



BRAZIL, WORLD LEADER IN ENERGY TRANSITION

The Ministry of Mines and Energy's
public policies to foster the green economy
and promote social inclusion

2023-2025

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MINISTRY OF
MINES AND ENERGY





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Presentation

REVOLUTION IN THE BRAZILIAN ENERGY AND MINERAL SECTOR

Alexandre Silveira

Minister of State for Mines and Energy

The devastating effects of global warming are already at the doorsteps of populations around the world. What once seemed like the plot of a disaster movie or a miniseries about a bleak future has, unfortunately, drawn much closer to reality. In recent years, like many other countries, Brazil has faced the impacts of extreme weather events, including heatwaves, severe droughts, heavy rains, and destructive floods.

The energy transition has increasingly taken center stage. It has become imperative to undertake profound changes in global, national, and regional energy matrices — replacing fossil fuel-based sources, such as oil and coal, with more sustainable, low-carbon alternatives, including solar, wind, biomass, and other clean technologies.

Brazil is uniquely positioned to lead the global energy transition and advance decarbonization. The country benefits from an electricity matrix that is already around 90% renewable, a formidable hydro-

electric infras-structure, and global recognition for its pioneering use of ethanol in vehicles. Its soil holds a wealth of critical and strategic minerals. Across the country, wind turbines dominate skylines and vast stretches of solar panels brighten the landscape.

President Luiz Inácio Lula da Silva has embraced the energy transition with great determination, placing the full weight of the federal government behind this priority—one that is essential for today and vital for the future of humanity.

In line with these priorities, the Ministry of Mines and Energy (MME) has designed and implemented the most comprehensive set of energy transition measures ever undertaken in Brazil, setting an example for the world.

These efforts include the creation of new programs, the expansion of public policies, and the establishment of regulatory frameworks across different segments of the energy sector, alongside close coordination

with private companies and civil society. Initiatives aim to guarantee energy security, reduce electricity bills, lower fuel prices, and curb waste in household, commercial, and industrial consumption.

This report addresses the actions and achievements of the MME since January 2023. These actions take place on five fronts, outlined in the main chapters, coordinated with each other and summarized below as attributes and competencies of the agency.

This report highlights the MME's actions and achievements since January 2023. They are organized into five main areas—detailed in the following chapters—each closely interconnected and summarized below as defining attributes of the ministry:

- ♦ A ministry dedicated to the energy transition, fully committed to advancing the green economy as a response to climate change
- ♦ A ministry that prioritizes social inclusion, focused on addressing the basic needs of the most vulnerable populations
- ♦ A ministry that promotes economic development to generate jobs, income, and opportunities for entrepreneurs and the self-employed
- ♦ A ministry that employs state-of-the-art management and planning tools
- ♦ A ministry that plays a leading international role and works to attract foreign investment to Brazil.

The 36 subchapters of this report illustrate a defining feature of the approach being put forward by the current Federal Government: the energy transition should not be seen merely as a technological shift, but as a new development model with social inclusion at its core.

It is the Government of Brazil on the side of the Brazilian people. This is reflected in public policies that prioritize social justice, such as People's Light ("Luz do Povo"), People's Gas ("Gás do Povo"), Light for All ("Luz para Todos"), Amazon Energy ("Energias da Amazônia"), Clean Energy in My House, My Life ("Energia Limpa no Minha Casa Minha Vida"), Social Biofuel Seal

("Selo Biocombustível Social") and Aquaculture for Food Security ("Aquicultura para a Segurança Alimentar"). In our vision of the energy transition, no one will be left behind.

In February 2025, President Lula stated that Brazil is undergoing a revolution in the energy and mining sectors. A country already described in our National Anthem as "giant by nature" is now making bold strides to improve the quality of life for its people, with the strong leadership of the Ministry of Mines and Energy. Our advances in the energy sector confirm the direction of the non-negotiable defense of national sovereignty, in the increasing certainty that Brazil belongs to Brazilians.





ENERGY TRANSITION

NATIONAL ENERGY TRANSITION POLICY

For the first time, Brazil has a National Energy Transition Policy (PNTE), established in August 2024, setting guidelines that shape the country's energy strategy to confront climate change. The chosen path combines efforts to reduce greenhouse gas (GHG) emissions with measures to strengthen economic development, job creation, and social inclusion.

Brazil is expected to attract R\$ 2 trillion in investments over the next 10 years in sustainable energy infrastructure, generating three million jobs and revitalizing industry, with energy serving as a driving force for the nation's sustainable development.

In this new green economy, investments will focus on wind, solar, hydropower, biomass, biodiesel, biomethane, ethanol, green diesel, carbon capture and storage, sustainable aviation fuel, and low-carbon hydrogen.

The PNTE was established by President Luiz Inácio Lula da Silva during a meeting of the National Energy Policy Council (CNPE) on August 27, 2024, when he approved a resolution presented by the body chaired by the Minister of Mines and Energy, Alexandre Silveira.

According to its framework, the PNTE aims to "guide national efforts toward transforming Brazil's energy matrix into a

low-carbon structure, contributing to the achievement of net greenhouse gas emissions neutrality in the country."

The initiative is designed as "a mechanism to support the integration and coordination of federal government policies and actions, in alignment with subnational entities, and in dialogue with civil society and the productive sector."

One of the policy's highlights is the creation of the National

Energy Transition Forum (Fonte) —a unique platform for debate and recommendations to the CNPE, ensuring that Brazil's energy transition process is fair, inclusive, and democratic. Combating energy poverty is a central element of this approach.

The participating entities have already been indicated, and the definition of the representative of each one is in progress, making Fonte one of the largest forums for debate between the government, the productive sector and representatives of civil society in the country.

IMPACTS OF THE NATIONAL ENERGY TRANSITION POLICY (PNTE)

Combating climate change

Reindustrialization on new foundations

Economic growth

More jobs and higher income

Social inclusion and reduction of energy poverty

Universal access to energy

Reduction of socioeconomic and regional inequalities

Preservation of biodiversity and environmental quality

Improved quality of life for the population



The PNTE aligns with "the objectives of the national energy policy for the rational use of energy sources in accordance with international climate commitments assumed by the country." It also incorporates "other public policy objectives, including initiatives and strategies to enable the ecological transformation of the Brazilian economy, strengthen production chains, add value domestically, and advance climate change mitigation and adaptation."

GUIDELINES

- ◆ Expand Brazil's capacity to attract investments by strengthening energy transition supply chains

NUMBERS

- **R\$ 2 trillion** expected in investments
- **3 million** jobs to be created

DATES

- **02/02/2023** – Creation of the National Secretariat for Energy Transition, announced by Minister Alexandre Silveira at his inauguration
- **04/10/2024** – President Lula declares, in his 100-day review: "Our strategic infrastructure investment program will have six pillars: transportation; social infrastructure; digital inclusion and connectivity; urban infrastructure; water for all; and energy transition."
- **August 2024** – Approval of the PNTE by the CNPE at a meeting led by President Lula and coordinated by Minister Alexandre Silveira
- **October 2024** – Establishment of the Fonte Executive Committee and definition of criteria for the appointment of members to the Fonte Plenary
- **January - April 2025** – Public Selection Process for civil society representatives to join the Fonte Plenary for the 2025/2026 biennium (Call for Applications No. 1/2025)
- **November 2024 - April 2025** – Submission and review of information from institutions and associations in the productive sector, along with nominations from federal, state, and municipal governments

- ♦ Establish a solid foundation for dialogue with society and broaden social participation
- ♦ Influence the global energy sector's development, creating opportunities for Brazil's economic and geopolitical integration
- ♦ Implement measures for climate change mitigation and adaptation in the energy sector, in alignment with the National Climate Change Plan
- ♦ Safeguard national energy security
- ♦ Ensure universal access to energy
- ♦ Enhance competitiveness in the energy sector to deliver affordable prices
- ♦ Reduce poverty and energy inequality while assessing costs and investment incentives to guarantee a fair and inclusive energy transition
- ♦ Coordinate with other federal public and sectoral policies
- ♦ Strengthen alignment between energy policy actions at federal, state, municipal, and district levels
- ♦ Recognize regional diversity in designing and implementing energy transition programs and initiatives
- ♦ Foster transparency, social participation, and diversity in formulating and executing energy transition policies
- ♦ Support the identification and promotion of priority areas for research, development, technological and productive densification, innovation, and training for the energy transition
- ♦ Incorporate contributions from international cooperation into the energy transition, while safeguarding Brazil's sovereign interests

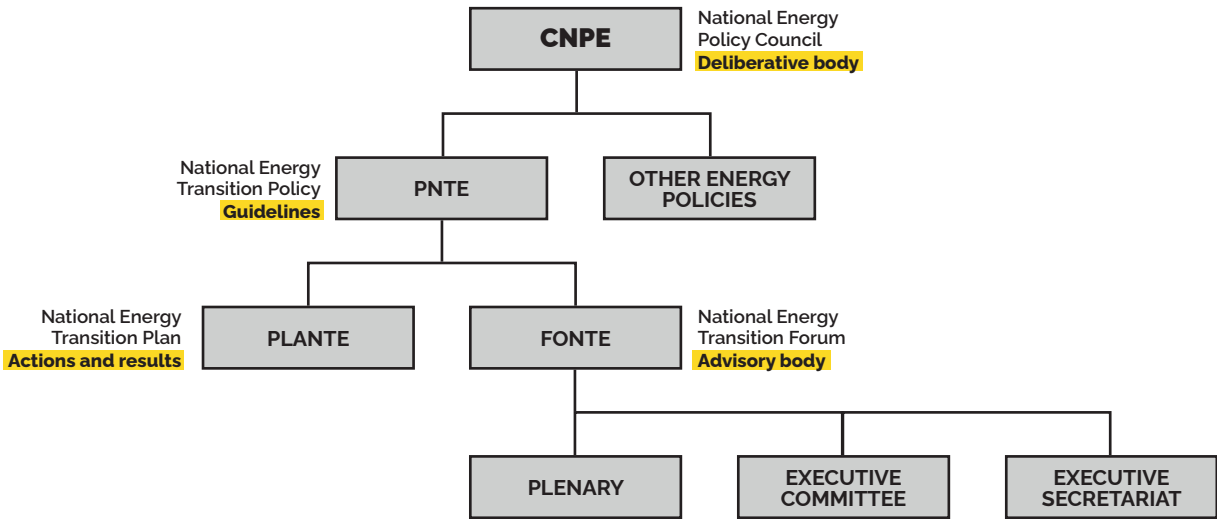
DEFINITIONS

- ♦ **Energy Transition** – The process of transforming energy infrastructure, production, and consumption across different sectors, aimed at contributing

to the country's net-zero GHG emissions goal.

- ♦ **Fair and Inclusive Energy Transition** – A transition committed to promoting equity and social participation, while minimizing negative impacts on communities, workers, companies, and social groups vulnerable to changes in the energy system. It maximizes opportunities for socioeconomic development, enhances the competitiveness of the productive sector, and combats inequality and poverty at the international, regional, and local levels.
- ♦ **Energy Equity** – The active pursuit of universal access to high-quality, environmentally sustainable energy services, ensuring security of supply at affordable prices.
- ♦ **Energy Poverty** – A condition in which households or communities lack access to a basic set of energy services or are unable to fully meet their energy needs.

GOVERNANCE AND FUNCTIONING OF THE PNTE



FUEL OF THE FUTURE

One of the Ministry of Mines and Energy's key achievements in 2023–2024 was the enactment of the Fuel of the Future Law, on October 9, 2024. Drafted in partnership with other ministries, the National Congress, and the private sector, the law originated from a bill introduced by President Luiz Inácio Lula da Silva and was unanimously approved by Congress after four months of debate and refinements.

The law elevates biofuels to a new level, expanding the role of ethanol, biodiesel, sustainable aviation fuel (SAF), green diesel, and biomethane. In doing so, Brazil strengthens its energy transition platform and opens broader opportunities for private national and international companies engaged in decarbonization, in response to the urgent need to mitigate climate change.

With R\$ 260 billion in investments expected by 2037, the Fuel of the Future framework addresses one of the main barriers to private investment: the lack of predictable demand to support decisions for building new projects.

The legislation promotes a wide range of initiatives for sustainable, low-carbon mobility and further consolidates Brazil's role as a leader in the global energy transition. Private business groups have already announced investment commitments of around R\$ 20 billion in new projects.

Once fully implemented, the law is expected to prevent the emission of 705 million tons of CO₂ by 2037, reaffirming Brazil's commitment to reducing greenhouse gases.

MAIN BENEFITS

- ◆ Boost economic development through expanded agricultural production, new industrial plants, infrastructure projects, and technologies
- ◆ Job creation, higher income, and social inclusion
- ◆ Reduced pollution in urban areas and environmental preservation
- ◆ Expansion of clean and renewable energy use, lowering carbon emissions
- ◆ Greater energy security through diversification of sources and a more stable, reliable supply
- ◆ Reduced dependence on imported fuels

KEY MEASURES INTRODUCED

- ◆ Expands the share of biofuels in the energy matrix
- ◆ Incorporates Sustainable Aviation Fuel (SAF) and green diesel into the matrix
- ◆ Integrates public policies for sustainable, low-carbon mobility (RenovaBio, Mover Program, PBE Veicular)

- ◆ Establishes a legal framework to attract investment in Carbon Capture and Storage (CCS)
- ◆ Raises blending limits to up to 35% ethanol in gasoline and 25% biodiesel in fossil diesel, subject to technical feasibility
- ◆ Introduces measures to decarbonize the natural gas sector through the mandatory use of biomethane.

The Fuel of the Future Law has four pillars:

1. Creation of new programs for biofuels

Three national programs were launched to encourage research, production, commercialization, and use of biofuels, promoting the decarbonization of the transport and mobility matrix:

- ◆ **National Green Diesel Program (PNDV)** – Each year, the National Energy Policy Council (CNPE) will define the minimum volume of green diesel—produced exclusively from renewable biomass—to be blended with fossil diesel. The mandatory blend is capped at 3%, but voluntary higher blends are allowed.
- ◆ **National Sustainable Aviation Fuel Program (ProBioQAV)** – Beginning in 2027, airline operators will be required to reduce GHG emissions on domestic flights through the use of Sustainable Aviation Fuel (SAF). Targets start with



a 1% reduction and gradually increase to 10% by 2037. These are relative reduction targets, calculated against emissions that would occur without SAF.

- ◆ **National Program for the Decarbonization of Natural Gas Producers and Importers and Incentives for Biomethane** – Focused on increasing the share of biomethane and biogas in Brazil's energy matrix. The CNPE will set annual targets for reducing emissions in the natural gas sector through biomethane use. Obligations for producers and importers begin in January 2026, starting at 1% and capped at 10%.

2. More ethanol in gasoline and more biodiesel in diesel

On June 25, 2025, the National Energy Policy Council (CNPE) approved an increase in the mandatory ethanol blend in gasoline—from 27% to 30% (E30)—and in the biodiesel blend in diesel—from 14% to 15% (B15). The measure will take effect on August 1, 2025, enabling Brazil to

advance toward greater energy self-sufficiency while reducing fuel prices. President Luiz Inácio Lula da Silva, Minister of Mines and Energy Alexandre Silveira, and other cabinet ministers who make up the CNPE participated in the decision.

With the transition to E30 alone, more than R\$10 billion in investments and the creation of over 50,000 jobs are expected. In biodiesel, R\$5.2 billion in investments in new plants and soybean crushers are projected. In family farming, the change will benefit 5,000 new families integrated into the Social Biofuel Seal Program, with an increase of R\$600 million in income.

Estimates for the new blend indicate that gasoline prices at gas stations could fall by as much as 20 cents for consumers.

The CNPE's decision was based on a rigorous technical process coordinated by the MME. The E30 tests were conducted by the Mauá Institute of Technology, with the active participation of vehicle

manufacturers, importers, and representatives of the automotive industry. The results, presented in March this year, confirmed the safety and technical feasibility of the new blends, allowing immediate adoption without negative impacts on vehicles or consumers.

The implementation of E30 and B15 reduces Brazil's dependence on fossil fuels, lowers the need for imports, expands the use of domestically produced renewable fuels, strengthens national production, reduces emissions, and contributes to the country's sustainable economic development.

3. Carbon capture and storage

The Fuel of the Future Law also grants the National Agency of Petroleum, Natural Gas, and Biofuels (ANP) the authority to regulate and oversee activities related to carbon dioxide capture and geological storage, as well as the production and commercialization of synthetic fuels.

In order to regulate the issue and

implement public policies aimed at both carbon sequestration and the definition of guidelines for the associated business model, the Executive Technical Subcommittee of CCUS (acronym for Carbon Capture, Utilization and Storage) was established in July 2025. It is responsible for proposing legal and infra-legal improvements that ensure greater legal certainty and attractiveness to investments in technologies related to multiple geological carbon sequestration routes.

The subcommittee's strategic objectives are to support Brazil in the goal of achieving climate neutrality by 2050, making the energy sector a net carbon sink and consolidating concrete commitments for COP30. Since its creation, the group has been holding several meetings and advancing in the construction of proposals to ensure the effective delivery of these results.

4. Integration for sustainable mobility

The law promotes the integration of initiatives and measures established under the following policies and programs to advance low-carbon sustainable mobility:

- ♦ National Biofuels Policy (RenovaBio)
- ♦ Green Mobility and Innovation Program (Mover Program)
- ♦ Brazilian Vehicle Labeling Program (PBEV)
- ♦ Vehicle Emissions Control Program (Proconve)

NUMBERS

IMPACT

- **R\$ 260 billion** in planned investments
- **705 million** tons of CO2 emissions avoided

PRIVATE INVESTMENTS ANNOUNCED TOTAL: R\$ 19.55 BILLION

- **Raízen** – R\$ 10.43 billion in the implementation of eight second-generation ethanol (E2G) plants.
- **Raízen** – R\$ 345.3 million in the implementation of the second biomethane plant.
- **Inpasa** – R\$ 3.4 billion over the next 18 months, in two ethanol plants and the construction of a biorefinery in Luís Eduardo Magalhães (BA).
- **Grupo Potencial** – R\$ 3 billion in biodiesel, with emphasis on the expansion of the Lapa (Paraná) unit, which will become the largest single-plant producer in the world.
- **Be8** – R\$ 400 million in a biodiesel project in Uberaba (MG).
- **Virtu GNL, Eneva, and Edge** – R\$ 1.3 billion for the creation of a 3,000 km green corridor for the transport of liquefied natural gas (LNG), connecting the port of Santos (SP) to the port of São Luís (MA).
- **FS Group** – R\$ 558 million in a carbon capture and storage (CCS) plant associated with ethanol, in Lucas do Rio Verde (MT).
- **Shell** – R\$ 120 million for the implementation of a bioenergy research center, in partnership with Raízen and Senai-SP.

DATES

- **09/18/2023** – Presentation of Bill 4,196/2023 by the Federal Government
- **04/13/2024** – Approved by the Chamber of Deputies
- **09/04/2024** – Approved by the Federal Senate
- **09/11/2024** – Definitively approved by the Chamber of Deputies
- **10/08/2024** – Sanctioned as Law 14,993/2024 by President Luiz Inácio Lula da Silva at the Liderança Verde Brasil Expo event, at the Brasília Air Base
- **10/09/2024** – Published in the Federal Official Gazette, entering into force.
- **04/02/2025** – Publication of the E30 Test Report conducted by the Mauá Institute of Technology
- **05/16/2025** – First Meeting of the Permanent Technical Committee on Fuel of the Future (CTP-CF), consolidating governance guidelines and initiating the implementation of the work agenda planned for 2025
- **05/21/2025** – Public hearing on the proposed decree regulating the National Program for the Decarbonization of Natural Gas Producers and Importers and Incentives for Biomethane
- **06/25/2025** – CNPE Resolution No. 9/2025 establishing the new ethanol content (30%) in C gasoline sold throughout the national territory as of August 1, 2025
- **06/25/2025** – CNPE Resolution No. 8/2025 establishing the new biodiesel content (15%) in diesel B sold throughout the national territory as of 08/01/2025

10 MEASURES TO COMBAT FUEL FRAUD

The Ministry of Mines and Energy (MME) is leading a series of actions to combat fraud and criminal practices in the fuel sector. This package brings together ten measures implemented since 2023, already regarded by the Federal Government as a milestone in building a safer, fairer, and more efficient market for Brazilian consumers.

The problem is serious and occurs across the entire country. It ranges from fuel adulteration at gas stations and irregular distribution to sophisticated tax fraud, piracy on waterways, and the reception of fuel diverted from pipelines and clandestine refineries.

To address the situation, the MME has coordinated efforts with the National Agency of Petroleum, Natural Gas, and Biofuels (ANP), the Federal Police, the Civil House, the Ministries of Finance, Justice, and Management and Innovation, as well as representatives of the productive sector and members of Congress.

The measures include legislative changes, regulatory improvements, and coordination with law enforcement and public security agencies. The initiative was developed based on the diagnosis that the fuel market continues to suffer from illegal practices that harm not only consumers but also tax revenues, environmental commitments, and the credibility of institutions.



01

CRIMINALIZATION OF NON-COMPLIANCE WITH RENOVABIO

Now classified as an environmental crime, failure to meet decarbonization targets may result in fines of up to R\$ 500 million.

02

SALES BAN FOR NON-COMPLIANT DISTRIBUTORS

Suppliers are prohibited from selling diesel A, B, or C to companies that fail to meet the minimum required biodiesel stock levels.



03

MODERNIZATION OF ANP INSPECTION PROCESSES

The process for initiating electronic notifications of audited agents was regulated, accelerating proceedings and reducing loopholes for impunity.

04

DONATION OF EQUIPMENT TO ANP TO MEASURE BIODIESEL CONTENT

In partnership with the private sector, ANP strengthened its ability to detect fraud in biodiesel blending.



05

SUPPORT FOR BILLS TO STRENGTHEN THE FIGHT AGAINST FUEL THEFT AND ROBBERY

The MME has backed legislative proposals that toughen measures against fuel theft and illegal diversion.

06

AGREEMENT BETWEEN ANP AND STATE FINANCE SECRETARIATS

Agreement approved at Confaz enables the sharing of electronic tax documents, increasing data cross-checking and fraud detection.



07

DEFENSE OF SINGLE-PHASE TAXATION IN THE SECTOR

The MME presented suggestions for the regulation of the tax reform to simplify the tax collection model and make it harder for tax evaders to operate.

08

SUPPORT FOR BILLS PLP 284/2017 AND 164/2022, WHICH ADDRESS RECURRING TAX DEBTORS

The bills establish stricter mechanisms to combat companies that repeatedly fail to pay taxes and continue operating in the market.



09

MEASURES TO ENSURE COMPLIANCE WITH RENOVABIO

Distributors that fail to meet decarbonization program targets may lose authorization to operate in the sector.

10

10 INTEGRATED ACTIONS AGAINST PIRACY IN THE AMAZON

The MME, in coordination with the Civil House, Federal Police, and logistics agents, implemented a security plan for waterways in the Northern Region.



LEGAL FRAMEWORK FOR LOW-CARBON HYDROGEN

In August 2024, the Legal Framework for Low-Carbon Hydrogen was established through Law 14.948/2024, with the active participation of the Ministry of Mines and Energy (MME) in drafting the text and guiding its passage through the National Congress.

The expansion of low-carbon hydrogen as both an energy source and an industrial input is considered fundamental to the energy transition and industrial decarbonization, within global efforts to reduce greenhouse gases and combat climate change.

MME estimates indicate that Brazil has the technical potential to produce 1.8 gigatons of low-carbon hydrogen per year, positioning the country as an important player in the global market.

Low-carbon hydrogen has broad applications, including the production of green fertilizers, refineries, steelmaking, and metallurgy. Several industries—such as cement, glass, mining, and steel—have incorporated hydrogen into their decarbonization strategies, in addition to its use as a fuel, particularly where direct electrification is not feasible.

The H₂ molecule has significant potential to reduce emissions in hard-to-abate sectors such

as industry and transportation. Current projections place Brazil among the countries with the lowest production costs worldwide, reinforcing its potential in this segment and its leadership role in the energy transition.

The legal framework is a milestone for unlocking investments in Brazil's energy transition, establishing the National Low-Carbon Hydrogen Policy, which includes the following instruments:

- ♦ **National Hydrogen Program (PNH2)** – Coordinated by the MME, with the participation of public and private institutions as well as academia, the program leads initiatives to encourage the use of low-carbon hydrogen as a key driver of the energy transition.
- ♦ **Regulation** – The framework establishes that activities related to the production, storage, transportation, and commercialization of hydrogen and its derivatives may be carried out by companies or consortia authorized by the National Agency of Petroleum, Natural Gas, and Biofuels (ANP).

- ♦ **Brazilian Hydrogen Certification System** – An accredited certification body will assess the emissions intensity of the production chain. The document will include details of the inputs used, production location, life-cycle information, and the amount of carbon dioxide equivalent emitted.
- ♦ **Special Incentive Regime for Low-Carbon Hydrogen Production (Rehidro)** – Provides tax reductions on investments, fostering technological and industrial development, competitiveness, and added value in national production chains.

- ♦ **Low-Carbon Hydrogen Development Program (PHBC)** – Offers an estimated R\$18.3 billion in tax benefits over five years for the sector.
 - Promotes technical and financial cooperation between the public and private sectors for research and development of new products, methods, processes, and technologies for low-carbon hydrogen production.
 - Establishes legally defined tax, financial, credit, and regulatory incentives.

BENEFITS

Among the main benefits of establishing the Legal Framework for Low Carbon Hydrogen, the following stand out:

- ♦ Promotes development and generates more skilled jobs and income for families, fostering social inclusion
- ♦ Creates new opportunities for entrepreneurs in the production chain and ensures legal certainty for activities
- ♦ Facilitates access to financing
- ♦ Preserves the environment, promotes energy efficiency, and helps mitigate greenhouse gas (GHG) and pollutant emissions
- ♦ Attracts and stimulates domestic and foreign investment in production, marketing, transportation, and storage
- ♦ Promotes domestic production of nitrogen fertilizers from hydrogen to reduce dependence on imports and ensure food security
- ♦ Protects consumer interests regarding price, quality, and a stable, reliable supply of hydrogen
- ♦ Increases Brazilian exports
- ♦ Encourages research and development for energy and industrial purposes



THREE-YEAR PLAN

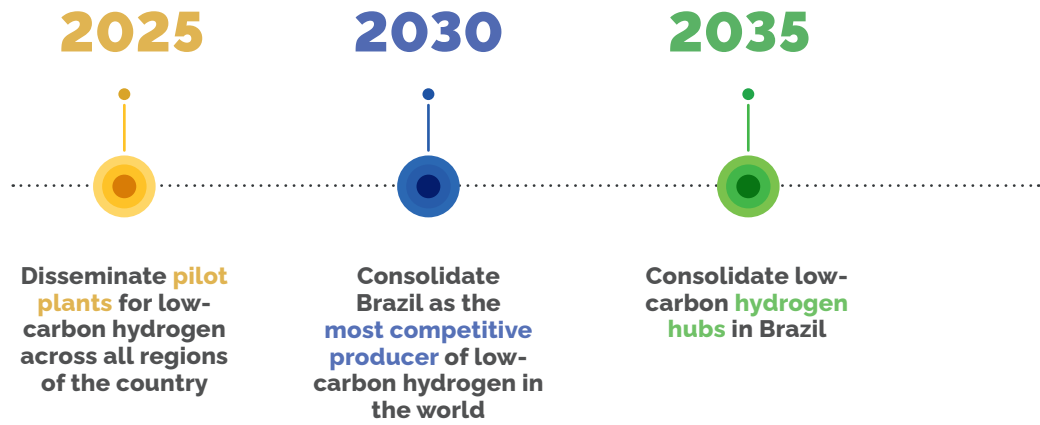
In August 2023, the PNH2 Three-Year Work Plan 2023–2025 was launched, comprising 65 hydrogen-related actions, 32 of which are already being implemented.

One of the actions is to increase annual investments in research, development, and innovation sevenfold, from R\$29 million in 2020 to R\$210 million per year by 2025.

By 2025, the goal is to deploy hydrogen pilot plants across all regions of the country. By 2030, the target is for Brazil to become the world's most competitive producer of the molecule. By 2035, the vision is to consolidate hydrogen hubs, integrating production, storage, and transportation stages while linking them to different sectors of the economy.

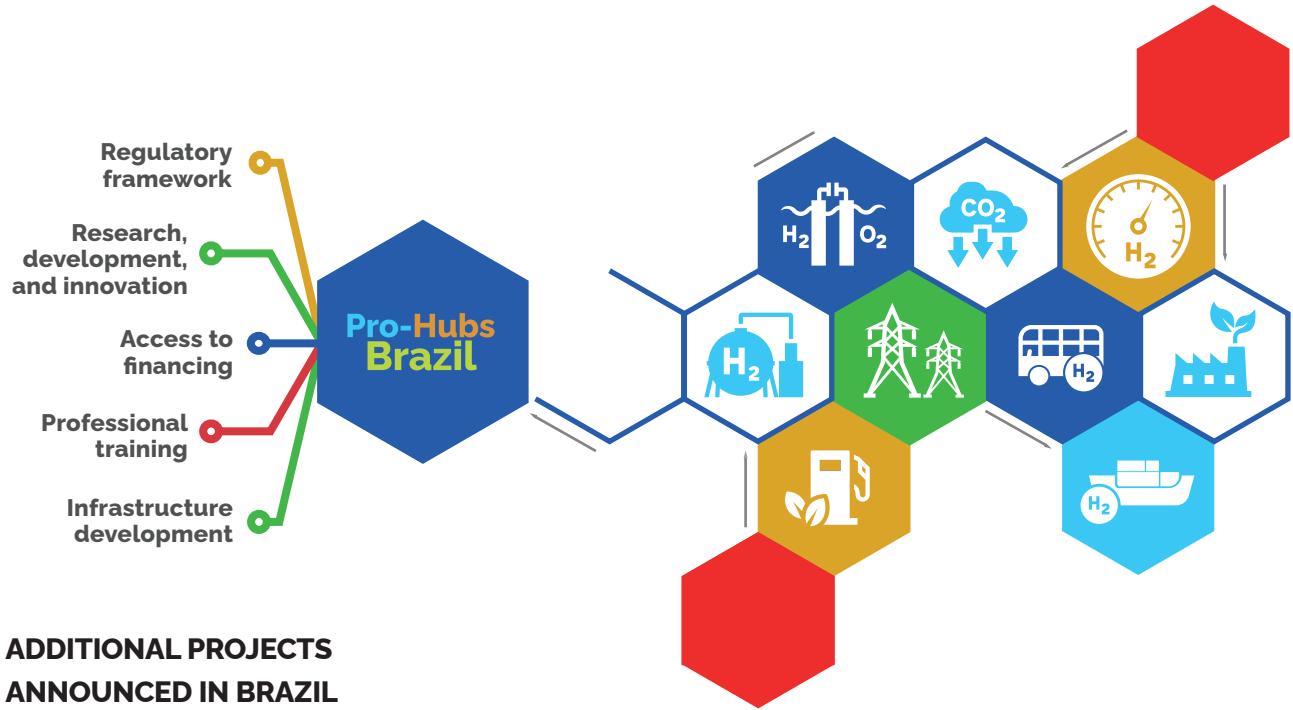
Another priority action is expanding access to financing for the sector. US\$35 million has been allocated for developing the hydrogen hub at the Port of Pecém, Ceará, with support from the Inter-American Development Bank (IDB) and the World Bank.

To date, more than R\$290 billion in low-carbon hydrogen projects have been announced in 18 states, at different stages of implementation. These include research, development, and demonstration initiatives at pilot and industrial scale, currently under technical and economic feasibility analysis.



INVESTMENTS AND INITIATIVES

- ♦ The PNH2 Management Committee, coordinated by the MME, has been working on infra-legal regulations; a decree is in preparation.
- ♦ Public Call for Hydrogen Hubs in Brazil: selection of low-carbon hydrogen hub projects aimed at decarbonizing Brazilian industry. A total of 70 proposals were received nationwide. After expert analysis, 12 projects with the highest scores were identified. Final selection is underway for projects to be submitted to the Climate Investment Fund for Industrial Decarbonization.
- ♦ Brazil's proposal for the Industry Decarbonization Program (IDP) of the Climate Investment Funds (CIF) ranked first among 26 eligible countries by an independent panel of experts. As a result, Brazil will receive R\$1.4 billion in international funds for industrial decarbonization. The Expression of Interest (Eoi) was submitted jointly by the Ministry of Development, Industry, Trade, and Services (MDIC), the Ministry of Finance, and the MME.
- ♦ The National Electric Energy Agency (ANEEL) issued a strategic call for financing R&D and innovation projects.
- ♦ The MDIC classified Fortescue's project in the Pecém Export Processing Zone (EPZ).
- ♦ The MME and the Energy Research Company (EPE) are conducting transmission studies to support hydrogen projects in the Northeast, identifying opportunities for grid connection.
- ♦ Pecém Port Hydrogen Hub – Estimated at US\$35 million in Ceará, financed through CIF-REI international funding and implemented by the World Bank.



ADDITIONAL PROJECTS ANNOUNCED IN BRAZIL

- ♦ Green Hydrogen Center (CH2V) – Located at the Federal University of Itajubá (MG), developed under the H2 Brasil project, a partnership between the MME and the German government.
- ♦ Green Hydrogen and Ammonia Plant in Piauí – Located in the Parnaíba Special Economic Zone (SEZ), with financial support from the European Union. The project is a partnership between Green Energy Park (GEP) and Solatio.
- ♦ H2Brazil – Located in Uberaba (MG), announced at the World Hydrogen 2025 Summit & Exhibition in Rotterdam, Netherlands. It is an international partnership between Brazil and Portugal, with support from the MME, the Ministry of Science, Technology, and Innovation (MCTI), ApexBrasil, and InvestMinas.

NUMBERS

- IMPACT**
- ♦ More than US\$290 billion in announced low-carbon hydrogen projects across 18 states
- ♦ Sevenfold increase in annual investments in research, development, and innovation in the 2023–2025 Triennial Work Plan, rising from R\$ 29 million in 2020 to R\$ 210 million per year in 2025. The plan includes 65 actions, of which 32 are currently underway
- ♦ R\$ 18.3 billion in tax benefits expected over five years from the Low-Carbon Hydrogen Development Program (PHBC)
- ♦ Brazil's production potential: 1.8 gigatons of low-carbon hydrogen per year

DATES

- ♦ **08/02/2024** – Law No. 14,948/2024, establishing the Legal Framework for Low-Carbon Hydrogen, signed by President Luiz Inácio Lula da Silva
- ♦ **08/24/2023** – Launch of the 2023–2025 Triennial Work Plan of the National Hydrogen Program (PNH2)
- ♦ **09/27/2024** – Law No. 14,990, establishing the Low-Carbon Hydrogen Development Program (PHBC), signed into law
- ♦ **10/03/2024** – Launch of the Public Call for Hydrogen Hubs in Brazil by the Ministry of Mines and Energy
- ♦ **12/20/2024** – Preliminary results of the Public Call for Hydrogen Hubs in Brazil announced
- ♦ **03/13/2025** – Workshop on the Legal Framework for Low-Carbon Hydrogen, the Special Incentive Regime for Low-Carbon Hydrogen Production (Rehidro), and the Low-Carbon Hydrogen Development Program (PHBC)
- ♦ **09/22/2025** – MME launches the Brazilian Hydrogen Portal and expands transparency in energy policy.

STRATEGIC MINERALS FOR THE ENERGY TRANSITION

The Ministry of Mines and Energy (MME) is facilitating the implementation of a National Policy for Critical and Strategic Minerals (PNMCE). The policy aims to expand geological knowledge and mineral research, strengthen national production and processing, integrate base productive chains, reduce external vulnerability regarding the import of essential minerals, and ensure Brazil's sovereignty and competitive autonomy in the context of the energy and technological transition.

