

# ANNUAL REPORT

# 2019

SUMMARIZED VERSION





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# HIGHLIGHTS

## Management

- Preparation of the 2020-2035 Strategic Planning; and
- ERP Standard Implementation Program (ProERP) - SAP implementation in Eletrobras companies.



## Financial capital

Set of resources available to be used in the production of goods or the provision of services. It is obtained through financing, such as debts, shares or grants, or generated through investments.

- **SIGNIFICANT REDUCTION** in the Personnel, Materials, Services and Other (PMSO) account; and
- **105% GROWTH IN GENERATION OF OPERATING CASH** (Ebitda) in relation to 2018.

## Manufactured capital

Physical manufactured objects available for use in the provision of services, including buildings, equipment and infrastructure.

- **BEST OPERATIONAL INDICATORS** in recent times;
- Completion of **22 TRANSMISSION PROJECTS**; and
- **REMOTE ASSISTANCE DEPLOYMENT.**







## Intellectual capital

Set of knowledge-based organizational Intangible assets, including intellectual property, such as patents, copyrights, software, rights and licenses; and “organizational capital”, such as tacit knowledge, systems, procedures and protocols.

- ➔ Implementation of SAP’s Work Clearance Management (WCM) module **IN A PIONEERING WAY** in the sector and among Eletrobras companies; and
- ➔ Inauguration of **SOBRADINHO’S FLOATING SOLAR POWER PLANT**.



## Social and Relationship capital

It covers shared standards as well as common values and behaviors; relationships with key stakeholders; the trust and commitment that an organization develops and seeks to build and protect with external stakeholders; the intangible assets associated with an organization’s brand and reputation; and the social license to operate.

- ➔ **LAGOS DO SÃO FRANCISCO PROJECT;**
- ➔ **LAGO DE SOBRADINHO PROJECT;** and
- ➔ **LIVING AND LEARNING (VIVENDO E APRENDENDO) PROGRAM.**



Sobradinho's floating solar platform. Credit: André Schuler



## Natural capital

All renewable and non-renewable environmental resources, as well as environmental processes, that provide goods or services that support an organization's past, present and future prosperity, which includes water, land, minerals and forests, and biodiversity and ecosystem quality.

- ➔ **IMPLEMENTATION OF REFORESTING AND RECOVERY ACTIONS** in: Caetés Ecological Station, located in the city of Paulista, part of the Metropolitan Region of Recife (PE); Saltinho Biological Reserve, located in the city of Tamandaré (PE), with the Atlantic Forest Biome; Saltinho Biological Reserve (Rebio) and Legal Reserve of the Assentamento Laranjeiras Project, Rebio's buffer zone; and the State Botanical Park of Ceará, in Caucaia;
- ➔ Maintenance of **12 THOUSAND UNITS OF CACTI (MELOCACTUS ZEHNTNERI)** in growth phase and another **2 THOUSAND** in germination in the Xingó Forest Nursery (AL), maintained by Chesf;
- ➔ Donation of **76,500 SEEDLINGS** from the Xingó Forest Nursery to various institutions for planting on the banks of rivers and streams in the basin of Rio São Francisco;
- ➔ Growing an additional **157.9 THOUSAND UNITS OF SEEDS FROM THE CAATINGA GERMPASM**, in the nursery, destined for the recovery of the areas; and
- ➔ Visit of **THOUSANDS OF PEOPLE FROM 11 SCHOOLS, 3 UNIVERSITIES AND 3 PROJECTS** to Xingó Forest Nursery.



## Human capital

The skills, abilities and experience of people and their motivations for innovation, including their compliance with and support for governance structure, risk management and ethical values; the ability to understand, develop and implement the organization's strategy; the loyalty and motivation to improve processes, goods and services, including the ability to lead, manage and collaborate.

- ➔ **PARTICIPATION OF CHESF MANAGERS** in a specific MBA in the electricity sector developed jointly with Fundação Getúlio Vargas (FGV); and
- ➔ **RECERTIFICATION OF THE OCCUPATIONAL HEALTH AND SAFETY (OHS) MANAGEMENT SYSTEM** of the Xingó Hydroelectric Power Plant under the international standard OHSAS 18.001:2007.

## MESSAGE FROM THE ADMINISTRATION

Chesf has been reinventing itself over the last years and 2019 will be registered as a year of positive results in all areas of the Company. Today, the company is more well-developed and undergoing a process of transformation. The implementation of our plan to adapt and modernize the Company has been promoting significant advances, which allow us to reap the fruits of the consolidation of this work, although we still have many challenges and obstacles to overcome.

In an articulated manner, according to Eletrobras' guidelines and with the full commitment of its staff, Chesf's governance has established guidelines with the objective of enabling the Company to follow a new path, marked by technological transformation, improvement of the economic-financial situation and modernization of its management systems.

We identified the need to find innovative solutions, with high potential for economic sustainability, respecting regulatory compliance and achieving benefits for society. We direct our efforts to the improvement of the efficiency levels of the various areas of the Company, in an integrated manner, seeking

economically consistent results in all segments in which we operate - energy generation, transmission and trading.

In this sense, we have developed projects aimed at the implementation of new methods to generate energy, and one of the milestones is represented by the inauguration of the floating solar power plant of Sobradinho - the first of its kind in Brazil - with a high potential for replicating the methodology to be developed in other lakes.

For another year, we embraced the challenge of repositioning the organizational structure, making quali-quantitative adjustments in the staff, with the conscious adoption of actions aimed at minimizing the impact on our intellectual capital. To this end, new operational requirements were applied in the plants, substations and operation centers, increasing to 70% the number of remotely assisted installations, guaranteeing the reliability of the electrical system. We completed the integration of the Teresina and Fortaleza Operation Centers, with new technological resources that allowed efficiency gains for the development of operational activities.



*Fábio Lopes Alves – CEO of Chesf.*

We have made progress with the implementation of Enterprise Resource Planning - ERP systems, in a single instance in Eletrobras companies, centralizing processes and allowing faster access to reliable information. The commitment and engagement of the teams





Wilson Ferreira Junior, CEO of Eletrobras. Eletrobras holding company collection / Cláudio Ribeiro.

made it possible to implement, in 2019, the modules of Supply, Finance, People Management and monitoring and control of services provided in Operation and Maintenance (WCM - Work Clearance Management). It is worth mentioning that the use of WCM is considered a pioneer in the country. We employ a computerized solution for communication and collaboration in the cloud, with significant increases in productivity, mobility and business integration.

We implemented the Northeast Unit of the Shared Services Center (CSC), under the coordination of Eletrobras, to meet the existing demands with greater productivity, while adopting more efficient practices and using state-of-the-art technologies. In this sense, we launched the CSC Portal, a direct channel with the client and the use of activity robotization. In addition, the “Infrastructure and Human Resources Sharing Contract” was signed with the holding company, enabling effective cooperation among Eletrobras companies.

With the entry into commercial operation of the 18th turbine of the Belo Monte Power Plant, we concluded yet another venture, with participation in a Special-Purpose Entity - SPE. In addition, we acquired a stake in two SPEs (Extremoz Transmissora do Nordeste - ETN and Transmissora Delmiro Gouveia - TDG), thus increasing our transmission system.

We also concluded the Pindaí Wind Complex, a generation undertaking that required a great effort from the Company to achieve it and added 110MW of clean energy installed capacity to the Brazilian Energy Matrix, coming from wind power generation.

In fiscal year 2019, we continued the expansion of our transmission network with the entry into commercial operation of 22

We identify the need to find innovative solutions, with high potential for economic sustainability, respecting regulatory compliance and achieving benefits to society.

new projects, incorporating 2,644 MVA of installed transformation capacity and 331 km of transmission lines to the Basic Network of the National Electric Sector, adding with the incorporation of these projects R\$ 65 million of annual revenues, in addition to significantly reducing our stock of works in arrears in relation to the dates established in the concession contracts.

The modernization of the existing facilities and the strict compliance with the asset maintenance plans made it possible to obtain excellent operating indicators, especially those related to the availability of generation and transmission, reaching all the established goals and obtaining the best results in our history.

We closed the year with one of our lowest debt ratios. We grew 105% in operating cash generation (Ebitda) when compared to 2018. We acquired and merged other companies, which will allow us to increase our annual revenues by R\$ 120 million. We completed the renewal of tax benefits with Sudene, which reverts to the region, through the expansion of investment capacity in regional infrastructure. With this, in the last years, Chesf has been providing good remuneration to its shareholders in the form of dividends.

The successive positive results presented in recent years and the trend towards sustainable profits in the coming periods have made it possible to recognize deferred tax assets and liabilities, which contributed significantly to the good financial performance for the year.

We took an important step towards total cost exemption with Nair Alves de Souza Hospital (HNAS), located in the city of Paulo Afonso (BA), which will be progressively and fully transferred to the Government by the fourth quarter of 2020, whose activity does not correspond to the Company's business scope.

The scenarios and perspectives of the National Electric Sector show us that we must be prepared for the economic and technological change that is underway in the electricity sector. We must be aware of the novelties in energy production, digital transformation and modern management practices in order to acquire the necessary competence to remain in a sector that is proving to be highly competitive.

Consequently, we will continue to seek capital investments with the aim of achieving positive financial results, considering cost reduction and process optimization, without neglecting our commitments related to sustainability, including the Sustainable Development Goals (SDGs) and the Global Compact Principles.

In conclusion, we give special thanks to all the Chesf family. The commitment and dedication of our employees have been crucial to overcoming challenges and achieving better results. Let's keep fighting and conquering!

Enjoy your reading!

**Fábio Lopes Alves**  
CEO of Chesf

**Wilson Ferreira Junior**  
Chairman of the Board of Directors



## COVID-19 PANDEMIC

Since January 2020, Eletrobras companies have been monitoring the evolution and possible impacts caused by the coronavirus pandemic and following the recommendations of the Ministry of Health and the governments of the states and cities where its operations are located. To coordinate and monitor all actions related to the pandemic, on March 17, 2020, the Eletrobras Companies' Crisis Monitoring and Management Committee was created, formed by the holding company's Board of Executive Officers, the CEOs of its subsidiaries and the Director-General of Cepel.



Due to the need to preserve its essential activities, the company has taken several steps wherever possible:

- **ANTICIPATED VACATIONS;**
- **APPROVED COMPENSATORY TIME OFF;**
- **AUTHORIZED REMOTE WORK;**
- **RESTRICTED DOMESTIC TRAVEL;**
- **PROHIBITED FACE-TO-FACE MEETINGS WITH LARGE NUMBERS OF PEOPLE;**
- **SUSPENDED INTERNATIONAL TRAVEL AND QUARANTINED EMPLOYEES WHO SHOWED SYMPTOMS; AND**
- **REQUESTED THAT ITS SERVICE PROVIDERS ALSO OBSERVE ALL THE GUIDELINES OF THE MINISTRY OF HEALTH.**

With regard to the operation of the electroenergetic system, a contingency action plan was created with the objective of mapping, monitoring and guiding employees on the actions required in generation and transmission operations.

At this unusual moment for everyone, Eletrobras companies have demonstrated high resilience, a high degree of commitment and a clear purpose of all managers and employees in generating and transmitting the energy that Brazil needs to fight the pandemic, preserve lives and sustain economic activities.

