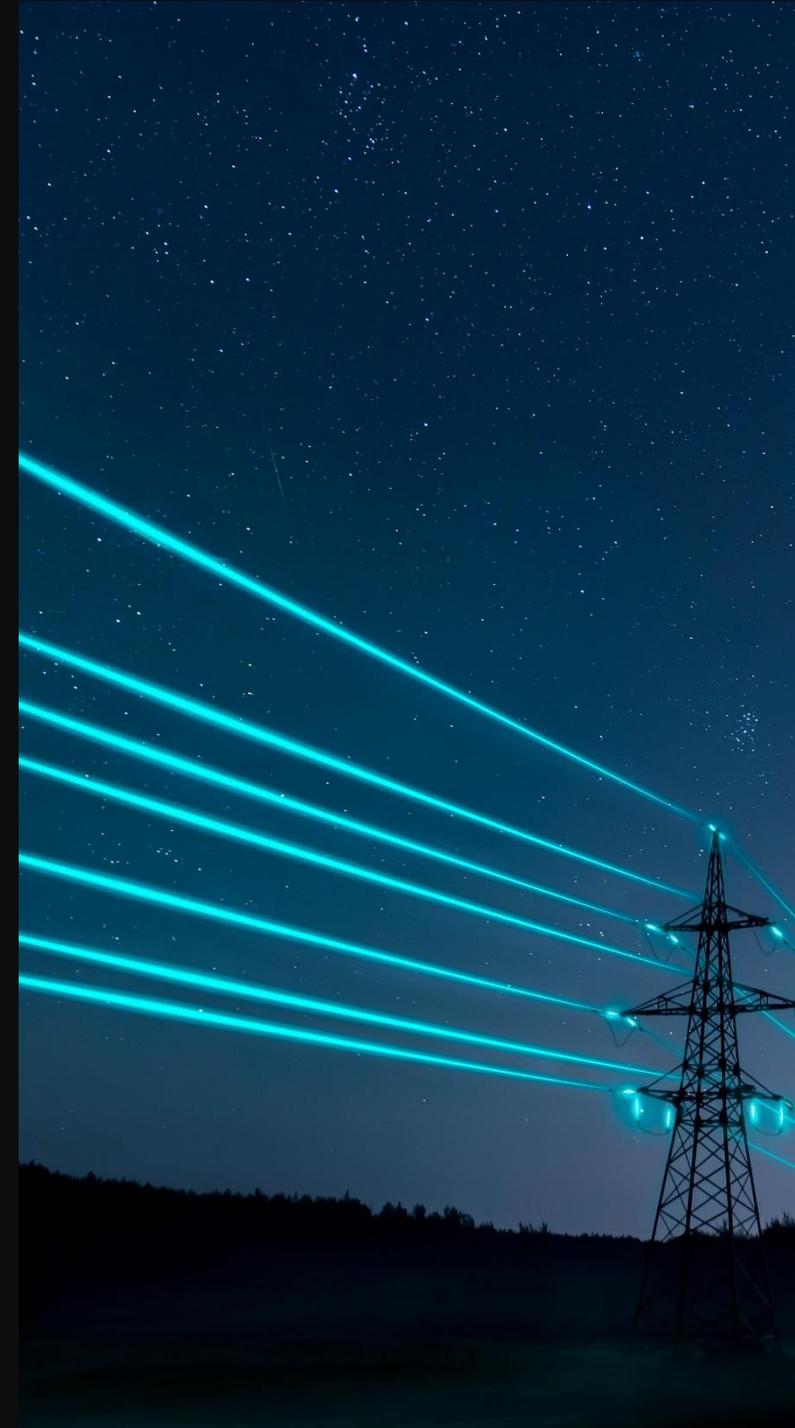
Regulatory trends

- **The expansion of the National Grid is one of the solutions to mitigate the effects of curtailment and constrained-off events related to power injected by renewable plants**
- Discussions on the strengthening grid resilience requirements due to increased exposure to extreme climate events

OTHER REGULATORY DISCUSSIONS



- ✓ Transmission Concession Renewal (Law Nº 11,314/2022)
 - Extension of existing concessions
 - Transition of service provision after concession ends
 - Treatment of improvements made during the concession
- ✓ Take into account the high volume of access requests from electro-intensive consumers
 - National Policy for Access to the Transmission System (Decree No. 12,772/2025)
 - ☐ Access Seasons: all requests for consumer connection to the Grid will be analyzed in an integrated and simultaneous manner, with competitive processes for points where demand exceeds available capacity.
- ✓ Review of reliability criteria for transmission facilities
- ✓ Incorporation of flexibility and storage solutions into planning