The policy's guidelines aim to promote sustainable socio-economic development, with the responsible use of natural resources and respect for human rights, ensuring the mitigation of socio-environmental risks from the initial stages of projects. The policy seeks to prioritize the analysis and approval of strategic projects within public administration, strengthen geological knowledge, stimulate research, innovation, and the training of specialized labor, as well as enable the financial support and infrastructure necessary for the expansion of mining and mineral processing.

It also emphasizes federal and social dialogue, international partnership for market access and technology transfer, strengthening of national productive chains, and the creation of a regulatory

and tax environment favorable to investment, while always preserving national interest and sovereignty.

HIGHLIGHTS IN THE GLOBAL RANKING

With the advancement of global efforts for the energy transition, one of the main opportunities opening up for Brazil consists of the responsible exploitation of strategic minerals for the energy transition.

Brazil has very significant known reserves, occupying the following positions in the global ranking: niobium (1st), graphite and rare earths (2nd), nickel (3rd), manganese (4th), vanadium and bauxite (5th), lithium (6th), and cobalt (9th). The niobium reserves alone account for 89.91% of the planet's total.

The International Energy Agency (IEA) defines the following as essential minerals for the energy transition: lithium, graphite, nickel, copper, cobalt, and rare earth elements. These are natural resources used in the production of batteries and electric vehicle components, as well as in wind turbines and solar panels, among other applications in clean and renewable energy sources.

The transition towards cleaner and more sustainable energy sources will result in significant growth in the demand for

strategic minerals on a global scale. As pointed out by studies from the International Energy Agency (IEA), in the scenario of net-zero emissions by 2050, the international demand for lithium is expected to be nine times higher, while demand for graphite is expected to be almost triple.

Brazil has at least 50 mineral projects for the energy transition underway, distributed between pre-operational phases and the extraction phase, with planned

investments exceeding US\$ 18 billion. There is a good supply of qualified higher-level labor, as well as centers of excellence in research and development in the area of mining and mineral processing.

STRATEGIC MINERALS EQUITY INVESTMENT FUND (FIP)

The National Bank for Economic and Social Development (BNDES) and the MME launched the Strategic Minerals Equity Investment Fund (FIP) to mo-

bilize R\$ 1 billion in business projects for the energy transition, decarbonization, and sustainable food production.

Investments prioritize the following strategic minerals: cobalt, copper, tin, graphite, lithium, manganese, platinum group metals, molybdenum, niobium, nickel, silicon, tantalum, rare earths, titanium, tungsten, uranium, vanadium, zinc, phosphate, potassium, or others for promoting soil fertility and essential for food security.

The plan is for the resources to benefit 15 to 20 companies in initiatives for mineral research, development, and exploitation of new mines in Brazil. BNDES will contribute up to R\$ 250 million to the FIP, with a participation of up to 25% of the total, and Vale will contribute another 25%, with other national and international investors expected. The capital can be used by junior and medium-sized companies.

With its vast territory, geologi-





cal diversity, and soil richness, Brazil seeks to maintain its world leadership in the energy transition. The FIP has the potential to leverage the sector and attract even more investment to the strategic minerals chain, helping smaller companies access the market.

These actions contribute to harnessing the country's vast potential, allowing it to position itself as a supplier of strategic minerals to meet global demand for clean energy technologies.

The FIP seeks to stimulate a new cycle of fostering the pro-

duction of strategic minerals, focusing on innovation and sustainability – pillars of the New Industry Brazil and the More Production Plan of the Federal Government.

According to BNDES, another objective is to stimulate companies to adopt ESG practices, so they can generate a positive impact for local communities and minimize the environmental impacts of projects.

In this sense, actions for training labor and local suppliers, regularizing the rural environmental registry (CAR) and recovering

vegetation in affected areas, and efficient management of water and waste are encouraged, in addition to practices of transparency and proper relationship with local communities.

Technologies for decarbonizing the planet and containing global warming require enormous quantities of minerals. The expansion of the fleet of hybrid or electric vehicles and the increase in electricity generation from solar and wind sources depend on a rapid and exponential expansion in battery production.



NUMBERS

| BRAZILIAN RESERVES OF SOME STRATEGIC MINERALS FOR THE ENERGY TRANSITION | | | | |
|---|------------------|----------------|-------------------|-------------------|
| MINERAL | RESERVE 2024 (T) | WORLD (T) | % BRAZILIAN SHARE | BRAZILIAN RANKING |
| Lithium | 1,370,000 | 30,000,000 | 4.4% | 6th |
| Copper | 11,200,000 | 980,000,000 | 1.1% | 12th |
| Nickel | 16,000,000 | 130,000,000 | 12.3% | 3rd |
| Niobium | 16,000,000 | 17,810,000 | 89.9% | 1st |
| Rare Earths | 21,000,000 | 90,000,000 | 23% | 2nd |
| Cobalt | 70 | 11,000,000 | 0.6% | 9th |
| Vanadium | 120 | 18,000,000 | 0.6% | 5th |
| Graphite | 74,000,000 | 290,000,000 | 25.5% | 2nd |
| Uranium | 280 | 6,070,000 | 4.6% | 8th |
| Manganese | 270,000,000 | 1,700,000,000 | 15.9% | 4th |
| Aluminum (Bauxite) | 2,700,000,000 | 29,000,000,000 | 9.3% | 5th |

Source: Agência Nacional de Mineração (ANM), Anuário Estatístico do Setor Metalúrgico 2023, Sigma Lithium Resources and International Cooper Study Group (ICSG)

LEGAL FRAMEWORK FOR OFFSHORE WIND POWER

On January 10, 2025, the Legal Framework for Offshore Wind Farms came into force, aimed at expanding the use of this renewable and clean energy source, which harnesses the power of sea winds to generate electricity from turbines installed on fixed or floating platforms. The Ministry of Mines and Energy (MME) actively participated in drafting the legislation, together with various federal government agencies and the National Congress.

The sanction by President Luiz Inácio Lula da Silva was a crucial step toward organizing auctions for the transfer of use of federal maritime areas, allowing companies to develop the first offshore wind farms in the country. Using giant blades in the ocean, this technology is new to Brazil.

By December 2024, Ibama had received licensing requests for 103 offshore wind projects, totaling 244 GW. These figures highlight the potential of this technology and its importance for Brazilian energy planning. Until then, these projects depended on the new legislation, since the agency could not proceed with analyses without proof of rights to use marine areas.

A study conducted by the World Bank in partnership with the Energy Research Company (EPE), linked to the MME, showed that

offshore wind farms have vast potential. They could generate more than 516,000 jobs by 2050 and add at least R\$900 billion in gross value to the Brazilian economy.

Much of this potential is concentrated in the Northeast, Southeast, and South regions. Offshore wind is also seen as a vital complement to other renewables, such as solar, onshore wind, and biomass, all of which are fundamental for Brazil to meet its decarbonization targets.

This technology does not pollute the atmosphere during operation, as it emits no greenhouse gases, which cause climate change. Another advantage is the higher and more consistent wind speeds found offshore, free from obstacles such as terrain, forests, mountains, and buildings. This makes offshore units more productive than land-based ones. Offshore turbines are also larger than those onshore.

The legislation sets guidelines for exploiting potential in areas under federal jurisdiction, such as territorial waters, the exclusive economic zone, and the continental shelf. It includes incentives for developing domestic industry, creating jobs, and strengthening the country's energy security while integrating economic and environmental considerations.

The framework also establishes requirements for decommissioning and restoration of exploited areas and mandates prior consultation with affected communities, promoting respect for traditional maritime practices and local culture.

Drawing on international experience, the framework is expected to drive the develop-

ment of supply chains, ports, and logistics, as well as the creation of renewable energy hubs. It is estimated that each 1 GW of offshore wind capacity is equivalent to R\$13.75 billion in investment. Revenues from signing bonuses, occupancy fees, and proportional participation in the energy produced will be shared among the federal government,

states, and municipalities, with investments primarily directed to research, technological innovation, and sustainable development.

Brazil currently ranks sixth in the world in wind energy production. With the new law, the country is positioned to take a major step forward in generating clean and renewable energy, meeting rising

demand, lowering costs, and boosting local industry.

This initiative will help position Brazil as a leader in the global energy transition, aligning with major renewable energy trends and reinforcing its commitment to environmental sustainability, economic development, and the reduction of regional inequalities.



The legislation specifies that the term offshore refers to the “marine environment located in inland waters under the jurisdiction of the Union, in the territorial sea, in the exclusive economic zone, and on the continental shelf,” in accordance with the Federal Constitution and the United Nations Convention on the Law of the Sea.

It is also a promising business area for Petrobras, which has long-term offshore wind projects in different areas of Brazil's territorial waters, contributing to decarbonizing the company's own operations.

The diversification of Petrobras' portfolio in this direction will strategically position it as a key player in the inevitable and essential global energy transition. This, in turn, will support Brazil's progress in economic development, with results focused on social inclusion.

In December 2023, the MME formalized Brazil's accession to the **Global Offshore Wind Alliance (GOWA)**. The commitment was made at the Alliance's ministerial meeting during COP 28 in Dubai. The European Union, Panama, and the state of California in the United States also joined on the same occasion.

OBJECTIVES

The principles and fundamentals of electricity generation from offshore potential, according to the new regulatory framework, are as follows:

- ♦ Sustainable development

- ♦ Job and income generation in the country
- ♦ Rational use of natural resources to strengthen energy security
- ♦ Research and development of new renewable energy technologies based on the use of offshore areas, including applications that reduce carbon emissions during production, such as hydrogen extraction using electricity from projects
- ♦ Local and regional development, preferably with investment in infrastructure and national industry, as well as actions to reduce inequality and promote social inclusion, diversity, technological advancement, and better use of energy matrices and their exploitation
- ♦ Protection and preservation of the environment and ocean culture
- ♦ Harmonization with the cultural and natural landscape of the country's tourist areas
- ♦ Free, prior, and informed consultation with affected peoples and communities
- ♦ Harmonization of knowledge, traditions, lifestyles, customary practices, and maritime activities, respecting uses of the sea and seabed
- ♦ Transparency.

NUMBERS

POTENTIAL BY 2050

- Over 516,000 jobs by 2050
- Gross added value of at least BRL 900 billion for the Brazilian economy
- 1,200 gigawatts (GW) of potential

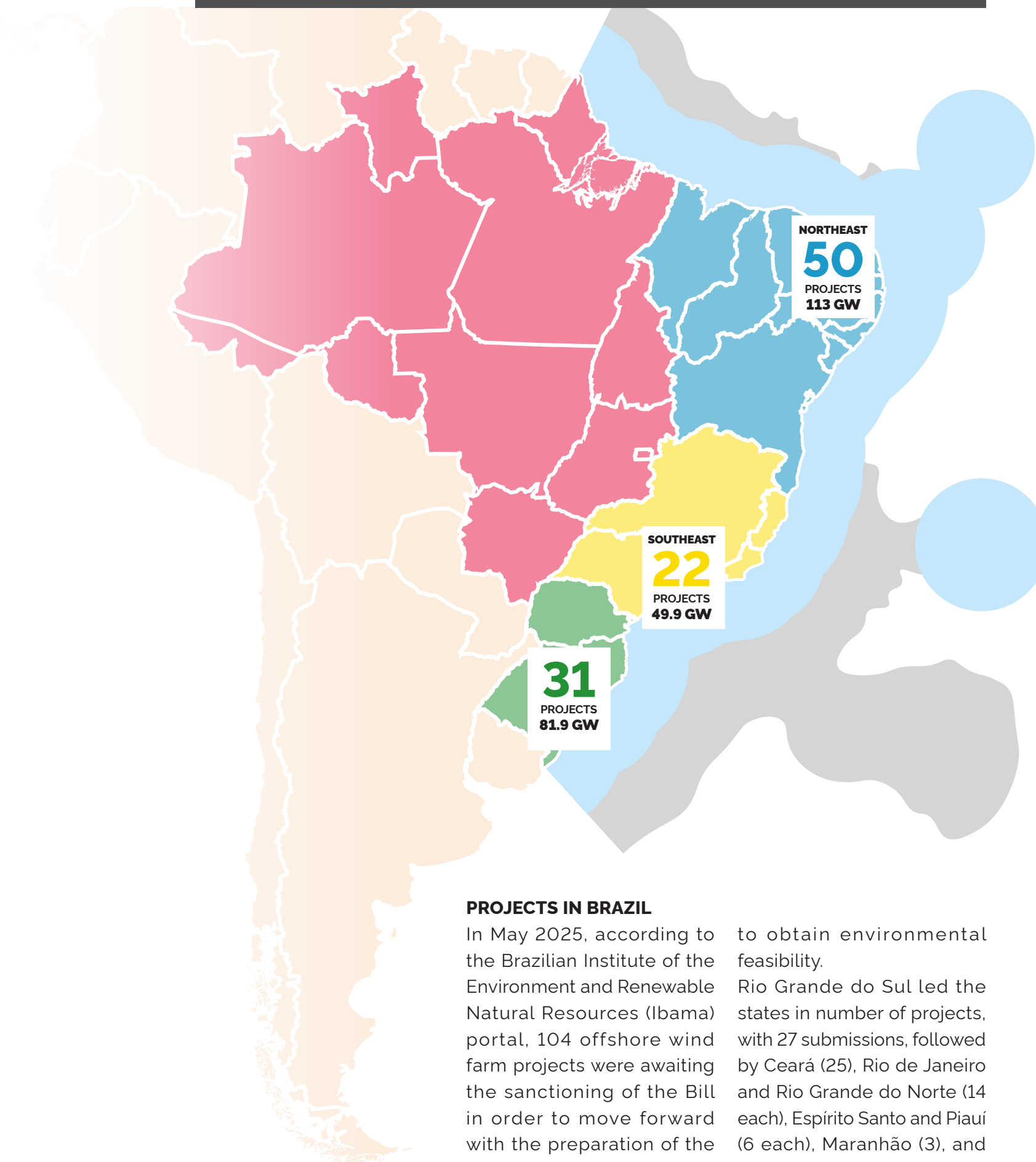
DATES

- **July 2024** - Launch of the Offshore Wind Working Group and release of the report "Scenarios for the Development of Offshore Wind in Brazil" by MME and the World Bank
- **01/10/2025** - Approval of the Legal Framework for Offshore Wind Power
- **02/21/2025** - Second Offshore Wind Working Group meeting to align the 2025–2026 Work Plan and define main deliverables
- **March and April 2025** - Technical workshops on international experiences in planning and identifying areas, synergies, convergence of transmission planning, integration of onshore and offshore projects, coexistence of offshore wind energy and fishing, stakeholder engagement, and navigation safety
- **August/2025** - MME and the Energy Research Company (EPE) open a Public Consultation that proposes criteria for choosing offshore wind generation areas
- **October/2025** - Resolution of the National Energy Policy Council (CNPE) formally establishes the Offshore Wind Working Group (WG), with 23 federal institutions and state representatives

NEXT STEPS

- Publication of the decree regulating the law
- Publication of the methodology for selecting offshore areas for bidding
- Launch of the single portal for offshore area management – PUG-offshore

OFFSHORE WIND PROJECTS IN BRAZIL – 2024



Source: Ibama

PROJECTS IN BRAZIL

In May 2025, according to the Brazilian Institute of the Environment and Renewable Natural Resources (Ibama) portal, 104 offshore wind farm projects were awaiting the sanctioning of the Bill in order to move forward with the preparation of the environmental studies required

to obtain environmental feasibility. Rio Grande do Sul led the states in number of projects, with 27 submissions, followed by Ceará (25), Rio de Janeiro and Rio Grande do Norte (14 each), Espírito Santo and Piauí (6 each), Maranhão (3), and Santa Catarina (1).

ENERGY TRANSITION ACCELERATION PROGRAM (PATEN)

On January 22, 2025, the Energy Transition Acceleration Program (Paten) was created to expand access to credit for companies holding receivables from the federal government, such as court-ordered debt payments and tax credits, to finance green economy projects.

It is one of the largest programs to promote financing for sustainable development projects in Brazil, with a particular focus on the energy transition. With an estimated mobilization of up to R\$600 billion in investments, the program seeks, through guarantees and reduced financing interest rates, to boost sustainable projects, expand the generation and efficient use of low-carbon energy, decarbonize transportation, and replace fossil fuels—accelerating and democratizing the energy transition in the country.

The Green Fund, established by law and administered by the National Bank for Economic and Social Development (BNDES), underpins the program.

As a guarantee fund, it secures resources for low-carbon initiatives without requiring collateral, meaning investors are not obliged to sell assets to obtain financing. In this way, the fund reduces risks and costs for entrepreneurs and financial agents in sustainable development projects.

The program covers areas such as the development of sustainable fuels, energy recovery from waste, modernization of energy generation and transmission infrastructure, and the replacement of polluting sources with renewable alternatives.

In addition, it encourages research and development in carbon capture and storage technologies, green hydrogen, biogas, and other sustainable solutions.

The law also provides for tax settlements conditional on investment in decarbonization. This is a negotiation process between the debtor and the Federal Government, its agencies, and foundations, whereby the debtor acknowledges the debt and agrees on payment terms. Debtors with approved projects can use this instrument to participate in the program.

Established by Law No. 15,103/2025, Paten promotes the modernization of energy infrastructure, fosters innovation, and reduces bureaucracy in accessing financing for low-carbon projects. A milestone for clean technologies and renewable energy expansion, it is a strategic initiative that strengthens Brazil's global leadership in decarbonization.

On February 18, 2025, the Na-

NUMBERS

- **R\$ 800 billion** – Estimated amount receivable from the Federal Government (such as court-ordered debt payments and tax credits) to finance green economy projects through Paten.

DATES

- **01/22/2025** – Law No. 15,103/2025, establishing the Energy Transition Acceleration Program (Paten), was sanctioned.
- **February/2025** – Resolution of the National Energy Policy Council (CNPE) establishes the Technical Committee of the Energy Transition Acceleration Program (CT Paten)
- **May/2025** – MME Ordinance designates representatives and holders for CT Paten

tional Energy Policy Council (CNPE) created the Technical Committee for the Energy Transition Acceleration Program (CT-Paten). The committee is responsible for regulating, implementing, supervising, and enforcing Law No. 15,103/2025, particularly regarding criteria, procedures, and conditions for project approval.

OBJECTIVES

- To promote the financing of sustainable development projects, especially those related to infrastructure and technological research, and innovation
- Bring financing institutions closer to companies interested in projects in this segment

- Enable the use of credits held by companies with the Federal Government as a financing instrument
- Promote the generation and efficient use of low-carbon energy

SCOPE

- Under the new legislation, sustainable development projects are those aimed at:
 - Execution of infrastructure works, modernization, expansion, or implementation of sustainable energy production facilities
 - Technological research and the development of innovation that provide socio-environmental benefits or mitigate environmental impacts

PRIORITY SECTORS

- Development of technologies and production of fuels that reduce greenhouse gas emissions, such as:
 - Ethanol
 - Sustainable aviation fuel (SAF)
 - Biodiesel, green diesel, and low-carbon synthetic fuels
 - Biogas and biomethane
 - Low-carbon hydrogen or green hydrogen and its derivatives

- Carbon capture and storage
- Recovery and energy recovery of solid waste
- Nuclear fission and fusion
- Natural gas as a substitute for higher-emission sources

- Production of ammonia, green ammonia, and derivatives
- Expansion and modernization of solar, wind, nuclear, biomass, natural gas, biogas, and biomethane generation and transmission, hydroelectric power plants, and other renewable energy sources
- Replacement of higher-emission energy matrices with clean energy sources
- Recovery and energy recovery of waste
- Development and integration of energy storage systems
- Production, transportation, and distribution of natural gas
- Domestic production of nitrogen fertilizers
- Decarbonization of the transportation matrix
- Implementation of fuel supply infrastructure
- Manufacture, sale, purchase, and use of heavy vehicles, agricultural machinery, and other equipment powered by natural gas and biomethane, as well as the conversion

or replacement of diesel engines currently in use with natural gas and biomethane

INSTRUMENTS

- Sustainable Development Guarantee Fund (Green Fund)
- Tax transaction conditional on investment in sustainable development.

GREEN FUND

- A private guarantee fund with its own assets, managed by BNDES
- Its purpose is to guarantee, in whole or in part, financing risks assumed by financial institutions for the development of projects under Paten
- Composed of credits held by companies with the Federal Government:
 - Judicial payment orders and credit rights arising from final court decisions against the Federal Government
 - Tax credits related to the Tax on Industrialized Products (IPI), as well as contributions to PIS/Pasep and Cofins, among others

TAX SETTLEMENT

- Companies with an approved sustainable development project may submit a proposal for an individual settlement of debts owed to the Federal Government, its agencies, and public foundations.



**SOCIAL
INCLUSION**

PEOPLE'S GAS PROGRAM: FREE CYLINDERS AND HEALTH PROTECTION

The People's Gas Program ("Gás do Povo") will guarantee the withdrawal refills of cooking gas (LPG) cylinders for free to more than 17 million low-income families, benefiting about 50 million people throughout Brazil. Without bureaucracy, beneficiaries will be able to pick up the cylinders directly at the accredited resellers closest to their home. Authorization for withdrawal can be made in the following ways:

- ♦ The People's Gas Program App (digital voucher)
- ♦ The People's Gas Program-specific card
- ♦ Bolsa Família (Low-Income Family Program) card
- ♦ Caixa Econômica Federal's own channels, defined in a contract signed with the Federal Government.

Families enrolled in the Unified Registry of the Government of Brazil, with a per capita income of up to half a minimum wage (R\$ 759), with priority for those who receive Bolsa Família (per capita income of up to R\$ 218) are entitled to the benefit. There will be about 65 million cylinders distributed free of charge per year.

The People's Gas provides immediate relief in the monthly expenses of the poorest fami-

lies. The price of a cylinder can exceed R\$ 150 in some locations in the country, equivalent to 10% of a national minimum wage. This money saved can be used to improve food or help with the health and education of families.

The program was created by the Ministry of Mines and Energy (MME) and has a partnership with the Ministry of Development and Social Assistance, Family and Fight against Hunger (MDS).

The launch took place on 09/04/2025, at Aglomerado da Serra, in Belo Horizonte, with the participation of President Luiz Inácio Lula da Silva.

The initiative replaces the Gas Aid for Brazilians (Law No. 14,237/2021), ensuring more dignity to families who need it most, ensuring free access to an essential item. The rollout is gradual – starting in November 2025, the new format will reach the entire target audience in March 2026.

Expands the reach of the Gas Aid for Brazilians, which served 5.1 million families. The new program more than triples that number. In the previous model, the benefit was made in cash. Now, there is no cash payment at the withdrawal.



The number of withdrawals of cooking gas cylinder refills varies according to the size of the family:

- ♦ Two or three members: up to four per year
- ♦ Four or more members: up to six per year

Resellers of LPG who want to participate in the program voluntarily register with CEF. There are about 58 thousand potential resale locations across the country.

The People's Gas Program is fully financed with public budgetary resources. For 2025, these resources are already provided for in the Annual Budget Law (LOA), with the amount of R\$ 3.57 billion. In 2026, R\$ 5.1 billion are planned.

The reseller who wants to participate must deliver the refill of the cylinder to the representative of the beneficiary family and will be reimbursed by the CEF for the value of the LPG reference price of the state

of domicile of that family. The refill of the cylinder is free for all beneficiaries, who will only have to bear the cost of delivery if they wish to receive the cylinder at home.

The People's Gas Program reinforces Brazil's role in global leadership for the just energy transition, in line with the terms of the Brazilian presidency of the G20 and BRICS, as well as Sustainable Development Goal No. 7 (SDG 7) of the United Nations (UN):

NUMBERS

- 17 million families benefited from the free gas cylinder
- 50 million people benefited
- 65 million cylinders distributed per year
- R\$ 3.57 billion in investments by the Government of Brazil in 2025
- R\$ 5.1 billion in investments by the Government of Brazil in 2026
- 58 thousand distribution points in the country
- March 2026 – Forecast to reach 100% of the target audience

DATES

- 08/26/2024 – Submission of Bill No. 3,335 by the Government of Brazil to the National Congress
- 09/04/2025 – Launch of the People's Gas aid in Aglomerado da Serra, in Belo Horizonte, and publication of Provisional Measure No. 1,313
- 10/02/2025 – Publication of the aid regulation, through Decree No. 12,649.

- ♦ Promotes universal access to clean food cooking technologies
- ♦ Fighting energy poverty
- ♦ It supports the just energy transition.

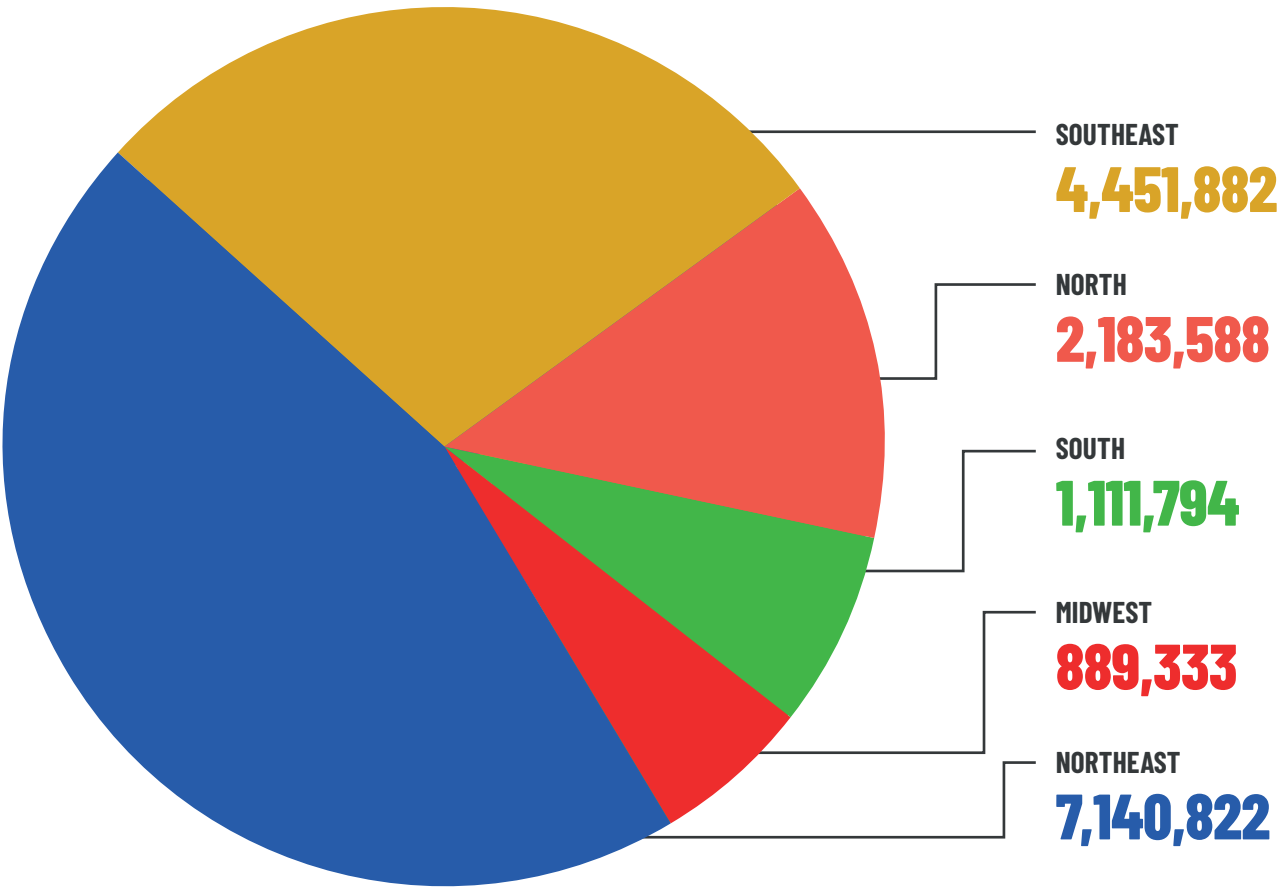
The delivery of the cooking gas refill in the cylinder free of charge also contributes to reducing health risks for women and children, in homes where wood stoves and alcohol are still used in food preparation. (Read more on pages 42 to 45: "Combating Energy Poverty")

| SAVINGS IN HOUSEHOLD SPENDING ON PEOPLE’S GAS | | |
|---|-------------------------|------------------------|
| Cylinder market price in each Federation Unit | | |
| FEDERATION UNIT | MINIMUM AMOUNT IN REAIS | MAXIMUM VALUE IN REAIS |
| Roraima | 127 | 160 |
| Tocantins | 120 | 140 |
| Amazonas | 118 | 149 |
| Acre | 107 | 135 |
| Amapá | 110 | 130 |
| Santa Catarina | 99 | 148 |
| Rondônia | 107 | 135 |
| Mato Grosso | 95 | 144 |
| Bahia | 100 | 142 |
| Maranhão | 100 | 120 |
| Pará | 99 | 141 |
| Mato Grosso do Sul | 95 | 130 |
| Rio Grande do Sul | 95 | 136 |
| São Paulo | 86 | 130 |
| Goiás | 90 | 130 |
| Ceará | 95 | 125 |
| Rio Grande do Norte | 88 | 128 |
| Minas Gerais | 90 | 129 |
| Paraná | 80 | 125 |
| Paraíba | 85 | 120 |
| Piauí | 75 | 120 |
| Sergipe | 98 | 110 |
| Distrito Federal | 90 | 120 |
| Espírito Santo | 80 | 120 |
| Alagoas | 78 | 115 |
| Rio de Janeiro | 78 | 115 |
| Pernambuco | 80 | 125 |
| AVERAGE VALUE: 107 REAIS | | |

Source: ANP – Reference: January 2025

| PEOPLE’S GAS | | | |
|---------------------------------------|--------------------|---------------------|--------------------|
| Families benefited by Federation Unit | | | |
| FEDERATION UNIT | BENEFITED FAMILIES | FEDERATION UNIT | BENEFITED FAMILIES |
| Acre | 114,483 | Paraíba | 498,057 |
| Alagoas | 413,369 | Paraná | 468,974 |
| Amapá | 101,614 | Pernambuco | 1,144,176 |
| Amazonas | 546,350 | Piauí | 452,692 |
| Bahia | 1,844,658 | Rio de Janeiro | 1,127,175 |
| Ceará | 1,113,586 | Rio Grande do Norte | 380,814 |
| Distrito Federal | 134,433 | Rio Grande do Sul | 463,274 |
| Espírito Santo | 239,672 | Rondônia | 112,700 |
| Goiás | 397,430 | Roraima | 67,309 |
| Maranhão | 1,018,706 | Santa Catarina | 179,546 |
| Mato Grosso | 197,761 | São Paulo | 1,879,510 |
| Mato Grosso do Sul | 159,709 | Sergipe | 274,764 |
| Minas Gerais | 1,205,530 | Tocantins | 128,116 |
| Pará | 1,113,016 | | |

FAMILIES BENEFITED BY BRAZILIAN REGIONS



PEOPLE'S LIGHT PROGRAM: ZERO ELECTRICITY BILL

A social program with the largest number of beneficiaries created in the current administration of the federal government, People's Light Program zeroes the electricity bill for 60 million low-income Brazilians whose monthly family consumption goes up to 80 kWh, a change in force since 07/05/2025. It is one of the most relevant initiatives in the fight against energy poverty.

These 80 kWh per month aim to guarantee a minimum of dignity for people: electricity to keep the house brighter, the refrigerator to preserve food and the television to watch the favorite program, in addition to the hot shower, the socket to charge the cell phone and the iron.

Families with a monthly per capita income of up to half a minimum wage, enrolled in CadÚnico, the Single Registry for Social Programs of the Federal Government, are entitled to the benefit.

If consumption is higher, families pay only what exceeds 80 kWh. For example, if the consumption is 100 kWh, the payment will be only 20 kWh.

With the implementation of gratuity, there is a great advance in the old Social Tariff for Electric Energy (TSEE), which only established discounts depending on the consumption range.

Now, families who need it most can have relief in their monthly household expenses and spend more on food, for example.

Another new benefit is the Social Discount for Electricity for CadÚnico families with a monthly income between half and one minimum wage per capita, with monthly consumption of up to 120 kWh. These families have an 11.8% reduction in energy bills. In this category, 55 million people will be covered with the discount.

In the sum of gratuity and discount, therefore, People's Light Program benefits 115 million people and contributes to tariff justice in electricity in Brazil.

The program originates from Provisional Measure (MP) No. 1,300/2025, signed by President Luiz Inácio Lula da Silva and Minister Alexandre Silveira, of Mines and Energy, on 05/20/2025. It was approved by the National Congress and sanctioned by the president on 10/08/2025, as Law No. 15,235.

WHO IS ENTITLED TO THE BENEFIT

To be entitled to the benefit of the Social Tariff for Electricity, one of the following requirements must be met:

- ♦ Families enrolled in CadÚnico, with monthly per capita family income less than or equal to half a minimum wage;

- ♦ Seniors aged 65 or over or people with disabilities (PwD), who receive the Continuous Social Assistance Benefit (BPC);
- ♦ Indigenous and quilombola families enrolled in CadÚnico with a per capita family income of up to half a minimum wage;
- ♦ CadÚnico families served in isolated systems by generation module;
- ♦ From 2026, families with an income between half and one minimum wage per capita will also be exempt from the CDE for consumption of up to 120 kWh/month

The Social Tariff for Electricity is automatically granted to families who are entitled. To receive it, it is enough that the person responsible for the electricity supply contract (the one with the name on the invoice) is among the beneficiaries as described above. It is not necessary to request it from the distributor. However, it is necessary to have an active CadÚnico registration.

REFORM OF THE ELECTRICITY SECTOR

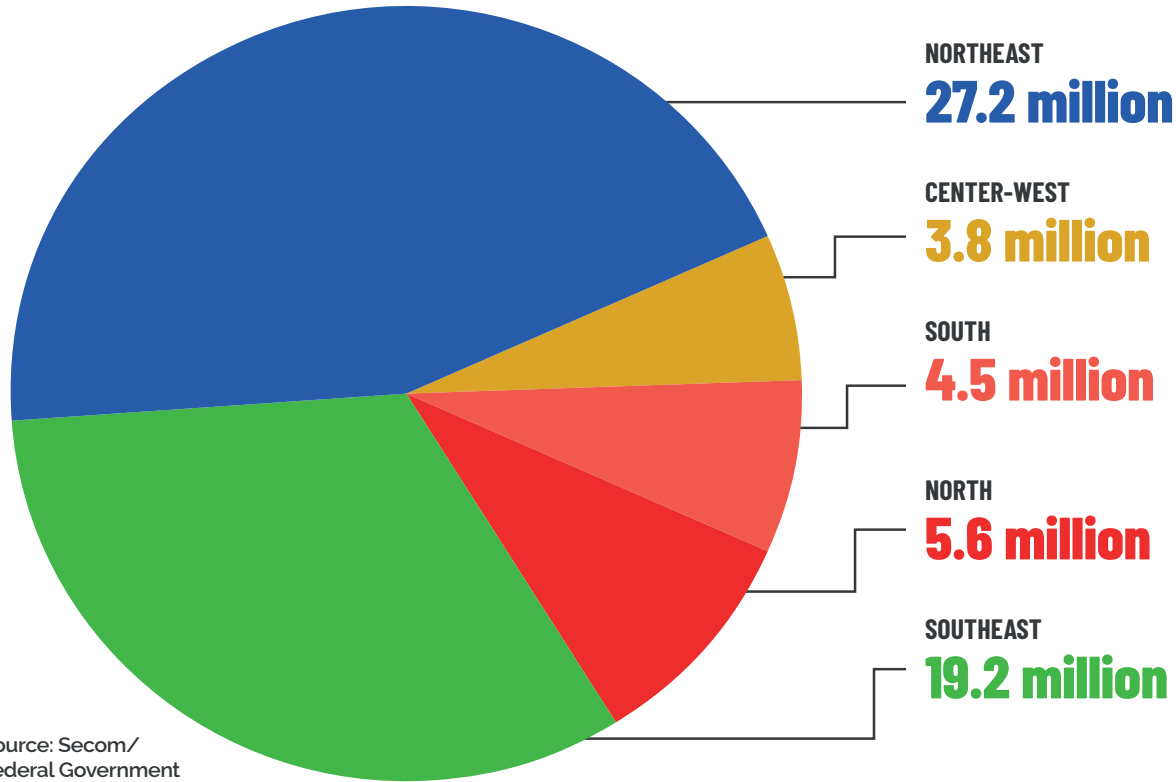
Originally, the MP covered three axes for the Reform of the Electric Sector in Brazil: Tariff Justice (People's Light Program), Freedom for the Consumer and Balance for the Sector.