# CHESF

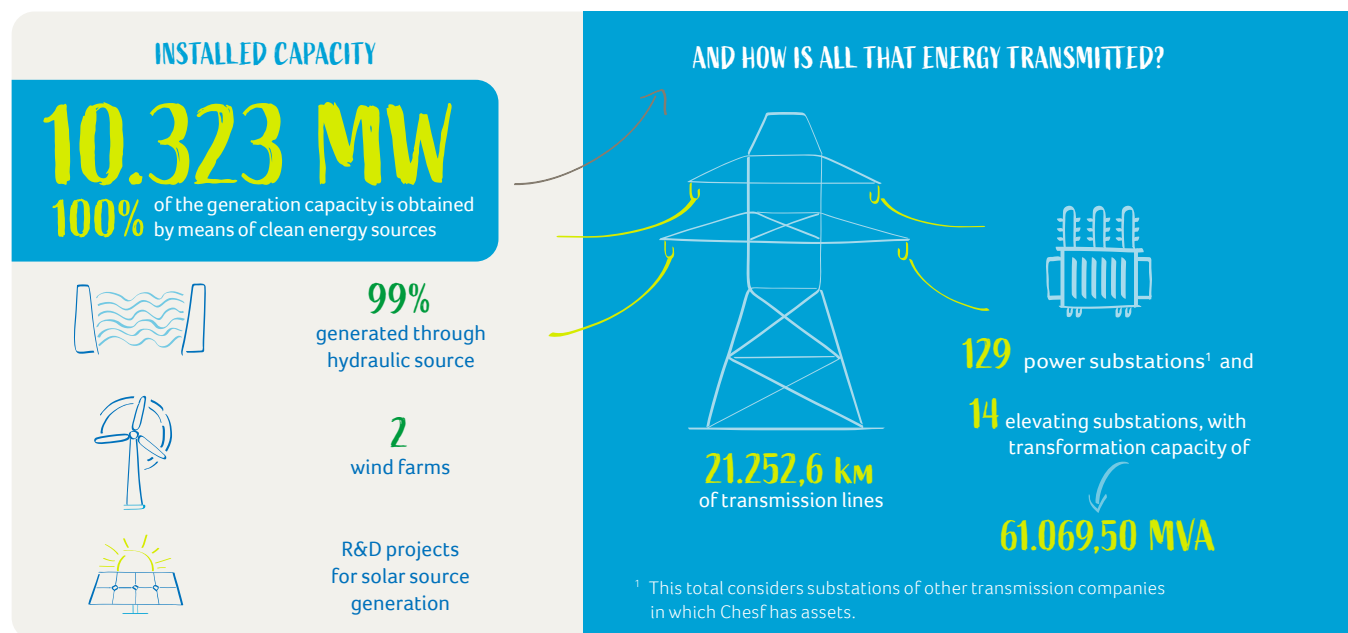
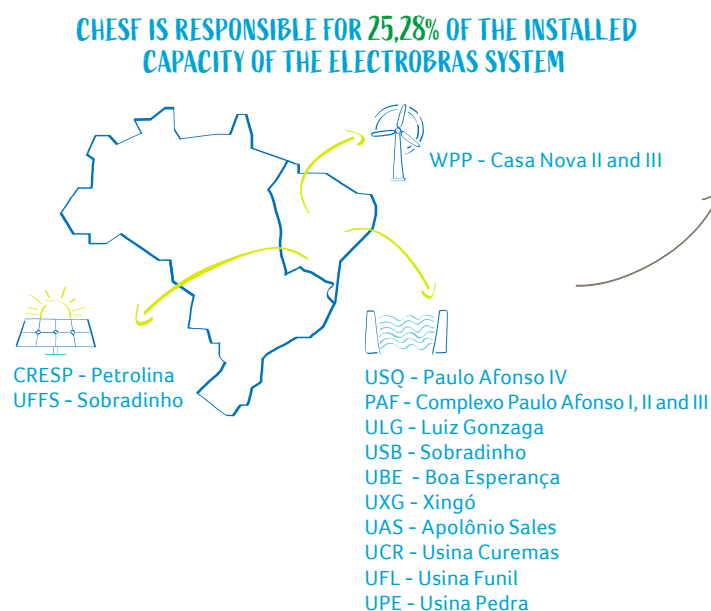
With 72 years of history, we are one of the largest generation and transmission companies in the country, with 12 hydroelectric plants and 10 reservoirs with a total storage capacity of 57.4 billion cubic meters of water, more than 21,000 kilometers of transmission lines and two wind power plants. Our installed capacity totals 10,323.43 MW and we operate 129 power substations (considering in this total the substations of other transmission companies in which Chesf has assets), totaling 49,726.17 MVA of transformation capacity.

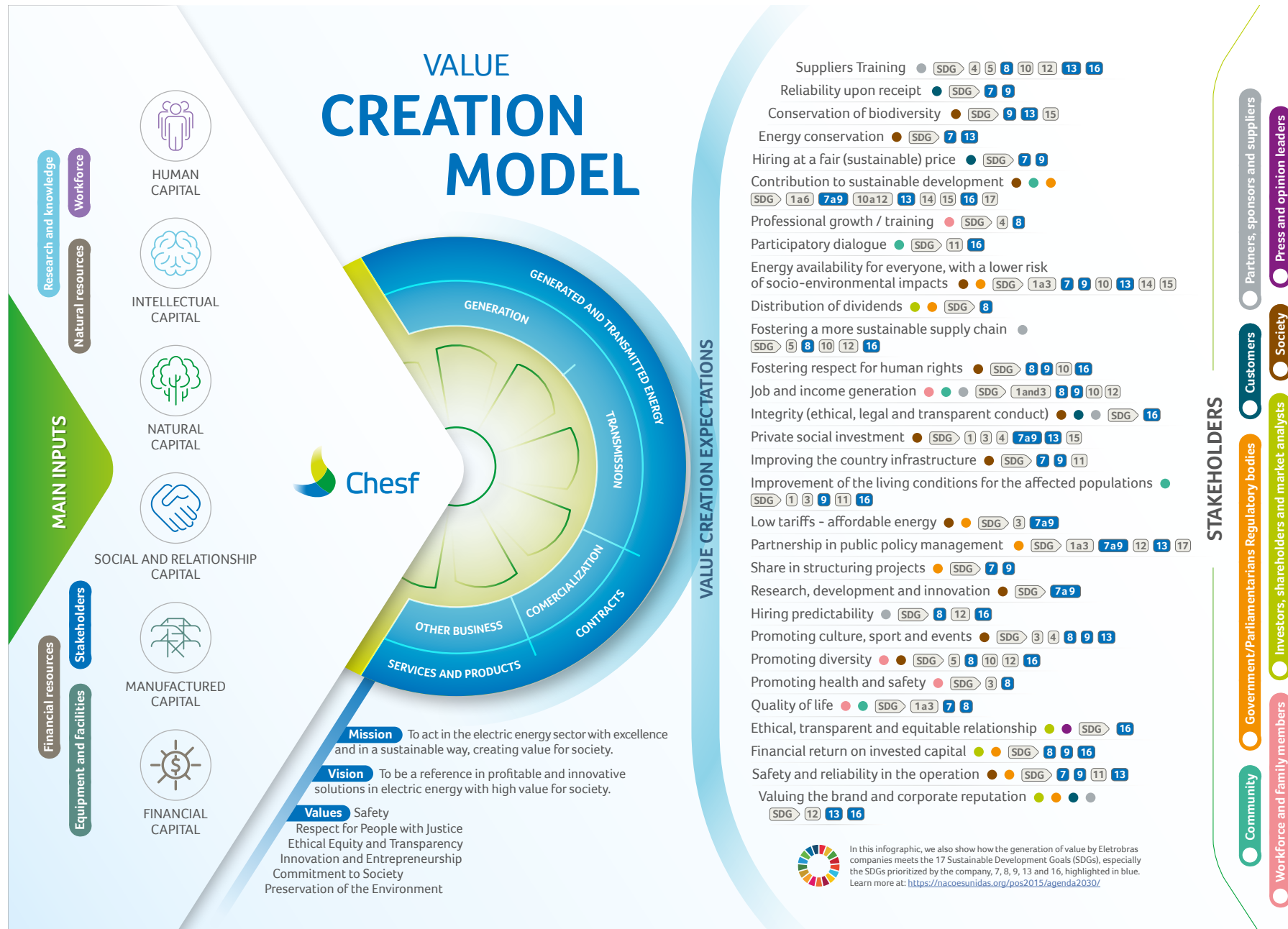
Our system also includes 14 power plant elevating substations which, together with the power substations, have a transformation capacity of 61,069.50 MVA. We also hold stakes in generation and transmission ventures through Special-Purpose Entities (SPEs) and are investing in solar generation, a source in which we have 3.62 MWp deployed in mini and microgeneration.

All our energy generation is concentrated in the Northeast, but it is distributed to the North,

Northeast, Center-West and Southeast regions, which receive the resource through an alternating current transmission system that operates in 500, 230, 138 and 69 kV voltages and supplies the National Interconnected System (SIN)).

Founded in 1948, Chesf (São Francisco Hydroelectric Company) is a publicly held corporation and a mixed economy subsidiary of Eletrobras. The Company is headquartered in Recife, Pernambuco.







## MISSION AND VISION



### MISSION

To act in the electric energy sector with excellence and in a sustainable way, creating value for society.



### VISION

To be a reference in profitable and innovative solutions in electric energy and with high value for society.

## LONG-TERM STRATEGIC PLANNING

Chesf's Strategic Planning is a dynamic process that involves the constant assessment of scenarios, internal and external factors that influence the business performance and the consequent adaptation of strategic objectives, aiming to improve management and achieve the goals and results proposed, considering a long-term perspective.

Chesf's Strategic Planning, together with the Eletrobras Business and Management Master Plan (PDNG) and the Chesf Business and Management Plan (PNG Chesf), are action-oriented instruments resulting from a collaborative work and from the integration of efforts of the Board, strategic leaders and main stakeholders. In their preparation, the perspectives of public authorities, sector agents and various stakeholders are taken into consideration.