5

BESS MARKET IN BRAZIL

BESS MARKET IN BRAZIL

Regulatory trends



The Brazilian energy storage market has the potential to attract over **BRL 44 billion in investments by 2030**



Around **BRL 14 billion** would be allocated to off-grid solutions in isolated communities, especially in the Amazon region

Another **BRL 14 billion** is expected to be invested in behind-the-meter (BTM) solutions for consumers aiming to reduce costs and participate in demand response programs



Approximately **BRL 16 billion** could be invested in front-of-the-meter (FTM) solutions, mainly through public Capacity Reserve auctions



Synergy with **Data Centers**:

- *Greenshoring* strategy
- 24/7 energy availability
- Cost optimization opportunities include improving Power Usage Effectiveness (PUE): Total facility energy / Energy used by IT equipment

PUBLIC CONSULTATION No. 39/2023

ANEEL has been discussing the regulation of energy storage systems through Public Consultation No. 39/2023, addressing:

- Adaptation of grid access regulation for new storage technologies;
- Indicating how the activity may be authorized (i.e., concessions, licenses, or changes to existing licenses); and
- Evaluation of alternative compensation structures for energy storage systems.

LAW No. 15,269/2025

Law No. 15,269/2025 modernizes the Brazilian electricity sector, introducing updated rules and incentives concerning energy storage systems:

- Grants ANEEL authority to regulate, supervise, and define remuneration and access rules for BESS;
- Recognizes multiple services provided by BESS, including flexibility, power, ancillary services, and energy trading;
- Allows BESS to qualify under REIDI and requires REIDI-eligible solar projects (including mini and micro DG) to include chemical storage systems; and
- The Federal Government may reduce to zero the Import Tax rates applicable to BESS and their components.

BESS MARKET IN BRAZIL

Storage auction 2026



Ongoing **Public Consultation No 202/2025** to address the **Guidelines for the 2026 Capacity Reserve Auction (Storage)**



Purpose of the Auction

- Contract electric power from new battery energy storage systems connected to the National Grid;
- Supply start date: August 1, 2028;
- Contract duration: 10 years



Objectives

- Ensure the SIN's ability to meet instantaneous demand, especially during peak hours;
- Support the increasing share of non-dispatchable renewable sources, such as solar and wind;
- Enable the provision of ancillary services, improving:
 - Operational flexibility
 - Locational flexibility
 - System reliability

TECHNICAL REQUIREMENTS

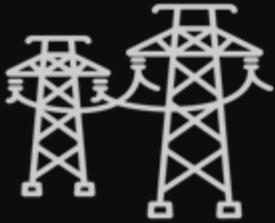
- Minimum power capacity of 30 MW;
- Continuous operation duration of 4 hours;
- Minimum round-trip efficiency of 85%;
- Maximum recharge time of 6 hours; and
- Systems must also support up to two full cycles per day (charge and discharge), with an annual limit of 365 cycles (366 in leap years), and must have a Unit Variable Cost equal to zero.

6

**DATA CENTERS AND THE
POWER SECTOR**

DATA CENTERS AND THE POWER SECTOR

BRAZILIAN DATA CENTER MARKET – Key Context



Brazil's data center market is at a pivotal moment, driven by surging demand for data processing and storage fueled by artificial intelligence and cloud computing

Due to the need for uninterrupted operations, the reliability of electricity supply is crucial for data center performance and is also a significant cost factor

Opportunities to manage electricity costs include improving Power Usage Effectiveness (PUE) — the industry-standard metric for assessing energy efficiency. PUE measures the ratio between the facility's total energy consumption and the energy used specifically by IT equipment



BRAZIL'S COMPETITIVE ADVANTAGES – Attractive hub for data centers

- Predominantly renewable energy matrix;
- Special Economic Zones (ZPEs) offering tax incentives for service exporters; and
- Rapidly expanding domestic market

ENERGY SUPPLY OPTIONS

- Power Purchase Agreements (PPAs) and self-generation structures, which may grant access to exemptions from certain sectoral charges;
- Distributed Generation (DG) models, enabling consumers connected to distribution utilities to offset their electricity consumption;
- Assessment of energy storage solutions, aligned with the ongoing development of sector-specific regulations

GRID ACCESS & EXPANSION

- Access to the grid rules and conditions have been changed by National Policy for Access to the Transmission System (Decree No. 12,772/2025);
- To support investment planning, developers may notify the Energy Research Office (EPE) of their interest in implementing data centers through an online submission form

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