The initiative sought to expand families' access to quality electricity at a fair price, reducing

NORTHEAST WITH THE MOST PEOPLE BENEFITING FROM FREE ELECTRICITY THROUGH PEOPLE'S LIGHT (IN MILLIONS)

| SOCIAL ELECTRICITY TARIFF (TSEE) | | |
|----------------------------------|---------------------------|-----------------------------|
| REGION | CONSUMER UNITS (MILLIONS) | PEOPLE BENEFITED (MILLIONS) |
| Northeast | 7.8 | 27.2 |
| Southeast | 5.5 | 19.2 |
| North | 1.6 | 5.6 |
| South | 1.3 | 4.5 |
| Center-West | 1.1 | 3.8 |
| TOTAL | 17.3 | 60.4 |

Source: ANEEL, August 2025



Source: Secom/
Federal Government

social inequalities, providing a balance in the electricity sector, ensuring greater freedom for consumers to choose energy suppliers, promoting more competition and protecting the most vulnerable population.

The last two axes became part of MP 1,304, which was also approved in the National Congress and awaits presidential sanction.

FREEDOM FOR THE CONSUMER

The Freedom for the Consumer axis provides the possibility of choosing the supplier company from whom to buy electricity, as is done with the cell phone operator or internet provider.

This measure will benefit middle-class families and owners of micro and small companies in

commerce, services or industry, with the free energy market. It applies to both urban and rural units. The change will contribute to reducing the electricity bill and improving the quality of services provided by the concessionaires, which today act practically as monopolies, without local competition between them.

In the free energy market,



consumers are the ones who choose which generating company they want to buy the service from. Within the industry, this is known as the Free Contracting Environment (ACL). Today, companies, industries and other establishments that consume a large volume of electricity are within the ACL. Now, there will be democratization of access.

The change in the Freedom for the Consumer axis begins to be implemented gradually from 2026. The user will be able to compare energy offers, prices, contractual conditions and choose the company that best suits him, through websites, applications or other forms of market research. It will be possible for the consumer to change the supplier and look

for the one that offers better services. This will encourage the supplier to offer advantages to keep and win customers.

The consumer will know what he is paying to the distributors and to the energy supplier he chooses, making the model more transparent and fair. Local concessionaires, regulated by the National Electric Energy Agency (Aneel), will continue to be responsible for the distribution infrastructure that makes electricity reach your home.

SECTOR BALANCE

In the third axis of the reform, Sector Balance, the measures aim to make a fairer, more egalitarian and proportional distribution of electricity costs, without losing sight of the reality of Brazilian consumers.

NUMBERS

- Across Brazil, 17.4 million consumer units are entitled to free electricity benefiting more than 60 million people.
- Regarding the discount, 21 million families qualify, covering an estimated 55 million people.
- In total, around 115 million people benefit nationwide.
- The Northeast region has the highest number of consumer units benefiting from the new Social Tariff, with 7.8 million families, equivalent to 27.1 million people.

DATES

- **05/20/2025** – Provisional Measure No. 1,300/2025, signed by President Luiz Inácio Lula da Silva and Minister Alexandre Silveira, of Mines and Energy
- **07/05/2025** – Start of validity of free electricity bills, according to ANEEL

BENEFICIARIES OF FREE ELECTRICITY THROUGH PEOPLE’S LIGHT PROGRAM BY FEDERATION UNIT

| SOCIAL ELECTRICITY TARIFF (TSEE) | | |
|----------------------------------|----------------|------------------|
| FEDERATION UNITS | CONSUMER UNITS | PEOPLE BENEFITED |
| Acre | 70,107 | 244,673 |
| Alagoas | 530,942 | 1,852,988 |
| Amapá | 102,846 | 358,933 |
| Amazonas | 247,878 | 865,094 |
| Bahia | 1,950,000 | 6,805,500 |
| Ceará | 1,438,186 | 5,019,269 |
| Distrito Federal | 122,609 | 427,905 |
| Espírito Santo | 298,882 | 1,043,098 |
| Goiás | 529,753 | 1,848,838 |
| Maranhão | 1,054,335 | 3,679,629 |
| Mato Grosso | 152,643 | 532,724 |
| Mato Grosso do Sul | 145,482 | 507,732 |
| Minas Gerais | 1,393,195 | 4,862,251 |
| Paraná | 608,574 | 2,123,923 |
| Paraíba | 435,876 | 1,521,207 |
| Pará | 1,012,873 | 3,534,927 |
| Pernambuco | 1,223,245 | 4,269,125 |
| Piauí | 561,754 | 1,960,522 |
| Rio Grande do Norte | 408,768 | 1,426,600 |
| Rio Grande do Sul | 560.423 | 1,955,876 |
| Rio de Janeiro | 1,556,961 | 5,433,794 |
| Rondônia | 95,625 | 333,731 |
| Roraima | 47,240 | 164,868 |
| Santa Catarina | 140,772 | 491,294 |
| Sergipe | 236,704 | 826,097 |
| São Paulo | 2.289,909 | 7,991,782 |
| Tocantins | 114,527 | 399,699 |
| Total | 17,330,109 | 60,482,080 |

Source: ANEEL, August 2025

LIGHT FOR ALL PROGRAM

The Light for All Program ("Luz para Todos") provides access to electricity to low-income populations living in rural areas and remote regions of the Legal Amazon that still lack this service.

From January 2023 to September 2025, more than 162,9 thousand families benefited, totaling 651,9 thousand people. Considering this period, the state of Pará leads in number of connections, with 351,7 thousand people served, followed by Piauí (67,1 thousand), Amazonas (51,2 thousand), Bahia (48,8 thousand), Acre (39,1 thousand), Maranhão (26,6 thousand), and Rondônia (24,8 thousand).

Examples of remote cities reached include: Atalaia do Norte (Amazonas), Melgaço (Pará), Guajará-Mirim (Rondônia), Jordão, and Marechal Thaumaturgo (Acre).

It is one of the most far-reaching public policies for social inclusion due to the cross-cutting nature of its applications, with a direct impact on improving the quality of life of the most vulnerable communities in areas such as:

- Use of appliances like refrigerators for food preservation, computers with internet access and applications, and TVs for entertainment
- Greater comfort in homes with electric showers and fans

- Night operations in schools and better lighting for study environments for children and youth
- Use of medical equipment, vaccine and medicine refrigeration, and night lighting for emergency care
- Job and income generation through new commercial and service establishments, as well as small industries
- Inclusion of indigenous peoples, quilombola, and traditional communities
- Improved public safety with street and square lighting
- Integration into the National Interconnected System, reducing regional inequalities
- Environmental respect and preservation of the Amazon biome
- Decarbonization of the Legal Amazon through clean and renewable energy sources

Recognizing access to electricity as a basic right was the starting point for the Light for All Program, created by President Luiz Inácio Lula da Silva in 2003 during his first term and relaunched in Au-



gust 2023 in his third term. With this new phase, the program is moving at a faster pace toward universalization.

By the end of 2024, celebrating its 21st anniversary on November 11, the program had reached 3.7 million households, benefiting 17.6 million people. According to the Brazilian Institute of Geography and Statistics (IBGE), electricity reached 99.8% of the Brazilian population thanks to this initiative.

Throughout its history, Light for All has become one of the largest programs in the world

to fight energy poverty.

Brazil demonstrates that an essential energy transition to combat climate change must include the most vulnerable as a central pillar of its strategies—only then will it be truly fair and inclusive. Priority assistance is directed to low-income families registered in CadÚnico, as well as indigenous and quilombola communities, schools, health units, rural settlements, and communities directly impacted by electricity generation or transmission projects.

NUMBERS

JANUARY 2023 TO SEPTEMBER 2025

- 162.9 thousand families served
- 651.9 thousand people served

STATES WITH THE MOST PEOPLE SERVED

- 1st – Pará: 351,7 thousand
- 2nd – Piauí: 67,7 thousand
- 3rd – Amazonas: 51,2 thousand
- 4th – Bahia: 48,8 thousand
- 5th – Acre: 39,1 thousand
- 6th – Maranhão: 26,6 thousand
- 7th – Rondônia: 24,8 thousand

DATES

- 08/04/2023 – Decree No. 11,628

COMBATING ENERGY POVERTY

By the People's Gas Program ("Gás do Povo") which was launched in September 2025, the Ministry of Mines and Energy has taken a pioneering step in the world to combat energy poverty on a large scale by free delivery of cylinders to low-income families throughout the country.

In addition to representing savings in the domestic budget, one of the main objectives of the initiative is to reduce the use of firewood, alcohol and kerosene to cook food, still used especially in rural areas and the most vulnerable urban communities, with serious risks to the health of women and children.

Since August 26, 2024, Brazil has had an official definition of energy poverty: "a situation in which households or communities do not have access to a basic basket of energy services or do not have their energy needs fully met."

This understanding is part of a resolution approved at a meeting of the National Energy Policy Council (CNPE), which created the National Energy Transition Policy (PNTE). The body is chaired by Minister Alexandre Silveira, of Mines and Energy. Held in Brasília, the meeting was attended by President Luiz Inácio Lula da Silva.

In its strategy to combat energy

poverty, the Ministry of Mines and Energy (MME) emphasizes the importance of promoting clean cooking, which aims to provide low-income families with access to food preparation using gas or electric stoves, replacing the use of firewood, which is still common in rural areas, especially in the North and Northeast regions.

The aim is to solve a serious public health problem for women and children who frequently breathe in domestic smoke generated by burning firewood. Over the years, this contributes to the development of lung diseases, including cancer, as well as heart problems and strokes. In addition, it provides access to one of the most common household appliances in Brazilian homes, improving the quality of life for families.

Data from the Brazilian Institute of Geography and Statistics (IBGE) for 2022 reveal that 2.3 million low-income households cooked mainly with biomass.

The World Health Organization (WHO) estimated that, in 2020, this domestic air pollution caused around 3.2 million deaths per year worldwide, including more than 237,000 children under the age of five. To protect socially vulnerable families, it is necessary to provide non-polluting fuels and

technologies such as cooking gas (LPG), biogas, natural gas, electricity, and ethanol.

The universalization of clean cooking was among the topics discussed in Foz do Iguaçu in October 2024 during a meeting of ministers from the G20 Energy Transitions Working Group, an international forum that brings together the world's 20 largest economies.

Implementing solutions to combat this type of pollution is directly related to the United Nations Sustainable Development Goals (SDGs), which stipulate the need for clean energy for all. As a framework, the aim is to expand

"access to clean fuels and technologies to meet the demand for energy services for cooking, heating, and lighting."

Promoting clean cooking also contributes to reducing social and regional inequalities in Brazil. Studies by the Energy Research Company (EPE) show that the lower the income, the greater the consumption of firewood by Brazilian families. While 99.8% of the population in the Federal District has access to clean cooking technologies, only 75.3% of the population in Maranhão does.

There is also the Solidarity Kitchen Program, run by the

Ministry of Development and Social Assistance, Family, and Hunger Alleviation (MDS), which supports the installation of biodigester projects.

Focusing on initiatives such as promoting clean cooking is part of Brazil's approach to tackling climate change. There can be no energy transition without combating energy poverty, a term that refers to the lack of access to modern services in the sector by individuals or groups. This means bringing dignity to the homes most in need of the benefits of economic development and the services provided by the public sector.

IN LINE WITH THE UNITED NATIONS SDGS

Promoting broader access to clean cooking is directly linked to Brazil's progress in achieving the United Nations Sustainable Development Goal 7: Affordable and Clean Energy.

Target 7.1 of SDG 7 establishes: "By 2030, ensure universal access to affordable, reliable, and modern energy services." Within this goal, Indicator 7.1.2 specifically measures the percentage of the population with primary access to clean fuels and technologies for cooking, heating, and lighting.

Efforts to expand clean cooking



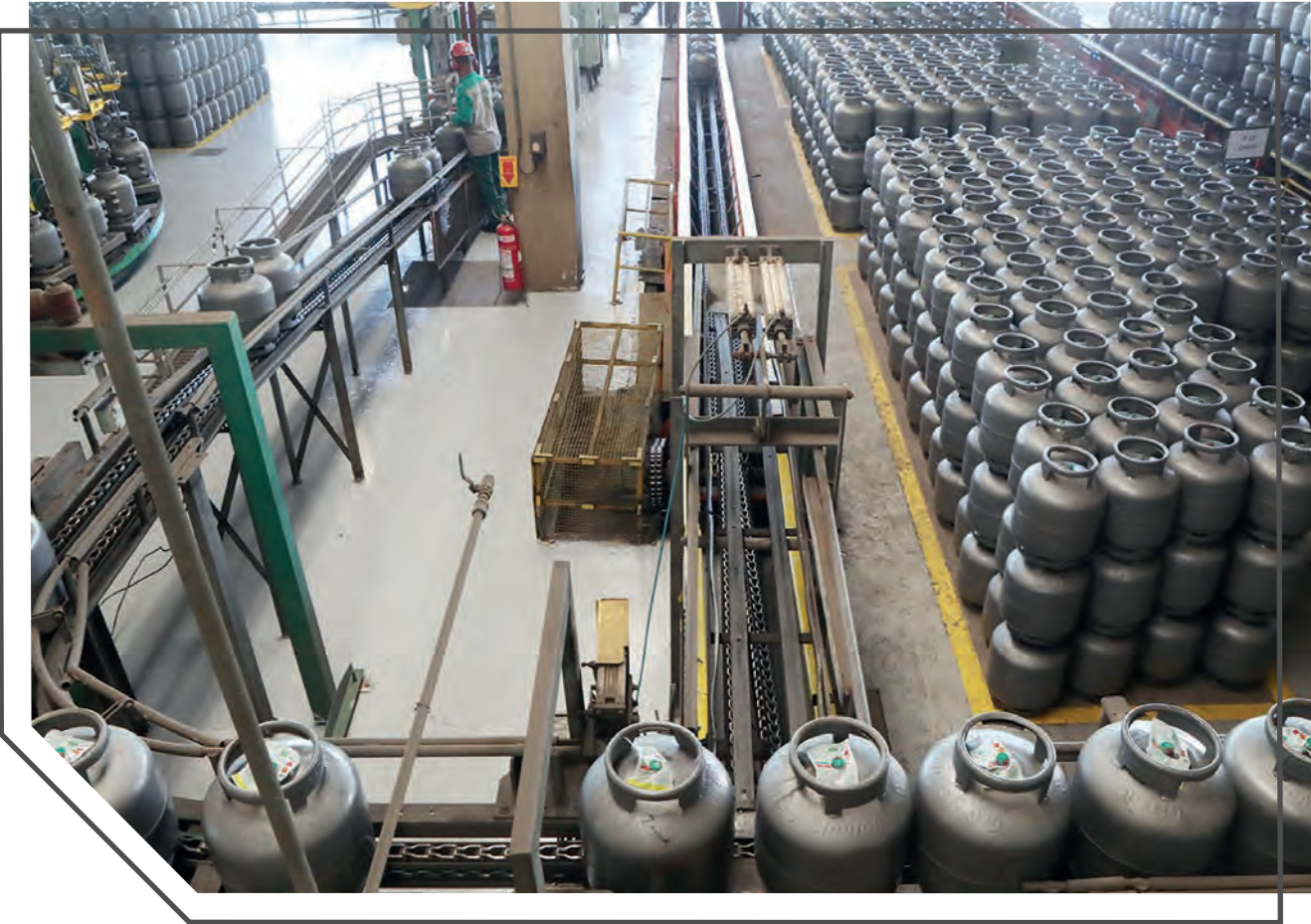
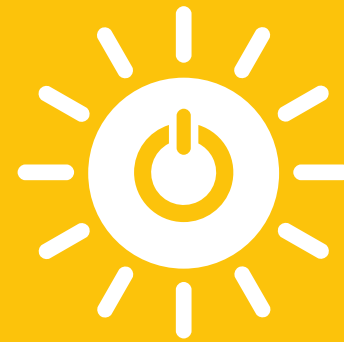
also reinforce progress toward other SDGs, including No Poverty (SDG 1), Zero Hunger and Sustainable Agriculture (SDG 2), Good Health and Well-being (SDG 3), Gender Equality (SDG 5), Reduced Inequalities (SDG 10), and Climate Action (SDG 13). Lack of access to clean cooking remains a key metric in assessing the degree of energy poverty affecting individuals and households.

THE WHO AND INDOOR POLLUTION

The World Health Organization (WHO) classifies the following as clean cooking technologies: solar energy, electricity, biogas, liquefied petroleum gas (LPG), natural gas, ethanol, and certain

CLEAN COOKING AND THE UNITED NATIONS SDGS

7 AFFORDABLE AND CLEAN ENERGY



biomass stoves that meet WHO emission standards.

Indoor air pollution arises from the use of inefficient fuels and technologies inside or near the home, releasing harmful pollutants, including fine particles that penetrate deep into the lungs and enter the bloodstream.

In poorly ventilated homes, smoke exposure can reach particulate matter concentrations up to 100 times higher than safe levels, according to WHO. Women and children, who spend more time around wood-burning stoves, are the most exposed.

This is not just a Brazilian public health concern—it affects countries across the Global South and disproportionately impacts socially vulnerable populations.

BRAZILIAN OBSERVATORY

On May 15, 2025, Brazil launched the Brazilian Observatory for the Eradication of Energy Poverty (Obepe) under the Tecendo Conexões Project, a partnership between the MME, the Energy Research Company (EPE), and the Inter-American Development Bank (IDB). Its mission is to develop and monitor a robust set of indicators to guide public policies aimed at reducing inequality and energy poverty.

Drawing on an international literature review conducted by EPE and the availability of national public data, these indicators provide a comprehensive assessment of Brazil's energy and socioeconomic landscape. They incorporate variables such as income, education, family composition, housing condi-

tions, climate data, and human development indicators.

By consolidating public datasets into an interactive platform, Obepe enables integrated and comparative analyses across regions, states, and social groups. It represents a step forward in advancing Brazil's debate on energy poverty and building a fair and inclusive energy transition.

NUMBERS

- 2.3 million low-income households in Brazil rely primarily on biomass for cooking.
- 3.2 million people worldwide die prematurely each year from diseases linked to household air pollution caused by the incomplete combustion of solid fuels and kerosene for cooking (WHO, 2020).

AMAZON ENERGY

The Amazon Energy Program ("Energias da Amazônia") is modernizing electricity supply for low-income communities in the Isolated Systems of the Legal Amazon—areas that, for technical or economic reasons, are not connected to the National Interconnected System (SIN).

Most residents still rely on small local diesel-fueled power plants, facing instability and inefficiency from this highly polluting and costly option. The Legal Amazon includes nine states: Acre, Amapá, Amazonas, Mato Grosso, Maranhão, Pará, Rondônia, Roraima, and Tocantins.

The program benefits about three million people in 211 locations. An estimated R\$ 5 billion in investments will be required to make this transition feasible, with the potential to cut oil dependency by 70% by 2030. In 2022, diesel accounted for 80% of generation in the region, with high energy losses.

The initiative enhances energy security and resilience, improves the quality of public services, and supports socio-economic development, while cutting carbon dioxide (CO₂) emissions—the main driver of global warming.

By advancing the energy transition in the world's largest tropical forest, the program provides communities with clean and

renewable alternatives, either through interconnections when viable or through local generation and storage solutions.

Replacing or reducing diesel use will lower greenhouse gas (GHG) emissions. By 2030, nearly 1.5 million tons of CO₂ emissions can be avoided.

The program was established under Decree No. 11,648 of August 16, 2023, signed by President Luiz Inácio Lula da Silva and Minister Alexandre Silveira of Mines and Energy.

Its official launch took place on August 4, 2023, with the integration of three municipalities in

Amazonas and Pará — Parintins, Itacoatiara, and Juruti — into the National Interconnected System, benefiting more than 300,000 people.

Among the program's initiatives is the auctioning of isolated systems for contracting electricity supply to approximately 170,000 people across ten Legal Amazon locations.

INTERCONNECTIONS ON MARAJÓ ISLAND FOR COP30

Interconnection projects in Pará, on Marajó Island, are underway and scheduled for completion before COP30:

- ♦ **COP30 Package, Marajó Island** – Interconnection of locations on Marajó Island and surrounding areas near Belém to be completed before COP30.
- ♦ **Interconnections in progress, scheduled for 2025** – Aveiro, Oeiras do Pará, Cotijuba, Afuá, and Chaves. Required investments: R\$ 334.2 million.
- ♦ **Population to benefit** – 126,000 inhabitants, with the decommissioning of 14.4 MW of thermoelectric plants (UTES), resulting

in avoided costs of R\$ 121.2 million per year and avoided CO₂ emissions of 43,300 tons annually.

- ♦ **Completed interconnections in Pará (2023–2024)** – Juruti and Santa Cruz do Arari, supported with R\$ 75.6 million from CCC funds, authorized by the MME.
- ♦ By the end of 2029, 33 isolated systems are expected to be interconnected with the SIN, according to data from distributors in the Isolated Systems Planning – 2024 Cycle.

INVESTMENTS ANNOUNCED IN NOVEMBER 2024

On November 22, 2024, the MME announced R\$ 824 million in investments for regional development through Energias da Amazônia, distributed as follows:

Sisol 2025 Auction

- ♦ Held in September 2025, with R\$ 312 million in investments, to serve 30 thousand people in isolated locations in the Amazon region. Lot 1 will serve Cabori, Camaruã, Limoeiro, Novo Remanso and Parauá, in Amazonas, and Lot 3 will serve Jacareacanga, in Pará
- ♦ The locations will be divided into two lots.
- ♦ A key innovation is requiring 22% of renewable energy in the proposals to be presented, a measure in line with the goals stipulated by Energias da Amazônia
- ♦ Proposals must also account for the carbon shadow price and present a logistics plan for extreme droughts.
- ♦ Hybridization solutions were encouraged, combining solar with storage and thermal generation.
- ♦ It was the first auction in the sector with winning hybrid projects associated with batteries (BESS). In Jacareacanga (PA), the





installation of 30 MW of battery storage and 18 MW of solar generation was contracted, a solution that is equal to the largest battery in Brazil, in Registro (SP)

- ♦ Winning projects must be operational by December 2027.

Public Call for Projects

- ♦ In September were selected R\$ 510 million of investment in isolated systems, with a public call for proposals issued on November 22, 2024, to reduce electricity generation costs in the Amazon.
- ♦ 14 strategic projects were approved, with an investment of R\$ 510

million, reinforcing the commitment to energy transition and regional development.

- ♦ Focusing on efficiency and sustainability, 90% of the funds allocated will be applied to projects for the installation of photovoltaic solar plants and storage systems in locations such as Tefé, Tabatinga and Benjamin Constant, in Amazonas.
- ♦ R\$ 11.7 million of the resources were allocated to specific solutions for communities in Roraima, such as Santa Maria do Boaçu and Vila Caicubi, which will now have a structural solution for generating electricity.

- ♦ Initiatives to modernize public lighting are also planned in Oiapoque (Amapá) and other municipalities, with "retrofitting" of lamps and training of local technicians.
- ♦ These actions not only reduce costs, but also generate social benefits, stimulating regional development, entrepreneurship and improved quality of life.
- ♦ Funds come from the Pró-Amazônia Legal program, managed through Energias da Amazônia.
- ♦ The call prioritizes initiatives that lower generation costs, expand access, and integrate renewables, energy efficiency, and loss reduction.

NUMBERS

- 211 locations in the Legal Amazon not connected to the National Interconnected System (SIN), according to the 2022 baseline diagnosis.
- 3.1 million residents currently benefiting.
- 1.5 million tons of CO₂ avoided by reducing or replacing diesel as the primary source of electricity generation in the Amazon.

INITIAL RESULTS

- In 2024, diesel accounted for 67% of generation in isolated systems, a 13% reduction from 80% in 2022.
- 36 locations are no longer classified as isolated systems due to completed interconnections or migration to LPT service, leaving 175 locations still isolated (compared to 211 in 2022).

- ♦ Selection criteria included: reducing CCC costs, cutting greenhouse gas emissions, delivering socioeconomic benefits, and ensuring public-private co-financing.
- ♦ Sixty-four proposals were submitted; 59 deemed valid, totaling R\$ 5.6 billion in investments, of which R\$ 2.1 billion would come from Pró-Amazônia Legal. Among valid proposals, 26% focus on energy efficiency and 64% on renewable energy for contracted power plants.

PROGRAM GUIDELINES

The Amazon Energy Program is guided by the following principles:

- ♦ Valuing the region's available energy resources,

especially renewables.

- ♦ Promoting energy efficiency and reducing supply losses.
- ♦ Enabling interconnection of isolated systems to the SIN when technically, economically, and environmentally viable.
- ♦ Ensuring a balance between supply reliability and affordable rates.
- ♦ Improving transparency and quality of data on electricity supply and fuel consumption.
- ♦ Encouraging technological innovation and service quality improvements.
- ♦ Promoting social participation in planning and implementation.
- ♦ Coordinating with other government programs to integrate policies and actions.

IMPACT ON ENERGY CONSUMERS' RATES

- ♦ A major benefit is reducing the charges borne by all Brazilian electricity consumers through the Fuel Consumption Account (CCC).
- ♦ Electricity generation costs for serving these communities reached R\$ 12.1 billion, with a direct CCC impact of R\$ 10 billion, based on reimbursements to distribution concessionaires, as processed by the Electric Energy Trading Chamber (CCEE).

DATES

- **08/16/2023** – Creation of the Amazon Energy Program by Decree No. 11,648.
- **08/04/2023** – Inauguration of the interconnection of Parintins, Itacoatiara, and Juruti (Amazonas) to the National Interconnected System (SIN).
- **02/29/2024** – Launch of the Isolated Systems Monitoring Portal (Pasi), a partnership between MME and EPE, designed to centralize planning data and unify information.
- **11/21/2024** – Announcement of R\$ 820 million in investments for the 2025 Sisol Auction and public call for projects. Includes site visit to Cotijuba (PA).
- **04/15/2025** – Publication of data on 241 registered projects, totaling 1,870 MW of power, submitted for participation in the 2025 Sisol Auction. More than half involve hybrid plants (thermoelectric + solar PV, with or without storage).
- **06/02/2025** – MME announces preliminary results of the call for projects: 13 proposals selected to receive investments aimed at reducing generation costs and improving service in isolated Amazon systems.
- **09/03/2025** – MME announces the final result of the call for projects, with 14 proposals and R\$ 510 million in investments.

- ♦ CCC resources come from the Energy Development Account (CDE), which finances public policies, primarily by subsidizing energy tariffs.
- ♦ Thus, CCC costs affect the CDE budget and, consequently, the electricity bills paid by consumers nationwide.

RENEGOTIATION OF THE RIO DOCE AGREEMENT

The Ministry of Mines and Energy (MME) worked intensively with the Federal Government in negotiating the new agreement for full and definitive compensation for the damage caused by the collapse of the Fundão Dam in the municipality of Mariana (MG) on November 5, 2015, almost ten years after the tragedy.

The agreement totals R\$ 170 billion. In addition to the amounts already paid directly by the companies, which reached R\$ 38 billion, the new agreement provides for the payment of an additional R\$ 132 billion.

Of this amount, R\$ 100 billion represents new resources to be paid within 20 years to the government by the companies involved in the tragedy, to be used for reparations, environmental recovery, healthcare, and infrastructure.

The remaining R\$ 32 billion will be directed to compensation for victims, as well as environmental restoration, sediment removal, and community resettlement.

The episode was the largest environmental catastrophe in the country's history and the largest mining tailings dam rupture in the world. Located 35 km from the center of Mariana, the dam was under the responsibility of Samarco, a company controlled by Vale (Brazilian) and BHP Billiton (British-Australian).

The disaster caused the deaths of 19 people and the disappearance of three others, in addition to leaving 600 families homeless and 1.2 million people without access to drinking water. Approximately 40 million cubic meters of tailings were released into the environment, affecting 49 municipalities in Minas Gerais and Espírito Santo. The mud traveled 663 km before reaching the sea.

Approved by the Federal Supreme Court (STF), the new agreement highlights the following environmental obligations for the companies:

- Removal of nine million cubic meters of tailings deposited in the reservoir of the Risoleta Neves hydroelectric plant, in the Rio Doce river basin.
- Completion of resettlement in the communities of Bento Rodrigues and Paracatu de Baixo.
- Restoration of 54,000 hectares of native forest and 5,000 springs in the Rio Doce basin
- Implementation of Contaminated Water Management (GAC) system.
- With regard to the affected families, the companies are now required to:

- Implement a Final and Definitive Compensation System (PID) to reach those affected who were unable to provide documentary proof of the damage suffered
- Pay R\$ 35,000 to affected individuals in general and R\$ 95,000 to fishermen and farmers
- Allocate R\$ 11.5 billion for payments, to be made by the companies, covering an estimated 300,000 people
- Pay R\$ 13,000 for water-related damages (estimated 20,000 people).

STRATEGIC ROLE

- Under Annexes V and XIV of the New Rio Doce Agreement, the MME assumed a strategic role in coordinating actions focused both on repairing damages and preventing future risks related to mining activities.
- Through the Incentive Program for Education, Science, Technology and Innovation, Production, and Economic Recovery, the MME works in coordination with the Ministry of Education (MEC) and the Ministry of Science, Technology, and Innovation (MCTI), with R\$ 2.09 billion allocated from the agreement.
- The program aims to promote the socioeconomic

development of the affected regions by fostering scientific research, technological innovation, educational training, and local productive restructuring. This structuring initiative is designed to generate sustainable and diversified opportunities for impacted communities.

- Annex XIV, under the exclusive responsibility of the Ministry of Mines and Energy, the commitment to the Reinforcement of the Inspection Activities of the Government in the Prevention and Mitigation of Risks in Mining is highlighted.
- An investment of R\$ 1 billion was planned, intended exclusively for the execution of prevention, inspection, monitoring, risk analysis and regulatory improvement actions, with emphasis on mining activities located in the Doce River Basin.
- The objective is to strengthen the operational and institutional capacity of the State, ensuring a more effective performance in the inspection of the mineral sector, in the prevention of new disasters and in the promotion of environmental and social security in the exploration regions.
- The MME's performance in these two axes –

institutional valorization and regulatory strengthening – reaffirms the Federal Government's commitment to the full reparation of the damage caused and to the construction of a new paradigm of responsible, safe and public-interest-oriented mining.

the company were not sufficient to ensure the rights of those affected to fair and adequate reparation. Nor did they guarantee the environmental recovery of the areas severely impacted by the disaster in the Doce River Basin.

The new agreement aims to overcome the shortcomings of the previous model. Under this arrangement, the federal government, the states of Minas Gerais and Espírito Santo, and the affected municipalities are now responsible for implementing part of the remediation actions, once financial resources are received from the company responsible for the disaster. With this new approach, the federal government, the states (Minas Gerais and Espírito Santo), and the affected municipalities will take the lead in managing remediation projects and programs.

UNDERSTANDING THE RENEGOTIATION

The renegotiation was a comprehensive review of the Transaction and Conduct Adjustment Agreement (TTAC), signed in 2016 between the government and Samarco. It established the conditions for environmental remediation and compensation for individuals, companies, and public and private institutions.

The facts showed that the model and measures implemented by

NUMBERS

TOTAL AGREEMENT – R\$ 170 BILLION

- R\$ 100 billion allocated to the federal government, the states of Minas Gerais and Espírito Santo, and city governments for the implementation of various reparations (new funds)
- R\$ 32 billion for individual compensation and other reparations
- R\$ 38 billion already paid and/or spent by the companies

MARIANA DISASTER

- 19 dead
- 3 missing
- 40 million cubic meters of mining waste released

DATES

- **11/05/2015** – Collapse of the Fundão Dam, owned by Samarco, in Mariana (MG)
- **March, 2016** – Signing of the Transaction and Conduct Adjustment Agreement (TTAC) between the government and Samarco
- **10/25/2024** – Signing of the New Rio Doce Agreement at the Planalto Palace, in a ceremony attended by President Luiz Inácio Lula da Silva
- **11/06/2024** – Approval by the Federal Supreme Court

CLEAN ENERGY IN MY HOUSE, MY LIFE PROGRAM

On 06/28/2024, the Federal Government, through the Ministries of Mines and Energy and Cities, launched the Clean Energy in My House, My Life Program ("Energia Limpa no Minha Casa, Minha Vida"). The initiative aims to expand renewable electricity generation for low-income families in both urban and rural areas through the installation of photovoltaic solar panels.

Priority is given to housing units under the My House, My Life Program in the Urban 1, Urban 2, and Rural 1 categories.

A total of 500,000 connections are planned by 2028. Approximately R\$ 3 billion will be invested in photovoltaic installations, lowering electricity bills for beneficiary families. The initiative strengthens the financial sustainability of My House, My Life Program condominiums and residences, combats energy poverty, and contributes to global decarbonization and the energy transition.

The program's guidelines are:

- Ensuring access to reliable, sustainable, modern, and affordable electricity services.
- Applying social, economic, and energy-based criteria.
- Reducing tariff impacts on other consumers.
- Integrating with income transfer programs, social housing initiatives, and broader energy policies.

Additionally, the program promotes energy efficiency in coordination with other low-income initiatives, giving priority from 2025 onward to housing units certified under the Brazilian Building Labeling Program (PBE Edifica).

The Ministries of Mines and Energy and Cities thus enable coordinated implementation of strategic federal public policies, including My House, My Life and Light for All programs. Together, these initiatives improve quality of life, especially for low-income families, aligning the right to housing with the right to affordable electricity.

Beneficiary families must maintain the equipment provided and keep it installed in the designated locations. Electricity distribution com-

panies are responsible for implementing and funding the infrastructure up to the dwelling. Surplus energy may be purchased by distribution companies or sold to public agencies, with revenue used to cover the minimum billable amount.



NUMBERS

- Total planned connections – 500,000 by 2028
- Annual connections – 100,000
- Implementation period – 5 years
- Investments – R\$ 3 billion for solar panels (approx. R\$ 6,000 per housing unit, via Ministry of Cities)
- Average consumption per beneficiary connection – 150 kWh/month

DATES

- **06/28/2024** – Decree No. 12,084, signed by President Luiz Inácio Lula da Silva and Ministers Alexandre Silveira (Mines and Energy) and Jader Filho (Cities), in Belo Horizonte

PROVISIONAL MEASURE ON RENEWABLE ENERGIES AND TARIFF REDUCTION

Provisional Measure No. 1,212, dated 04/09/2024, introduced incentives for renewable electricity generation (solar, wind, and biomass) and short-term measures to mitigate consumer tariffs.

MORE INVESTMENTS AND JOBS IN WIND, SOLAR, AND BIOMASS ENERGY

The renewable energy sector gained significant momentum with MP 1,212/2024, which is expected to enable projects capable of generating up to R\$ 96 billion in private investments in wind, solar, and biomass plants, creating approximately 300,000 jobs.

The measure allowed project deadlines in this segment to be aligned with the implementation schedule for transmission lines auctioned by the current government. This adjustment favors investment by generation companies that had planned their projects based on the expected expansion of transmission capacity. It corrects the previous "mismatch" caused by delays in transmission auctions and supports the advancement of genuinely viable renewable power projects, excluding "paper projects."