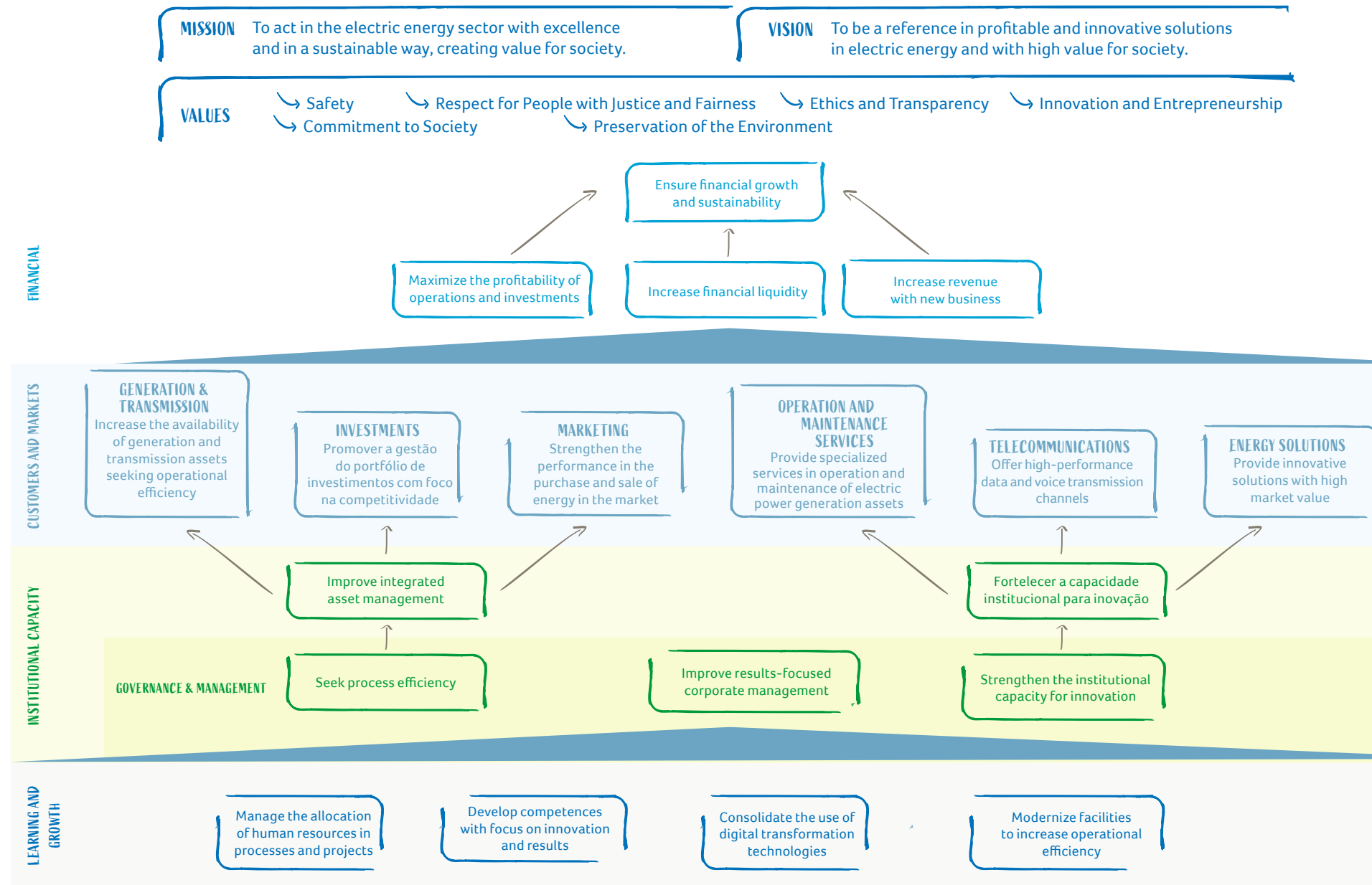
In view of the changes that have occurred in Chesf's internal and external environments in recent years and the need to develop strategic content aimed at growth over the next 15 years, Chesf is carrying out a repositioning of the Company in line with Eletrobras' strategic guidelines to achieve the following objectives:

- to formulate Chesf's long-term strategic planning that will guide the Organization's growth in the next 15 years, using scenario building and internal diagnosis;
- to propose and implement governance and strategy management methodology; and
- to implement the continuous monitoring process of the strategy's scope.

As a result of the Strategic Planning review work, foreseen in the Company's regulatory instruments, a process of updating the organizational identity and strategic objectives of Chesf was developed and, consequently, the construction of its Strategic Map, which meets the challenges of the current scenario of the domestic electricity sector.

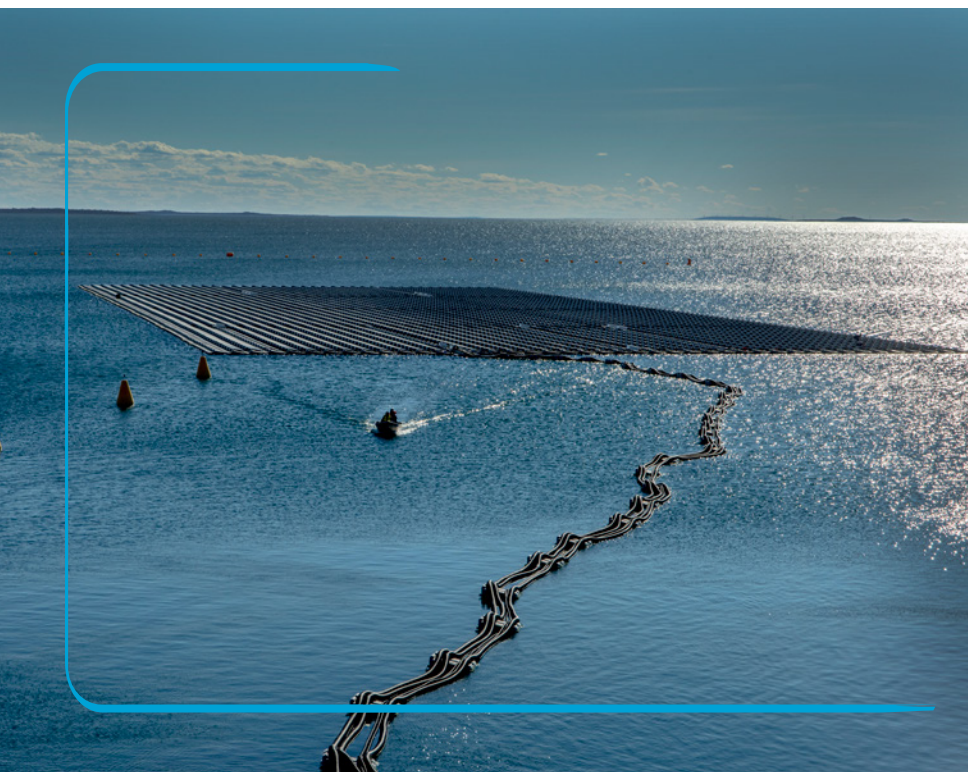
Chesf's Strategic Planning is integrated to the implementation, monitoring and evaluation of the strategy. The following page shows Chesf's Strategic Map .

## Strategic map - Chesf 2020-2035



## PNG 2019-2023 - Monitoring

The PNG of the cycle started in 2019 was based entirely on the holding company's Business and Management Master Plan (PDNG). Every month, the Board of Executive Officers is gathered to evaluate the fulfillment of the objectives contained in the PNG and the indicators of the Business Performance Goals Contract (CDME), signed between Eletrobras and its subsidiaries.



Energized Floating Solar Power Plant, in full operation - Sobradinho (BA). Credit: André Schuler.

## Business indicators

| Indicator /Frequency   |           | 2019 Goal | Accomplished in 2019 | 2020 Goal |
|--|-----------|-----------|----------------------|-----------|
| ISEB3 Global   | Annual    | 65        | 65                   | 67.6      |
| Net Debt/Ebitda ratio  | Monthly   | 0.97      | 0.00                 | 0.72      |
| Accident frequency rate  | Monthly   | 2.73      | 1.93                 | 2.59      |
| Corrective measures for significant deficiencies and material weaknesses | Annual    | 100%      | 32%                  | 100%      |
| Investment in R&D+I/ROL Parent Company                                   | Quarterly | 1%        | 1.2%                 | 1%        |
| Generation + Commercialization Global Indicator                          | Monthly   | 0.95      | 1.03                 | 0.95      |
| Generation Availability  | Monthly   | 1.00      | 1.12                 | 1.00      |
| Availability of transmission lines                                       | Monthly   | 99.35%    | 99.97%               | 99.35%    |
| G&T expansion indicator <sup>1</sup>                                     | Monthly   | 100%      | 55.30%               | 100%      |

<sup>1</sup> O protocolo do indicador de Expansão de Geração & Transmissão será alterado em 2020, pois atualmente só considera a expansão medida pelo incremento de quilômetros de linha ao sistema. O novo protocolo irá considerar a expansão também pelo incremento de capacidade de transformação em MVA.

## PNG 2020-2024

For the 2020-2024 cycle, common methodology and premises were defined for all the companies due to the need to standardize the criteria used. Among others, the Company's prospects for expansion, especially in solar and wind sources, the search for operational excellence throughout the value chain, and the modernization of facilities are noteworthy.



# MANAGEMENT

## Digital transformation

One of the major advances in digital transformation in 2019 was the finalization of ProERP, the SAP ERP Deployment Program (integrated business management system) in single instance for Eletrobras companies. Go Live, the event of joint operation of the platform, took place in January.

We have made an important contribution to ERP: the pioneering implementation of the Work Clearance Management (WCM) module, to enable the management of all operational asset life stages in an integrated system, with adequate data monitoring and treatment during this entire cycle.

Chesf is structuring an area dedicated to digital transformation and has already made a diagnosis of its current stage of digitalization. An average annual budget of R\$ 8.5 million will be allocated to Chesf's digital transformation.

## Cybersecurity

Cybersecurity management is permeated by the Information Security Policy and several regulatory instructions, all published, updated and audited to verify their compliance and execution on the subject. The processes follow the main security frameworks, Federal Government regulations and the Code of Ethical Conduct and Conduct of Eletrobras companies.

## Supplier Management

Our supplier contracting process is oriented by Law 13,303/2016 ("Lei das Estatais") and by Eletrobras' Bidding and Contracts Regulations. The entire process follows the requirements of public call and evaluation of legal qualification criteria, technical qualification and economic-financial qualification. In addition, all contracts have labor clauses and legal conditions related to the guarantee of human rights and compliance with environmental legislation. The document Principles and Commitments of Business Conduct in Chesf's Relationship with Suppliers is endorsed by suppliers at the time of bidding.

Chesf reserves the right to carry out audits in the premises of the contractor or in the places where the services are carried out in order to verify the compliance with the legislation and its ethical practices. Regarding corruption, 72 suppliers with a contract signed in 2019 (29% of the total) were submitted to the due diligence process.

### Supplier profile

|                             |            |
|-----------------------------|------------|
| Suppliers contracted        | 245        |
| Amount (R\$ million)        | R\$ 540.63 |
| Total suppliers (estimated) | 594        |

## CORPORATE GOVERNANCE

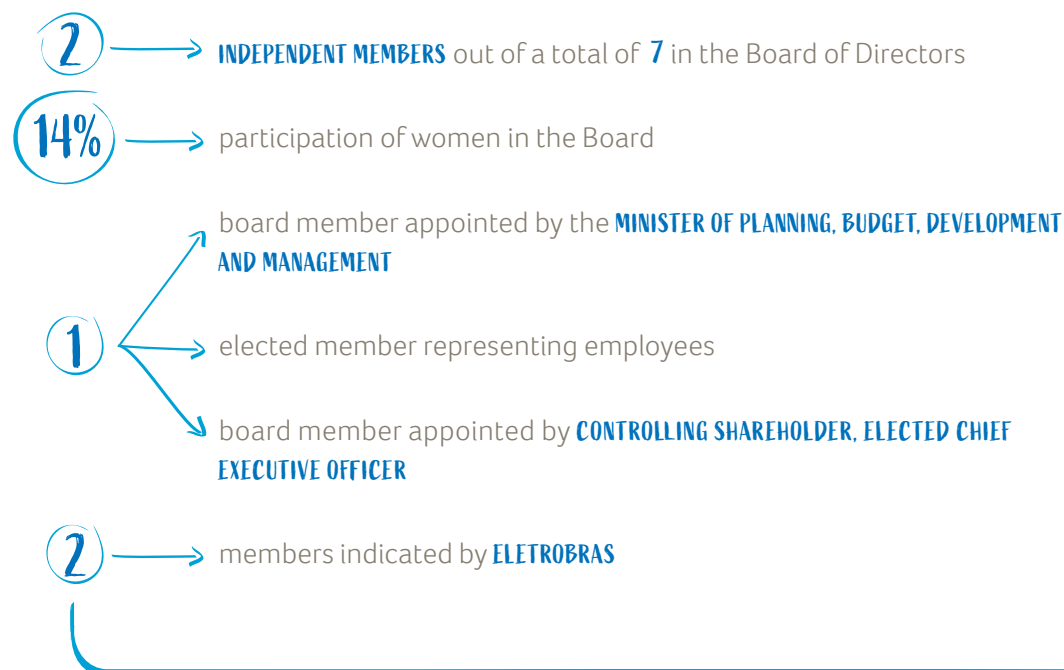
Chesf is a [publicly-held, mixed-capital corporation](#), governed by Law No. 6,404 of December 15, 1976. We act in strict accordance with the legislation in force and with the regulatory acts issued by the Brazilian Electricity Regulatory Agency (Aneel). The requirements and duties of the governance bodies are established in our Bylaws and in the respective Internal Regulations of the collegiate bodies.