As a result, conditions were created for these energy sources to supply the emerging

green industry, advancing both the energy transition and economic development. The deadline for commercial operation with benefits is set for 03/02/2029.

The benefits have been extended for plants that begin commercial operation by 03/02/2029 — that is, 36 months after 03/02/2026 for most of them.

The MP reduces the stock of 88 GW in unviable projects to 25.5 GW of effectively viable projects, including wind (11.4 GW), solar (14.1 GW), and biomass (140 MW). It establishes conditions for selecting viable projects, requiring a guarantee contribution of 5% of the investment value and the start of construction within 18 months.

Other features of Provisional Measure 1,212/2024 include:

- ♦ Contributing to Brazil's energy security
- ♦ Ensuring the attractiveness of private investment in clean and renewable electricity
- ♦ Providing a favorable business environment for the sector
- ♦ Creating conditions for renewable generation to supply the new green industry in Brazil

- ♦ Contributing to the fulfillment of international commitments on greenhouse gas emissions reductions in the energy matrix
- ♦ Strengthening Brazil's proactive participation in the global energy transition agenda

Following the MP, on 08/06/2024, the National Electric Energy Agency (ANEEL)

published an order extending the deadline for renewable energy projects to begin commercial operation of all their generating units and qualify for Transmission or Distribution System Use Tariff (TUST/TUSD) discounts by 36 months.

In total, ANEEL received 2,035 applications, of which 601 were approved. The states with the highest number of approved plants are:

NUMBERS

- R\$ 96 billion in private investments in wind, solar, and biomass plants, with an estimated 300,000 jobs
- 601 renewable energy projects approved by ANEEL, including:
 - Bahia - 232 projects (152 wind and 80 solar)
 - Rio Grande do Norte - 69 projects (38 wind and 31 solar)
 - Minas Gerais - 65 projects (8 wind and 54 solar).
- 25,521 MW planned
- R\$ 224 million allocated by the Ministry of Mines and Energy (MME) to Amapá to prevent a 44% increase in electricity bills

DATES

- 04/09/2024 – Provisional Measure 1,212
- 08/06/2024 – Aneel balance sheet released with approved requests

- ♦ Bahia – 232 projects (152 wind and 80 solar)
- ♦ Rio Grande do Norte – 69 projects (38 wind and 31 solar)
- ♦ Minas Gerais – 65 projects (8 wind and 54 solar)

high interest rates, meaning that the poorest Brazilians and the middle class would bear the cost. With the MP, by 2026, once the loans are repaid, electricity bills are expected to fall by an average of 3.5% per year for consumers nationwide.

MITIGATION OF ELECTRICITY TARIFFS FOR CONSUMERS

Provisional Measure No. 1,212/2024 also introduced initiatives to help reduce costs for consumers. These mechanisms aim to correct distortions created by previous governments and curb excessive tariff increases, using sectoral resources to moderate electricity bills.

One of the measures refers to the repayment of the Covid Account and the Water Shortage Account, based on the advance receipt of funds from the privatization process of Eletrobras. Both accounts were contracted with

The Covid Account was created in 2021 by the National Bank for Economic and Social Development (BNDES) as emergency financing for the electricity sector to mitigate the economic impacts of the coronavirus pandemic.

Another measure addressed by the MP concerns a 44% tariff increase announced in 09/2023 for families in Amapá. The Ministry of Mines and Energy (MME) allocated R\$ 224 million to electricity consumers to prevent this increase, ensuring tariffs remained in line with the regional average (9%) of other states in the North Region.



SOLIDARITY IN THE CLIMATE TRAGEDY OF THE SOUTH

In line with the Federal Government, the Ministry of Mines and Energy (MME) actively participated in the national solidarity and reconstruction movement in Rio Grande do Sul, following the climate tragedy that began in April 2024, marked by heavy rains and floods that affected more than 2.3 million residents in the state and caused over 180 deaths.

With MME staff and affiliates mobilized, a Situation Room was established to work intensively and continuously to restore electricity and fuel supply, while also ensuring the safety of the population.

Activities involved the Electric System Monitoring Committee (CMSE), the National Electric Energy Agency (Aneel), the National Agency of Petroleum, Natural Gas, and Biofuels (ANP), the National Electric System Operator (ONS), the Electric Energy Trading Chamber (CCEE), the Geological Service of Brazil (SGB), and distribution concessionaires operating in the state.

Below is a summary of the main actions and results:

- ♦ Reconnection of electricity to more than 561,000 customers, equivalent to 1.2 million people, with over 4,000 workers engaged in

maintenance and restoration efforts.

- ♦ Mobilization of more than 200 electrician teams from other states, with logistical support from the Armed Forces, in a joint effort to restore the regional power grid.
- ♦ Deployment of over 200 emergency generators to hospitals, daycare centers, shelters, schools, and other essential facilities.
- ♦ Mobilization of mobile substations from distributors in other states to accelerate the reconnection of consumer units.
- ♦ Guaranteed supply of gasoline and diesel for vehicles and machinery, as well as aviation kerosene for aircraft and helicopters used in relief, assistance, and rescue operations.
- ♦ Fuel and cooking gas supply normalized within 20 days.
- ♦ Local thermoelectric generation and imports of electricity from Uruguay in the early days, ensuring full availability of energy to consumers whose service had not been interrupted.
- ♦ Donation of gas cylinders to 235 Solidarity Kitchens.
- ♦ Signing of three agreements for the donation of household

appliances to displaced families, including 4,724 refrigerators and 4,724 stoves, totaling R\$ 11.5 million.

- ♦ Allocation of resources from the National Energy Conservation Program (Procel) for energy efficiency actions in affected

municipalities, with up to R\$ 300 million directed to public and philanthropic hospitals, daycare centers, schools, and the revitalization of public buildings.

- ♦ Normalization of natural gas supply in Rio Grande do Sul, a key input for fuel production

and electricity generation, ensuring stable demand for the Alberto Pasqualini Refinery (Refap), the Rio Grande do Sul State Gas Company (Sulgas), and the Canoas thermoelectric plant.

- ♦ Reinforcement of aviation kerosene (QAV) supply at

multiple airports in the state and in Santa Catarina.

- ♦ In coordination with Petrobras, deployment of high-capacity pumps to assist in draining water at critical flooding sites, equipment typically used in large-scale operations and contingency plans.



RIGHTS OF POPULATIONS AFFECTED BY DAMS

Brazil now has comprehensive legislation to protect the rights of populations affected by dams, with a detailed set of obligations for the companies responsible and guarantees for individuals and families impacted by mining and hydroelectric projects.

On 12/15/2023, Law No. 14,755 was signed by President Luiz Inácio Lula da Silva, with the participation of the Ministry of Mines and Energy (MME), other Federal Government agencies, the National Congress, and the Movement of People Affected by Dams.

The legislation establishes the obligations of companies for compensation and reparations. In addition to disaster prevention, its goal is to prevent recurring violations of rights and excessive delays in compensating families and repairing the environment, as seen in the devastating tragedies of Mariana and Brumadinho, in Minas Gerais.

Among other provisions, with an emphasis on social inclusion and the protection of the most vulnerable, the law guarantees the following rights:

- ♦ Compensation for material losses
- ♦ Collective resettlement as a priority option
- ♦ Independent technical advice at the developer's expense

- ♦ Emergency assistance in cases of accidents or disasters
- ♦ Compensation for moral, individual, and collective damages
- ♦ Housing conditions equivalent in size and construction quality to the previous ones
- ♦ Implementation of rural or urban resettlement projects
- ♦ Bookkeeping and registration of resettlement properties.

The law formally recognizes those affected by dams in Brazil and establishes rights for these populations, such as individual and collective compensation. It also ensures social participation in negotiations with public authorities and private developers, not only in disaster cases but also during dam construction and decommissioning.

In general terms, the law has brought the following advances, among others:

- ♦ Creation of the National Policy on the Rights of Populations Affected by Dams (PNAB)
- ♦ Specification of the rights of Populations Affected by Dams (PAB)
- ♦ Establishment of the Program for the Rights of Populations Affected by Dams (PDPAB)

- ♦ Establishment of rules for social responsibility of the entrepreneur.

These guidelines apply both preventively, through environmental licensing of dams, and in situations arising from leaks or structural failures.

Beyond ensuring the rights of families, the law also reinforces proper environmental licensing and the safety of communities living near dams, particularly traditional and low-income populations.

The rights program must finance specific initiatives targeting women, the elderly, children, people with disabilities, individuals in vulnerable situations, indigenous peoples, traditional communities, and fishermen.

DEFINITION

The standard defines PAB as all those individuals or families subject to one or more of the following impacts caused by the construction, operation, decommissioning, or failure of dams:

- ♦ Loss of property or possession of real estate.
- ♦ Devaluation of real estate due to its location near or downstream of these structures.
- ♦ Loss of productive capacity of land and natural elements of the landscape that generate

income, directly or indirectly including the remaining portion of partially affected property, impacting the income, subsistence, or way of life of populations.

- ♦ Loss of products or areas for fishing or natural resource management.
- ♦ Prolonged interruption or alteration in water quality that affects supply

- ♦ Loss of sources of income and employment.
- ♦ Changes in people's habits, as well as loss or reduction of economic activities and exposure to negative social, cultural, and psychological effects due to removal or evacuation in emergency situations.
- ♦ Changes in the way of life of indigenous populations and traditional communities.

- ♦ Disruption of access to urban areas and rural communities.

RIGHTS

- ♦ Reparation through replacement, indemnification, equivalent compensation, and social compensation.
- ♦ Collective resettlement as a priority option, to preserve cultural and neighborhood ties prevailing in the original situation.



- ♦ Free and informed choice regarding reparation alternatives.
- ♦ Negotiation, preferably collective, regarding:
 - forms of reparation
 - parameters for identifying assets and improvements eligible for reparation
 - parameters for establishing compensation amounts and possible remedies
 - planning stages and resettlement schedules
 - development of housing projects
- ♦ Independent, multidisciplinary technical assistance, chosen by the affected communities, funded by the developer and free from its interference, to guide participation in the process.
- ♦ Emergency assistance in cases of accidents or disasters, ensuring that living standards are maintained until families and individuals achieve conditions at least equivalent to those they previously had.
- ♦ Fair compensation for material losses, which—except in cases of accidents or disasters—must be prior, covering:
 - the value of properties and improvements.
 - lost profits, where applicable.
 - monetary resources to ensure maintenance of living standards until families and individuals achieve conditions at least equivalent to those that preceded the accident or disaster.
- ♦ Reparation for moral damages, individual and collective, resulting from disruptions caused by compulsory removal or evacuation in emergencies, including:
 - loss or alteration of cultural and social ties or ways of life.
 - loss or restriction of access to natural resources, places of worship or pilgrimage, and sources of leisure.
 - loss or restriction of means of subsistence, income, or employment.
- ♦ Rural resettlement, in accordance with the fiscal module, or urban resettlement with housing units that meet the minimum size requirements of urban planning legislation.
- ♦ Implementation of rural or urban resettlement projects through self-management processes.
- ♦ Housing conditions that, at a minimum, replicate previous ones in size and construction quality, while meeting standards suitable for vulnerable groups.
- ♦ Common areas and facilities in resettlement projects that allow for socialization and collective living, following, whenever possible, the prevailing standards in the original settlement.
- ♦ Registration and recording of properties resulting from urban and rural resettlements, or, where applicable, granting of real rights of use.
- ♦ Resettlement on economically viable land, preferably in the region and municipality inhabited by the PAB, after assessment of its agro-economic and environmental feasibility by the Local PNAB Committee.
- ♦ Prior discussion and approval of the resettlement project by the Local PNAB Committee, including location, identification of land parcels, infrastructure, and collective-use facilities, as well as the choice and allocation of lots.
- ♦ Formulation and implementation of economic and social recovery and development plans, without prejudice to individual or collective reparations due, aimed at restoring or, if possible, integrating local and regional productive arrangements and chains that ensure employment opportunities compatible with qualifications and experience, while maintaining or improving living conditions.

- ♦ Receipt by each person, family, or registered organization of a copy of all relevant information concerning them, within 30 days after updating their registration for reparation purposes.
- ♦ Public consultation on the list of all persons and organizations registered for reparation purposes, along with aggregated registry information, while preserving privacy and personal data.
- ♦ Reparations must recognize the diversity of situations, experiences, vocations, preferences, cultures, and specificities of groups, communities, families, and individuals. They must also be subject to discussion, negotiation, and approval by the Local PNAB Committee, and may take the following forms:
 - Replacement – when destroyed property or infrastructure, or impaired social conditions, are replaced or reconstituted.
 - Indemnification – when reparation takes the form of monetary compensation.
 - Equivalent compensation – when other goods or situations are provided that, although not directly replacing the lost property or situation, are considered materially or morally satisfactory.
- ♦ Social compensation – when reparation takes the form of material benefits in addition to other forms of reparation.
- ♦ In applying this law, the principle of centrality of the victim's suffering must be observed, ensuring fair reparation for those affected and the prevention or reduction of similar harmful events.

RURAL FAMILY ECONOMY

The rights of PABs who farm under a family economy regime, whether as owners, sharecroppers, or squatters, are as follows:

- ♦ Compensation for material losses, including the value of land, improvements, crops, and damages due to contract interruption
- ♦ Compensation for compulsory displacement resulting from resettlement
- ♦ Compensation for immaterial losses, with the establishment of technical assistance programs nec-

essary for rebuilding lifestyles and social, cultural, and economic networks, including psychological, welfare, agronomic, and other relevant support.

PROGRAM

In cases provided for by law, a PDPAB must be created at the expense of the developer, with the objective of ensuring the established rights through specific programs directed at:

- ♦ Women, the elderly, children, people with disabilities, and vulnerable groups, as well as domestic and farm animals
- ♦ Indigenous populations and traditional communities
- ♦ Health, environmental sanitation, housing, and education impacts in municipalities that will receive project workers or those affected by a potential leak or dam failure
- ♦ Restoration of losses resulting from reservoir filling, leakage, or dam failure
- ♦ Fishermen and fishing activities
- ♦ Communities receiving resettlement or relocated families.

DATES

- ♦ **12/15/2023** – Law No. 14,755 sanctioned
- ♦ **03/14/2024** – Discussion group initiated by the MME for the regulation of the PNAB

SOCIAL BIOFUEL SEAL: STRONGER SUPPORT FOR FAMILY FARMING

To strengthen family farming and more effectively achieve the social objectives of the biodiesel policy—particularly with regard to harnessing the potential of the North, Northeast, and Semi-Arid regions—the Federal Government completed, in 2024, the restructuring of the Social Biofuel Seal, a process initiated by the National Energy Policy Council (CNPE) in 2023.

Created in 2004 during the first administration of President Luiz Inácio Lula da Silva, the program grants a seal to biodiesel producers that meet requirements for social inclusion and regional development focused on family farming.

To this end, companies receive tax incentives and priority access to the biodiesel market. The restructuring forms part of the resumption of the National Program for the Production and Use of Biodiesel, also created in 2004.

The seal aims to encourage small farmers' participation in the biodiesel production chain, ensuring promotion, technical assistance, and rural extension, as well as the purchase of products from those registered in the National Program for Strengthening Family Agriculture (Pronaf).

The initiative also contributes to diversifying biodiesel feedstock sources, reducing dependence on soybeans, and promoting alternative crops such as palm oil. This measure aligns with the schedule for biodiesel blending in diesel fuel.

The biodiesel production chain is being consolidated into a sustainable model that integrates renewable energy, social responsibility, and economic development. In its current format, the program fosters a business environment more conducive to sector investment, provides greater legal certainty, and reduces bureaucratic obstacles for companies.

The restructuring process began on 03/20/2023, through a CNPE resolution that set promotion and acquisition targets under the program for the North, Northeast, and Semi-Arid regions, which must be at least:

- ♦ 10% in 2024
- ♦ 15% in 2025
- ♦ 20% from 2026 onward

To operationalize these targets, the Ministries of Mines and Energy (MME) and Agrarian Development and Family Farming (MDA) issued an ordinance establishing guidelines to restructure the seal, with the aim of increasing

promotion and acquisition of raw materials from family farms in these regions.

The guidelines—based on transparency, the productive inclusion of family farming, and the integration of public policies for energy and food security—were essential to creating a regulatory framework conducive to meeting the targets with minimal social and sectoral impact.

This new regulatory framework was formalized by Decree No. 11,902/2024, signed by President Luiz Inácio Lula da Silva and the Ministers of Mines and Energy, Alexandre Silveira, and Agrarian Development and Family Farming, Paulo Teixeira. The program also maintains a partnership with the Ministry of Agriculture and Livestock (Mapa).

The previous decree regulating



the seal restricted biodiesel producers seeking certification to purchasing raw materials for national biodiesel production solely from family farms, which prevented many producers from accessing the program.

The main change introduced by Decree No. 11,902/2024 was the expansion of the range of products that could be purchased from family farms in the North, Northeast, and Semi-Arid regions. This adjustment allows greater use of local resources and encourages the cultivation of new crops in these areas, which face persistent poverty and social challenges.

The expansion of biodiesel use in the energy matrix, coupled with the strengthening of family farming, aligns with the Fuel of the Future Law and supports sustainable mobility and a fair, inclusive energy transition.

It will also help reduce the carbon intensity of the transport sector while generating jobs, income, and opportunities for entrepreneurs and self-employed workers.

HOW IT WORKS

- ♦ Biodiesel producers holding the Social Biofuel Seal must support family farming by purchasing a minimum percentage of raw materials (such as soybeans, castor beans, palm, and sunflowers) from farmers registered with Pronaf. They are also required to provide these farmers with technical assistance and rural extension services. Part of this support may also be delivered through training, donations, or purchases of other family farming products from the North, Northeast, and Semi-Arid regions.
- ♦ In return, companies are guaranteed priority access to the mandatory biodiesel market and may obtain reductions in PIS/Pasep

and Cofins tax rates, making biodiesel more competitive.

- ♦ To obtain the seal, biodiesel producers must meet requirements such as formalizing contracts with family farmers and providing them with technical assistance and training.

OBJECTIVES

The objectives of the Social Biofuel Seal are to strengthen and sustainably develop family farming in order to:

- ♦ Diversify production
- ♦ Reduce inequalities
- ♦ Mitigate climate impacts
- ♦ Promote energy security and food security
- ♦ Integrate family farming into the biodiesel production chain and increase its role in food production
- ♦ Strengthen oilseed and food production chains in the North, Northeast, and Semi-Arid regions to improve productivity and competitiveness in family farming

NUMBERS

- ♦ Expenditure by biodiesel producers on family farming through the Social Biofuel Seal: R\$ 6.6 billion

DATES

- ♦ **03/20/2023** – Resolution N°. 3/2023 of the National Energy Policy Council (CNPE)
- ♦ **08/03/2023** – Interministerial Ordinance MME/MDA N°. 2/2023
- ♦ **01/30/2024** – Decree N°. 11,902/2024
- ♦ **06/27/2024** – MDA Ordinance N°. 28/2024

AQUACULTURE FOR FOOD SECURITY

On 11/06/2024, Ministers Alexandre Silveira (Mines and Energy) and André de Paula (Fisheries and Aquaculture) signed a Technical Cooperation Agreement (ACT) to expand fish and food production in hydroelectric reservoirs.

The goal is to foster the sector's sustainable development, making better use of Union waters to generate jobs, income, and food security, while also encouraging the use of renewable energy.

The initiative aims to increase fish production by tapping into the potential of the 74 hydroelectric reservoirs across the country considered suitable for aquaculture. It aligns with Brazil's commitment to a fair and inclusive energy transition.

Aquaculture is the fastest-growing agricultural activity in Brazil, according to the Ministry of Fisheries and Aquaculture (MPA). Fish farming in net cages within federal waters has shown faster development in recent years compared to other types of aquaculture.

In 2024, aquaculture production declared in federal waters reached 148,500 tons of fish (including fish, bivalve mollusks, and algae), generating 4,126 direct jobs.

Despite its economic importance, growth in the sector faces challenges. Hydroelectric reservoirs, while primarily intended for power generation, are shared with activities such as aquaculture, supply, irrigation, navigation, and tourism. The main bottleneck is project regularization, hindered by complex procedures, overlapping regulations, and slow processes.

The Technical Cooperation Agreement will enhance federal government actions on regularization, planning, and promotion of aquaculture. It also encourages the integration of renewable energy generation into aquaculture production systems.

Additionally, the agreement strengthens governance in the use of hydroelectric reservoirs, optimizing their productive potential while minimizing risks and impacts on power plant operations.

Although fish is the world's leading source of animal protein, Brazil's aquaculture potential remains underexploited despite its abundance of freshwater and long coastline.

NUMBERS

AQUACULTURE IN FEDERAL WATERS (2024)

- 4,126 direct jobs
- 148,500 tons of aquatic products (fish, bivalve mollusks, and algae)
- 138,500 tons of fish
- 138,200 tons of tilapia

Source: Bulletin of
Aquaculture in Federal Waters

POTENTIAL SCOPE OF THE MEASURES

- 74 hydroelectric plant reservoirs identified as suitable for aquaculture

DATES

- **11/06/2024** – Technical Cooperation Agreement (ACT) No. 14/2024 signed between the Ministries of Mines and Energy and Fisheries and





ECONOMIC DEVELOPMENT

GAS FOR EMPLOYMENT

The National Energy Policy Council (CNPE) established the Gas for Employment Program Working Group (GT-GE) to conduct studies aimed at promoting more efficient use of natural gas produced in Brazil. The initiative also seeks to expand the domestic supply of natural gas at competitive prices that are less vulnerable to international market fluctuations and integrate natural gas into the national energy transition strategy.

Other objectives of the GT-GE include:

- ♦ Improving the utilization and socioeconomic return of domestic production, while reducing reinjection volumes beyond what is technically necessary.
- ♦ Expanding the availability of natural gas for the domestic production of nitrogen fertilizers, petrochemicals, and other industrial sectors, thereby reducing external dependence on strategic inputs.
- ♦ Integrating natural gas into the national energy transition strategy to attract investments that foster the development of low-carbon solutions, such as biogas and biomethane, low-carbon hydrogen, industrial cogeneration, and carbon capture.

- ♦ Establishing an appropriate policy framework for natural gas distribution, processing, and pipeline transportation infrastructure.

Affordable energy supplied by natural gas has the potential to stimulate the Brazilian industrial sector, enabling job creation, income distribution, and increased tax revenues. Lower prices enhance the competitiveness of domestic industry and reduce costs across the national production chain, including sectors such as road transportation.

This requires increased investment in infrastructure and improved regulatory frameworks. Consumers benefit from greater protection, fairer and more affordable prices, and a more competitive market, supported by a modern and predictable regulatory model for all stakeholders.

Among the expected positive impacts, the following can be highlighted:

- ♦ Greater predictability and legal certainty for investors in the natural gas and biomethane sector.
- ♦ Higher revenues for domestic producers of oil, natural gas, and biomethane.
- ♦ Availability of the necessary infrastructure to secure

national supply.

- ♦ Increased competition and liquidity among market participants.
- ♦ Development of a competitive domestic natural gas market insulated from international price volatility.
- ♦ Contribution to the neo-industrialization and decarbonization of the industrial, transportation, and power sectors.

- ♦ Reduced external dependence on fertilizers.
- ♦ Expansion of the biomethane and natural gas markets, fostering sustainable fuels with a lower carbon footprint.

Gas for Employment also supports global food security by helping to reduce the prices of food and agricultural products, with the greatest benefit accruing to low-income populations. Natural gas is the main input in the production

of nitrogen fertilizers, which are essential for boosting crop productivity and quality, ultimately supplying food to families across the country.

Food security is defined as “the realization of everyone’s right to regular and permanent access to quality food in sufficient quantity, without compromising access to other essential needs.” This principle was enshrined in law by President Luiz Inácio Lula da Silva at the end of his first term in 2006.

WORKING GROUP

Coordinated by the Ministry of Mines and Energy (MME), the GT-GE included representatives from 15 federal government institutions, notably the National Bank for Economic and Social Development (BNDES), the National Agency of Petroleum, Natural Gas and Biofuels (ANP), the Energy Research Company (EPE), and Pré-sal Petróleo S.A. (PPSA).

The GT-GE was structured into five thematic committees, listed below.



| GAS FOR EMPLOYMENT: THEMATIC COMMITTEES AND THEIR SPECIFIC OBJECTIVES | |
|---|---|
| COMMITTEES | OBJECTIVES |
| Availability of Natural Gas (NG) | <ul style="list-style-type: none">♦ Increase the availability of natural gas for the domestic market♦ Assess measures to reduce reinjected volumes beyond what is technically necessary |
| Access to the Natural Gas Market (NG) | <ul style="list-style-type: none">♦ Increase the number of natural gas suppliers in the domestic market♦ Attract private investment for infrastructure |
| Union Natural Gas Commercialization Model | <ul style="list-style-type: none">♦ Increase the supply of Union natural gas in the domestic market |
| Gas for the Productive Sector | <ul style="list-style-type: none">♦ Increase the availability of natural gas for productive sectors (nitrogen fertilizers, petrochemical products, and others), reducing external dependence on strategic inputs for national production chains |
| Role of NG in the Energy Transition | <ul style="list-style-type: none">♦ Identify strategies and mechanisms to align the energy transition with efforts to decarbonize natural gas use and related investments |

MEASURES ADOPTED

Based on the proposals studied by the GT-GE, in 2024 each thematic committee published a report, and several regulatory acts were issued. The resulting actions are underway, as highlighted below:

Decree No. 12,153 of 08/26/2024, resulting from GT-GE proposals

Decree No. 12,153/2024 was enacted, amending Decree No. 10,712/2021, which regulates Law No. 14,134/2021 (the Gas Law). The main points include strengthening ANP's authority to protect the interests of natu-

ral gas consumers, integrating infrastructure planning across the sector, providing greater guarantees of third-party access to infrastructure, and enhancing transparency of sectoral information.

The Decree established principles for non-discriminatory and negotiated access to natural gas transportation, treatment, processing, and storage infrastructure, including fair and adequate remuneration for investments, based on efficient service provision.

This ensures greater legal certainty for investments in infrastructure, attracting new investors, while simultaneously promoting more secure investments in natural gas production and consumption by ensuring market access to transport and supply infrastructure. Guaranteed access also contributes to reducing the volume of reinjected gas, including in fields already in production.

In view of ANP's extensive regulatory agenda following the enactment of the Gas Law

in 2021, Decree No. 12,153/2024 reinforced ANP's role during the transition period, providing greater legal certainty and accelerating investment approvals for private sector projects while the necessary regulations are being updated.

Ordinance GM/MME No. 805 of 09/23/2024 establishing the CMSGN

Building on GT-GE proposals, Ordinance GM/MME No. 805/2024 created the Natural Gas Sector Monitoring Committee (CMSGN) to oversee public policies related to the natural gas sector and ensure continuity and security of national supply. The committee is modeled on the Electricity Sector Monitoring Committee (CMSE).

The CMSGN, composed of MME, ANP, and EPE, has the authority to engage with public and private institutions in the natural gas industry to implement necessary measures for sectoral liberalization.

Its responsibilities include monitoring compliance with provisions of the Federal Constitution, laws, decrees, CNPE resolutions, and other rules directly or indirectly related to natural gas. Specifically, the CMSGN monitors the implementation of Decree No. 10,712/2021 and CNPE Resolution No. 03/2022, which set strategic guidelines for the natural gas market, improvements to competition, and fundamentals for the transition period.

The CMSGN may also establish technical committees to coordinate efforts among industry stakeholders to advance sectoral liberalization, thereby fostering competition and lowering prices for domestic consumers.

CNPE Resolution No. 11 of 08/26/2024, granting PPSA access to infrastructure and consumer markets

CNPE Resolution No. 11/2024 set additional guidelines for the Union's oil and natural gas marketing policy to optimize the use of inputs from production-sharing contracts, boost industrialization, and strengthen national supply security of energy, petroleum inputs, nitrogen fertilizers, and other chemical products.

The Resolution authorizes Pré-Sal Petróleo S.A. (PPSA), a state-owned company linked to MME, to contract transportation and processing services for the Union's share of natural gas from production-sharing contracts. PPSA may also sell natural gas, liquefied petroleum gas (LPG), and other liquids derived from gas processing directly to the domestic market, subject to technical and economic feasibility.

Memoranda of Understanding signed between the governments of Brazil, Argentina, and Bolivia

In 2024, Brazil signed two

Memoranda of Understanding (MOUs), one with Argentina and another with Bolivia, aimed at strengthening regional gas integration. The objective is to expand the domestic supply of natural gas at competitive prices for consumers, with an estimated price of USD 7–8 per million BTU.

IMPORT OF NATURAL GAS FROM VACA MUERTA, ARGENTINA

On November 18, 2024, the MME signed a Memorandum of Understanding (MoU) with Argentina to enable the import of natural gas from the neighboring country, particularly from the Vaca Muerta region. The initiative is part of the Gas for Employment Program.

It is estimated that imports will begin with two million m³ per day in the short term, expanding to 10 million m³ over the next three years, and reaching 30 million m³ by 2030.

The MoU established a bilateral working group to identify the necessary measures, including a study of the economic feasibility of logistics routes, taking into account the expansion of existing infrastructure in both countries.

Vaca Muerta, located in the province of Neuquén in western Argentina, is one of the world's largest natural gas fields. Imports from this region will expand Brazil's natural gas supply and support reindustrialization, strengthening the production of fertilizers, glass, ceramics,

petrochemicals, and other sectors, while also contributing to job creation and income generation.

Several possible routes are being evaluated to transport the gas:

- ♦ Via Bolivia – reversal of the existing Gasbol pipeline
- ♦ Via Paraguay – construction of a new gas pipeline
- ♦ Via Rio Grande do Sul – connection through Uruguiana
- ♦ Via Uruguay



IMPORT OF NATURAL GAS FROM ARGENTINA

MEMORANDUM OF UNDERSTANDING (MOU) BRAZIL-ARGENTINA

- ♦ **Objective:** Enable the export of natural gas from Argentina to Brazil, mainly from Vaca Muerta, in the shortest possible time and at the lowest possible cost
- ♦ **Bilateral Working Group:** Created to study logistics routes and infrastructure interconnections
- ♦ **Validity of the MoU:** 18 months, extendable

ROUTES EVALUATED BY THE WORKING GROUP

- ♦ **Via Bolivia:** Reversal of the Gasbol pipeline in Bolivian territory
- ♦ **Via Paraguay:** Construction of the Chaco Paraguayo gas pipeline
- ♦ **Via Rio Grande do Sul:** Connection with Uruguiana and construction of a pipeline segment between Uruguiana and Porto Alegre
- ♦ **Via Uruguay:** Interconnection with Rio Grande do Sul through Uruguayan territory
- ♦ Import of Liquefied Natural Gas (LNG)

IMPORT STAGES

- ♦ **Short term:** 2 million m³/day starting in early 2025
- ♦ **Medium term:** 10 million m³/day over the next 3 years
- ♦ **Long term:** 30 million m³/day by 2030

EXPECTED BENEFITS

- ♦ **Economic and social development:** reindustrialization focused on fertilizer, glass, ceramics, and petrochemical industries

ARGENTINE NATURAL GAS

- ♦ **Origin:** Provinces of Neuquén and Río Negro (Vaca Muerta)
- ♦ **Average price at origin:** US\$ 2 to 3 per million BTU
- ♦ **Expected price upon arrival in Brazil:** Between US\$ 7 and US\$ 8 per million BTU
- ♦ **Producers involved:** Total Energy, Plus Petrol, Pan American, among others

BRAZILIAN CONSUMPTION

- ♦ **Estimated demand:** 70 to 100 million m³/day (average/peak)

GAS REINJECTION

A critical factor in the current scenario is natural gas reinjection, a technique whereby gas is returned to the reservoirs from which it was extracted to increase oil production. While technically necessary to optimize oil recovery, reinjection levels in Brazil are very high, reducing the amount of natural gas available for domestic supply.

Currently, domestic natural gas production is about 157.64 million m³/day, with reinjection averaging 85 million m³/day, equivalent to 54% (2024 average through November).

A comparison between national production and reinjection levels shows that the amount reinjected is more than sufficient to meet the current demand of the industrial sector, which averages only 38.71 million m³/day (as of August 2024). A reduction of just 15% in reinjection (12.75 million m³/day) would provide enough supply to

increase industrial demand by 31%, reaching 50 million m³/day.

Another concern is the high price of natural gas for end consumers, which remains far above that paid by industry in other countries, undermining competitiveness. Much of this cost stems from expensive infrastructure, particularly in transportation and processing.

POLICY RESULTS

EPE projections indicate the following potential results from the Gas for Employment Program:

- ♦ Creation of 436,000 direct and indirect jobs
- ♦ Investments of approximately R\$ 94.6 billion
- ♦ GDP growth of R\$ 79 billion
- ♦ Additional federal tax revenue of R\$ 9.3 billion

During 2024, several concrete results have already been achieved (see below).

BOAVENTURA ENERGY COMPLEX

As part of the Gas for Delivery Program, Petrobras' Boaventura Energy Complex in Itaboraí (RJ) was inaugurated on 09/13/2024 by President Luiz Inácio Lula da Silva, with the participation of Minister Alexandre Silveira, of Mines and Energy.

This industrial hub will expand the processing and generation capacity of natural gas, liquefied petroleum gas (LPG or cooking gas), and related products. It houses the country's largest Natural Gas Processing Unit (UPGN), which is part of the Integrated Route 3 Project (PIR3). The facility will process gas from the Santos Basin pre-salt layer, transported through the Route 3 gas pipeline.

PIR3 will enable the flow of up to 18 million m³/day and the processing of up to 21 million m³/day of natural gas at the UPGN. This will significantly increase the domestic supply of natural gas, reduce dependence on imports, and lower the current levels of natural gas reinjection.

The complex employs more than 600 professionals directly engaged in operating, maintaining, and supporting the pipeline, processing plants, and utility units.

The Route 3 gas pipeline, which spans 355 km, had been abandoned by previous governments but was resumed as part of the Gas for Employment agenda.



It is expected to have a direct positive impact on national development, particularly in industrial sectors that rely on natural gas, such as ceramics and glass.

In addition to the newly inaugurated UPGN, the Boaventura project will include two thermoelectric plants, fuel and lubricant production units, and a biofuel plant dedicated to producing 100% renewable diesel and aviation kerosene.

The natural gas supplied to the facility is raw gas that, once processed, generates at least three derivatives:

- ♦ Natural Gas (NG)
- ♦ Liquefied Petroleum Gas (LPG or cooking gas)
- ♦ C5+, a byproduct used in petrochemicals and fuel production

These products are destined for industry, households, and electricity generation.

The commercial operation of the Boaventura UPGN is of strategic importance for Brazil, as it enables greater flow of natural gas from the Santos Basin pre-salt reserves, ensuring increased supply to the domestic market.

The complex's name pays homage to the São Boaventura Convent, located within the facility and one of the region's earliest historical buildings.

The Route 3 Gas Pipeline was

DATES

- **03/20/2023** – CNPE creates the Gas for Employment Program Working Group
- **09/21/2023** – Presentation of Commerciality Statements and Development Plans for two development areas of the BM-C-33 concession by Equinor
- **04/08/2024** – Conclusion of the Working Group's activities and presentation of reports
- **07/09/2024** – Signing of a Memorandum of Understanding (MoU) with Bolivia for the importation of Bolivian and Argentine natural gas to Brazil
- **08/27/2024** – Publication of Decree No. 12,153/2024
- **09/10/2024** – Publication of CNPE Resolution No. 11/2024
- **09/13/2024** – Inauguration of the Boaventura Energy Complex in Itaboraí (RJ) to increase the supply of natural gas, cooking gas, and liquefied petroleum gas by Petrobras
- **09/24/2024** – Publication of MME Ordinance No. 805/2024 establishing the Natural Gas Sector Monitoring Committee (CMSGN)
- **11/18/2024** – Signing of a Memorandum of Understanding (MoU) with Argentina for the importation of natural gas, mainly from Vaca Muerta, including a study of logistics routes to better integrate the two countries.
- **03/19/2025** – Initial publication for Public Consultation of the Study of Flow and Processing Tariffs for the Integrated Flow System (SIE) and the Integrated Processing System (SIP)
- **04/17/2025** – Public Call to estimate the effective demand for services in the infrastructures of the natural gas chain, as well as to identify the potential supply and demand of natural gas and biomethane for the National Integrated Plan for Natural Gas and Biomethane Infrastructures (PNIIGB)
- **06/06/2025** – Publication of the Study of Flow and Processing Tariffs for the SIE and SIP Systems, incorporating contributions from the Public Consultation.
- **08/08/2025** – Publication of the Methodological Technical Note – National Integrated Plan for Natural Gas and Biomethane Infrastructures, after the Public Consultation process that took place in April 2025.
- **09/29/2025** - Public Consultation of the National Integrated Plan for Natural Gas and Biomethane Infrastructures, which aims to promote a strategy for the coordinated development of supply, demand and infrastructure of natural gas and biomethane in the country.

designed to complement the existing Route 1 and Route 2 pipelines, expanding the flow capacity from the pre-salt layer to the UPGN. It has a total capacity of 18 million m³/day, covering 355 km (307 km off-shore, already built, and 48 km onshore, under construction).

The Boaventura Energy Complex is the former Petrochemical Com-plex (Comperj), now repurposed as the Gaslub Itaboraí Hub.

Total Investments in the Boaventura Energy Complex

- ♦ **Total planned** – R\$ 12.5 billion
- ♦ **Route 3** – R\$ 6 billion
- ♦ **Natural Gas Processing Unit (UPGN)** – R\$ 6.5 billion in UPGN (R\$ 680 million already invested)

Route 3 Gas Pipeline

- ♦ **Length** – 355 km
- ♦ **Capacity** – 18 million m³/day

PROJECTS IN PROGRESS

- ♦ **Raia Field (Equinor)** – Declaration of commercial viability by Equinor, with an estimated investment of R\$ 45 billion and expected production of 14 million m³/day starting in 2028.
- ♦ **Sergipe Deepwater Project, Seap (Petrobras)** – Expected production capacity of 18 million m³/day by 2030.

NATURAL GAS IMPORTED FROM BOLIVIA AND ARGENTINA

Practical results from these Memoranda of Understanding are already visible:

- ♦ Publication of the Bolivian decree regulating the transport of Argentine gas to Brazil (Supreme Decree 5.206/2024).
- ♦ First agreement signed for the transit of Argentine natural gas through Bolivia for delivery to Brazil – contract between YPFB (responsible for pipeline transportation in Bolivia), TotalEnergies (Argentine producer), and Matriz Energia (Brazilian trader).
- ♦ Six agreements signed between Brazilian traders and natural gas producers in Argentina, with authorizations from the Argentine government to export natural gas to Brazil.

INNOVATIONS IN THE AUCTIONS FOR CHEAPER ENERGY

The current management of the Ministry of Mines and Energy (MME) has introduced important innovations in the energy auction models, already held and scheduled to take place in 2025 and 2026.

Among others, the initiatives aim to meet the following objectives:

- ♦ Ensure alignment with the energy transition
- ♦ Facing the transformations that the Brazilian electricity matrix has undergone
- ♦ Contribute to the cheapening of electricity for consumers and companies.

An example is the Auction for Isolated Systems 2025 (Sisol), which, in line with the guidelines of the Amazon Energy Program, is aimed at combating energy poverty in the region and improving the quality of life in the most remote municipalities. In an unprecedented way, the event incorporated as a goal a floor for the participation of renewables within the offers to be presented by competing companies.

Another novelty, of great scope for the development of the country, is the resumption in the new energy segment, with the A-5 Auction, after several

years without holding it due to lack of demand. The focus now is on contracting Small Hydroelectric Power Plants (SHPs), unlike other bids, in which there was a very large predominance of wind and solar sources.

With this courageous decision, the MME gives projection to a source that was previously undervalued. The SHPs are able to mobilize a markedly national industry, bringing together a lot of history and expertise, which cannot be lost.

The Reserve Capacity Auction in the Form of Power (LRCAP) represents an advance compared to the first one, in 2021, in particular because it is much larger and more ambitious. In addition to the necessary recontracting of existing thermoelectric plants, it also brings a look at the expansion of new flexible thermal plants. And it brings another innovation: for the first time, it has the participation of hydroelectric plants to offer power in the system, bringing greater diversification of the matrix.

The Transmission Auctions are fulfilling an ambitious expansion agenda, with the largest auctions in the history of the Brazilian electricity sector. They totaled R\$ 60 billion contracted, in 2023 and 2024 alone. This represents at least

double what has been practiced in recent years. They will reduce the risk in renewable energy investments that depend heavily on transmission, but, above all, generate low tariffs, since investment in transmission is what makes the infrastructure viable for there to be competition in the supply of generation.

In this way, the various auctions already held, added to those already in progress and those scheduled until the end of 2026, bring benefits both to the population, especially low-income, and to industry, commerce, agribusiness and services.

Led by the MME, the initiatives ensure energy security in the country and the quality of services provided to consumers and user companies, without interruptions in supply.

The auctions favor the improvement of generation and transmission infrastructure in all regions. These are important factors for the creation of employment and income both in the construction and maintenance of enterprises. For the consumer, they help to provide affordable cost that can fit into their household budget.

The broad competitiveness of the auctions reflects the progress of planning and the attractiveness of the sector for



new investments, especially in renewable sources.

In the case of generation, by law, the government has to contract new energy loads a few years in advance. Hence the nomenclature below, in which, for example, the A-5 represents that the auction takes place five years before the start of the energy supply.

1 ISOLATED SYSTEMS 2025 (SISOL)

In September 2025, the Auction for Isolated Systems 2025 (Sisol) was held, whose service benefited more than 30 thousand people in remote locations in Pará and Amazonas. In total, there were about R\$ 312 million in investments.

Among the highlights is the contracting of the first hybrid project in the sector associated with batteries (BESS). In Jacareacanga (PA), 30 megawatts (MW) of battery storage and 18 MW of solar generation will be installed — a solution equivalent to the largest battery ever in Brazil, located in Registro (SP).

Isolated systems are regions that are still very dependent on diesel generation, which is responsible for more than 60% of the current supply and emits greenhouse gases. In addition, the use of diesel has a very high level of losses and inefficiency above the average in the country, not to mention the logistical difficulties for

supply in places with difficulties for transportation.

Sisol 2025 is aligned with the objectives of the MME's Amazon Energy Program, and seeks, at the same time, to combat energy poverty and promote social inclusion in low-income communities in the Legal Amazon. The winning projects exceeded the minimum required percentage of 22% renewable energy, reaching an average of 50% renewability. The attractiveness was also evident in the results: a discount of 22% in Lot 1 and 47% in Lot 2 in relation to the initial prices, ensuring more advantageous rates for the consumer. The start of operation will be in 2027, with 15-year contracts.

2 RESERVE CAPACITY IN THE FORM OF POWER (LRCAP)

The Reserve Capacity Auction in the Form of Power was designed to contract electricity from new and existing generation projects, with a view to ensuring the security and reliability of the energy supply in the National Interconnected System (SIN). This type of auction had not occurred since 2021.

The purpose is to have enough power to meet the maximum load at critical moments, such as consumption peaks or when there is a reduction in uncontrollable generation such as solar and wind.

In August 2025, two public consultations were launched for the Reserve Capacity Auction (LRCAP) 2026. Ordinances No. 859/2025 and No. 860/2025 initiate these processes.

An innovation consists of allowing the contracting not only of energy from thermoelectric plants, but from the expansion of hydroelectric plants, and the introduction of operational flexibility requirements.

3 SMALL HYDROELECTRIC PLANTS

The MME is making an unprecedented effort to encourage the implementation of smaller hydraulic power plants, in line with the global trend. Two beneficial impacts stand out: the advancement of the energy transition, expanding decarbonization towards the green economy, and the promotion of

NUMBERS

| REGISTRATION OF PROJECTS IN THE NEW ENERGY AUCTION A-5 OF 2025 | | | |
|--|--------|----------|---------------|
| STATE | SOURCE | PROJECTS | CAPACITY (MW) |
| Bahia | SHP | 1 | 26 |
| | MHP | 1 | 3 |
| Espírito Santo | SHP | 1 | 10 |
| | MHP | 4 | 19 |
| Goiás | SHP | 20 | 453 |
| | MHP | 4 | 11 |
| Minas Gerais | SHP | 25 | 379 |
| | MHP | 6 | 17 |
| | LHP | 1 | 43 |
| Mato Grosso | SHP | 30 | 421 |
| | MHP | 4 | 13 |
| | LHP | 1 | 48 |
| Mato Grosso do Sul | SHP | 10 | 160 |
| | MHP | 1 | 3 |
| | LHP | 1 | 40 |
| Pará | SHP | 7 | 118 |
| Paraná | SHP | 27 | 268 |
| | MHP | 3 | 4 |
| Pernambuco | SHP | 1 | 9 |
| Rio de Janeiro | SHP | 6 | 76 |
| | MHP | 1 | 1 |
| | LHP | 3 | 91 |
| Rio Grande do Sul | SHP | 12 | 94 |
| | MHP | 8 | 24 |
| Rondônia | SHP | 1 | 30 |
| Santa Catarina | SHP | 38 | 483 |
| | MHP | 16 | 39 |
| São Paulo | SHP | 2 | 30 |
| | MHP | 1 | 3 |
| | LHP | 1 | 47 |
| Tocantins | SHP | 3 | 35 |
| | MHP | 1 | 3 |
| TOTAL | | 241 | 2,999 |

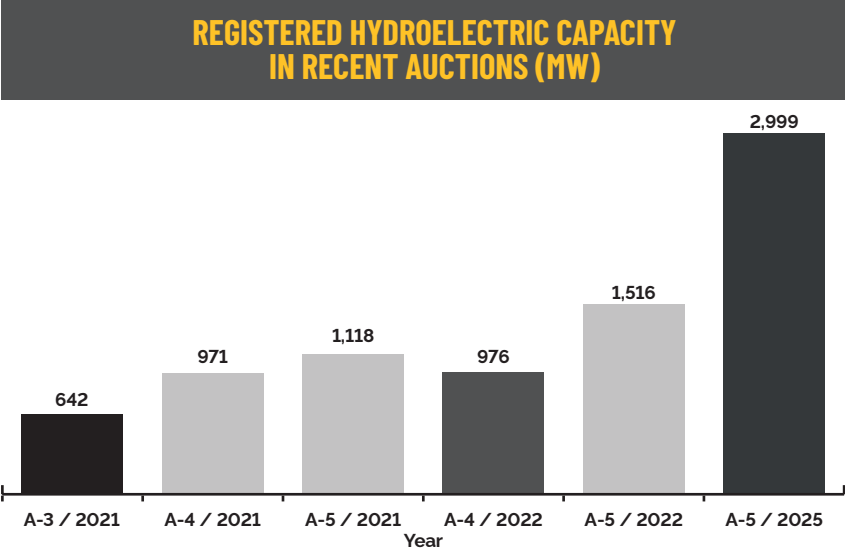
Source: Projects / Offered Capacity (MW)

social inclusion, translated into more employment and income for families, as well as more opportunities for self-employed workers and entrepreneurs.

The investment values are estimated at R\$ 100 billion, with 810 Small Hydroelectric Power Plants (SHPs) in licensing, through resources from the

| REGISTRATION IN THE NEW ENERGY AUCTION A-5 OF 2025 | | |
|--|--------------------|---------------|
| Distribution by type of power plant | | |
| TYPE | NUMBER OF PROJECTS | CAPACITY (MW) |
| LHP | 7 | 269 |
| SHP | 184 | 2,592 |
| MHP | 50 | 138 |
| Total | 241 | 2,999 |

Source: MME / EPE



- LEGEND OF ACRONYMS:
- SHP – Small Hydropower Plant (Pequena Central Hidrelétrica – PCH)
 - MHP – Micro Hydropower Plant (Central Geradora Hidrelétrica – CGH)
 - LHP – Large Hydropower Plant (Usina Hidrelétrica – UHE)

private sector, and 300 thousand jobs generated. These are fundamental pillars to ensure a Brazil with robust and sustainable energy.

Advantages include low environmental impact. In addition, the location closer to consumer centers reduces investments in transmission. They can also act

as "batteries", given their ability to modulate energy, storing and releasing according to demand.

On 12/19/2024, the rules for the 2025 A-5 New Energy Auction were published, which had record power and hydroelectric projects registered. There are 241 projects in the dispute, including Small Hydroelectric Power Plants (PCH), Hydroelectric Generating Plants (CGH) and Hydroelectric Power Plants (HPP) less than 50 MW. In total, they correspond to an installed capacity of 2,999 MW. The initiative represents the resumption of hiring, with the last event of this modality being held in September 2022.

Closed in March 2024, the registration was distributed as follows by number of projects and power: 184 SHPs (2,592 MW), 50 CGH (138 MW) and 7 HPPs (269 MW). The result surpassed the mark of the 2022 A-5 Auction, in which 90 projects (1,516 MW) were registered. The energy supply should occur for 20 years, starting on 01/01/2030. The states that led the supply of SHPs were Santa Catarina (38 projects), Mato Grosso (30), Paraná (27), Minas Gerais (25) and Goiás (20). The registration was done 100% digitally, by EPE, linked to the MME.

The auction was held on 08/22/2025 and negotiated R\$ 6.6 billion in energy sales contracts and investments estimated at R\$ 2.95 billion, whose potential to generate jobs in the implementation period is around 20 thousand jobs

Several studies prove that SHPs have a positive social and economic impact on the communities in the municipalities where they are installed. The performance in these locations for the Municipal Human Development Index (MHDI, of the United Nations), the Gini Index, the per capita income (IBGE) and the Employment and Income Index (Firjan) is clearly higher than that achieved by their neighbors. This underscores the importance of these developments for residents.

Brazil dominates all stages of this source, such as the conception of the basic project, the engineering of the equipment, the civil construction, the electromechanical assembly and the operation. Thus, the national economy is valued, by seeking that all resources are invested directly for our population.

4 TRANSMISSION

With the transmission auctions, the MME is leveraging the electricity sector for economic and social development, with a positive impact in particular for the Northeast and North of the country, generating employment and income opportunities in the locations of the works and allowing the flow of cheaper energy in the regions. The projects consist of infrastructure works necessary to keep the electrical system operating satisfactorily, ensuring that the electricity demand is met.

In 2023 and 2024, the National

Electric Energy Agency (Aneel) held four auctions at B3's headquarters (Brasil, Bolsa, Balcão), in São Paulo.

There were 17,903 km of transmission lines, and 20,000 MVA of transformation into substations, located in the states of Alagoas, Bahia, Ceará, Espírito Santo, Goiás, Mato Grosso do Sul, Maranhão, Minas Gerais, Paraíba, Paraná, Pernambuco, Piauí, Rio de Janeiro, Rio Grande do Norte, Santa Catarina, Sergipe, São Paulo and Tocantins.

The works bring investments of around R\$ 58.95 billion, with the prospect of generating approximately 108.9 thousand jobs during the construction of the projects.

It is estimated that each real invested in the transmission system has the potential to unlock three to five reais in new investments in energy generation. In total, there would be about R\$ 60.7 billion in new investments in transmission alone.

The facilities are part of the Electric Energy Transmission Concession Plan, under the responsibility of the MME, with support from EPE, the National Electric System Operator and Aneel.

The planning of the transmission infrastructure seeks to enable the solutions that, in a combined way, present the lowest cost for consumers, the lowest socio-environmental impact and the greatest reliability and sustainable socioeconomic growth. The implementation demon-

strates Brazil's commitment to the energy transition.

The success of the concession procedures proves advantages offered by Brazil such as the stable regulatory framework, respect for contracts and predictability for business, in addition to political and social stability. More competitions are planned for 2025 and 2026. Another important characteristic is the diversity and complementarity of technologies so that consumers can get more benefits.

The following are the names, dates of realization and the states comprised by the four contests held:

- ♦ N°. 001/2023 – 06/30/2023 – Bahia, Espírito Santo, Minas Gerais, Pernambuco, Rio de Janeiro, São Paulo and Sergipe
- ♦ N°. 002/2023 – 12/15/2023 – Goiás, Maranhão, Minas Gerais, São Paulo and Tocantins
- ♦ N°. 001/2024 – 03/28/2024 – Alagoas, Bahia, Ceará, Maranhão, Mato Grosso do Sul, Minas Gerais, Paraíba, Pernambuco, Piauí, Rio de Janeiro, Rio Grande do Norte, Santa Catarina and Tocantins
- ♦ N°. 002/2024 – 09/27/2024 – Bahia, Espírito Santo, Minas Gerais, Paraná, Santa Catarina, São Paulo and Rio Grande do Sul

Auction N°. 04/2025, scheduled for 10/31/2025, foresees investments of R\$7.67 billion, covering 13 states: Goiás, Mato Grosso, Mato Grosso do Sul, Maranhão,



| BALANCE OF EXISTING ENERGY AUCTIONS A-1 AND A-2 | | |
|---|--------------------|------------------|
| CATEGORY | A-1 | A-2 |
| Contracted Energy | 1,621.5 average MW | 508.8 average MW |
| Average Price | BRL 162.24/MWh | BRL 161.06/MWh |
| Discount Rate | 18.88% | 5.26% |
| Total Amount | BRL 4.6 billion | BRL 1.4 billion |
| Savings | BRL 1.1 billion | BRL 79.7 million |

Source: Aneel

Paraíba, Pernambuco, Piauí, Rio Grande do Norte, Minas Gerais, São Paulo, Paraná, Rio Grande do Sul and Rondônia.

1,178 kilometers of new transmission lines will be built and the transformation capacity will be expanded by 4,400 MVA. Installations of essential equipment such as a Fast Automatic Reactive Control and seven Synchronous Compensations are also planned. These works should generate approximately 19.1 thousand direct and indirect jobs, demonstrating the power of the electricity sector as a vector

of socioeconomic development.

5 EXISTING ENERGY A-1 AND A-2

On 12/06/2024, in accordance with the MME guidelines, Aneel and the Electric Energy Trading Chamber (CCEE) held the Existing Energy Auctions (LEE) A-1 and A-2 for the year 2025.

In all, R\$ 6.04 billion in supply contracts were handled between January 2025 and December 2027, providing an estimated saving of R\$ 1.15 billion for the Brazilian consumer.

The auctions aimed to sell electricity produced in plants already in operation, in order to guarantee the supply of distributors and, thus, ensure supply to final consumers. They will complement the demand of distributors in the states of Amazonas, Bahia, Ceará, Goiás, Maranhão, Pará, Paraíba, Pernambuco, Piauí, Rio de Janeiro, Rio Grande do Sul, Santa Catarina, São Paulo and Tocantins.

Held in a virtual format, the competitive process allowed the participation of any energy source, in accordance with the principle of technological neutrality, which increased competitiveness. In addition, the contracts from these auctions do not undergo monetary updating. The increase in competitiveness and the non-monetary updating of these contracts result in lower rates for the consumer.. There was contracting of safe and cheap energy, with prices below the value of the distributors' portfolio.

With the start of supply scheduled for January 2025, the A-1 moved R\$ 4.6 billion for the contracting of 1,621.5 average MW. The discount recorded was 18.88%, which allowed a saving of R\$ 1.1 billion in relation to the initial price.

The A-2, whose supply will begin in January 2026, totaled R\$ 1.4 billion in negotiations, for the purchase of 508.8 average MW. It had an average discount of 5.26% and saved R\$ 79.7 million compared to the ceiling price.

REVITALIZATION OF THE ITAIPU ENERGY TRANSMISSION SYSTEM

A stage of the project to revitalize the energy trans-mission system of the Itaipu hydro-electric plant, aimed at modernizing and upgrading the technology in use, was completed on **12/13/2024** with the participation of the Ministry of Mines and Energy (MME). The Ministry played a key role in monitoring and coordination, ensuring that progress adhered to the established technical and financial parameters.

Essential to Brazil's energy security, the Furnas High-Voltage Direct Current (HVDC) System, which transmits part of the energy generated by Itaipu to Brazil, is undergoing renovation. Built in the 1980s, the system now faces risks of collapse and requires revitalization, as it has already exceeded its useful life. It is being transformed into a modern and resilient transmission infrastructure.

The project connects Foz do Iguaçu (Paraná) to Ibiúna (São Paulo), reinforcing the reliability of electricity supply for millions of Brazilians. This moderniza-tion will ensure energy security for the population while contributing to lower tariffs, reducing costs for consumers.

An addendum to the original agreement was signed in **May 2024** between the MME and Itaipu Binacional to guarantee

that the work is carried out without impacting electricity bills, underscoring efficient management and commitment to society.

With investments of approximately **R\$ 1.9 billion**, the project ensures greater flexibility for Itaipu, optimizing production while strengthening Brazil's power system. This will provide high-quality, reliable electricity transmission services while avoiding tariff increases.

The MME played a decisive role in securing contributions and coordinating actions among the different entities involved, ensuring compliance with the timeline. The amendment also reduced costs for Brazilians and decreased Itaipu's non-operating expenses, redirecting resources to the electricity sector itself.

Beyond structural revitalization, the initiative incorporates cutting-edge technologies, such as real-time monitoring systems, which significantly reduce the risk of transmission failures. This technological progress strengthens Brazil's ability to ensure a stable and efficient energy supply, even in periods of high demand or adverse weather conditions.

The revitalization is scheduled for completion in **2026**, followed by assisted operation

from **2027 to 2029**. It also includes modernizing equipment at the converter station in Foz do Iguaçu, which transforms alternating current from Itaipu at 50 Hertz (Hz) into 60 Hz at the Ibiúna station.

The completion of this stage in **December 2024** is part of MME's broader effort to modernize and reinforce Brazil's energy infrastructure. The full upgrade of all converters is strategic to prevent supply interruptions and ensure that the increasing demands of both the population and industry are met, consolidating Brazil's role as a benchmark in innovation and energy security.

Itaipu's non-operating expenses are being redirected to the electricity sector itself, preventing additional costs for consumers.

The Itaipu transmission system will also sustain ongoing energy integration among Mercosur countries, further advancing South America's economic development.

With half a century of experience, Itaipu Binacional continues to demonstrate the possibility of harmonizing economic growth with environmental conservation. As a generator of clean and renewable energy, it remains a global symbol of energy integration.

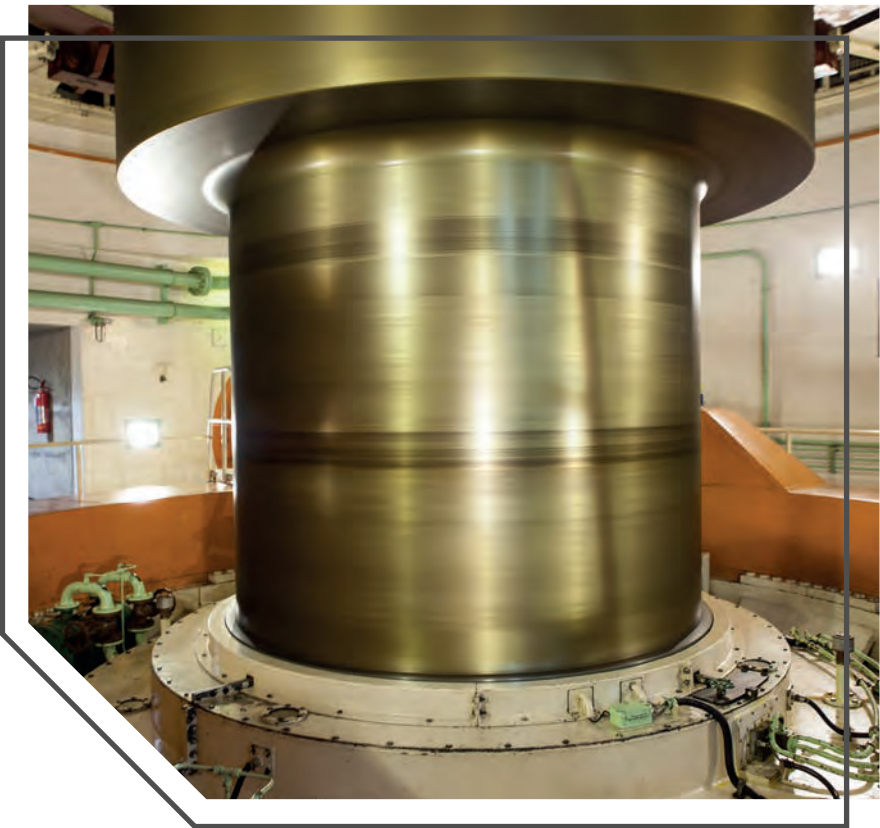


THE HVDC SYSTEM

According to information from Itaipu Binacional, the HVDC system is approximately 800 km long and connects the substations of Foz do Iguaçu (Paraná) and Ibiúna (São Paulo). It transmits the energy produced by Itaipu at 50 Hz (the frequency used in Paraguay) that is not consumed by the neighboring country, a partner in the venture. In Ibiúna, the energy is converted into 60 Hz alternating current, the Brazilian standard.

The system transmits part of the energy produced by the Itaipu hydroelectric plant, supplying Brazil's main consumer centers, such as Rio de Janeiro and São Paulo. The Ibiúna substation is located less than 100 km from the center of São Paulo's capital.

This renovation is the first since the system began operating in 1984, alongside the start of power generation at the plant. It represents a crucial investment for the electrical system, as this type of equipment requires constant and specialized attention.



NUMBERS

- **800 km** - Total length of the HVDC system connecting Foz do Iguaçu and Ibiúna substations.
- **R\$ 1.9 billion** - Planned investment value

DATES

- **05/16/2024** – Signing of the addendum for the revitalization of the Furnas High-Voltage Direct Current system.

POTENCIALIZA E&P AND EQUATORIAL MARGIN

On 09/23/2024, the Ministry of Mines and Energy (MME) launched the Potencializa E&P Program, an initiative aimed at stimulating the exploration and development of oil and natural gas production in new frontier areas, mature fields, and marginal economic fields, with a strong focus on sustainability. The program seeks to attract investment, foster regional development, and support the energy transition.

In recent years, Brazil's E&P sector has faced significant challenges in accelerating exploration activities, particularly in new frontier regions.

The country currently offers a highly favorable environment

for oil and natural gas production. Oil output, which stands at 3.5 million barrels per day, is projected to reach 5.3 million barrels per day by 2030, driven mainly by pre-salt discoveries that began in 2006 and are still being developed. This growth is critical to ensuring energy security and increasing national income and job creation—key resources for a fair, inclusive, and balanced energy transition.

However, Brazil also faces the challenge of replenishing its oil reserves, with the risk of future dependence on imports. Exploration is essential to secure reserve replacement and sustain current production levels. This becomes even more relevant

as pre-salt fields such as Tupi (Lula) and Búzios reach more mature production stages.

According to estimates from the Energy Research Company (EPE), following a peak projected for 2031, national oil production is likely to decline. Without progress into new exploration frontiers, Brazil could once again become dependent on oil imports by the 2040s, compromising energy security and undermining economic development.

In light of this scenario, the Potencializa E&P Program was created to adopt immediate and robust measures to reactivate and strengthen the country's oil and gas exploration and production sector. Maintaining production levels beyond 2031 depends directly on decisions being made today. The blocks acquired now will guarantee the oil of the future and, with it, Brazil's energy sovereignty and sustainable development.

EVEN MORE ATTRACTIVE AUCTIONS

We are working to make new areas available for future cycles, which will allow Brazil to hold even more attractive auctions, expanding the use of the country's exploration potential. Under the Potencializa E&P Program, 11 Joint Manifestations were signed between 11/2024 and 01/2025, with 519 areas identified as suitable for future cycles. Of these, 274 exploration blocks and five marginal accumulation areas

will already be offered in the 6th Cycle of the Permanent Offer, representing a significant portfolio renewal and major news for the market, with a strong focus on onshore.

In the block auction held in 06/2025, 34 blocks were acquired by nine companies, located in the Parecis (onshore), Foz do Amazonas, Santos, and Pelotas (offshore) basins. The signing bonus reached R\$ 989.26 million, the highest ever recorded among all PCO cycles. Planned investments amount to R\$ 1.46 billion for the initial phase of the contracts—the exploration phase alone.

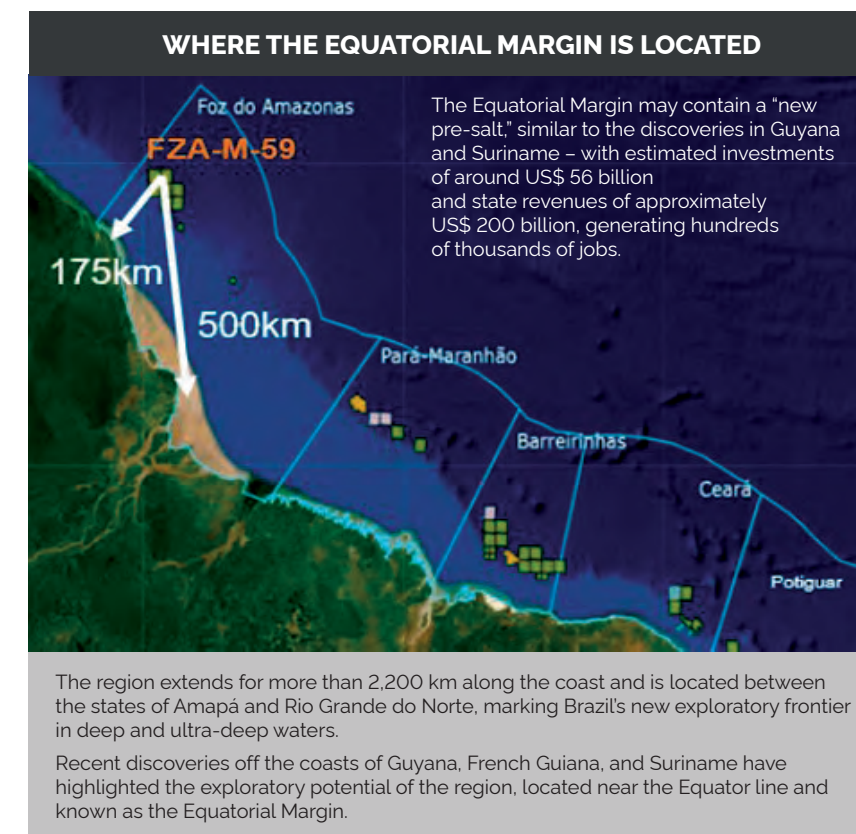
In the 3rd Cycle of the Permanent Production Sharing Offer, held on 10/22/2025, five blocks were acquired by five companies, all located within the Pre-Salt Polygon: Esmeralda and Ametista, in the Santos Basin, and Citrino, Itaimbezinho, and Jaspe, in the Campos Basin. The signing bonuses for the five blocks totaled R\$ 103.7 million. The investments planned solely for the first phase of the contracts (exploration) amount to R\$ 451.5 million.

The Permanent Offer has become the main model for allocating oil and natural gas exploration and production areas in Brazil. It currently includes two modalities: the Permanent Concession Offer (PCO), applied as the general rule, and the Permanent Production Sharing Offer (PPS), focused on areas located within

NUMBERS

EQUATORIAL MARGIN

- Expected investments – R\$ 280 billion
- Potential reserves – 10 billion barrels of oil
- Potential jobs – 350,000 jobs
- Expected revenue – Over R\$ 1 trillion



EXPLORATION OF UNCONVENTIONAL RESOURCES

- **Natural gas** – Potential to generate 400 million cubic meters per day, creating thousands of jobs

AUCTION OF EXPLORATION BLOCKS

Concession Regime

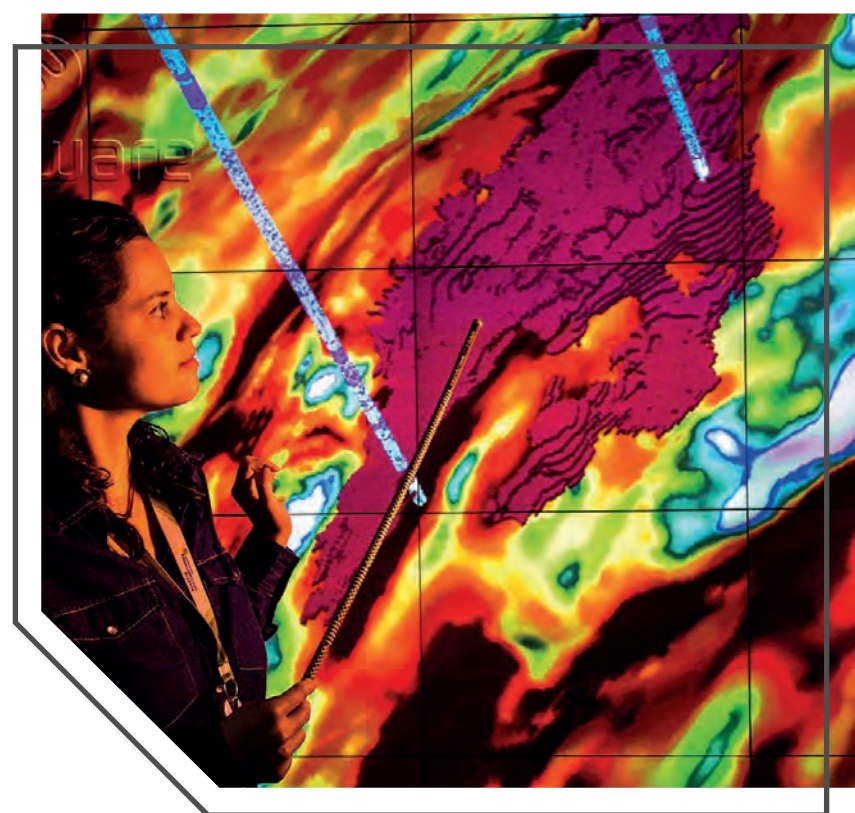
- Public session of the 5th PCO Cycle held on 06/17/2025
- Thirty-four blocks auctioned to nine companies, located in the Parecis (onshore), Foz do Amazonas, Santos, and Pelotas (offshore) basins
- Signing bonus collected: R\$ 989.26 million – a record for PCO cycles
- Planned investments of R\$ 1.46 billion for the exploration phase

Production Sharing Regime

- Public session of the 3th PPS Cycle held on 10/22/2025
- Five blocks located within the Pre-Salt Polygon acquired by five companies
- Signing bonuses: R\$ 103.7 million
- Planned investments of R\$ 451.5 million for the exploration phase

NEW AREAS AVAILABLE

- Eleven Joint MME – MMA Statements signed between November 2024 and January 2025, identifying 519 areas as suitable for future cycles. Of these, 274 new exploration blocks and five areas with marginal accumulations will be available in the next Permanent Offer cycle.



the pre-salt polygon or considered strategic.

Unlike traditional bidding rounds, this model allows exploratory blocks and marginal accumulation areas to remain permanently available for bidding in both onshore and offshore basins. This provides greater flexibility for companies, enabling them to analyze technical data and submit bids at the most opportune time, aligned with their business strategies.

Furthermore, the inclusion of mature fields and marginal economic areas expands opportunities for companies with different profiles. Mature fields are areas where oil or gas production is in decline due to partial depletion of reserves. Marginal economic fields are those with smaller oil or gas volumes or higher exploration challenges, but which can become viable with technological or economic incentives.