Our corporate governance acts in accordance with Law 13,303, Decree 8,945 and the Rules of the B3 (Brasil, Bolsa, Balcão) Program in State Governance. We follow the best corporate governance practices, among which we highlight the Board of Directors composed of 28.5% of independent members; the permanent Fiscal Council; administrators and members of the Fiscal Council subject to the evaluation of the requirements and prohibitions set forth in Law 13,303/2016 and Decree 8,4545/2016; among others.

Chesf was certified, in 2019, at Level I in the Governance Index of the Secretariat for Coordination and Governance of State Enterprises (Sest), of the Ministry of Economy. A total of 49 sets of requirements on the best corporate governance practices of 61 companies were evaluated. The overall average was 8.48 and Chesf scored 9.87.

In accordance with Article 8, Items I, III and VIII of Law No. 13,303 of June 30, 2016; Article 13, Items I, III and VIII of Decree No. 8,945 of December 27, 2016; and Articles 16 and 18 of the Rules of the B3 (Brasil, Bolsa, Balcão), Chesf draw up their Annual Public Policy and Corporate Governance Charter. To know the document, access our [website](#).

### Diversity of the Board of Directors



Conheça em nosso site os Cargos e Responsáveis e a nossa Estrutura Organizacional completa

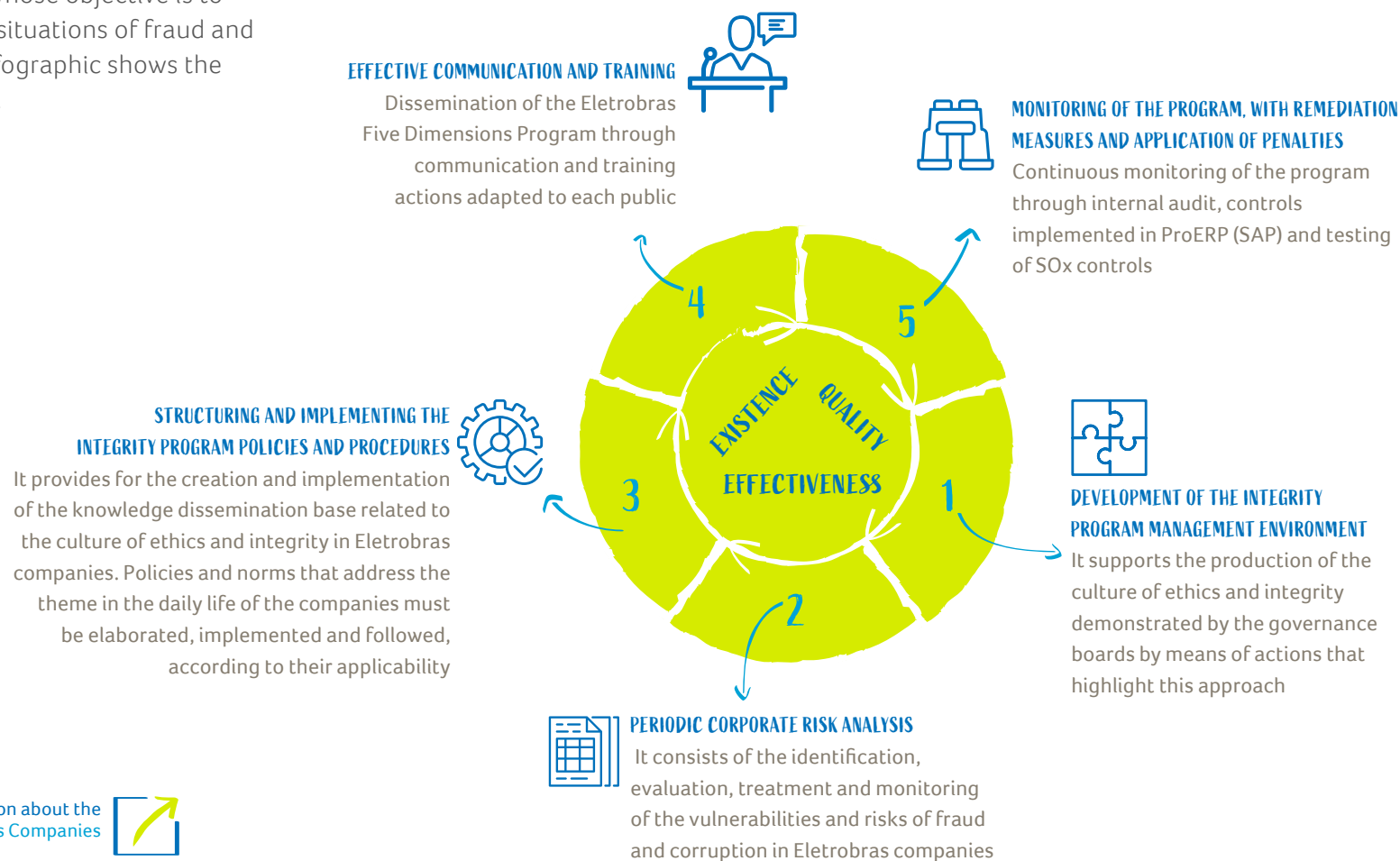


# BUSINESS ETHICS AND INTEGRITY

## Integrity Program

We have adopted the Eletrobras Companies Integrity Program, also called the “Eletrobras Five Dimensions Program”, whose objective is to prevent, detect and remedy situations of fraud and corruption. The following infographic shows the composition of the Program.

### The five dimensions of the Eletrobras Company Integrity Program



Click for more information about the Integrity Program Eletrobras Companies





## FINANCIAL CAPITAL

We identify and monitor our impacts through monthly monitoring of planned x performed results, based on the Business and Management Plan (PNG) and the Business Performance and Goals Contract (CMDE).

The periodic monitoring of the CMDE indicators throughout 2019 signals that we have achieved our main goals:

| INDICATOR  | GOAL  | OUTCOME |
|--|-------|---------|
| Personnel, Materials, Services and Other Expenses (PMSO) / Regulatory PMSO | 1.10  | 1.1     |
| Net Debt / Adjusted EBITDA   | 0.97  | 0.0     |
| Adjusted Net Income / Shareholders' Equity                                 | 10.64 | 24.61   |

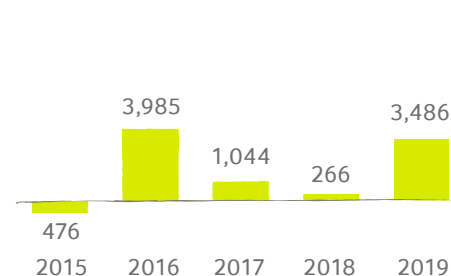
### Financial results

In 2019, we recorded a profit of R\$ 3.49 billion, an increase of R\$ 3.22 billion in relation to 2018 (R\$ 265.9 million). This increase is mainly due to the provision for deferred income tax in the amount of R\$ 2.07 billion and the deferred social contribution in the amount of R\$ 475.0 million, in addition to increases in some revenue lines.

Our gross operating revenue of R\$ 6,187.0 million showed a positive variation of 7% (R\$ 5.78 billion in 2018), mainly due to the growth in revenues from the supply, operation and maintenance of plants (R\$ 369.4 million); and short-term electricity (R\$ 386.0 million). From 2015 to 2019, the Compound Annual Growth Rate (CAGR) was 6.7%.

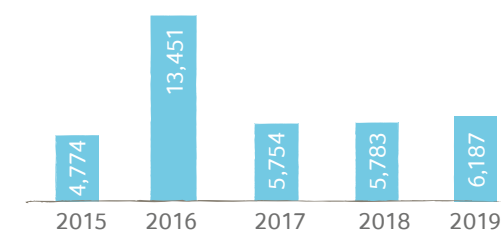
### Net Profit/Loss

In R\$ million



### Gross Operating Revenue (CAGR + 6.7%)

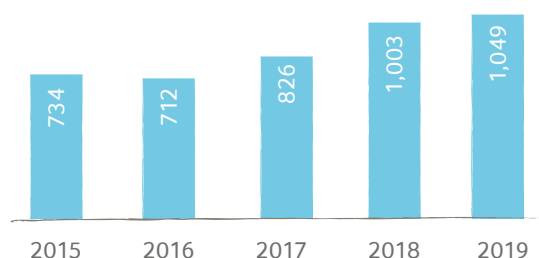
In R\$ million



Taxes and regulatory charges on sales increased 4.6% in relation to 2018, totaling R\$ 1.05 billion, of which R\$ 703.5 million correspond to taxes and social contributions and R\$ 345.6 million to regulatory charges. The Compound Annual Growth Rate (CAGR) between 2015 and 2019 was 9.3%.

### Taxes and Regulatory Charges (CAGR + 9.3%)

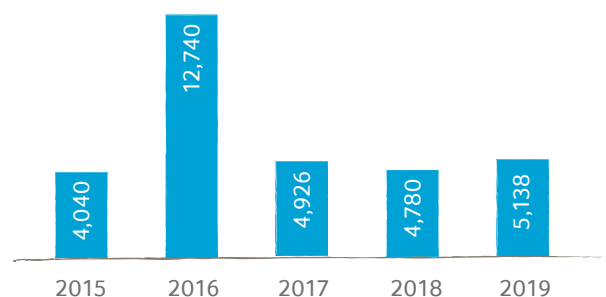
In R\$ million



The net operating revenue (ROL), which takes into account the deductions of taxes and sectoral charges, increased 7.0% in relation to 2018, from R\$ 4.78 billion to R\$ 5.14 billion. The indicators responsible for this growth are the same ones that affected the Gross Operating Revenue and the Compound Annual Growth Rate (CAGR) was 6.2%.

### Net Operating Revenue (CAGR + 6.2%)

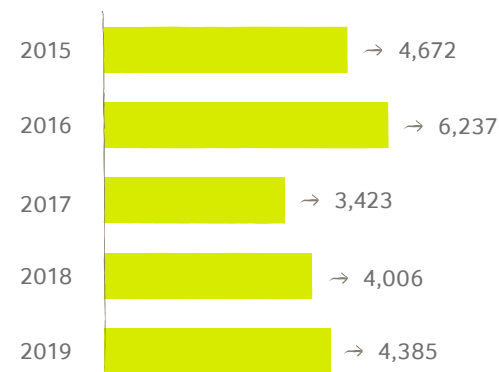
In R\$ million



The operating costs and expenses and the result of the electric power service and the operating margin make up the following charts. The operating cash generation, expressed by Ebitda, was R\$ 1.48 billion in 2019, compared to the amount of R\$ 720.1 million in 2018. The Ebitda margin (Ebitda/Net Operating Revenue ratio) was 28.8% in 2019 against 15.1% obtained in 2018 - an increase of 13.7 percentage points.