NEW FRONTIERS

New frontier areas are those that have not yet been adequately explored to fully assess their oil potential. One frontier that has been gaining attention is the offshore Equatorial Margin, which stretches from Rio Grande do Norte to Amapá and is estimated to hold 10 billion barrels of recoverable oil. To develop this production, approximately R\$ 280 billion in investments would be required, with the potential to create 350,000 jobs. Government

DATES

- **09/23/2024** – Signing of Ordinance GM/MME No. 804/2024 during the opening ceremony of the Rio Oil & Gas Conference
- **11/28/2024** – MME and the Ministry of the Environment and Climate Change (MMA) sign Joint Statement to include 91 blocks in the Permanent Offer (39 areas in the São Francisco Basin, Minas Gerais; 41 blocks and one marginal accumulation field in the Potiguar Basin, Rio Grande do Norte – all under the concession regime – plus 11 blocks in the pre-salt polygon under the production sharing regime)
- **12/17/2024** – MME and MMA sign Joint Statement to include 393 blocks and five marginal accumulation fields in the Permanent Offer across the Recôncavo, Tucano, Santos, Campos, Parnaíba, and Tacutu basins
- **12/26/2024** – Publication of Law No. 15,075/2024, authorizing the transfer of local content surpluses between existing oil and natural gas exploration and production contracts, and allowing for the extension of production sharing contracts
- **01/10/2025** – MME and MMA sign Joint Statement to include two blocks in the Permanent Offer Notice under the Production Sharing Regime
- **01/14/2025** – MME and MMA sign Joint Statement to include 15 blocks in the Espírito Santo Basin (MC No. 11/2024)
- **01/16/2025** – MME and MMA sign Joint Statement to include eight blocks in the offshore Ceará Basin (MC No. 10/2024)
- **01/17/2025** – Publication of Decree No. 12,362/2025, on a program to reduce the amount of royalties in Round Zero contracts as an incentive for investments in the realization of local content in the exploration and production activities of these contracts.
- **06/17/2025** – Public session of the 5th PCO Cycle, held at the National Agency of Petroleum, Natural Gas and Biofuels (ANP/RJ)
- **06/18/2025** – Report “E&P Decarbonization Scenarios”, published by the Energy Research Company (EPE), in line with the guidelines established by Resolution No. 8/2024 of the National Energy Policy Council (CNPE)
- **08/30/2025** – Publication of Navigation Manuals of the Dynamic Local Content Panels on the ANP website.
- **10/20/2025** – The Brazilian Institute of Environment and Renewable Natural Resources (Ibama) granted an environmental license to Petrobras for drilling an exploratory well in block FZA-M-059, located in deep waters off the coast of Amapá, 500 km from the mouth of the Amazon River and 175 km from the shore, in Brazil's Equatorial Margin.
- **10/22/2025** – Public session of the 3th PPS Cycle held at ANP/RJ

participation is expected to exceed R\$ 1 trillion.

Among other new exploration frontiers, the Pelotas Basin stands out, having attracted growing interest from the industry. In 2024, 44 concession contracts for exploration

blocks were signed. However, at present, there are no blocks available for bidding in either the Equatorial Margin or the Pelotas Basin under the Permanent Offer. This highlights the need to advance qualification processes for these regions,



ensuring their inclusion in future rounds to expand Brazil's portfolio in strategic areas.

Another important dimension within the Potencializa E&P Program is the exploration of oil resources in unconventional reservoirs. Brazil ranks 10th globally in shale gas resources, with an estimated 6.9 trillion m³ of natural gas.

If proven viable, daily production could surpass 400 million m³, more than doubling Brazil's current gas production, eliminating natural gas imports, reducing costs, and fostering the growth of new industries inland. This would generate thousands of direct and indirect jobs, as well as increased income for families.

With increased investment, Brazil has the potential to become the world's fourth-largest oil producer. Currently, the oil and gas sector plays a central role in the national economy,

representing 15% of industrial GDP, 48% of domestic energy supply, and generating more than 1.6 million direct and indirect jobs.

The most significant projects within the Investment Acceleration Program (PAC) are also concentrated in this sector, reinforcing its strategic importance for fiscal balance and economic growth.

From a sustainability perspective, the Potencializa E&P Program is advancing by monitoring the regulatory agenda of the National Agency of Petroleum, Natural Gas and Biofuels (ANP) on the energy transition, supported by the completion of studies provided for in CNPE Resolution No. 8/2024, aimed at decarbonizing the oil and gas sector. Technical reports and communication materials are available on the EPE website.

On the regulatory front, the program has also advanced

with measures to improve the contractual environment and stimulate production in fields under the production sharing regime. Law No. 15,075/2024 was approved, extending production sharing contracts and authorizing the transfer of local content surpluses between existing oil and gas contracts—a measure that increases contractual flexibility and promotes more efficient fulfillment of commitments to the national industry.

The Potencializa E&P Program fosters regional development and supports small oil and gas producers, whose activities generate tax revenues and strengthen government participation. By linking economic growth with environmental stewardship, the program underscores the sector's strategic importance for Brazil. Led by the MME, the program is carried out in collaboration with the ANP and EPE.

EQUATORIAL MARGIN

Through targeted public policies, Potencializa E&P seeks to ensure the sustainable and continuous development of Brazil's oil and natural gas industry. In a globally competitive environment for investments, the country faces the urgent need to replenish its oil and gas reserves, while ensuring development that respects environmental standards.

The Federal Government recognizes that the energy transition must be fair, inclusive, and balanced, and that the oil and gas sector plays a strategic role in this process. As a reliable energy source, oil is essential for guaranteeing the energy security required for national development, while also serving as an important source of resources that can be reinvested in the transition itself. Its responsible use generates jobs, income, and drives regional growth.

Within this context, the Equatorial Margin emerges as a promising new exploratory frontier, with the potential to become the "new pre-salt" and represent a historic opportunity for economic and social transformation in Brazil's North and Northeast regions.

Following the pre-salt discoveries during the first administration of President Luiz Inácio Lula da Silva, major investments were attracted—especially by Petrobras—boosting national output and placing



Brazil among the world's leading oil producers.

Although the pre-salt was a milestone of success, fields such as Tupi (Lula) and Búzios are already operating at mature stages. Furthermore, uncontracted reserves in this region face high geological risk and

limited potential for significant new discoveries.

The Equatorial Margin thus arises as a solution to ensure production continuity, avoiding declines that could compromise both energy security and public revenue starting in the 2030s.

The Equatorial Margin has the potential to reshape Brazil's economic and energy landscape, significantly expanding its contribution to sustainable growth, energy security, and regional development.

SPECIFIC OBJECTIVES AND GOVERNANCE STRUCTURE

According to Ordinance GM/MME No. 804, which created the Incentive and Revitalization Program for Oil and Gas E&P Activities (Potencializa E&P), the program's specific objectives include:

- ♦ Increasing operational efficiency in mature and marginal fields by adopting measures that extend useful life, raise production, and improve recovery factors.
- ♦ Stimulating the development of marginal offshore accumulations, particularly through tie-back solutions integrated into existing production units.
- ♦ Harmonizing the supply of areas with the environmental licensing process, promoting synergies that shorten deadlines and improve predictability.
- ♦ Strengthening coordination between government and industry stakeholders, creating mechanisms to encourage revitalization of E&P activities.
- ♦ Ensuring compliance with environmental and operational standards, promoting

safety and adherence to industry best practices.

- ♦ Expanding geological knowledge of national sedimentary basins, with emphasis on the use of unconventional resources.
- ♦ Improving the Permanent Offer system for exploration areas, encouraging broader investor participation.
- ♦ Fostering the expansion of the national supply chain of goods and services, enhancing competitiveness and job creation.
- ♦ Adopting measures to mitigate greenhouse gas (GHG) emissions in exploration and production, aligning with global climate goals.
- ♦ Proposing actions to allocate Social Fund resources toward climate change mitigation and adaptation, reinforcing the commitment to sustainability.

The Executive Committee (CE-PEP) is responsible for implementing and supervising Potencializa E&P, ensuring coordination and alignment with program guidelines. CE-PEP is supported by specialized subcommittees tasked with conducting studies and proposing initiatives linked to the program's strategic objectives.

Each subcommittee focuses on areas considered critical and fundamental to the success of the program.

Subcommittees and their areas of activity

1. Sustainable Development of E&P Activities

Focused on promoting environmentally responsible practices and integrating solutions to mitigate greenhouse gas (GHG) emissions, ensuring sustainability in operations.

2. Promotion of the Development of Marginal Economic Field

Dedicated to technical and economic solutions that enable the exploration of marginal assets, with emphasis on expanding oil and gas recovery and applying technologies such as tie-backs.

3. Improvements in the System for Offering E&P Areas

Aimed at strengthening and enhancing the Permanent Offer System to make more areas available for auction, ensuring greater attractiveness, predictability, and competitiveness in the sector.

4. Incentives for the Expansion of the Domestic Goods and Services Supply Chain

Focused on designing policies and incentives that promote the domestic industry, maximizing the economic and social benefits generated by the oil and gas sector.

5. Development of Oil and Natural Gas Resources in Unconventional Reservoirs

Dedicated to advancing technical and geological knowledge to enable the efficient and sustainable exploration and production of unconventional resources.

OPTIMIZATION OF THE LOCAL CONTENT POLICY

On 12/27/2024, the Presidency of the Republic sanctioned Law No. 15,075, allowing the transfer of surpluses from the minimum local content monetary values between existing oil and natural gas exploration and production contracts.

The law also authorizes the federal executive branch to reduce royalty rates from oil and natural gas exploration and production concession contracts originating from the so-called Zero Bidding Round, promoted by the National Agency of Petroleum, Natural Gas, and Biofuels (ANP) in 2000. The reduction may be up to 5%, provided that companies invest in local content in these contracts, since they were initially established without minimum local content requirements.

These measures result from an initiative of the Presidency of the Republic and the Ministry of Mines and Energy (MME) aimed at optimizing the Local Content Policy (PCL), thereby encouraging greater contracting of Brazilian companies by operators in the oil and natural gas sector.

The measure strengthens Brazilian industry, as expanding local content generates higher-quality jobs, income, and competitiveness. The optimization allows for the transfer of

TO UNDERSTAND

Source: Chamber of Deputies and National Agency of Petroleum, Natural Gas and Biofuels (ANP)

Exploration and production contracts for oil and natural gas include a local content clause, which applies to both exploration and development phases.

According to this clause, a portion of goods and services purchased for exploration and production in Brazil must be domestic. Preference for contracting Brazilian suppliers must also be ensured whenever their offers present

equivalent conditions of price, delivery, and quality compared to other suppliers.

The purpose of this clause is to increase the participation of the Brazilian goods and services industry, on a competitive basis, in E&P development projects. Its application is expected to boost technological development, train human resources, and generate jobs and income in the sector.

any surpluses between contracts and ensures that Round Zero contracts will have local content obligations specifically related to the construction of new stationary production units, incentivizing domestic contracting at levels higher than the required minimum.

These adjustments aim to stimulate the national industry, creating incentives for the domestic acquisition of goods and services linked to oil and natural gas activities. This dynamic generates new

opportunities for local industrial development while also driving technological innovation and human resource training.

The proposal applies to bids and contracts for oil and natural gas exploration and production. By permitting the transfer of surpluses between concession and production sharing contracts, operators are expected to invest in local content instead of paying fines for failing to meet minimum requirements in projects where indices proved difficult to achieve.



The Local Content Policy is a tool designed to increase the participation of domestic equipment and services in the oil and gas production chain. Within the scope of the Potencializa E&P Program, this agenda has been included as a priority, with the creation of a specific subcommittee to study the issue and propose regulatory and normative improvements to strengthen the national supply chain.

NUMBERS

Achieving 15% local content in the construction of a typical offshore production platform would bring:

- R\$ 2.7 billion in domestic goods and services procurement in the first two years
- Approximately 18,000 direct and indirect jobs
- Added value of R\$ 2.4 billion injected into the economy, with around R\$ 804 million in tax revenues

DATES

- **08/26/2024** – Bill 3,337/2024 submitted to the National Congress by the Presidency of the Republic and MME
- **12/12/2024** – Approved by the Chamber of Deputies as Law N°. 15,075/2024
- **01/17/2025** – Decree No. 12,362/2025 was published, which regulates the procedure for reducing the amount of royalties in Round Zero contracts (contracts in force prior to the Sharing Regime Law) as an incentive for investments in the realization of local content in the exploration and production activities of these contracts

RENEWAL OF THE OIL TRANSPORT SHIPPING FLEET

One of the important measures adopted by the Ministry of Mines and Energy (MME) is the development and implementation of an instrument to encourage the renewal of Brazil's maritime fleet for the coastal transport of oil and oil products. The plan foresees the construction of 16 medium-sized tankers in national shipyards.

The initiative stimulates investment and productivity in the sector, while also strengthening the competitiveness of Brazil's industry in international markets. It is estimated that the program will generate an additional

R\$ 2.4 billion for the economy, along with R\$ 824 million in indirect tax revenue, and has the potential to create 13,000 direct and indirect jobs.

The new incentives for the shipbuilding industry and the oil and gas sector are consolidated in Federal Government actions through Provisional Measure (MP) No. 1,255/2024, later incorporated into Law No. 15,075/2024, and regulated by the MME via Decree No. 12,242/2024, which establishes accelerated depreciation for tankers used in coastal transport of oil and oil products.

With this tax benefit, companies in the sector can deduct tanker acquisition and maintenance costs more quickly, making investments in this segment of the maritime fleet more attractive and boosting Brazil's shipbuilding industry. In practice, the measure reduces the depreciation period from 20 years to only two years, making projects significantly more economically viable when carried out in Brazil.

This measure has proven essential for the development of the domestic shipbuilding industry dedicated to oil and oil product transport, a segment that had been losing ground



internationally due to unfavorable tax conditions.

The decree also responds to a long-standing demand from the sector, as it promotes greater local content, reduces external dependence on imported tankers, and strengthens industrial and naval engineering expertise within Brazil. This ensures greater capacity for the renovation and maintenance of vessels operating in the country.

NUMBERS

- R\$ 2.4 billion added to the economy
- R\$ 824 million in indirect tax revenue
- 13,000 direct and indirect jobs estimated

DATES

- **08/26/2024** – Provisional Measure No. 1,255 issued
- **11/08/2024** – Decree No. 12,242 published
- **12/26/2024** – Law No. 15,075 sanctioned
- **09/16/2025** – Interministerial Ordinance MDIC/MME No. 139/2025
- **09/23/2025** – Prior qualification for 16 tankers.

NATIONAL PACT FOR MORE WOMEN IN ENERGY AND MINING

Launched on September 4, 2024, the National Pact for More Women in Energy and Mining aims to promote strategies for gender equality and initiatives for the technical and managerial training of women in the sector, in the context of the energy transition.

According to data from the International Renewable Energy Agency (IRENA), only 32% of the workforce in these areas is made up of women. This figure falls to 28% in STEM (science, technology, engineering, and mathematics) professions. The goal is to change this scenario, as women are essential to building the economy of the future.

The Minister of Mines and Energy, Alexandre Silveira, and the Minister of Women, Aparecida Gonçalves, signed the pact, with the support of First Lady Janja Lula da Silva. The pact outlines the following shared commitments:

- Promote initiatives for technical and managerial training and capacity building of women in the energy and mining sector, especially young women in situations of social vulnerability.
- Encourage gender equality strategies in leadership and management positions.

- Establish policies that support care and parenting responsibilities in the sector.
- Implement strategies to combat all forms of workplace violence, focusing on preventing and addressing discrimination, harassment, and gender inequality.
- Contribute to reducing poverty and gender inequality, particularly by expanding access to energy and clean cooking technologies.

These initiatives increase the likelihood that more women will be able to build and sustain promising careers in the green economy. Women must have access to quality job opportunities, workplaces free from harassment, and conditions in which motherhood is treated as a valued role rather than a burden for companies.

The commitment is part of the Governance Policy of the Ministry of Mines and Energy and its Diversity, Equity, and Inclusion Program. The MME's Participatory Strategic Plan defines "sustainability" as a guiding value, alongside the objectives of "combating energy poverty" and "delivering social returns on energy and mineral wealth." The initiative is aligned with the United Nations



Sustainable Development Goal 5 (Gender Equality).

INTEGRATION

On May 19, 2025, the study "Integration of the Gender Component in Energy Sector Policies in G20 Countries" was released during the III Seminar on Strategic Management of Diversity, Equity, and Inclusion of the MME and Related Entities. The study was developed under the Brazil-Germany Energy Partnership, coordinated

by the National Secretariat for Energy Transition and Planning (SNTEP/MME).

The publication presents an overview of public policies in G20 countries and provides recommendations for measures in four areas:

- economic empowerment
- access to energy
- political and sectoral representation

- gender mainstreaming and integration

The study shows that, despite advances in gender equality policies in the energy sector, challenges remain for women's effective participation. In G20 countries, fewer than one in four workers in the energy sector are women, and only one in five hold senior management positions. On average, women earn 11% less than men.

NUMBERS

- 32% of the workforce in energy and mining is made up of women, according to the International Renewable Energy Agency (IRENA).
- 28% of women in STEM (science, technology, engineering, and mathematics) professions

DATES

- 09/04/2024 – Launch of the National Pact for More Women in Energy and Mining, in Brasília

NUCLEAR ENERGY

In 2023 and 2024, Brazil began to recognize nuclear energy as an important component of its energy transition strategy. It is a clean source of electricity generation, as it does not produce greenhouse gases.

The Ministry of Mines and Energy (MME) is conducting studies and actions to resume investments in the sector. One of the objectives is to strengthen Brazil's nuclear energy chain, advancing the development of a policy that covers the entire cycle from uranium mining to electricity generation, while also considering the future application of small nuclear reactors. Brazil has the potential to become the third largest holder of uranium reserves in the world.

In addition to contributing to global decarbonization, expanding nuclear energy supply is strategic to meet the growing and accelerating energy demand associated with technological advances in Artificial Intelligence and data centers. Companies such as Microsoft, Google, Amazon, Oracle, and Nvidia are beginning to explore nuclear energy as a way to ensure clean, steady, and reliable power for their operations.

Brazil currently ranks eighth in the world in uranium reserves. With new technologies and



comprehensive mapping of its territory, the expectation is to rise in this ranking. The potential of the reserves is considered comparable in importance to Petrobras or a new oil discovery in the pre-salt layer.

Exploration remains limited. The only mine in operation is in Caetité, Bahia. A project is under development for the Itataia

deposit in Santa Quitéria, Ceará, in conjunction with phosphate fertilizer production, which will contribute to food production and strengthen food security for Brazilians. In addition, there are smaller deposits in Gandarela (Minas Gerais), Rio Cristalino (Pará), and Figueira (Paraná).

Uranium is classified as a strategic resource, and

its production is a federal monopoly. Recent legislative changes have facilitated greater private sector participation.

Brazil is among the few countries in the world with the expertise and technology for all stages of the nuclear fuel cycle, from mining to manufacturing inputs for nuclear power plants. Prospecting for nuclear

minerals advanced mainly during the 1970s and 1980s, but only a fraction of the national territory has been systematically explored. It is believed that the country may hold one of the largest uranium resources globally, as less than one-third of its territory has been surveyed.

The current overview of

uranium resources is as follows:

- ♦ Measured and indicated resources – 209,700 tU
- ♦ Inferred resources – 172,600 tU
- ♦ Potential resources – 300,000 tU
- ♦ Speculative resources – 500,000 tU.

The MME seeks to integrate nuclear energy as a vital part of the national energy matrix. The Brazilian Nuclear Program is viewed as a strategic opportunity to enhance energy security and promote economic development, enabling job creation, foreign exchange generation, and technological innovation.

Regarding the Angra 1 plant, the MME authorized its operation for an additional 20 years, as announced on 11/21/2024, in compliance with a resolution by the National Nuclear Energy Commission (CNEN). Extending Angra 1's useful life will require investments of R\$ 3.2 billion over four years, which is more cost-effective than building a new plant.

As for Angra 3, negotiations are underway to resume construction, originally started in the 1980s but later suspended.

PROMISING INTERNATIONAL MARKET

At COP28 (Dubai, 2023) and COP29 (Baku, 2024), 31 countries committed to tripling nuclear energy production by 2050 to meet decarbonization targets.

This global commitment opens significant opportunities for Brazil, one of the few nations with expertise across the entire nuclear fuel chain and substantial uranium reserves. Currently, more than 450 nuclear power plants are in operation worldwide, with an additional

| NUCLEAR ENERGY AND DECARBONIZATION TARGETS | | |
|---|----------|----------------|
| THE 31 COUNTRIES THAT COMMITTED TO TRIPLING PRODUCTION BY 2050 AT COP28 AND COP29 | | |
| Armenia | Finland | Nigeria |
| Bulgaria | France | Netherlands |
| Canada | Ghana | Poland |
| Kazakhstan | Hungary | Kenya |
| South Korea | Jamaica | United Kingdom |
| Croatia | Japan | Czech Republic |
| El Salvador | Kosovo | Romania |
| United Arab Emirates | Morocco | Sweden |
| Slovakia | Moldova | Turkey |
| Slovenia | Mongolia | Ukraine |

Fonte: World Nuclear Association

60 under construction.

After enrichment, uranium becomes the main fuel used in these plants. Brazil could position itself as an exporter of nuclear fuel—a strategic, high-value-added product that could make a meaningful contribution to its trade balance.

The Federal Government promotes diversification of the national energy matrix. By expanding nuclear energy, Brazil strengthens its energy security, reduces costs for

the population, attracts investments, generates jobs, and advances sustainable development.

The MME has initiated discussions with other countries and companies in the nuclear sector to establish partnerships, leverage international expertise, and attract investment in studies of Brazil's mineral potential. Currently, only 26% of Brazil's subsoil has been explored. The expectation is to finalize a cooperation agreement by the end of 2025.



Brazil is a member of the International Atomic Energy Agency (IAEA) and has long maintained training and cooperation initiatives under its framework.

SMALL MODULAR REACTORS (SMR)

The MME, with support from EPE, has identified promising prospects for the application of Small Modular Reactors (SMRs), with a capacity of 10 to 300 MW.

Among the advantages of

using SMRs are:

- ♦ Modularization reduces costs, facilitating investment attraction
- ♦ Smaller size shortens construction timelines.
- ♦ Can serve remote and isolated systems, such as in the Amazon.
- ♦ Enable electricity-intensive industries to reduce transmission investments and overall costs.

NUMBERS

- Brazil ranks 8th globally in uranium reserves

URANIUM PRODUCTION IN BRAZIL

- Caetité (Bahia) – 101,000 tons (estimated), with annual production capacity of 400–800 tons
- Santa Quitéria (Ceará) – 142,500 tons (estimated), with annual production capacity of 2,300 tons

ANGRA NUCLEAR POWER PLANTS (TOTAL CAPACITY: ~2 GW)

- Angra 1 – 640 MW (in operation since 1985)
- Angra 2 – 1,350 MW (in operation since 2001)
- Angra 3 – Awaiting resumption of construction – 1,405 MW

DATES

- 11/21/2024 – MME announces authorization for Angra 1 to operate for 20 more years.

- ♦ Brazil already masters key stages of the production cycle, with robust industrial and regulatory capacity.
- ♦ Compact size allows for factory mass production, with subsequent transport to the installation site, in compliance with licensing requirements.
- ♦ Modularity offers greater operational flexibility compared to conventional nuclear plants.

INCENTIVIZED AND INFRASTRUCTURE DEBENTURES

The Ministry of Mines and Energy (MME) has been working intensively to attract strategic investments in the energy sector through incentivized and infrastructure debentures—financial market instruments that are consolidating their role as important tools in Brazil.

In 2024, Law No. 14,801 and Decree No. 11,964 introduced significant advances by simplifying and modernizing the regulatory framework for the issuance of incentivized debentures, while also creating a new security called infrastructure debentures, which grant tax benefits to issuing companies. For the MME, this modernization reinforces the Brazilian government's commitment to fostering investment in the electricity sector, which continues to demonstrate resilience, strong governance, robust regulation, and legal certainty.

Incentivized and infrastructure debentures are debt securities issued by companies to finance long-term projects deemed priorities in the energy sector, as established by Laws No. 12,431/2011 and No. 14,801/2024, as well as Decree No. 11,964/2024.

These securities offer attractive tax incentives to investors: exemption from withholding income tax for individuals, or a reduced 15% tax rate for legal

entities (incentivized debentures); or, in the case of infrastructure debentures, deduction of interest payments from the calculation base of Corporate Income Tax and Social Contribution on Net Income.

For both types of securities, the requirement for prior ministerial approval of project classification in the sectors listed under Decree No. 11,964/2024 has been waived. Responsibility for information provision, protocol filing, and compliance with legislation lies solely with the project owner/issuer. Prior ministerial approval remains mandatory only for public service projects owned by subnational entities.

Before contracting a financial agent to structure a fundraising operation, the project owner or issuer must submit the project documentation to the MME, demonstrating compliance with legal requirements.

To clarify procedures and required documentation in each sector, the MME has created a dedicated guidance page: gov.br/mme/projetos-prioritarios

According to 2024 legislation, within the scope of the sectors covered by the MME, the following types of projects are eligible for the issuance of incentivized and infrastructure debentures:

1. Energy

- ♦ Generation from renewable sources, transmission, and distribution of electricity
- ♦ Distributed mini-generation
- ♦ Natural gas
- ♦ Production of biofuels and biogas, except for the agricultural phase
- ♦ Production of low-carbon synthetic fuels
- ♦ Low-carbon hydrogen
- ♦ Carbon dioxide capture, storage, transport, and use
- ♦ Pipelines for transporting fuels, including biofuels and low-carbon synthetic fuels.

2. Processing of strategic minerals for the energy transition

OIL, NATURAL GAS, AND BIOFUELS

On December 11, 2024, the Ministry of Mines and Energy (MME) issued an ordinance regulating the procedures for classifying priority projects in the natural gas, biofuels, biogas, low-carbon synthetic fuels, and fuel transportation pipeline sectors.

The ordinance establishes detailed criteria for projects to qualify as priority and, therefore, be eligible to issue these securities. With the new rules, the debenture issuance process has become more



agile, eliminating the need for a specific ordinance to approve each project individually.

The MME is responsible for informing applicants whether the requirements established by law, decree, and applicable regulations have been met. Proponents must submit all required documentation for review to the MME's National Secretariat of Petroleum, Natural Gas, and Biofuels (SNPGB). If any pending issues are identified, applicants will be notified and granted 30 days to address them. Importantly, once the protocol is filed, proponents may already begin discussions with financial agents and proceed with structuring fundraising operations.

For projects involving public services owned by subnational entities—such as the provision of

local piped gas services—prior approval through the publication of an ordinance remains required, but under a simplified procedure.

This regulation is aligned with Law No. 14,801/2024, which introduced a new framework for infrastructure financing, and with Decree No. 11,964/2024, which consolidated the legal basis for issuing securities with tax benefits.

The rule also simplifies the classification of state and municipal projects, fostering increased investment in infrastructure. This model is well regarded by the market and, with the new measures, is expected to attract even more investors, reducing the cost of capital and amplifying the economic and environmental benefits generated by the projects.

ELECTRICITY TRANSMISSION AND DISTRIBUTION

Current regulatory ordinances remain valid insofar as they do not conflict with Decree N°. 11,964/2024. Accordingly:

- ♦ **Transmission** – Projects must be included under Article 1, §1 [except items VI and VIII], of MME Ordinance N°. 364/2017 and comply with Article 2 documentation requirements (<https://bit.ly/4aALEOH>);
- ♦ **Distribution** – Projects must comply exclusively with Articles 1 and 2 of MME Ordinance N°. 245/2017 (<https://bit.ly/4cSr3an>).

ANEEL TRANSMISSION AUCTION

On November 6, 2023, when approval through the publication of an ordinance was still

required, the Ministry of Mines and Energy (MME) classified the electric power transmission infrastructure projects tendered in the first transmission auction of 2023 by the National Electric Energy Agency (Aneel) as priority projects for the issuance of incentivized debentures.

The approval came one month after the signing of the concession contracts resulting from the largest transmission project tender ever held by Aneel in absolute numbers.

The purpose of this auction was to build 6,185 kilometers of transmission lines and substations, with an estimated investment of R\$ 15.7 billion across the states of Bahia, Espírito Santo, Minas Gerais, Pernambuco, Rio de Janeiro, and Sergipe.

ETHANOL AND BIOMASS

As an example of projects approved for the issuance of incentivized and infrastructure debentures, on February 29, 2024, the MME classified as a priority the Irrigated Ethanol Project of the company Bioenergética Vale do Paracatu. The project involves investments to maintain ethanol and biomass production for the 2022/2023 and 2023/2024 harvests.

The company reported that the project will involve renovation, modernization, and increased productivity of sugarcane fields. To this end, an estimated allocation of R\$ 616 million was planned, with R\$ 100 million

authorized to be raised with tax incentives for investors supporting the financing.

The industrial plant is a mixed unit that uses shared biological assets to produce sugar, ethanol, and electricity from sugarcane milling residue. The company's production capacity per harvest is:

- ♦ 6.3 million bags of sugar
- ♦ 130 million liters of ethanol
- ♦ 360,000 MW of electricity generation

In terms of planted area, the project covers approximately 22,000 hectares of cultivated and irrigated land.

Energy from biomass is recognized as a renewable energy source and contributes to the security of Brazil's energy supply. The country is one of the world's largest producers and consumers of biofuels, particularly ethanol and biodiesel. These renewable fuels play a key role in reducing dependence on fossil fuels.

Currently, sugarcane biomass is the second-largest energy source in Brazil, behind only oil and its derivatives. Another important contribution of biomass is its role in reducing greenhouse gas emissions. Unlike fossil fuels, whose combustion releases large amounts of CO₂ into the atmosphere, biomass emits only the carbon that was previously absorbed by plants during their growth. Its use, therefore, contributes to mitigating climate

change and advancing a low-carbon economy.

PROJECTS

- ♦ **2023** – A total of 33 energy transmission projects and 23 distribution projects were approved as priority initiatives, with a combined value of R\$ 15.8 billion. These included the winning projects from Auction No. 001/2023 conducted by the National Electric Energy Agency (Aneel).
- ♦ **Q1 2024** – Two electricity distribution projects were approved as priorities, totaling R\$ 3.74 billion. It should be noted that, with the publication of Law No. 14,801/2024 and Decree No. 11,964/2024, as of April 2024 prior approval by sectoral ministries was no longer required for classification as

priority projects, including electricity transmission and distribution.

- ♦ **Biofuels (2024)** – Before Decree No. 11,964/2024 came into force, four ordinances were published classifying projects focused on sugarcane field planting and renewal, totaling R\$ 1.65 billion, with companies expecting to raise R\$ 711 million. Under the new decree, 11 projects were filed, representing expected investments of R\$ 5.37 billion and targeted fundraising of R\$ 3.7 billion.
- ♦ **2023 Renewable Energy Projects** – 178 projects were approved as priorities, totaling 7.43 GW of installed capacity, before Decree No. 11,964/2024 came into force. Photovoltaic

projects accounted for 58% of approvals, while wind projects represented 37.6%. The states with the highest number of approvals were Bahia (47 projects), Minas Gerais (33 projects), and Piauí (26 projects).

- ♦ **2024 Renewable Energy Projects** – 24 projects were approved before Decree No. 11,964/2024 came into force, totaling 1 GW of installed capacity. All approved projects were photovoltaic plants.
- ♦ **2024 Priority Filings** – 597 projects were filed in the sectors of renewable electricity generation, natural gas-fired thermo-electric plants, and distributed mini-generation. Of these, 44% correspond to distributed mini-generation projects.

DATES

- ♦ **10/30/2023** – Electricity transmission projects from Aneel Auction No. 01/2023 approved as priorities
- ♦ **01/09/2024** – Publication of Law No. 14,801/2024, establishing infrastructure debentures
- ♦ **03/26/2024** – Publication of Decree No. 11,964/2024, regulating criteria and conditions for classifying and monitoring priority investment projects under incentive debentures, revoking Decree No. 8,874/2016
- ♦ **06/2024** – Publication on the MME website of a step-by-step guide and FAQ section with detailed instructions for priority project protocols in renewable electricity generation, natural gas-fired thermoelectric plants, and distributed mini-generation
- ♦ **12/10/2024** – Publication of Normative Ordinance GM/MME No. 93/2024, detailing complementary criteria and conditions for classification, approval, and monitoring of projects under the National Secretariat of Petroleum, Natural Gas, and Biofuels (SNPGB).



INVESTMENTS AND JOBS

POTENTIAL OF INVESTMENTS
IN THE SECTOR

R\$ 3.8 TRILLION BY 2034

SUMMARY OF INVESTMENT ESTIMATES 2024-2034

ELECTRIC
POWER R\$ 597 BILLION

CENTRALIZED GENERATION
R\$ 372 billion (62.3%)

DISTRIBUTED GENERATION
(MICRO AND MINI-GENERATION)
R\$ 105 billion (17.7%)

TRANSMISSION
R\$ 120 billion (20.1%)

OIL AND
NATURAL GAS R\$ 2.5 TRILLION

OIL AND NATURAL GAS E&P
R\$ 2.1 trillion (85.7%)

SUPPLY OF PETROLEUM PRODUCTS
R\$ 314 billion (12.6%)

NATURAL GAS SUPPLY
R\$ 44 billion (1.8%)

ELECTROMOBILITY
+ R\$ 130 BILLIONS



MINERAL
PROJECTS R\$ 330 BILLION



FUEL OF
THE FUTURE R\$ 260 BILLION
Estimated jobs: 200,000

BRAZIL OVERVIEW



R\$ 1.2 TRILLION
IN PROGRESS
THROUGH 2030
3 MILLION JOBS

OIL AND GAS

INVESTMENT: R\$ 442 billion
JOBS: 2.5 million

LOW-CARBON FUELS

INVESTMENT: R\$ 45 billion
JOBS: 230,000

GREEN HYDROGEN

INVESTMENT: R\$ 82 billion
CAPACITY: 23.7 GW

CENTRALIZED
POWER GENERATION

INVESTMENT: R\$ 187.8 billion
JOBS: 187,8 Mil
CAPACITY: 75.9 GW

ENERGY EFFICIENCY

INVESTMENT: R\$ 214 million

POWER TRANSMISSION

INVESTMENT: R\$ 53.9 billion
JOBS: 198,000

POWER DISTRIBUTION

INVESTMENT: R\$ 18.2 billion
JOBS: 103,000

LIGHT FOR ALL PROGRAM

INVESTMENT: R\$ 13.7 billion
BENEFITED FAMILIES: 331,000

DISTRIBUTED ELETRICITY
POWER GENERATION

INVESTMENT: R\$ 24.8 billion
JOBS: 100,000
CAPACITY: 4.0 GW

MINING PROJECTS

INVESTMENT: R\$ 110 billion
JOBS: 65,000



MANAGEMENT

TEN-YEAR ENERGY PLAN 2034

The Ten-Year Energy Expansion Plan 2034 (PDE) is one of the most important Brazilian energy planning instruments. On the initiative of the current administration of the Ministry of Mines and Energy (MME), it now places energy transition at the center of the sector's evolution. It also aims to ensure energy security and reduce costs for consumers.

Some of the positive impacts of the main actions and programs developed in 2023 and 2024 by the agency are already included. Exemples include:

- ♦ National Energy Transition Policy
- ♦ Fuel of the Future Law
- ♦ Gas for Employment Program
- ♦ Legal Framework for Low-Carbon Hydrogen
- ♦ Mining for Clean Energy Program

With around 500 pages and 16 executive thematic notebooks, the PDE serves as a reference for government and companies regarding investment prospects for expanding energy supply, with an integrated view of the entire energy sector. It considers ongoing initiatives and challenges for the next decade to ensure Brazil's energy security and transition.

Up to R\$ 3.2 trillion in investments are expected in the energy sector,

including oil, gas, and biofuels, as well as transmission lines, power generation, fuel production, and the new green industry. Thus, Brazil will pursue a fairer, more balanced, and inclusive energy transition. This will generate jobs and income while contributing to the fight against energy poverty.

The PDE plays a crucial role in supporting the development of public policies and helps ensure lower energy costs for society. Prepared since 2006 by the Energy Research Company (EPE), under the coordination and guidance of the MME, it is widely respected by the market and serves as a reference for other sectors of the economy as a planning and long-term vision tool.