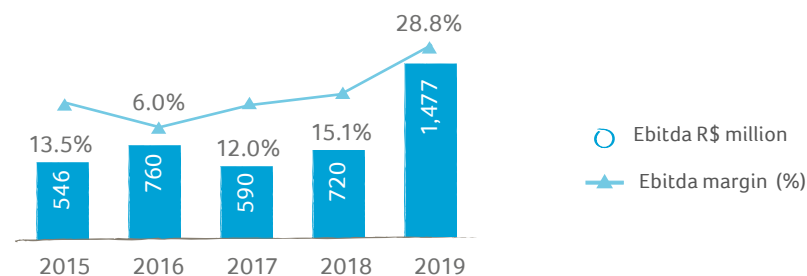
### Operating Costs and Expenses (CAGR + 1.6%)

In R\$ million



### Ebitda

In R\$ million



The financial result for the year was R\$ 578.9 million, compared with a negative result of R\$ 42.0 million recorded in 2018, representing a positive variation of R\$ 620.9 million due mainly to the positive difference between the Financial Income and the Financial Expenditure of R\$ 485.0 million.

| Financial income/expenditure                               | (million)    |               |                |
|--|--------------|---------------|----------------|
|  | 2019         | 2018          | 2017           |
| Result of financial increases                              | 61.0         | 28.7          | 32.0           |
| Monetary variations and moratorium increases - energy sold | 133.8        | 154.2         | 58.7           |
| Other active monetary variations                           | 44.5         | 11.3          | 9.3            |
| Financial Revenue - RBSE FV                                | 1,251.0      | 6.0           | 0.0            |
| Debt charges on loans and financing                        | (96.0)       | (207.4)       | (280.2)        |
| Monetary variations on loans and financing                 | (1.2)        | (11.5)        | (4.8)          |
| Financial Expenditure - RBSE FV                            | (776.0)      | 0.0           | 0.0            |
| Other Financial income/expenditure                         | (47.9)       | (23.2)        | (65.2)         |
| <b>(=) Net financial result</b>                            | <b>578.9</b> | <b>(42.0)</b> | <b>(250.2)</b> |

### Electric Power Service Result and Operating Margin

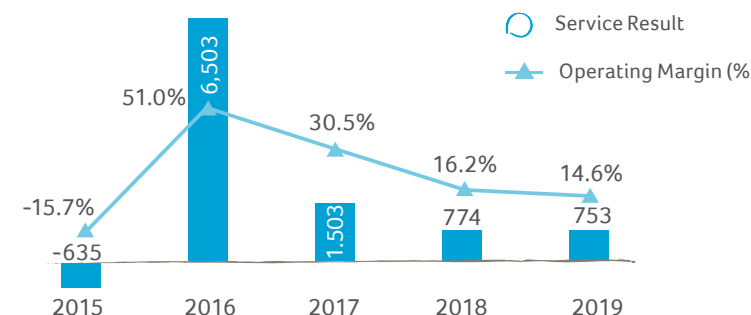
The result of the service (Ebit) was positive in R\$ 752.6 million, but represented R\$ 21.6 million less than the amount of R\$ 774.2 million obtained in 2018. The operating margin of the service increased from 16.2% in 2018 to 14.6% in 2019, a variation of -1.6 percentage points.

More information on Chesf's economic-financial performance is available in the 2019 Management Report



### Service and Electric Power Result

In R\$ million

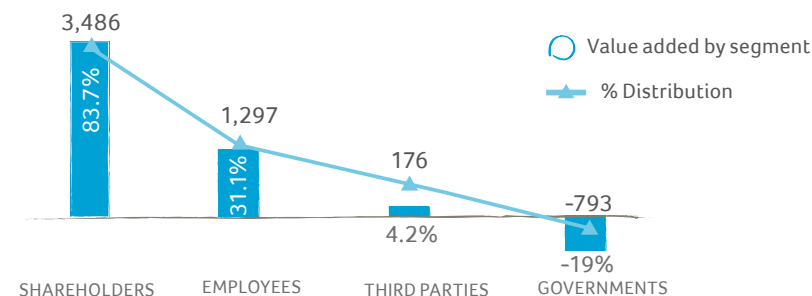


### Value Added

The economic value generated by Chesf in 2019 was R\$ 4.17 billion against R\$ 3.30 billion in 2018, adding value to the following segments of society: salaries, charges and benefits to employees (31.1%); taxes, fees and contributions to federal, state and municipal governments (-19%); third parties (4.2%); and profit to shareholders (83.7%).

### Value Added Distribution

In R\$ million



# MANUFACTURED CAPITAL

## Operational performance

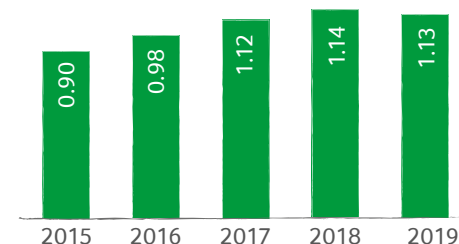
With the unfavorable water situation remaining in the basin of Rio São Francisco and the low levels of rainfall during the humid period, the main reservoir in the Northeastern region, Sobradinho, decreased from 48.65% in April to 29.34% of its useful volume on December 31.

This, however, did not affect Chesf's operating performance indicators. We generated 20,734 GWh in 2019 compared to 15,132 GWh in 2018, an increase of 37%. The availability of generating units, an indicator also evaluated by the Brazilian Electricity Regulatory Agency (Aneel) in the tariff adjustment processes, achieved their best result ever in 2019 (1.13).

Positive results were also registered in the Variable Portion (PV) and Availability of Transmission Lines Indicators, in which we obtained the best performance in the last seven years - 1.42% and 99.94%, respectively - due to the strict compliance with the maintenance plan. It is worth mentioning that the PV also presented the best performance among Eletrobras companies.

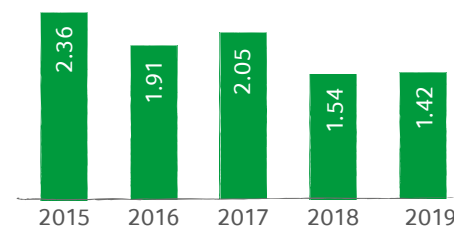
### Generation Operational Availability Percentage

Percentage (%)



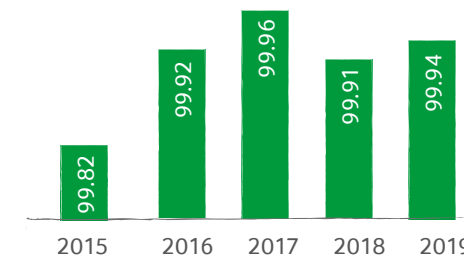
### Variable Percentage (PV)

Percentage (%)



### Operational Availability of Transmission Lines

Percentage (%)



12 remotely assisted facilities were incorporated to the Operation Centers and new supervision points were included for the Network Procedure 2.7. Additional investments were made in the automation area, such as the modernization of the operational measurement of the Itabaianinha Substation and the replacement of 54 servers of the Open Energy Management System (Sage). These efforts resulted in an increase in the observability of the system, reaching the mark of 248,641 supervision points.



## Generation System

In 2019, we invested R\$ 26.4 million in hydroelectric plants under concession and on a quota basis. We updated the basic project for the implementation of the digital systems and modernization of the generating units at the Sobradinho Hydroelectric Power Plant (HPP) and completed the project for the implementation of the digital systems and modernization of the generating units at the Paulo Afonso IV HPP.

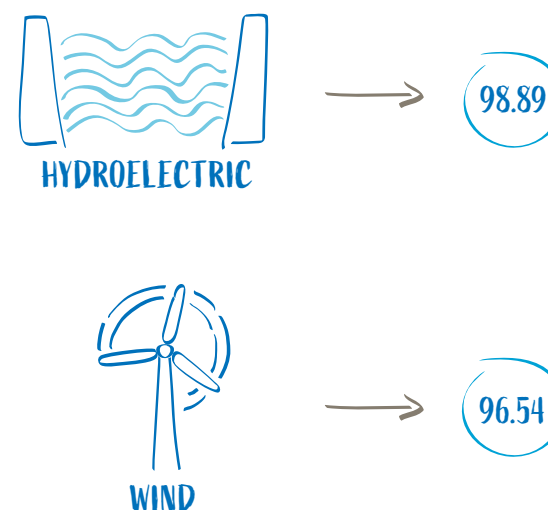
The modernization services of the PA-IV HPP cranes and the Apolônio Sales HPP gantry cranes were concluded. Several adaptation and maintenance services were also performed in the Generation System in operation, as well as equipment and components replacement due to obsolescence or end of useful life.

We signed a contract with a supplier to finish the implementation of the Casa Nova I-A wind farm (27 MW) and put it into operation, which should occur in June 2020. We also began contracting the necessary services for the conclusion of the Casa Nova I-B Wind Farm (27 MW). There were also significant advances in the implementation of the 11 wind farms of the Special-Purpose Entities linked to the Pindaí wind complexes. Seven wind farms were delivered and the conclusion of the others is scheduled for January 2020.

We also completed the development of photovoltaic generation projects: Bom Nome Photovoltaic Power Plant (29.7 MWp) and Lapa Solar Photovoltaic Power Plant (100 MWp), located in the municipalities of São José do Belmonte (PE) and Bom Jesus da Lapa (BA), respectively. The future implementation of these projects depends on the success of the sale of energy in future auctions in the Regulated Contracting Environment or the direct sale in the Free Contracting Environment.

We are studying measurements in 17 solarimetric stations installed in the semi-arid northeast, aiming to develop our own solar generation projects with photovoltaic or heliothermal technologies of 535 MWp of installed power, with a forecast of conclusion until 2023.

### AVERAGE AVAILABILITY FACTOR BY ENERGY SOURCE IN 2019 (%)



The Belo Monte Hydroelectric Power Plant (HPP) went 100% operational, totaling 11,223.1 MW of installed capacity. Chesf's equity participation in this venture is 15%. Sinop Hydroelectric Power Plant also went 100% operational in 2019, totaling 401.8 MW of installed capacity. Chesf's share participation in this venture is 24.5%. In March 2019, we also concluded our divestment in the SPEs of the Sento Sé Complex, which was sold under the Eletrobras Auction 01/2018.

## Transmission system

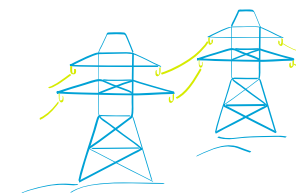
In 2019, we invested more than R\$ 300 million in the transmission system, with 42 expansion and reinforcement projects in progress, resulting in the completion of 22 projects. We delivered 331 km of transmission lines, 4 new substations, 2 substations with new yards and 17 new transformers with reinforcements in the facilities, which represents an increase in transformation capacity of 2,644 MVA.