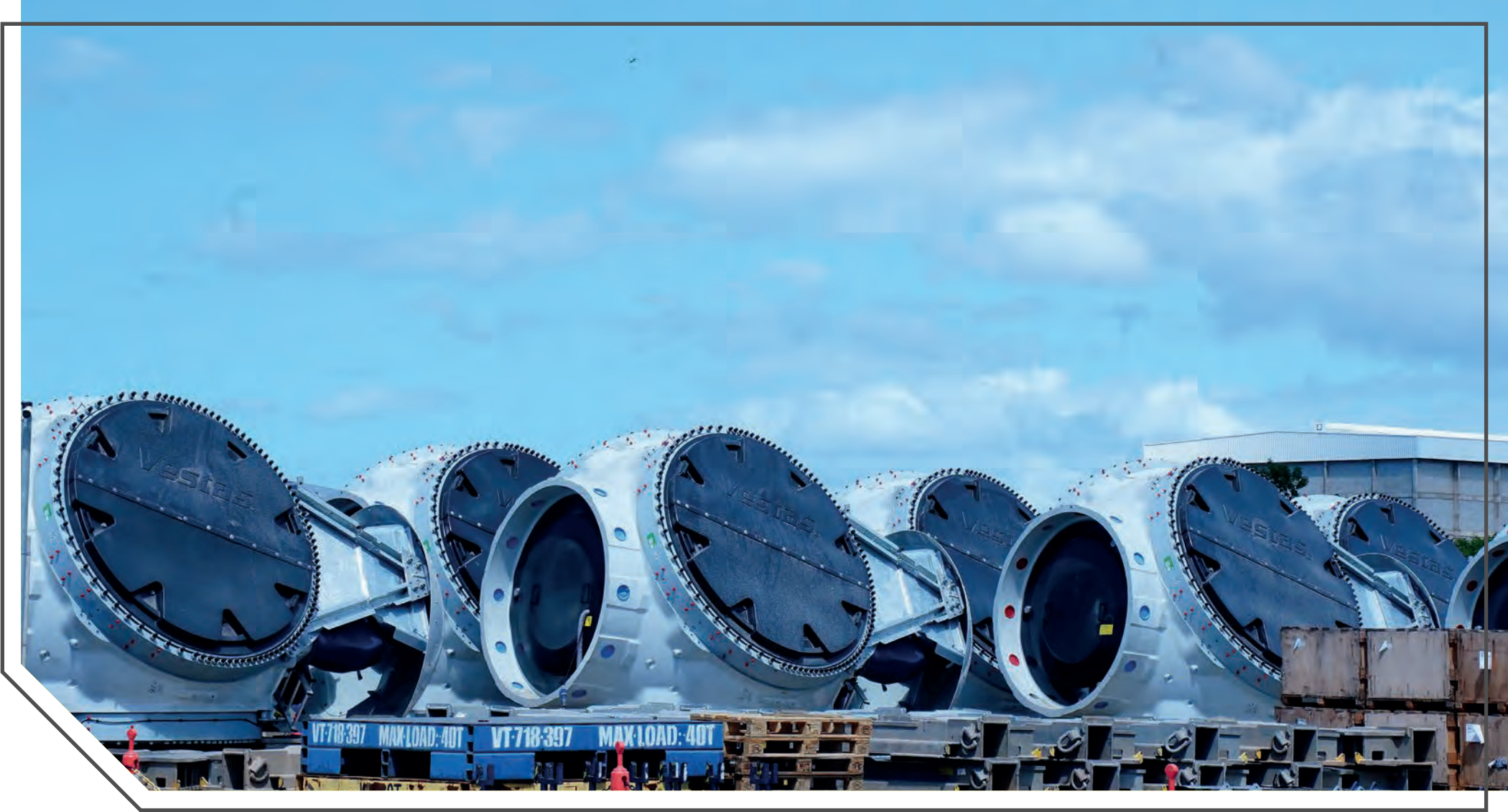
Planning makes a fundamental contribution to the energy sector, which is essential to the Brazilian economy and requires large investments.

The opening of MME Public Consultation No. 179 on 11/07/2024 to receive suggestions from society, companies, and institutions regarding the PDE represented the resumption of an important planning instrument for decision-makers and national and international investors.

By providing data, sensitivities, and indicative long-term results, the PDE delivers high-quality information to various public and private stakeholders in the sector,

reducing risk and signaling the main paths forward. It demonstrates that the energy sector benefits from solid, technical, and effective planning.

Another milestone of this event was the signing of the PDE governance ordinance, which provided greater consistency, transparency, and continuity to the process of preparing this important planning document. Despite the PDE's long history as a tool used by public, private, international, and academic stakeholders, its governance had never been regulated by ordinance. Now, the process will be more robust and accessible to society.



NUMBERS

- Investments in the energy sector – R\$ 3.2 trillion by 2034
- Final energy demand – Average growth of 2.1% per year, resulting in an increase of nearly 25% over the next ten years
- Electricity consumption – Average growth of 3.4% per year, reaching 870 TWh in 2034
- Internal Energy Supply (IES) – Increase from 1.46 toe/inhabitant in 2024 to 1.75 toe/inhabitant in 2034 (toe stands for "ton of oil equivalent," a unit of measurement that enables comparison of different energy sources)
- Average share of renewables in the electricity matrix in 2034 – 86.1%, with Brazil continuing to rely predominantly on hydro, biomass, wind, and solar power
- Demand for strategic minerals – Indicative expansion of electricity generation may require up to 54% more strategic minerals

DATES

- 11/07/2024 – Publication of the PDE 2034 Consolidation Notebook
- 11/08/2024 – Opening of the Public Consultation for suggestions from society and institutions, and signing of the PDE governance ordinance at an event at the Ministry of Mines and Energy
- 04/08/2025 – Approval of PDE 2034 by MME Ordinance No. 831/2025

RENEWAL OF DISTRIBUTION CONCESSIONS

Under the current administration of the Ministry of Mines and Energy (MME), stricter rules have been established for the renewal of concessions to electricity distribution companies, aimed at modernizing and ensuring better quality services for consumers.

Studies show that no less than 62% of this market is concentrated in 20 distributors with contracts expiring between 2025 and 2031, serving 55.6 million consumer units, including individuals and businesses.

Investments of R\$ 120 billion by 2027 have already been announced by companies with contracts nearing expiration. The renewals are expected to bring greater user satisfaction and generate jobs and income.

The changes are set forth in Decree No. 12,068, dated 06/20/2024. In recent years, existing contracts have become increasingly detached from the real needs of the population.

This new legislation introduced contractual clauses emphasizing the obligation to continuously improve service quality and the requirement for ongoing assessment of the financial health of concessionaires.

One innovation concerns expiration, meaning the adoption of legal measures

to terminate the government's contract with a concessionaire in case of service failures. Previously, this path was difficult to follow. Now, expiration proceedings can be carried out more quickly to penalize companies that fail their customers.

Another innovation relates to the calculation of quality indicators, which now cover areas equivalent to neighborhoods—the service must meet the same standard regardless of residents' income levels.

An emphasized aspect is digitization, which will allow for greater interaction and better knowledge of household consumption. In the future, consumers will even be able to choose their supplier.

The decree also addresses climate change, as extreme weather events have become more frequent. Utilities must present plans to increase the resilience of directly affected distribution networks.

WHAT THE DECREE ESTABLISHES

Decree No. 12,068/2024 regulates the bidding and renewal of electricity distribution concessions and establishes guidelines for modernizing public service concessions.



Concessions that have not yet been renewed may be extended or tendered for 30 years. To qualify, companies must immediately commit to meeting quality and efficiency targets for the benefit of electricity users.

The extension is conditional on demonstrating adequate service provision, based on criteria defined by the National Electric Energy Agency (Aneel) regarding efficiency in two areas and their respective measurement indicators:

- ◆ **Continuity of supply:** measured by indicators considering the frequency and average duration of interruptions in public electricity distribution service
- ◆ **Economic and financial management:** measured

by an indicator assessing the concessionaire's ability to meet its commitments

Indicators must be measured individually for each concessionaire and each calendar year.

Service is deemed inadequate if the continuity of supply criterion is not met for three consecutive years, or if the economic and financial management criterion is not met for two consecutive years.

As renewal deadlines approach, there is an opportunity to modernize and impose stricter conditions to improve service quality for the population. This approach increases legal certainty and attracts investment to the country.

In general terms, the decree established the following obligations for companies seeking renewal:

NUMBERS

- 62% of the market concentrated in 20 distributors with contracts expiring between 2025 and 2031
- 55.6 million consumer units (households and businesses)
- R\$ 120 billion in announced investments

- ◆ Evaluation of service provision based on consumer satisfaction, through ongoing quality assessments
- ◆ Commitment to investment plans for service improvements
- ◆ Equal service quality across all neighborhoods in the service area
- ◆ Investments to reduce energy poverty
- ◆ Improved customer service through call centers
- ◆ Protection of consumer data, which cannot be shared with third parties without prior authorization
- ◆ Availability of all consumer-relevant information at any time
- ◆ Expansion of energy supply to rural areas, especially family farming
- ◆ Promotion of energy efficiency and affordable rates
- ◆ Annual verification of financial health to ensure continuity of service
- ◆ Restriction on dividend payments if financial and quality requirements are not met
- ◆ Possibility of concession termination if requirements are not fulfilled
- ◆ Incentives to improve service in areas with public safety concerns
- ◆ Increased network resilience against extreme weather events
- ◆ Restoration of power to existing standards even after extreme weather events
- ◆ Gradual digitization of networks, services, and metering instruments
- ◆ Modernization of technologies, equipment, and facilities
- ◆ Enhanced digitization to improve electricity consumption management by users
- ◆ Regularization of shared electrical and telecommunications wiring in urban areas
- ◆ Exclusive service channel for municipal and state authorities
- ◆ Professional training programs, including diversity and socioeconomic criteria
- ◆ Availability of technical information on company websites

RESTRUCTURING OF THE NATIONAL MINING AGENCY (ANM)

The restructuring of the National Mining Agency (ANM) was assumed by the Ministry of Mines and Energy (MME) as one of the priority axes of the Brazilian Mineral Policy.

The main objective is to consolidate the ANM as a technical, modern, autonomous and efficient agency, with full regulatory capacity, digital governance and direct integration with the strategic agendas of the portfolio.

In this context, the MME has exercised political, technical and budgetary leadership in conducting a long-term institutional transformation process, articulating actions with other government agencies, in order to rebuild the structural bases of a modern, transparent mining regulation centered on the public interest.

STRUCTURING MEASURES CONDUCTED BY THE MME

Staff reinforcement and career enhancement

The MME conducted and articulated the approval of Law No. 14,875/2024, which promoted the salary equalization of ANM employees to other federal regulatory agencies, correcting a historical gap and ensuring equal remuneration in the Federal Regulation System.

This achievement was the result of a joint work between the MME and the ANM, with the support of the Civil House and the Ministry of Management, and is part of a broader institutional enhancement plan, which includes:

- ♦ The appointment of 216 new civil servants, representing an increase of approximately 30% in the Agency's staff
- ♦ The implementation of the Training and Continuing Education Program, in partnership with the National School of Public Administration (Enap) and federal universities, with a focus on risk analysis, dam governance, geo-processing and economic regulation.

These actions strengthen the technical and operational capacity of the ANM, making the career attractive, stable and highly qualified – an indispensable condition for the full functioning of the regulatory body and for the sustainable development of the Brazilian mineral sector.

Budget support and resources

One of the most relevant initiatives led by the MME was the

allocation of R\$ 1 billion, from the resources of the New Agreement of the Rio Doce (ADPF 165), to the National Mining Agency (ANM). This strategic measure aims to recompose, restructure and modernize the institutional capacity of the ANM, ensuring better conditions for the fulfillment of its regulatory mission and strengthening the governance of the mineral sector.

This operation was the result of intense interinstitutional negotiation coordinated by the MME, which ensured that the amounts were linked to the administrative, technological and supervisory restructuring of the ANM, ensuring financial sustainability and operational autonomy in the medium term.

The resources are intended to:

- ♦ End-to-end digitalization of regulatory processes and systems
- ♦ Modernization of IT infrastructure and integration of databases – Mining Geographic Information System (Sigmine), Annual Mining Report (RAL), Mining Registry, CFEM Control and Assessment System (Sicaf)
- ♦ Reinforcement of inspection and monitoring actions for dams, tailings piles and associated structures.

This restructuring agenda reinforces the role of the MME as an inducer of mineral public governance, ensuring that the resources arising from environmental remediation revert to permanent institutional strengthening.

Regulatory modernization and institutional innovation

The MME has led a continuous process of regulatory modernization, seeking to balance legal certainty, administrative efficiency and technological innovation in the ANM's performance.

Recent initiatives include:

- ♦ **MME Ordinance No. 70/2023** – Authorized the use of the Accredited Inspection model, allowing independent technical entities, previously accredited, to assist the ANM in inspection activities. This innovation increases the coverage and reliability of inspections, reduces operational costs, and strengthens the agency's regulatory intelligence.

Improvement of the Financial Compensation for the Exploration of Mineral Resources (CFEM)

– Through Decree 11,659/2023, the MME regulated the transfer of CFEM to neighboring municipalities impacted by mining projects, promoting distributive justice and better local governance of mineral resources.

These measures demonstrate the MME's commitment to repositioning the ANM as a State agency, and not just a government agency, endowed with technical autonomy, regulatory predictability, and institutional stability – pillars of safe, sustainable mining aligned with the energy transition.



GEOLOGICAL MAPPING

Geological mapping is a strategic pillar of the Ministry of Mines and Energy (MME), as it represents the starting point of the country's entire mineral and territorial policy.

By revealing the structure, composition and potential of the Brazilian subsoil, the mapping provides essential scientific information for the formulation of public policies, the attraction of investments and the planning of the sustainable use of the national territory.

For the MME, geological knowledge is the link between science, development and sovereignty: it is what transforms the mineral heritage into a vector of economic growth, job creation and technological innovation, ensuring that the use of natural wealth occurs in a planned, responsible and public interest manner.

CONTRIBUTIONS TO THE ADVANCEMENT OF GEOLOGICAL MAPPING

The MME has led structuring initiatives aimed at strengthening geological mapping and consolidating an integrated governance of geoscientific data, among which the following stand out:

- ♦ Institutional integration between MME, Geological Survey of Brazil (SGB)/Mineral Resource-

es Research Company (CPRM) and National Mining Agency (ANM), creating an interoperable ecosystem of geological and mining information, which supports both regulation and inspection as well as sectoral planning and the promotion of mineral research.

- ♦ Adoption of standardized reference scales, with emphasis on 1:250,000 and 1:100,000 as the main mapping scales, in addition to details in 1:50,000 and 1:25,000, when technically justified.
- ♦ Transparency and governance – The products of the National Geology Plan (PlanGeo) are made available on public digital platforms, ensuring open and free access to state governments, companies, research institutions and civil society.

These strengthen the national infrastructure of scientific data, reduce exploratory risks, attract qualified investments and boost the sustainable use of Brazilian mineral resources, in line with the axes of the Growth Acceleration Program (PAC) and the Safe and Sustainable Mining Program, provided for in the Multiannual Plan (PPA) 2024-2027.

WHAT IS PLANGEO AND ITS IMPORTANCE

The National Geology Plan is a State program, instituted by MME Ordinance 72/2024, with a ten-year horizon (2025-2034), which defines goals and priorities for the geological, geochemical, and geophysical mapping of the national territory.

Its objective is to expand knowledge about Brazilian mineral resources and provide a scientific basis for strategic decisions in the areas of territorial planning, environmental management, mineral research, energy transition and public policy formulation.



| PLANGEO MAP BLOCKS | | | | | |
|--------------------|---------------------|-----------------|-----------------|------------------|---------------------|
| BLOCKS | CARTOGRAPHIC SHEETS | SCALE 1:100,000 | SCALE 1:250,000 | TOTAL AREA (KM²) | GEOLOGISTS INVOLVED |
| 34 | 148 | 140 | 8 | 564.000 | 90 |

PlanGeo prioritizes regions with low geological knowledge, such as the Legal Amazon and the Midwest, without strict conceptual restrictions, but with observance of Indigenous Lands and Full Protection Conservation Units, which are considered for mapping. The areas are defined based on geological interest, mineral potential and territorial relevance. In a first scenario, the estimated budget for the execution of the plan is R\$ 77 million.

For example, each sheet at the scale of 1:100,000 covers 3,000 km², and each sheet 1:250,000 covers 18,000 km². The public consultation held between April and June 2024 had 345 participants, 42% from the private sector, 31% from academia and 27% from the public sector, reinforcing the participatory and collaborative nature of the planning. PlanGeo 2025-2034 consolidates the role of the SGB

as a technical executor and disseminator of geoscientific knowledge, under the coordination of the MME, which ensures the legal, institutional and budgetary instruments for its implementation.

STRATEGIC IMPACTS

Investment in geological mapping is one of the priorities of the Brazilian Mineral Policy, with direct impacts on national development in multiple dimensions:

- ♦ **Attraction of investments and international competitiveness** – Quality geological information reduces exploratory risks and increases the attractiveness of the country.
- ♦ **Energy transition and critical minerals** – PlanGeo subsidizes the identification and quantification of lithium, nickel, cobalt, copper, graphite and rare earth deposits, minerals essential to the battery industry, renewable energies and low-carbon technologies
- ♦ **Environmental management and territorial planning** – Knowledge of the subsoil is crucial for the prevention of geological disasters, urban and rural planning, the protection of aquifers and the efficiency of environmental licensing, contributing to the balance between economic use and environmental preservation.
- ♦ **Regional development and territorial inclusion** – The expansion of mapping in areas of less geological knowledge, especially in the Amazon and the Northeast, strengthens regional planning capacity, promotes local opportunities and reduces historical asymmetries in access to geoscientific knowledge.
- ♦ **Sovereignty and national security** – By reducing dependence on foreign geological data, PlanGeo reinforces the scientific and strategic autonomy of the Brazilian state, ensuring control over sensitive information from the subsoil and strengthening the formulation of evidence-based public policies.



RECOVERY OF REGULARIZATION RESERVOIRS

Prepared within the scope of the National Energy Policy Council (CNPE), the Regularization Reservoir Recovery Plan (PRR) aims to increase the resilience of the country's reservoir management, unifying efforts related to energy, water and environmental policies. It focuses on adapting to climate change, ensuring energy supply and expanding water security.

The instrument was established in response to the hydropower crisis experienced between 2021 to 2022. Designed with a ten-year outlook, the PRR began implementation in 2023.

Under the coordination of the Ministry of Mines and Energy (MME) and guided by a multi-sectoral governance structure, it has the participation of the following bodies and institutions: Ministry of Integration and Regional Development (MIDR), Ministry of Environment and Climate Change (MMA), National Water and Basic Sanitation Agency (ANA), National Electric Energy Agency (Aneel), Energy Research Company (EPE), National Electric System Operator (ONS) and Electric Energy Trading Chamber (CCEE).

Objectives and guidelines

- ♦ Gradually recover the storage capacity of the reservoirs
- ♦ Prioritizing watering

(supply of water for human and animal consumption) and multiple uses of water

- ♦ Reduction of water and energy vulnerability in the face of climate change.
- ♦ Ensuring the energy security of the National Interconnected System (SIN)
- ♦ Strengthening the synergy between the electricity sector and water management
- ♦ Promotion of water, energy and socioeconomic security in the country.

STRATEGIC ACTIONS

The RRP includes 31 short, medium and long-term actions, among which those with the greatest relationship with the objective of adaptation to climate change stand out:

- ♦ Update of hydrological series and climate risk parameters
- ♦ Creation of a socio-environmental database on vulnerability to extreme events
- ♦ Elaboration of a climate resilience roadmap for the electricity sector
- ♦ Local actions for the recovery of degraded areas in critical

watersheds, with a focus on expanding water infiltration and reducing siltation.

- ♦ Incorporation of hydrological scenarios with climate projections in the Ten-Year Energy Plan (PDE) and in the Energy Operation Plan (PEN).

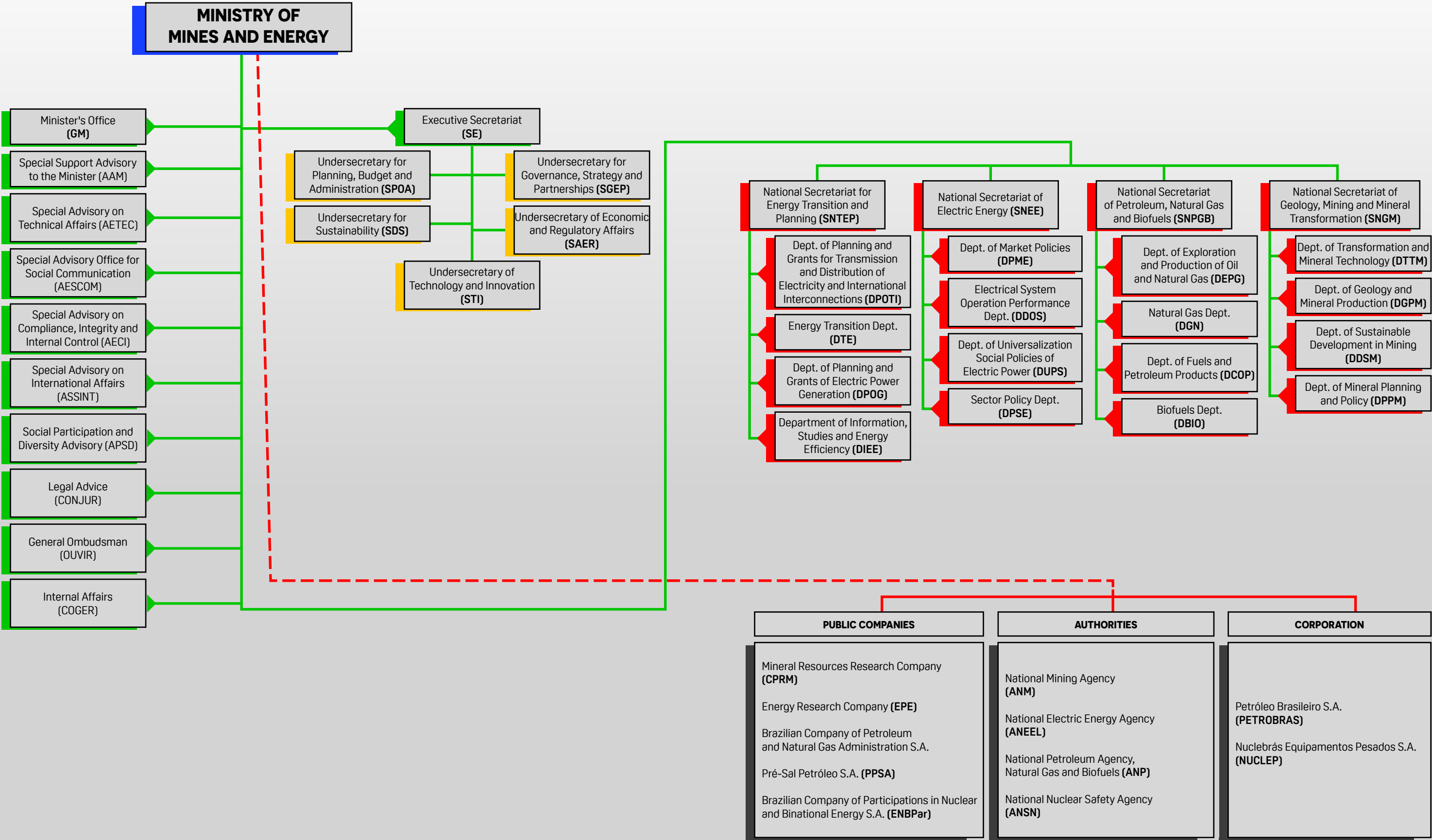
For the implementation of the PRR, there is a guarantee of financial contributions set forth in Law 14,182/2021, through the accounts of the Water Resources Revitalization Programs. The focus is on actions that generate recharge of affluent flows and increase the operational flexibility of the reservoirs, without harming the priority use and multiple use of water resources.

The resources are applied in two accounts over 10 years starting in 2023, totaling R\$ 700,000,000.00 per year, benefiting the hydrographic basins of the São Francisco and Parnaíba rivers, as well as the area of influence of the reservoirs of the Furnas plants.

According to the 2nd Monitoring Report (2024), the overall physical execution of the RRP reached 41% by February 2025, with relevant advances in governance, hydrological data updates, and revitalization projects in critical basins.

ORGANIZATIONAL CHART

MINISTRY OF MINES AND ENERGY (MME)





INTERNATIONAL PROTAGONISM

INTERNATIONAL PROTAGONISM

Under the current administration, the Ministry of Mines and Energy (MME) has assumed an unprecedented international role, prioritizing the projection of Brazil as a leader in the global energy transition.

Of particular note is its strong performance in the G20, where the MME held the rotating presidency of the Energy Transitions Working Group between 12/01/2023 and 11/30/2024. The MME hosted major international events in Brasília (April), Belo Horizonte (May), and Foz do Iguaçu (October), with the mission of coordinating and articulating negotiations among energy ministers from all continents.

This protagonism also extended to the following summits:

- ♦ **COP 28** – Dubai (United Arab Emirates), December 2023
- ♦ **World Economic Forum** – Davos (Switzerland), January 2024 & COP 29 – Baku (Azerbaijan), November 2024.
- In the same vein, the MME participated in several other events, including:
 - ♦ **CERAWEEK by S&P Global** – Houston (USA), March 2024
 - ♦ **Legal Forum** – Lisbon (Portugal), June 2024

- ♦ **Brazil-Chile Business Forum** – Santiago (Chile), August 2024.

During this period, dozens of bilateral meetings were held to establish agreements and partnerships on topics of common interest.

At these high-level meetings, Brazil presented and discussed President Luiz Inácio Lula da Silva's strategy for a fair, clean, and inclusive energy transition, emphasizing the fight against energy poverty and the principle that no one should be left behind.

A decisive conceptual milestone was the presentation of "Brazil's Open Letter for a Fair and Inclusive Energy Transition, Focused on People", delivered by Minister of Mines and Energy Alexandre Silveira to Pope Francis at the Vatican on May 3, 2024.

The principles expressed in this document were officially endorsed and adopted in the Rio de Janeiro Leaders' Declaration in November, 2024, at the close of the G20 Heads of State Summit.

The G20 brings together the world's largest economies. As the main forum for global economic cooperation, it plays a central role in governance and in addressing the major issues of our time.

The group consists of 19 countries (South Africa, Germany, Saudi Arabia, Argentina, Australia, Brazil, Canada, China, South Korea, the United States, France, India, Indonesia, Italy, Japan, Mexico, the United Kingdom, Russia, and Turkey) plus two regional bodies (the African Union and the European Union).

According to official figures, members represent about 85% of global GDP, more than 75% of international trade, and about two-thirds of the world's population.

In 2025, Brazil's focus will shift to hosting COP 30 in Belém, Pará, in 11/2025, welcoming delegations from all continents.



OPEN LETTER TO POPE FRANCIS

On May 3, 2024, Minister Alexandre Silveira met with Pope Francis at the Vatican and presented him with the "Open Letter from Brazil for a Fair and Inclusive Energy Transition, Focused on People."

As part of Brazil's G20 presidency in 2024 and its leadership of the Energy Transitions Working Group, the minister introduced Brazil's contribution to the world: ten core principles for a fair and inclusive energy transition (highlighted in the document).

During the audience, Pope Francis emphasized that the energy transition, in addition to

being fair and inclusive, must be mandatory. He recognized the importance of the Light for All Program ("Luz para Todos"), one of the largest public policies worldwide for combating energy poverty.

"The Holy Father said governments should act as a necessary State, capable of effectively helping those most in need, building a better society. He emphasized the importance of governments, such as President Lula's, returning to play an active global role in promoting inclusion," said the minister.

At the meeting, the pontiff reaffirmed the importance of meeting

the Paris Agreement goals by 2030 and praised countries that already have highly renewable energy matrices, such as Brazil and other Global South nations.

"We were able to highlight Brazil's inclusive policies across sectors. Pope Francis urged us to continue decarbonizing the transportation and mobility matrix, as well as other CO2-intensive sectors, especially in Brazil through bio-fuels," Alexandre Silveira noted. "He guided and encouraged us to continue defending the most vulnerable so that, through public policies, we can protect everyone—especially those who need it most."

TEN BASIC PRINCIPLES FOR A FAIR AND INCLUSIVE ENERGY TRANSITION

Brazil's contribution to the world, taken from the Open Letter delivered by Minister Alexandre Silveira to Pope Francis at the Vatican:

1. Combat energy poverty in all its forms, ensuring universal access to electricity and clean cooking technologies.
2. Structure efficient mechanisms for allocating costs and subsidies for new technologies, enabling access for the poorest populations.
3. Integrate gender, race, and ethnic perspectives into energy policies.
4. Implement effective measures to mitigate socio-environmental impacts of energy infrastructure, including clean technologies and the use of materials and minerals essential to the transition.
5. Promote social dialogue and proper engagement of stakeholders in decision-making related to energy transition.
6. Foster social and economic development by diversifying supply chains and adding value in emerging economies and developing countries rich in renewable energy and mineral resources.
7. Encourage labor remobilization and the creation of decent jobs, with greater female participation in the transition workforce.
8. Promote vocational training for the energy transition.
9. Recognize the rights of traditional and indigenous communities, ensuring social protection for vulnerable groups.
10. Acknowledge the importance of long-term energy planning, in its various forms, to guide actions, financing instruments, and energy transition policies.

The Open Letter stressed that the pontiff's concern and leadership on global challenges, such as climate change and global warming, have raised awareness and demanded effective action from countries, especially developed ones, to combat energy poverty and build consensus for the common good.

The document reaffirmed that Brazil has the necessary credentials to lead discussions on energy transition. The country has one of the cleanest energy matrices in the world, with approximately 50% of its total energy coming from renewable sources. Its electricity mix is among the most renewable globally, with about 90% of electricity generated from renewable sources.

FOZ DO IGUAÇU DECLARATIONS

In October 2024, the MME enabled the adoption of a historic joint declaration by G20 countries to implement efforts to triple renewable energy capacity and double the global average rate of improvement in energy efficiency. The In October 2024, the MME enabled the adoption of a historic joint declaration by G20 countries to triple renewable energy capacity and double the global average rate of improvement in energy efficiency. The agreement was reached at the close of the G20 Energy Transitions Working Group (ETWG) meeting, chaired by Minister Alexandre Silveira, at the summit in Foz do Iguaçu (Paraná).

The Working Group had not signed a declaration of commitments since 2021. Consensus was achieved thanks to intense Brazilian coordination, the result of extensive dialogue and diplomatic efforts. This outcome reinforced recognition of Brazil's leadership in global energy transition discussions.

The text acknowledged that developing countries require support for low-carbon transitions, including facilitated financing. It also highlighted one of Brazil's main priorities: universal access to clean cooking technologies as essential to combating energy poverty.

At the same time, also in Foz do Iguaçu, ministers from the Clean Energy Ministerial (CEM) and Mission Innovation (MI) platforms, for the first time, signed a joint declaration.

In this document, they committed to "accelerating clean, sustainable, fair, affordable, and inclusive energy transitions, through diverse pathways, as a means to promote strong, sustainable, balanced, and inclusive growth and achieve climate goals." Inspired by Brazil's leadership at the G20, this marked the first time CEM and MI members signed such a declaration.

RESULTS FROM FOZ DO IGUAÇU Commitments made

- ♦ Signing of the "G20 Energy Ministers' Declaration" (the first since 2021), with the annex of the "Voluntary Principles for

a Just and Inclusive Energy Transition," an evolution of the text previously presented by Minister Alexandre Silveira to Pope Francis.

- ♦ Efforts to triple installed renewable energy capacity and double the global average annual rate of energy efficiency.
- ♦ Acceleration of efforts to achieve universal access to clean cooking by 2030.
- ♦ Commitment to the "Voluntary Principles for a Just and Inclusive Energy Transition".
- ♦ Creation of the Global Coalition for Energy Planning, essential for the Global South, to promote energy planning actions while respecting sovereignty and national circumstances, reducing project financing risks, especially in African countries.
- ♦ Commitment to accelerate clean, sustainable, fair, accessible, and inclusive energy transitions, ensuring no one is left behind—particularly the poor and vulnerable—one of President Luiz Inácio Lula da Silva's core principles.
- ♦ Promotion of gender equality and recognition of women's leadership in energy transition.
- ♦ Call to catalyze and expand investments from all financial sources to bridge the global financing gap for energy transition.

- ♦ Commitment to national energy planning, capacity building, policy strategies, and regulatory frameworks.
 - ♦ Recognition of global inequalities and challenges in the current energy landscape.
 - ♦ Recognition of the crucial role of sustainable fuels and technologies: the first global representative document to highlight the importance of sustainable fuels, including biofuels, in tackling climate change, with openness to all technological pathways for reducing emissions.
 - ♦ Promotion of improvements in global energy efficiency through existing targets and policies.
 - ♦ Recognition of critical minerals, materials, components, products, and technologies for energy transitions.
- G20 and CEM/MI milestones**
- ♦ R\$ 6 billion made available globally for industrial decar-
- bonization; Brazil will seek to contribute R\$ 1 billion through hydrogen hubs.
- ♦ Call for international cooperation and collective mobilization of investments to accelerate energy transition.
 - ♦ Partnership with the United States on energy transition.
 - ♦ Brazil's entry into the Carbon Management Challenge (CMC) and Carbon Capture and Storage (CCS) initiatives, reinforcing its commitment to decarbonize oil and gas operations and stimulate biofuels with negative net emissions.
 - ♦ Reports delivered by the International Energy Agency on carbon accounting in biofuel production, critical for global harmonization of technical standards.
 - ♦ Unprecedented joint declaration by CEM and MI members reaffirming the importance of these coop-

- eration platforms for energy transition action.
- ♦ Brazil, alongside Australia and South Korea, assumed the vice-presidency of Mission Innovation, enhancing its global role in R&D and innovation for energy transition.
 - ♦ Brazil joined the Urban Transitions Mission, engaging more municipalities in energy transition-related public policies.
 - ♦ Brazil assumed co-presidency of the International Hydrogen Trade Forum, alongside the Netherlands.

G20 HEADS OF STATE IN RIO
On November 18, 2024, the results of G20 ETWG negotiations and commitments during Brazil's presidency were incorporated into the G20 Leaders' Declaration, issued at the close of the Rio de Janeiro summit.

In addition to endorsing principles of a fair and inclusive

energy transition, another key outcome was recognition of the importance of national energy planning, capacity building, policy strategies, and legal frameworks, along with cooperation across levels of government to create investment-friendly environments.

World leaders also committed to accelerating efforts to ensure universal access to clean cooking by 2030 through enabling policies, financial support, and technology, with a focus on mobilizing resources for developing countries.

UN ENERGY PACT

The principles approved during the G20 ETWG meeting in Foz do Iguaçu were incorporated into the "UN Energy Pact for a Just and Inclusive Energy Transition," launched at COP 29 in Baku (Azerbaijan) on November 14, 2024.

The launch, organized by Sustainable Energy for All (SEforALL), a UN-affiliated institution supporting SDG 7 implementation, invited countries, companies, and private associations to join the pact.

ROADMAP FOR CLEAN ENERGY INVESTMENTS

Also at COP 29, the "Roadmap to Increase Investment in Clean Energy in Developing Countries" was launched on November 13, 2024, by Brazil's G20 presidency, under the ETWG.

Developed with the International Energy Agency (IEA) and contributions from G20

members, invited countries, and international organizations, the initiative provides a structured plan to support green energy investments.

Brazil emphasized the need for expanded financing access for global energy transition and stronger commitments to overcome investment bottlenecks that jeopardize ambition.

The Roadmap supports governments, financiers, and civil society in this debate at a crucial moment when international negotiations are under close global scrutiny.