Only three projects were not concluded: the 230 kV Pau Ferro / Santa Rita II Transmission Line and the Itabaiana and Fortaleza Substations. The completion is scheduled for 2020, along with 15 other new ventures. The main works are in Ceará. Access the [Financial Statements](#) and see, on pages 19 and 20, the list of completed ventures in 2019.

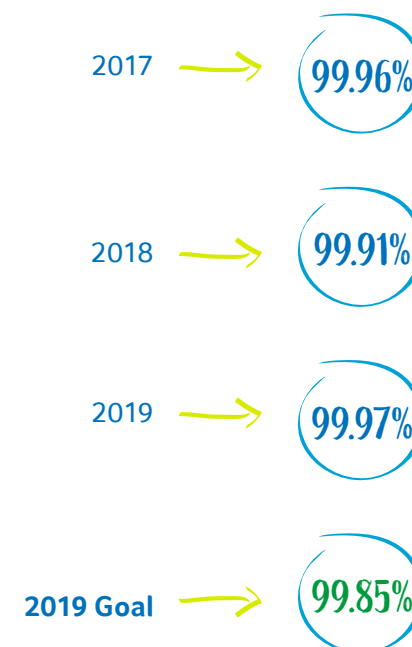
Also in 2019, we advanced the remote assistance project. Thus, all the new substations went into operation already with the requirements to be managed remotely, from an operation center. Currently, 70% of our facilities are remotely assisted and the remaining 30% have local assistance due to their strategic importance.

In 2020, we should improve remote assistance with the development of an autonomous substation restoration project.

Furthermore, in 2019, the maintenance of transmission lines also gained a new ally, the laser scan, equipment for georeferenced mapping that is mounted on a helicopter to scan the land. Thus, important detections, such as high undergrowth, become more agile and safer. In addition, the equipment is also used to identify the best layout in project development.



### TRANSMISSION AVAILABILITY INDEX (%)



# INTELLECTUAL CAPITAL

## R&D and Innovation

Our main commitment to Research & Development and Innovation is to comply with Law No. 9,991/2000, which determines the minimum investment of resources in research, development and innovation projects of 1% of Net Operating Revenue (ROL). We reinforce this practice by inserting in the business planning and in the 2020-2035 Chesf Strategic Map a stage of development of research and innovation projects.

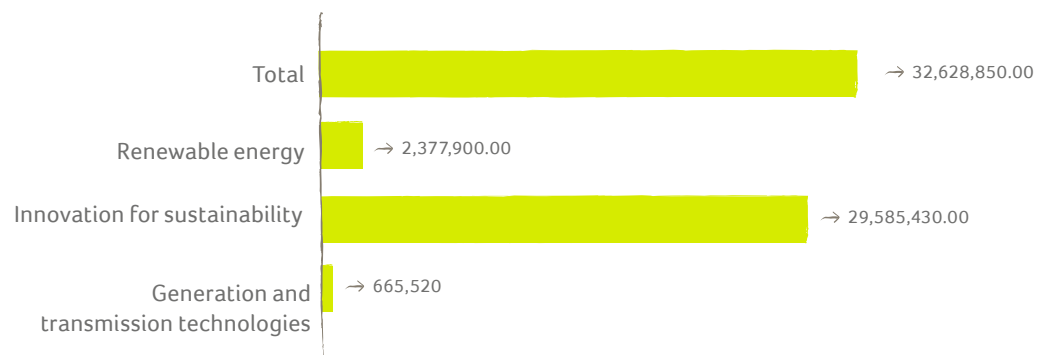
The main objectives are to identify new business possibilities, encourage improvement in internal processes, motivate the integration of new technologies, develop competencies focused on innovation and identify and mitigate possible bottlenecks in project development.

The year of 2019 was one of many accomplishments in this sense. We invested, mainly, in alternative sources of electricity generation, in electric power systems planning and in innovation management. The main projects undertaken were:

- noise monitoring in hydroelectric power plant;
- non-destructive techniques (Alkali-aggregate reaction- RAA);
- R&D from the Idea to the Market, responsible for the development of the Intelligent Innovation Management System (Sigi);
- solar energy in lakes of hydroelectric power plants;
- Petrolina solar platform (PE);
- new concept of wind turbine; and
- location study of large solar power plants.

### Total investment in R&D + I by category

(In R\$ million)



## Energy transition

R&D and Innovation and the improvement of the Brazilian energy matrix go hand in hand. The country already has a predominantly clean generation, so improvement efforts should be directed to alternative sources, such as solar and wind power, still under development.

Although the wind energy source is intermittent and low inertia, today we have more wind-generated energy than hydroelectricity. In addition, power generation by hydroelectric plants is a consequence of the flows defined by the National Water Agency (ANA), which may vary depending on rainfall and multiple uses.

Although Chesf has already been the concessionaire of two thermal power plants, in 2018 the concession of its last thermal plant (Camaçari Thermal Power Plant) was extinguished. Therefore, Chesf started to hold concession only for renewable energy generation plants. We do not rule out the possibility of studying the implementation of new thermal power plants, however, in the short and medium term, the planning of new projects for the expansion of the generating facilities focuses on the studies and implementation of wind and photovoltaic projects.

The initiatives to promote the energy transition are consistent with the guidelines of Eletrobras companies' Environmental Policy, which determines the duty to "Prioritize the use of renewable sources in the expansion of electricity supply, contributing to the transition to a low carbon economy".

The year 2019 was one of many achievements for the energy transition. We also highlight the maintenance of the ISO 50001 Certification in the Messias Substation.

### Petrolina Solar Energy Reference Center

A complex where research on photovoltaic and heliothermic technology, integration of solar and wind sources, and energy storage are developed. The 2.5 MWp Cresp Basic Plant is in operation and is part of the Chesf Conta Zero program. The 0.5 MWp Technological Plant will be composed of several photovoltaic technologies (state of the art) and fixation, tracking and concentration systems.

In 2019, the 1 MWp floating photovoltaic plant was inaugurated, installed in the Sobradinho reservoir (2.5 MWp), whose operation is

integrated to the HPP's, meeting the demands of auxiliary services. The technical studies to evaluate the floating technology were initiated. As of 2020, the second stage of this project will be executed - unprecedented in the country - which will total 2.5MWp when fully completed.

### Wind generation

In 2018, a Public Call was launched for innovative projects that develop technologies and studies of hybrid plants in several lines. As a result of this work, Chesf started, in 2019, the process of contracting three R&D+I projects:

- development of a new concept of a low-cost wind turbine with 3 MW generation capacity (contracted project);
- optimization of Renewable Energy Systems with High-Performance Storage (project under contract); and
- hybrid system (wind and solar) with energy storage that will total installed capacity of more than 4 MW (project under contract).



# SOCIAL AND RELATIONSHIP CAPITAL

## Customer satisfaction

Ensuring satisfaction and quality service is a basic premise of our work. Therefore, every two years we conduct an Integrated Customer Satisfaction Survey. In 2018, we carried out the most recent edition, referring to the biennium 2018/2019, contemplating Generation clients (free/potentially free consumers, traders and distribution companies) and Transmission clients (users of the connected transmission services: distributors, free/potentially free consumers and generation companies). The methodology used was the “Customer Window”, a method that allows measuring the degree of satisfaction based on the customer’s perceptions of value attributes and relating them to the degree of importance given by them. The global satisfaction index was 88.45%, higher than the integrated global satisfaction target of Eletrobras companies of 85.31%. For more information on the latest edition of the survey, see page 35 of [Chesf 2018 Annual Report](#).

## Communication and internal public engagement

We provide internal social networks - Teams and Yammer - to promote a closer relationship between and with employees. According to an internal survey, however, the channels most used by this public nowadays are the ChesfHoje e-mail, followed by ChesfOnline (blog), Mural Chesf and the intranet.

One of the most important communication actions with our employees in 2019 was the launch of the “Nossa Segurança é pra você e com você” (Our Safety is for you and with you) seal, to unify all of the Company’s safety campaigns, including prevention of disconnection due to human error; in transmission lines and substations; corporate (property); information; dams; work and traffic. The communication actions related to these themes were developed with the same identity, reinforcing safety as a corporate value at Chesf.

We also renewed the billboards of the Paulo Afonso and Xingó plants that contain information on dam safety in order to include the seal.

## Community engagement

The negative impacts caused by the ventures on local communities are established during the implementation of the ventures and generally include soil degradation, vegetation suppression, real estate relocation, machinery movement, sound and particulate emissions, increased traffic of cars and people in the area, among others. Most are mitigated already during this phase through a series of Programs, established by Environmental Licensing or by voluntary initiative.

The degree to which communities are affected is evaluated through the Environmental Communication and Education Programs, promoted by Chesf in response to environmental licensing.

Our performance is guided by Eletrobras' [Corporate Social Responsibility Policy](#) and Chesf's Guidance Manual on Social Projects.

Our commitments are voluntary and are guided by the 2030 Agenda, the 17 Sustainable Development Goals (UN), the Guiding Principles for Companies and Human Rights, and the National Human Rights Program (PNDH 3), acting in an integrated manner with Eletrobras.

Of Chesf's operations, 15 (2.4%) have implemented actions to engage with the community.

## Media Program and other channels

An initiative with which we seek to assure society of appropriate information about the ventures and their impacts on the environment. The channel is used to establish a harmonious relationship between the development and the various groups impacted by the operation: residents of the surrounding communities, public institutions and workers directly involved in the implementation works.

Chesf also provides the channels "[Fale Conosco Ambiental](#)", "[Disque Queimadas/Meio Ambiente](#)" (0800-979-3090) and the [Ombudsman's Office](#) for the entire society, in order to guarantee access to the Company for all, as well as to use them as an instrument for monitoring local impacts.

## Videos for the community

In 2019, a campaign focused on themes of interest to Chesf and the communities was carried out. The format was differentiated as we approved, together with the Special Office of Social Communication (Secom - government agency), the so-called "brand content", which provides editorial space in the media (duly signaled) to raise awareness among the population. We have created videos about the Company itself and others with public utility content to disclose the risks of kites near substations and transmission lines.

## Environmental projects

### 230 kV Socorro/Penedo Transmission Line

**Environmental Education Program:** we have been working with the community of Patioba and Terra Dura since the beginning of the program in 2017. The initiative has already resulted in the expansion of the communication channel between Chesf and the community.

**Socio-environmental Action Plan (PAS):** a project executed in the Paulo Afonso I, II, III, IV and Apolônio Sales HPPs - Paulo Afonso Complex and Xingó HPP. Paulo Afonso's actions cover five municipalities in three states (Bahia, Pernambuco and Alagoas), and those of Xingó cover six municipalities in three states (Alagoas, Sergipe and Bahia). The PAS follows a participatory methodology, through which social actors identified their needs and defined their priorities to preserve their environmental heritage, and elected their representatives by direct and universal vote, who were assigned the role of contributing to the project's sustainability.

## Social projects

**São Francisco Lakes Project:** executed by the Brazilian Agricultural Research Corporation (Embrapa Semiárido) in the municipalities of Pariconha, Olho D'Água dos Casados, Delmiro Gouveia and Piranhas (AL), Paulo Afonso, Rodelas e Glória (BA), Petrolândia and Jatobá (PE), and Canindé do São Francisco, Poço Redondo and Nossa Senhora da Glória (SE). The project's objective is to promote research, development and technology transfer actions and the training of technicians, students, producers and fishermen, in order to strengthen the infrastructure of farming activities, ensuring a level of productivity that allows the improvement of producers' income and the reproducibility of the productive units of the communities of the municipalities located around the dams of the Paulo Afonso Complex and the hydroelectric power plants of Itaparica (Luiz Gonzaga) and Xingó.

**Sobradinho Lake Project:** carried out by Embrapa Semiárido in the municipalities of Sobradinho, Casa Nova, Sento Sé, Remanso and Pilão Arcado, located in the surroundings of the Sobradinho Power Plant, has brought about a significant improvement in the quality of life of the communities benefited from the implementation of technological learning and training fields. This project promotes the transfer of knowledge and technology for living with drought to agricultural producers and fishermen who live around the Sobradinho Dam (BA).

### Chesf Corporate Volunteer Program

Our employees participate in volunteer activities in a program coordinated by the Department of Public Relations, Social Responsibility and Sponsorship, with the participation of the Corporate Volunteering Center. In 2019, actions such as collection and distribution of basic food baskets for needy communities and NGOs, participation in social campaigns, among others, were promoted.

## Culture

In 2019, we invested R\$ 1 million in sponsorship projects aimed at the promotion of culture and technical-scientific production and dissemination, which contributed to the preservation of the intangible heritage of the Brazilian Northeast and the exchange of experiences in the area of electric energy.

We have participated in the Sponsorship Program of Eletrobras companies to the 2019 Electric Sector Events, contributing to the selection of projects of great relevance in the national and international scenario and providing financial resources in projects aligned with our objectives, such as the XXV National Seminar of Electric Power Production and Transmission (Belo Horizonte/MG), the XIII Symposium of Electric Systems Automation (Recife/PE), the XXIII Brazilian Symposium of Water Resources, among others.

Among the main cultural actions carried out in 2019 are the projects Vozes em Movimento, Musical Formation for Children and Adolescents, Criança Cidadã Orchestra and the Restoration and Requalification Project of Museu de Arte Sacra de Pernambuco. In the cultural segment, more than 95% of the funds provided by Chesf went to projects authorized by the Ministry of Culture to raise funds through the Rouanet Law's Tax Incentive mechanism. Thus, the Company democratizes access to cultural mechanisms and ensures transparency in the concession process.

## Investment in communities

| Company involvement with social action  | 2017      | 2018      | 2019      |
|---|-----------|-----------|-----------|
| Resources invested in education (R\$ thousand)  | 162.40    | 39.60     | 0.00      |
| Resources invested in health and sanitation (R\$ thousand)  | 35,049.18 | 39,162.41 | 43,663.52 |
| Resources invested in culture (R\$ thousand)  | 1,185.00  | 775.00    | 0.00      |
| Resources invested in sports (R\$ thousand)   | 0.00      | 0.00      | 0.00      |
| Other resources invested in social actions (R\$ thousand)   | 0.00      | 0.00      | 1,600.00  |
| Employees who carry out voluntary work in the community outside the Company/total employees (%)                       | 1.58      | 1.15      | 1.05      |
| Quantity of monthly hours donated (released from normal working hours) by the Company for voluntary work of employees | 300.00    | 100.75    | 81.33     |
| Involvement of the Company in cultural and sports projects, etc. (Rouanet Law)  | 2017      | 2018      | 2019      |
| Amount of resources allocated to projects (R\$ thousand)  | 906.09    | 555.00    | 1,192.55  |
| Amount of resources allocated to the largest project (R\$ thousand)   | 273.99    | 190.00    | 300.00    |



Piece by artist Wilson Costa, 1998, portraying the entrepreneur Delmiro Gouveia, his pioneer plant, Angiquinho, and the waterfall of Paulo Afonso. Credit: André Schuler.



## NATURAL CAPITAL

Our environmental management process covers risk and impact assessment as well as mitigation before and during operations. Since 2018, this activity has been structured in two departments: Environment for Exploration, which works on the environmental regularization of the facilities in operation, and Environment for Expansion, which is mainly responsible for the environmental management of the implementation of projects.

The control of the processes, in any of the departments, is performed through the Environmental Licensing System (Sislic). For the environmental regularization of the implementation of new ventures, we adopt indicators of time and management with the interested parties, and we establish countermeasures for the identified deviations.

We increasingly search for preventive actions with the implementation of a corporate risk management process, following the principles and guidelines established in the Risk Management Policy of Eletrobras companies, which identifies possible environmental impacts

in the corporate risk matrix. The objective is to establish a more integrated management process for those that may affect organizational objectives, reinforcing the responsibility of the business areas in defining and implementing mitigation actions.

Today, the most significant negative impact of hydroelectric plants is on the displacement and reproduction of rheophilic ichthyofauna<sup>2</sup> and on the flooding of areas for reservoir formation. Another important aspect of hydroelectric dams is the change in the water regime of rivers, which impacts the aquatic fauna. In the transmission projects, we have adopted a tower elevation procedure and carried out selective replanting and rescue programs for the surrounding fauna and flora.

Together with Universidade Federal de Pernambuco, the photovoltaic plant R&D projects have been submitted to research to see what impact the plant has on fish life and aquatic vegetation and the plant's relationship with the lake's physical dynamics.

### Environmental management system

Chesf's Environmental Management System is based on formal instruments, such as Eletrobras' Environmental Policy, a set of guidelines and rules for environmentally responsible actions. There is also the Corporate Sustainability Management Indicator System (IGS System) - Environmental Module, of automated and online collection of indicators. It is expected, for 2020, that a consultant will be hired to improve the environmental management.

## Water

We use water in the operation of power plants and for administrative consumption. The water used in the hydroelectric power plants is returned to the water bodies with similar quality to its collection. However, those that operate using the reservoir volume change the amount of water downstream from the dam, respecting minimum flow restrictions in times of low affluence and maximum flow, performing flood control in order to protect the valley downstream from natural flooding. In 2019, 112.91 billion cubic meters of water were used for hydroelectric generation.

We monitor water quality and quantity conditions periodically in all basins where we have hydroelectric plants, obtaining data on storage, flow, nutrient concentration and biological parameters. In normal situations, water quality analyses follow a quarterly schedule. In cases of water crisis, this schedule may become fortnightly and, in some specific actions, daily. We also monitor our reservoirs, seeking compliance with legal environmental parameters, and we raise awareness among the populations around the basins through the Education and Social Communication Programs.

We had a commitment to reduce the water consumption of the supply network in administrative activities by 0.3% in 2019. To this end, periodic maintenance was made in the hydro sanitation facilities, bringing us to comply with a 23.3% reduction. In addition, the maintenance made it possible to identify improvement points, such as the standardization of the process and the redefinition of the management team.

Chesf makes available, through its areas of civil maintenance, various resources for the modernization of equipment and materials, as well as employees and technologies from various areas to act in the Sustainability Committee, in Working Groups and Management Area of the theme.

We also actively participate in the Rio São Francisco Basin Committee (CBHSF) as an effective member, involving ourselves in plenary meetings and in meetings of the Technical Chambers and the Sectorial Chambers of Submédio and Baixo São Francisco. We are also following the initial definitions of the Rio Parnaíba Basin Committee.

### Water withdrawal by source (m<sup>3</sup>)

|                              | 2017              | 2018              | 2019              |
|------------------------------|-------------------|-------------------|-------------------|
| Administrative activities    | 198,497.00        | 194,856.80        | 134,202.20        |
| Superficial                  | 3,150.00          | 3,146.80          | -                 |
| Underground                  | 21,891.00         | 30,784.00         | 34,506.20         |
| Supply network               | 173,456.00        | 160,926.00        | 99,696.00         |
| <b>Total water withdrawn</b> | <b>198 497.00</b> | <b>194 856.80</b> | <b>134,202.20</b> |

Note: Water consumption data are measured directly at Chesf's operating area facilities and are compiled and sent to the management body, which gathers them and generates the elements of control and monitoring of the uses of this resource.

## Climate change

Sustainable Development Goal 13 (Action Against Global Climate Change) has been identified by Eletrobras as one of the most relevant goals for all its companies. Climate change interferes with rainfall regimes, water availability, the incidence of winds, the formation of storms, hurricanes and tornadoes, among other events that can impact operations.

Our Environmental Policy has specific guidelines for climate change management, which were revised in 2019. The document comprises the Declaration of Commitment on Climate Change, which can be accessed on the [Climate Strategy](#) page. Our actions are also aligned with international agreements to which Brazil is a signatory, such as the Paris Agreement (COP 21, 2015).

For the development of technological resources, we transferred an annual associative contribution to the Eletrobras Electric Energy Research Center (Cepel). In 2019, Cepel developed the following computer programs to support member companies:

↳ **Greenhouse Gas Emissions from Hydroelectric Reservoirs (Balcar):** developed by Cepel with the objective of producing references in quantitative evaluation of Greenhouse Gases emissions in hydroelectric reservoirs; and

↳ **Mudclima:** also developed by Cepel in order to address three dimensions related to climate change: research for the use of climate information in the construction of flow scenarios for reservoirs; strategies and actions for social and environmental adaptation to climate change, one based on ecosystems and another in communities; and the development of adaptation strategies and actions aimed at the business of electricity companies.

All of our sources of direct and indirect emissions are mapped and monitored through the Sustainability Management Indicators System (IGS) and, since 2009, we have published the result annually in the Greenhouse Gas Emissions Inventory of Eletrobras companies. The information is accounted for using the IPCC methodology (2006) and the GHG Protocol guidelines. In addition, the GHG Emissions Inventory subsidizes us to respond to a number of environmental reports demanded by the market, such as the Carbon Disclosure Project, ISE (B3) and the Dow Jones Sustainability Index. Based on this diagnosis, we have established strategies, plans and targets for the reduction and management of greenhouse gas emissions.

We evaluate the effectiveness of our measures through absolute and relative GHG emissions reduction targets, considering GHG emissions from fossil fuel use in the road vehicle fleet (tCO<sub>2</sub>); GHG emissions from energy consumption (tCO<sub>2</sub>); and GHG emissions intensity (tCO<sub>2</sub>/ROL) defined based on Eletrobras' Business and Management Master Plan (PDNG 2019-2023).

As a result, in 2019 there was a 7.3% reduction in Chesf's total emissions compared to 2018, as shown in the table below.

| Emissions (tCO <sub>2</sub> eq)                           | 2017           | 2018           | 2019           |
|---|----------------|----------------|----------------|
| <b>Escope 1</b><br>(Direct GHG emissions)                 | 10,797         | 23,031         | 20,645         |
| <b>Escope 2</b><br>(Indirect Emissions of GHG and Energy) | 231,713        | 150,539        | 140,447        |
| <b>Escope 3</b><br>(Other indirect GHG emissions)         | 1,200          | 1,661          | 1,268          |
| <b>Total Emissions</b>                                    | <b>243,710</b> | <b>175,231</b> | <b>162,360</b> |

## Biodiversity

To avoid or minimize the impacts of transmission networks in Permanent Preservation Areas (PPAs), we have adopted the tower lifting procedure and carried out programs for fauna and flora rescue and selective replanting around the undertakings.

We also carry out monitoring, control, verification and mitigation actions of impacts on biodiversity during the implementation and operation phases of our facilities. We have developed Ichthyofauna Monitoring programs, operated a fish farming station at the Paulo Afonso Hydroelectric Power Plant, and carried out fish farming with several species native to the basin, as a means of mitigating and compensating for the impacts of operating hydroelectric projects.