The launch gathered leaders from the financial and energy sectors, signaling broad support for the Roadmap and the urgency of coordinated action to meet rising clean energy demand in developing countries.

The Roadmap highlights the critical challenge: clean energy investments in developing countries must increase more than sixfold by 2035 to align with potential and global climate goals.

Recognizing that public financing alone cannot bridge the gap, it proposes a framework for attracting private capital and mobilizing international financing to build a resilient and sustainable clean energy ecosystem.

The initiative was praised by IEA Executive Director Fatih Birol:

"I applaud Brazil for dedicating efforts to accelerate clean energy investments in developing economies during its G20 presidency. This is a crucial issue, and the IEA is pleased to have supported Brazil in this landmark report. We need stronger international support to remove barriers, reduce capital costs, and bring all economies into the clean energy future."

With clear recommendations and timelines, the Roadmap seeks to reduce financing costs, encourage risk-sharing, and create the political and investment conditions necessary to unlock substantial clean energy capital flows.

Brazil's progress—with about 90% of its electricity from renewable sources—serves as a model, showcasing the importance of stable financial structures, public-private partnerships, and enabling policies.

BRICS ENERGY IN BRASILIA

On May 19, 2025, under Brazil's presidency, the 10th BRICS Energy Ministerial Meeting was held in Brasília, bringing together 11 countries that represent 39% of the world's Gross Domestic Product (GDP). The group includes Brazil, Russia, India, China, and South Africa (the original members), along with Saudi Arabia, Egypt, Ethiopia, Indonesia, Iran, and the United Arab Emirates, which joined in 2024.



The energy ministers and heads of delegation issued a Joint Communiqué reaffirming the member countries' commitment to promoting fair, safe, inclusive, and sustainable energy transitions.

In a global context marked by multipolarity and growing climate urgency, the meeting recognized the shared responsibility of BRICS countries as major energy producers and consumers. The aim is to eradicate energy poverty, expand universal access to energy, and contribute to addressing climate change, while respecting national realities.

At the event in Brasília, the "BRICS Energy Cooperation Roadmap 2025–2030" was approved. This roadmap will guide joint efforts for the next five years, focusing on energy transition and advancing strategic issues in the energy sector.

Key points agreed in the Joint Communiqué included:

- ♦ Promotion of fair and orderly energy transitions, based on the principles of technological neutrality, common but differentiated responsibilities, and respect for national priorities. Support for energy diversification, including the expansion of low-carbon fuels, renewable energy, hydrogen, bioenergy, and nuclear technologies, as well as investments in energy efficiency.

- ♦ Strengthening cooperation in research and innovation, with emphasis on the activities of the BRICS Energy Research Cooperation Platform (BRICS ERCP) and the implementation of the "BRICS Energy Cooperation Roadmap 2025–2030".
- ♦ Commitment to financing the energy transition through access to concessional, predictable, and affordable resources, especially for developing countries, reiterating the prominent role of the New Development Bank (NDB).
- ♦ Emphasis on energy planning, institutional capacity building, and supply security, with mention of the creation of the Global Coalition for Energy Planning (GCEP).
- ♦ Engagement towards COP 30, to be held in Belém.
- ♦ Focus on combating energy poverty and expanding access to clean cooking, with support for solutions such as natural gas, biogas, and LPG, along with the promotion of decent employment in areas related to the energy transition.
- ♦ Criticism of unilateral sanctions and arbitrary restrictions that harm trade and investment in the energy sector, compromising the security and functioning of international energy markets.

The results achieved by Brazil during its BRICS presidency in energy, coordinated by the MME, contributed to the Leaders' Declaration signed during the summit in Rio de Janeiro on July 7, 2025.

**GLOBAL COALITION
IN RIO DE JANEIRO**

On June 3, 2025, the Ministry of Mines and Energy (MME) hosted the 1st Energy Planning Summit in Rio de Janeiro, marking the official launch of the Global Coalition for Energy Planning (GCEP). The initiative, a direct result of Brazil's G20 presidency in 2024, represents a milestone in international cooperation to accelerate the transition to a clean, secure, and affordable energy matrix.

The Coalition was created to address the critical investment gap in the energy transition, especially in emerging markets and developing economies. Its main goal is to strengthen energy planning as a tool to attract investment, reduce risks, and accelerate the development of sustainable projects.

The International Renewable Energy Agency (IRENA) serves as the platform's secretariat, providing coordination and technical support. IRENA Director-General Francesco La Camera participated in the opening ceremony. The event brought together delegations from South America, Latin America, Africa, Europe, and North America, as well as representatives of international organizations.

DOCUMENTS

**BRAZIL'S OPEN LETTER FOR A FAIR AND INCLUSIVE
ENERGY TRANSITION, CENTERED ON PEOPLE**

Brasília, May 3, 2024

If anyone has the world's goods and sees his brother in need, yet closes his heart against him, how does God's love abide in him? (1 John 3:17)

Most Holy Father,

As I offer my sincere greetings, I express my admiration and reverence for the steadfast stance Your Holiness has taken in confronting a wide range of global challenges.

Your leadership has been fundamental in calling society to action, and I wish to commend Brazil's initiatives in the fight against climate change. I share Your Holiness's concern regarding the current state of the planet in relation to global warming, with clear signs that if timely measures are not taken, we will reach a point of no return, with serious social, economic, and environmental consequences. Therefore, the energy transition must be fair, inclusive, and mandatory.

I am aware that several factors contribute to this scenario. Given this reality, Brazil recognizes that implementing measures to promote the adoption of clean technologies for energy generation is one of the most effective ways to mitigate climate change. I am confident that the decisions presented to the world during COP 28 in Dubai are moving in the right direction.

On December 1, 2023, Brazil assumed the presidency of the G20, and since then we have been fully committed to advancing the energy transition agenda among the world's 20 largest economies.

The issue of energy transition gained even greater relevance after COP 28. During our G20 presidency, we have worked actively to achieve effective results on this matter, in preparation for COP 30, at which we will have the honor of hosting our brothers and sisters from various regions of the world in 2025.

Brazil is a country blessed by God, with many natural gifts that place us in a prominent position on the energy transition agenda. We have worked diligently to implement a set of long-term public policies aimed at harnessing our water, wind, and solar resources—once seen as hardships in poorer regions of our country and elsewhere, but now vital to our energy matrix—along with our mineral resources in a sustainable and responsible manner, avoiding some of the painful mistakes of our recent history. At the same time, we have advanced concrete actions to expand access to electricity throughout our territory, and I am proud to say that we are very close to reaching the milestone of universal access to electricity in Brazilian households.

Thanks to this forward-looking vision, today Brazil has one of the cleanest energy matrices in the world, with nearly 50% of its composition coming from renewable sources. I am also proud to note that our electricity matrix is among the cleanest globally, with about 88% from renewable sources. Even within this positive scenario, we have implemented new policies with tangible impacts on the energy transition of hard-to-abate productive sectors, in line with technological advances.

I am certain that Brazil has strong credentials to engage in dialogue with the world on energy transition. However, I recognize that this is not the reality for all countries, each facing its own economic, social, and environmental challenges.

Even in the face of the climate emergency we are experiencing, we must ensure that the energy transition is fair and inclusive. Depending on the political choices made, we risk perpetuating traditional development models, thereby widening inequalities and intensifying vulnerabilities—an outcome we must avoid.

Brazil argues that the energy transition should not be regarded merely as technological substitution. It must represent a new model of environmental, economic, social, and inclusive development—one that truly leaves no one behind.

A clear example of the challenge we face is the global exposure to energy poverty. Sadly, around 2.3 billion people still rely on highly polluting resources to cook their food, a situation that exposes women and children to various forms of vulnerability. In addition, about 650 million people still lack access to electricity, preventing entire families from enjoying basic well-being and quality of life.

In this context, under Brazil's presidency of the G20 in 2024, as head of the Working Group on Energy Transitions, I intend to present to the world's 20 largest economies Brazil's proposal for ten principles that should be minimally considered when addressing a fair and inclusive energy transition:

1. Combat energy poverty in all its forms, ensuring universal access to electricity and clean cooking technologies.
2. Establish efficient mechanisms for allocating costs and subsidies for new technologies, enabling access by the poorest populations.
3. Integrate gender, race, and ethnic perspectives into energy policies.
4. Implement effective measures to mitigate the socio-environmental impacts of energy-related infrastructure, including the deployment of clean technologies and the responsible use of materials and minerals essential for the energy transition.
5. Promote social dialogue and the proper engagement of stakeholders in decision-making related to the energy transition.
6. Foster social and economic development by diversifying supply chains and adding value in emerging economies and developing countries rich in renewable energy and mineral resources.

7. Encourage labor remobilization and the creation of decent, quality jobs, including greater female participation in the energy transition workforce.
8. Promote vocational training tailored to the energy transition.
9. Recognize the rights of traditional communities and indigenous peoples, ensuring social protection for the most vulnerable populations.
10. Acknowledge the importance of long-term energy planning, in its various forms, to guide actions, financing instruments, and policies for energy transition.

Humanity faces an unprecedented challenge, and we must overcome all possible resistance in implementing the energy transition. Although each country has its own social, economic, and environmental context, the challenge before us today demands effective action from all.

The implementation of the Paris Agreement, with its clear targets, must not be delayed. We must collectively advocate for compliance with the deadlines and goals established to reduce global greenhouse gas emissions.

We must also advance in decarbonizing hard-to-abate sectors, such as transportation and mobility, through biofuels, thereby strengthening new industries and contributing to the inclusion of vulnerable groups in the labor market.

I am confident that COP 30—where countries will once again make new climate commitments—has the potential to be the COP of Just Transition. In the year marking the tenth anniversary of the Paris Agreement, the principles for a fair and inclusive transition will play a key role in guiding discussions and progress.

I am equally certain that we are on the right path, but time is short. With this in mind, I ask for your support in disseminating these principles, while humbly requesting Your Holiness to intercede for our country in building consensus for the common good.

You can count on the support of Brazil's Minister of Mines and Energy, under the leadership of President Lula, to move forward collectively on this path.

I have the honor of expressing my deepest respect for Your Holiness, and I offer the assurances of my highest esteem and consideration.

Respectfully,

Alexandre Silveira

Minister of Mines and Energy
Federative Republic of Brazil

PRINCIPLES FOR JUST AND INCLUSIVE ENERGY TRANSITIONS

Foz do Iguaçu, 04 October 2024

With the aim of leaving no one behind, G20 members endorse the following voluntary principles to promote clean, sustainable, just, affordable and inclusive energy transitions in line with SDG 7, the Paris Agreement and the “Outcome of the First Global Stocktake” adopted at the 28th UN Climate Change Conference. Reiterating the importance of accelerating the energy transitions by including, in line with technological neutrality, a wide range of options towards low emissions development to reach global net-zero greenhouse gas emissions/carbon neutrality by or around mid-century, recognising the role of international cooperation to foster energy transitions, acknowledging existing frameworks and initiatives that promote a shift to sustainable economies that promote both environmental sustainability and job creation, focusing on social justice, poverty eradication and fairness, and bearing in mind national and international commitments and respective different national circumstances, needs and priorities as well as the different pathways and approaches, countries are encouraged to design their energy transitions policies taking into account the following voluntary principles:

1 – Energy planning for just and inclusive energy transitions

Acknowledge the importance of long-term regional and domestic energy planning and policies across various sectors to guide actions and financing mechanisms that promote energy transitions and design and implement just and inclusive energy transition policies in individual countries, while ensuring energy security, affordability, accessibility, and markets stability and economic prosperity.

2 – End energy poverty

Tackle all forms of energy poverty, with a focus on ensuring access to affordable, reliable, sustainable and modern energy, including clean cooking, for all.

3 – Social dialogue and stakeholder participation

Foster social dialogue and encourage meaningful and effective participation by all relevant stakeholders, including from affected communities, employers’ organisations and trade unions in the decision-making processes related to energy transitions.

4 – Social protection

Strengthen the access to appropriate social protection systems for all as part of just and inclusive energy transitions in order to support workers and communities, with particular consideration to the poor and those in vulnerable situations.

5 – Policy inclusiveness

Incorporate intersectional perspectives on gender balance, including women empowerment, age, race, ethnicity and those in any vulnerable situations into energy planning and policies and ensure a fair distribution of costs and benefits.

6 – Respect rights

Respect, promote and consider respective obligations on human rights, and on the rights of Indigenous Peoples, local communities, persons with disabilities as well as labour rights in the planning and implementation of energy transitions policies and projects.

7 – Invest in affordable and reliable solutions for just and inclusive energy transitions

Explore efficient, inclusive and just mechanisms for cost allocation in energy solutions and their impact on the cost of energy, with a focus on timely mobilisation of resources and working towards facilitating low-cost financing in developing countries for innovative technologies and business models, to widely share the benefits and to help mitigate the burden of energy transitions, especially on the poorest segments of the population.

8 – Implement secure and sustainable solutions

Implement effective and inclusive measures to ensure localised value creation and maximise the socio-economic, environmental and other benefits and their fair distribution, while making efforts towards mitigating negative socio-economic and environmental impacts of energy-related policies and infrastructure and the extraction, refining and processing of certain materials and minerals that are critical for energy transitions while respecting permanent sovereignty over natural resources and energy infrastructure.

9 – Sustainable and inclusive economic growth for all

Promote social and economic development through reliable, diversified, sustainable and responsible supply and value chains, inclusive international cooperation and local value creation and beneficiation at source for all, including in developing countries and economies in transition.

10 – Quality jobs and workforce development

Create decent work and quality jobs in accordance with nationally defined development priorities and enable sectoral labour mobility and workforce transformation through reskilling and up-skilling to create avenues of employment, while creating greater opportunities for all, noting the ILO guidelines on a Just Transition for all in this regard, as relevant.



MINISTERIAL OUTCOME STATEMENT

G20 ENERGY TRANSITIONS MINISTERIAL MEETING

Foz do Iguaçu, 04 October 2024

We, the G20 Ministers responsible for energy, representing the world's largest group of consumers and producers of energy, in view of the need to enhance energy security as well as accelerate clean, sustainable, just, affordable and inclusive energy transitions, in line with SDG7, the Paris Agreement and the "Outcome of the First Global Stocktake" adopted at the 28th UN Climate Change Conference, as a means of enabling secure, sustainable, equitable, shared and inclusive growth, in light of the urgency of responding to climate change, taking into account different national circumstances:

1. Commit to accelerating clean, sustainable, just, affordable and inclusive energy transitions, that leave no one behind, especially the poor and those in vulnerable situations;
2. Recognise the need to catalyse and scale up investment from all financial sources and channels for bridging the funding gap for energy transitions globally and underline the urgency of de-risking, mobilising and diversifying existing and additional investment in energy transition technologies and infrastructure, especially in developing countries;
3. Recognise the important role of domestic energy planning, capacity building, policy strategies and frameworks, as well as cooperation between different levels of government, in creating enabling environments to attract financing for energy transitions;



4. Note the establishment, by the Brazilian Presidency, of the Global Coalition for Energy Planning (GCEP) and the announcement of the 1st Energy Planning Summit, to be held in 2025 in coordination with the incoming South African Presidency;
5. Recognise the inequalities and challenges that exist in the current energy landscape globally – in particular those faced most acutely by developing countries in promoting energy transitions – while ensuring energy security, market stability and universal access to affordable, reliable, sustainable and modern energy for all;
6. Commit to accelerate efforts to achieve universal access to clean cooking by 2030, including through formulation and implementation of enabling policies and provision and mobilisation of financial and technological support from all sources to developing countries in order to increase the annual investments and support the affordability of clean cooking projects;
7. Endorse the voluntary "Principles for Just and Inclusive Energy Transitions" and, in line with national circumstances, take them into account when devising and implementing domestic policies to pursue energy transitions;
8. Emphasise the importance of maintaining uninterrupted flows of energy from various sources, suppliers, and routes exploring paths to enhanced energy security and markets stability, including through inclusive investments to meet the growing energy demand, in line with our sustainable development and climate goals, while promoting open, fair, competitive, non-discriminatory, and free international energy markets;
9. Underscore the crucial role of technologically neutral, integrated, and inclusive approaches to develop and deploy a variety of sustainable fuels and technologies, including for abatement and removal, carbon management, and emission reduction, with a view to creating scale and global markets to accelerate energy transitions, particularly in hard-to-abate sectors;

10. Encourage international bodies involved in developing methodologies and standards to consider IPCC scientific and technical information as well as national circumstances, and to collaborate in order to increase consistency across methodological approaches for assessing GHG emissions of sustainable fuels and to enhance stakeholder engagement, hence contributing to sustainable fuels' scalability, affordability, fair competition and rapid deployment, with mutually recognised, interoperable, transparent, comparable and verifiable standards and certification methodologies, based on context-specific life cycle assessment principles, in line with national circumstances;
11. Recognise the urgent need for advancing energy transitions, through various pathways, for contributing towards achieving our sustainable development goals as well as global net-zero greenhouse gas emission/carbon neutrality by or around mid-century. Recognising that developing countries need to be supported in their transitions to low carbon/emissions, we will work towards facilitating low-cost financing for them;
12. Support the implementation of efforts to triple renewable energy capacity and double the global average annual rate of energy efficiency improvements globally through existing targets and policies, similarly support the implementation with respect to other zero and low-emission technologies, including abatement and removal technologies in line with national circumstances by 2030. With respect to efforts to implement tripling renewable energy capacity, recognise the need to adopt various approaches to enhance system flexibility and stability in line with national circumstances, including through demand management, flexibility retrofitting and the expansion and modernisation of grid infrastructure backup and balancing capacities. Emphasise the importance of accelerating the scale of deployment of energy storage technologies including batteries and pump storage hydro. Improve energy efficiency and energy savings as first fuel. Call for G20 members to take the lead in creating favourable international environment for global energy transitions;
13. Take note that those countries opting for the safe and peaceful use of civil nuclear energy, based on their domestic context, reaffirm its role in contributing to reduce GHG emissions, to achieve SDG 7 and to ensure energy security;
14. Emphasise the cross-cutting importance of sustained funding for innovation and international collaboration, including through research, development, and demonstration (RD&D), to accelerate the development, deployment, and commercialisation of solutions required for energy transitions;
15. Recognise that certain minerals, materials, components, products and technologies are critical for energy transitions and that global markets must be built on transparency and sustainability and promote reliable, diversified, sustainable and responsible supply and value chains, while providing opportunities globally, including through local value addition and beneficiation at source; and note the work of experts convened under the UN Secretary General's Panel on Critical Energy Transition Minerals;
16. Take note of the convening, on 3 October, of the joint meeting of 15th Clean Energy Ministerial and 9th Mission Innovation Ministerial, which strengthens and contributes significantly to enhance cooperation amongst G20 members and to accelerate the implementation of common goals towards energy transitions.

RIO DE JANEIRO LEADERS' DECLARATION

Sustainable Development, Energy Transitions, and Climate Action (excerpts from the chapter)

48. We commit to accelerating clean, sustainable, just, affordable and inclusive energy transitions, in line with SDG7, the Paris Agreement and the outcome of the GST-1, adopted at the UN Climate Change Conference in Dubai (COP28), that leave no one behind, especially the poor and those in vulnerable situations, taking into account different national circumstances.

49. We support the implementation of efforts to triple renewable energy capacity globally and double the global average annual rate of energy efficiency improvements globally through existing targets and policies, similarly support the implementation with respect to other zero and low-emission technologies, including abatement and removal technologies in line with national circumstances by 2030. Furthermore, we recognize the need to catalyze and scale up investment from all financial sources and channels for bridging the funding gap for energy transitions globally, especially in developing countries. Reaffirming that developing countries need to be supported in their transitions to low carbon emissions, we will work towards facilitating low-cost financing for them. We acknowledge the important role of domestic energy planning, capacity building, policy strategies and frameworks, as well as cooperation between different levels of government, in creating enabling environments to attract financing for energy transitions.

53. We commit to accelerate efforts to achieve universal access to clean cooking by 2030, including through formulation and implementation of enabling policies and provision and mobilization of financial and technological support from all sources to developing countries in order to increase the annual investments and support the affordability of clean cooking projects.

54. We endorse the voluntary "Principles for Just and Inclusive Energy Transitions" adopted by the G20 Energy Transitions Working Group and, in line with national circumstances, take them into account when devising and implementing domestic policies to pursue energy transitions.



HIGHLIGHTS FROM MINISTER ALEXANDRE SILVEIRA'S INTERNATIONAL MISSIONS

PORTUGAL – LISBON

JUNE/2023

- ♦ Partnerships with Minister Duarte Cordeiro, Minister of Environment and Climate Action of Portugal
- ♦ Participation in the Lisbon Legal Forum

INDIA – GOA

JULY/2023

- ♦ Participation, as a member of the troika, in the G20 Energy Transitions Ministerial Meeting (ETMM)
- ♦ Participation in the 14th Annual Meeting of the Clean Energy Ministerial (CEM)
- ♦ Participation in the 8th Ministerial Meeting of the Innovation Mission (IM)
- ♦ Participation in the launch of the Global Biofuels Alliance (GBA)
- ♦ Signing of a joint declaration with more than 15 countries to accelerate the development of international trade in renewable and low-carbon hydrogen
- ♦ Participation in the seminar "Sustainable Mobility: Ethanol Talks"
- ♦ Working meeting with Jennifer Granholm, US Secretary of Energy
- ♦ Working meeting with Kadri Simson, European Union Commissioner for Energy

UNITED STATES – NEW YORK

SEPTEMBER/2023

- ♦ Participation in the 78th General Assembly of the United Nations as a member of President Luiz Inácio Lula da Silva's delegation.
- ♦ Participation in United Nations

activities on Sustainable Development Goals (SDG) Acceleration Day, as Brazil's representative to discuss SDG 7 – Access to Energy

- ♦ Working meeting with Damilola Ogunbiyi, Special Representative of the Secretary-General for Sustainable Energy for All
- ♦ Participation in the seminar "Brazil on Focus: Greener and Committed to Sustainable Development"

UNITED STATES

– WASHINGTON

OCTOBER/2023

- ♦ Participation in the launch of the Carbon and Methane Management Action Committee of the Clean Energy Industry Dialogue between Brazil and the United States (CEID), organized by the U.S. Chamber of Commerce
- ♦ United States-Brazil Technical Workshop on Carbon Capture, Utilization, and Storage

FRANCE – PARIS

OCTOBER/2023

- ♦ Partnership with Minister Agnès Pannier-Runacher, Minister for Energy Transition of the French Republic, on issues related to energy transition
- ♦ Working meeting with Fatih Birol, Executive Director of the International Energy Agency (IEA), on a report focused on Latin America
- ♦ Agendas with representatives from companies in the nuclear sector, such as EDF, Framatome, and Urano

- ♦ Meeting with Patrick Pouyanné, Global CEO of TotalEnergies
- ♦ Participation in the France-Europe-Brazil Forum Esfera Paris

VENEZUELA – CARACAS

OCTOBER/2023

- ♦ Meeting with Minister Nestor Luis Reverol Torres, Minister of Electric Power, to discuss the importation of the Guri power plant in Venezuela to Roraima

PORTUGAL – LISBON

NOVEMBER/2023

- ♦ Participation in the Brazil-Europe Integration Forum (Fibe)
- ♦ Working meeting with Minister Duarte Cordeiro, Minister of Environment and Climate Action of Portugal

SAUDI ARABIA – RIYADH

NOVEMBER/2023

- ♦ Member of President Luiz Inácio Lula da Silva's official delegation
- ♦ Participation in a meeting with Crown Prince and Prime Minister Mohammed bin Salman, including on the agenda investments by the Public Investment Fund (PIF) in projects in Brazil
- ♦ Signing of a Memorandum of Understanding between the MME and the Saudi Arabian Ministry of Energy, covering strategic partnerships in renewable energy, oil, and gas, in a meeting with Prince Abdulaziz Bin Salman al Saud, Minister of Energy

QATAR – DOHA

NOVEMBER/2023

- ♦ Member of President Luiz Inácio

Lula da Silva's delegation, in a meeting with Emir Tamim bin Hamad al-Thani

UNITED ARAB EMIRATES

– DUBAI

DECEMBER/2023

- ♦ COP 28, as a member of President Lula's delegation and on the event's agenda, such as the panels "Strategies for Social Participation and Territorialization of the SDGs," "Fuel of the Future," and others
- ♦ Meeting with the Mubadala sovereign wealth fund

SWITZERLAND – DAVOS

JANUARY/2024

- ♦ Participation in the World Economic Forum
- ♦ Meeting with countries that make up the Global Biofuels Alliance, chaired by Hardeep Singh Puri, India's Minister of Petroleum and Natural Gas. The meeting was attended by Fatih Birol, Director of the International Energy Agency (IEA), and Roberto Bocca, Head of the Forum's Energy and Materials Center, among others.
- ♦ Agenda with Albert Rösti, Switzerland's Minister of Environment, Transport, Energy, and Communications
- ♦ Participation in the "Energy Transition Leaders" workshop, which included Hardeep Singh Puri and John Kerry, Special Presidential Envoy for Climate of the US government
- ♦ Working meeting with Bandar Alkhorayef, Saudi Arabia's Minister of Industry and Mining, on investments in critical minerals
- ♦ Participation in the panel "The Sustainable Transformation

of Brazil," with the Ministers of the Environment and Climate Change, Marina Silva, and Health, Nísia Trindade

- ♦ Visit to the Be8 biodiesel plant in Domdidier
- ♦ Presentation of the proposal to create a global agency to promote the adoption of biofuels

UNITED STATES – HOUSTON

JANUARY/2024

- ♦ Participation in the 42nd annual CERAWEEK by S&P Global
- ♦ Working meeting with Kadri Simson, European Union Commissioner for Energy
- ♦ Working meeting with Elnur Soltanov, Executive Director of COP29 and Deputy Minister of Energy of Azerbaijan
- ♦ Participation in the panels "Policy Choices for Energy Transition" and "Brazil: World Leader in Renewable Energy"

PARAGUAY – ASUNCIÓN

APRIL/2024

- ♦ Meeting attended by President Santiago Peña on Itaipu tariffs and negotiation of Annex C of the Itaipu Treaty

VATICAN CITY

– VATICAN CITY

MAY/2024

- ♦ Audience with Pope Francis to deliver the "Open Letter from Brazil for the Promotion of Principles for a Fair and Inclusive Energy Transition, Focused on People," as well as correspondence from President Luiz Inácio Lula da Silva on a similar topic

SPAIN – PUERTOLLANO

JUNE/2024

- ♦ Visit to Iberdrola's green hydrogen plant and agenda to

attract investment in Brazil through the construction of a plant in Brasília

- ♦ Meeting with José Ignacio Galán, global executive president of Iberdrola

PORTUGAL – LISBON

JUNE/2024

- ♦ Participation in the panel "Green Agenda and Economic Development" at the Lisbon Legal Forum

SWITZERLAND – GENEVA

JUNE/2024

- ♦ Participation in the Inaugural Forum of the Coalition for Social Justice of the International Labor Organization (ILO), as a member of President Lula's delegation

ITALY – BORGO EGNAZIA

– PUGLIA

JUNE/2024

- ♦ Participation in the G7 Leaders' Summit on artificial intelligence, energy, and other topics, as a member of President Lula's delegation

BOLIVIA – SANTA CRUZ

DE LA SIERRA

JUNE/2024

- ♦ Leading the delegation of Brazilian industry representatives to negotiate the purchase of natural gas directly from Bolivia, with the presence of Franklin Molina Ortiz, the country's Minister of Hydrocarbons and Energy
- ♦ Agreements with Bolivia for the interconnection of electricity transmission and distribution systems, modification of the operation of the Jirau Hydroelectric Plant, and use of existing pipeline infrastructure for the transport of natural gas

- ♦ Participation in the Bolivia-Brazil Business Forum

CHILE – SANTIAGO**AUGUST/2024**

- ♦ Participation in the Chile-Brazil Business Forum as part of President Luiz Inácio Lula da Silva's official delegation
- ♦ Agreement between Brazil and Chile on the development of strategic minerals
- ♦ Establishment of a Brazil-Chile Working Group on Sustainable Aviation Fuels (SAF) with the Chilean Ministry of Energy

PARAGUAY – ASUNCIÓN**AUGUST/2024**

- ♦ Meeting attended by President Santiago Peña to begin the negotiation process between the High Parties on Annex C of the Itaipu Treaty

PORTUGAL – LISBON**NOVEMBER/2024**

- ♦ Participation in the Brazil-Europe Integration Forum (Fibe) on the topic "Economic and Social Impacts of Mass Litigation" at the Belém Cultural Center (CCB)
- ♦ Meeting with executives at Galp Energia

UNITED ARAB EMIRATES**– ABU DHABI****JANUARY/2025**

- ♦ Meetings with Sheikh Khaled bin Mohamed bin Zayed and Mohamed Hassan Alsuwaidi, Minister of Investment
- ♦ Meeting with Reem Al Hashimy, Minister for International Cooperation
- ♦ Signing of an MoU with the UAE Ministry of Investment on the exploration and development of strategic minerals

- ♦ Participation in the 15th General Assembly of the International Renewable Energy Agency (IRENA)
- ♦ IRENA announcement to act as Secretariat of the Global Coalition for Energy Planning
- ♦ Resumption of Brazil's accession process to IRENA, in a meeting with Francesco La Camera, Director-General of IRENA

SAUDI ARABIA – RIYADH**JANUARY/2025**

- ♦ Meeting with Prince Abdulaziz Bin Salman al Saud, Minister of Energy
- ♦ Working meeting with Bandar Alkhorayef, Minister of Industry and Mineral Resources
- ♦ Meeting with Amin Nasser, Global CEO of state-owned oil company Saudi Aramco
- ♦ Technical visit to the Ras al Khair industrial complex
- ♦ Participation in the panel "Security of Supply of Critical Materials" at the Future Minerals Forum event

SWITZERLAND – DAVOS**JANUARY/2025**

- ♦ Participation in the World Economic Forum as official representative of President Luiz Inácio Lula da Silva
- ♦ Working meeting with Kgosientsho Ramokgopa, South African Minister of Electricity and Energy
- ♦ Agenda with Dan Jorgensen, European Commissioner for Energy and Housing
- ♦ Meeting with Fatih Birol (IEA)
- ♦ Presentation at the panel "Environmental Economic Factor – Integrating the Socioeconomic Benefit of Biofuels"

- ♦ Meeting with government representatives (including Marc Ferracci, French Minister of Industry and Energy, and Sophie Hermans, Deputy Prime Minister and Minister of Climate Policy and Green Growth of the Netherlands) and the private sector

PARAGUAY – ASUNCIÓN**FEBRUARY/2025**

- ♦ Meeting between the High Parties, attended by President Santiago Peña, to assess the progress of the negotiation process for the revision of Annex C of the Itaipu Treaty

JAPAN – TOKYO**MARCH/2025**

- ♦ Member of President Luiz Inácio Lula da Silva's official delegation for international cooperation and partnerships focused on economic development and energy transition
- ♦ Participation in the Brazil-Japan Economic Forum, with emphasis on expanding the use of ethanol and meeting the decarbonization goals for transportation matrices
- ♦ Signing of the Memorandum of Cooperation on the Initiative for Sustainable Fuels and Mobility (ISFM)
- ♦ Meeting at the Ministry of Economy, Trade, and Industry of Japan (METI) with Deputy Minister Kato Akiyoshi
- ♦ Participation in President Lula's meeting with Emperor Naruhito

VIETNAM – HANOI**MARCH/2025**

- ♦ Member of President Lula's official delegation
- ♦ Participation in the Brazil-Viet-

nam Economic Forum in Hanoi.

CHINA – BEIJING, SHANGHAI, AND SHENZHEN**APRIL/2025**

- ♦ Preparatory activities for President Luiz Inácio Lula da Silva's official trip to China in May
- ♦ Opening of the Brazil-China Economic Summit, organized by Valor Econômico, Caixin Global, and the Brazilian Center for International Relations (CEBRI)
- ♦ Visit to China Baowu Steel Group Corporation in Shanghai, China's largest steel mill and a key customer of Brazilian company Vale
- ♦ Meeting with executives from China General Nuclear Power Group (CGN Power), including a visit to the Daya Bay Nuclear Power Plant
- ♦ Meeting with BYD executives on investments in electric vehicles, batteries, and data centers
- ♦ Meetings with Huawei executives on battery projects and energy transition solutions
- ♦ Meeting with leaders from State Grid Corporation to exchange experiences in energy infrastructure
- ♦ Meeting with Envision Energy executives to establish green technology partnerships
- ♦ Meeting with Dilma Rousseff, President of the BRICS New Development Bank and former President of Brazil, on expanding financing for projects in Brazil

CHINA – BEIJING**MAY/2025**

- ♦ Member of President Luiz Inácio Lula da Silva's official delegation to China
- ♦ Participation in the "China-Brazil Business Seminar: Strengthen-

ing the Strategic Partnership," in the thematic panel "Energy Transition and Sustainability"

- ♦ Signing of a memorandum of understanding between the MME, the Chinese state-owned Windey Energy Technology Group, and Senai Cimatec for bilateral cooperation in renewable energy and low-carbon technologies
- ♦ Agreement between Brazil and the National Energy Administration of the People's Republic of China (NEA) aimed at opening the Chinese market to Brazilian ethanol, increasing exports
- ♦ Signing of the Action Plan for Cooperation on Sustainable Mining Development (2025–2026) with the National Development and Reform Commission of the People's Republic of China (NDRC)
- ♦ Participation in the meeting between President Lula and President Xi Jinping

RUSSIA – MOSCOW**MAY/2025**

- ♦ Member of President Luiz Inácio Lula da Silva's official delegation to the Russian Federation
- ♦ Working meeting with Deputy Prime Minister Alexander Novak
- ♦ Meeting with leaders of Tenex, a subsidiary of Rosatom, Russian state-owned nuclear energy companies, with the aim of strengthening collaboration between the two countries
- ♦ Participation in President Lula's meeting with President Vladimir Putin

FRANCE – PARIS

- ♦ Member of President Luiz Inácio Lula da Silva's official delegation

to France

- ♦ Participation in an expanded meeting with French President Emmanuel Macron on cooperation focused on clean energy, critical minerals, and energy transition
- ♦ Meeting with Bernard Fontana, CEO of the EDF Group
- ♦ Signing of a Declaration of Intent with the French government on cooperation in green hydrogen
- ♦ Participation in Business Seminar

PORTUGAL – LISBON**JULY/2025**

- ♦ Participation in the Lisbon Legal Forum

INDONESIA – JAKARTA**OCTOBER/2025**

- ♦ Member of President Luiz Inácio Lula da Silva's official delegation to Indonesia
- ♦ Participation in the Indonesia-Brazil Business Forum in Jakarta
- ♦ Signing of a Memorandum of Understanding (MoU) on cooperation in energy and mining with the Ministry of Energy and Mineral Resources of the Republic of Indonesia
- ♦ Bilateral meeting with the Minister of Energy and Mineral Resources of Indonesia, Bahlil Lahadalia
- ♦ Meeting with CEOs of Chinese major producers of system stabilization batteries BESS

MALAYSIA – KUALA LUMPUR**OCTOBER/2025**

- ♦ Member of President Luiz Inácio Lula da Silva's official delegation to Malaysia
- ♦ Meetings aimed at attracting investments to strengthen Brazil's energy transition



President of the Republic

Luiz Inácio Lula da Silva

Vice-President of the Republic

Geraldo Alckmin

Minister of State

Alexandre Silveira de Oliveira

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Special Advisory Office for Social Communication (AESCOM)

Special Advisory on Technical Affairs (AETEC)

Special Advisory on International Affairs (ASSINT)

Special Advisory on Minister Support (AAM)

Social Participation and Diversity Advisory (APSD)

TRANSLATION

DMB Soluções Integradas, Special Advisory on International Affairs (ASSINT) and National Secretary of Geology, Mining and Mineral Transformation (SNGM)

PICTURES

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