The identification of possible impacts on the area of influence of our power plants and transmission lines may result in changes and adjustments in the projects, such as changes in the layout of the lines. Adjustments are made to preserve and/or mitigate business interference in areas of high biodiversity value.

In 2019, three reforestation and recovery actions stood out:

- We reforested 2.5 hectares in the Caetés Ecological Station, located in the city of Paulista, part of the Metropolitan Region of Recife (PE), which occupies an area of approximately 157 hectares. We produced about one thousand seedlings of native species of the Atlantic Forest biome; planted 526 seedlings in degraded areas; maintained the forest nursery; installed and operated a compost plant; and donated seedlings to students of the Training Course for People's Environmental Agents, developed in the Conservation Unit;
- we restored 15 hectares in the Saltinho Biological Reserve, located in the municipality of Tamandaré (PE), which occupies an area of approximately 562.57 hectares, with the Atlantic Forest Biome. The initiative is still under execution in areas comprised by the Saltinho Biological Reserve (Rebio) and the Legal Reserve of the Assentamento Laranjeiras Project, Rebio's buffer zone. In 2019, we planted 27,573 seedlings in almost 32 hectares of non-continuous areas in these reserves; and
- we planted, maintained and monitored 400 Carnaúbas at Parque Estadual Botânico do Ceará, in Caucaia. We replaced 54 Carnaúbas from the 200 planted in 2018 and planted another 200 units in 2019, which are still being monitored, for eventual replacements.

In addition, Chesf ensures the operation of Xingó Forest Nursery, which in 2019 reached the production of 93,457 seedlings of native species of caatinga. One of the main actions of the nursery is the research aimed at the large-scale replantation of *Melocactus zehntneri*, a protected species considered to be in extinction. Throughout the year, 12,000 units were taken care of and maintained in the growing phase and a further 2,000 in germination. It takes, on average, three years to obtain a seedling with a diameter of ten centimeters. 76,473 seedlings were donated to several institutions for planting on the banks of rivers and streams in the Rio São Francisco basin. Another 157,856 units of seeds from the caatinga germplasm were also produced, destined to the recovery of the areas. Also in 2019, 1,069 people from 11 schools, 3 universities and 3 projects visited the nursery.

# HUMAN CAPITAL

## Employee profile

In 2019, Chesf had a workforce of 3,193 employees, composed of 3,186 from its own staff and 7 requested from public administration bodies or companies. Of the total, there were 587 women and 2,606 men. In the same period, the turnover rate<sup>3</sup> was 8.67%. There was one admission (by judicial determination) and 652 dismissals.

Two editions of the Consensual Employment Termination Agreement (PDC) were held in 2019, aimed at voluntary dismissal of eligible employees. In total, 626 were effectively dismissed by December. Expenses with PDC include financial incentives and a health plan for a maximum period of 36 months from the date of dismissal.

### EMPLOYMENT CONTRACT

#### BY GENDER

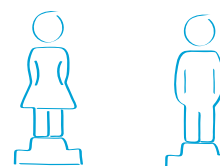


Notes: 1. It considers the permanent staff, which includes those with the following employment contracts: own employees, requested, reintegrated into the Company and commissioned positions. It does not include assigned employees, employees on leave without salaries and those reintegrated to Government Agencies.

2. All Chesf employees are contracted for an indefinite period, i.e., without a defined term for completion.

### EMPLOYEE DIVERSITY

#### BY GENDER



|                         | 20.28% | 79.72% |
|-------------------------|--------|--------|
| Leadership <sup>1</sup> |        |        |
| Employees <sup>2</sup>  | 18.25% | 81.75% |

#### BY AGE GROUP

#### BY MINORITY GROUPS

|                         | Up to 30 years old | 30 to 50 years old | Over 50 years old | Black, mixed-race, asian and indigenous | People with Disabilities |
|-------------------------|--------------------|--------------------|-------------------|---|--------------------------|
| Leadership <sup>1</sup> | 0%                 | 81.60%             | 18.40%            | 38.68%                                  | 1.89%                    |
| Employees <sup>2</sup>  | 2.68%              | 54.14%             | 43.17%            | 55.55%                                  | 4.70%                    |

Notes: 1. It considers the employees in management positions in Chesf's staff (employees, requested, reintegrated in the Company, commissioned positions, assistants and advisors) on the base date of December 31st, 2019. It does not include the CEO and the Officers, Locality Leaders, Coordinators/Supervisors or other positions outside the formal structure of the Company.

2. It considers the permanent staff, which includes those with the following employment contracts: own employees, requested, reintegrated into the Company and commissioned positions. It does not include assigned employees, employees on leave without salaries and those reintegrated to Government Agencies.

3. Chesf calculates its turnover by using the following formula:  $[(\text{hired} + \text{dismissed}) / 2] / \text{average effective staff}] \times 100$ .





## People and professional development management

Our way of managing has as its main objective to meet the guidelines of strategic planning, following a premise of excellence in people and organizational culture through the following strategies:

- performance promotion and continuous assessment, guiding career development, focusing on results and skills;
- development and implementation of model, networks and programs for employee development and knowledge management; and
- development of stimulating management methods capable of motivating and engaging people.

The bases for this action are in the Eletrobras Companies' People Management Policy, whose objective is "to guide the standardization of practices and thus strengthen a culture based on safe and appropriate conditions for the development, productivity, recognition and retention of people, contributing to the achievement of business results. The document was last revised in 2018 and approved by the Board of Executive Officers and the Eletrobras Board of Directors.

## Training and education

Our Corporate Education Plan (PEC) provides for training and capacity building that can contribute to the development of competencies related to the Company's business guidelines, considering Strategic Planning as the main guideline.

One of the highlights of the PEC is the [Living and Learning \(Vivendo e Aprendendo\) Program](#), developed by Chesf to elevate the education of employees with a focus on Elementary and High School Courses. We carry out and coordinate the initiative in partnership with Sesi, and classes are held at our premises, during working hours.

We also invest in the participation of employees in graduate courses (lato sensu and stricto sensu) for the development of professional skills that are compatible with the activities performed - or that may be performed - and that are of interest to the organization. The long-term educational actions are all funded by Chesf, according to the PEC budget forecast. We also make available the benefit "Education Aid - Higher Education", granted to all employees who do not have a college degree and do not have their employment contract suspended.

In 2019, R\$ 3,615 thousand were invested in training and qualification actions. In the course of the year, Fundação Getúlio Vargas (FGV) offered managers a specific MBA for the electricity sector. Training sessions on ethics were also held, among them:



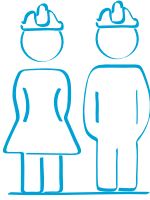
- ↳ Code of Ethical Conduct and Integrity;
- ↳ Non-violent Communication;
- ↳ Tarde Rosa (Pink afternoon);
- ↳ Compliance Immersion Course;
- ↳ Ethical Intelligence – 2030 Agenda;
- ↳ Management and Determination of Public Ethics; and
- ↳ Promotion of Respect for Diversity in the Work Environment.

## Occupational health and safety

Our actions and programs related to occupational health and safety are based on the promotion of quality of life and the prevention of occupational accidents and diseases. We also maintain measures to control hazards and risks that affect our activities. We provide all employees with access to the Incident and Non-Conformity Recording System (CIN), an action of great relevance for the prevention of work accidents, occupational diseases and dismissals due to human error, since it allows the registration of incidents and deviations that may lead to damage to employees and to the electrical system operated by Chesf.

It is worth mentioning that Chesf has a certification for its Occupational Health and Safety (OHS) Management System in accordance with the requirements established by the Occupational Health and Safety Assessment Services Standard – OHSAS 18.001:2007.

### HEALTH AND SAFETY INDICATORS BY GENDER (EMPLOYEES)

|                           |  |  |  |
|---------------------------|--|--|--|
| Injury rate (%)           | 3  | 0  | 2.44   |
| Occupational disease rate | 0.16   | 0.70   | 0.26   |
| Days lost rate            | 72.27  | 56.74  | 70.58  |
| Absenteeism rate (%)      | 1.36   | 3.41   | 1.74   |
| Deaths (un.)              | 0  | 0  | 0  |

## Human rights

The principles and guidelines that guide human rights management can be found in [Eletrobras' Social Responsibility Policy](#), the [Code of Ethical Conduct and Integrity](#), the [Logistics Policy of Eletrobras companies' supplies](#), in the [Eletrobras Companies' Sustainability Policy](#) and in the [Eletrobras Suppliers' Guide of Conduct](#).

We monitor the implementation of Chesf's Business Plan and Management actions – PNG 2019–2023, by using the following indicators: stimulating 100% of level 1 suppliers (critical) to adopt the practice of valuing and promoting diversity; dealing with 100% of human rights complaints by 2020; and obtaining a percentage of women occupying management positions at least equal to the percentage of women in the Company.

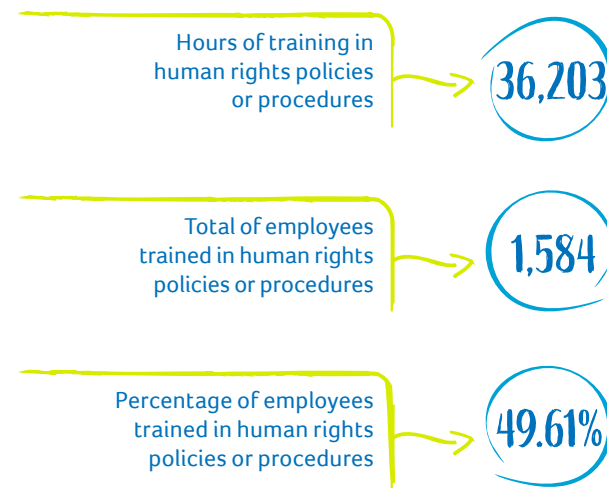
Additionally, we also monitor the Human Rights and Exercise of Citizenship Program, through PDNG 2020–2024, aiming to train 100% of our workforce and 100% of employees of outsourced companies in Human Rights and Diversity, in addition to influencing Relationship Publics on practices of Diversity and non-violation of Human Rights.

We work with Eletrobras' Human Rights Working Group (WG), which carries out actions to encourage suppliers to answer the due diligence questionnaire in order to identify possible human rights violations, improve the relationship structure with suppliers, and define actions aimed at this public. It is worth noting that this WG is still being implemented, as is the Chesf Human Rights and Exercise of Citizenship Program.

To reinforce our commitment to this issue, we are signatories of the United Nations (UN) Global Compact, the Women's Empowerment Principles (UN Women), the Declaration of Corporate Commitment to Confront Sexual Violence against Children and Adolescents and the Network to Confront Sexual Violence against Children and Adolescents in Pernambuco. Since 2007, we have also joined the Federal Government's Pro-Gender and Race Equity Program, participating in five editions and being awarded in four.

In 2019, countless actions were carried out to promote awareness for the realization of Human Rights at Chesf, with emphasis on the May 18 Campaign – Sexual Violence Against Children and Adolescents, Lilac August (Agosto Lilás) Campaign, 16 days of Activism Campaign for the end of violence against women, among others.

### TRAINING OF EMPLOYEES ON HUMAN RIGHTS POLICIES AND PROCEDURES



## CREDITS

The publication of this report was only possible due to the effort and commitment of employees from various areas of Chesf, providing information and monitoring the development of content for the transparent rendering of accounts on the performance of the Company. We would like to thank everyone who collaborated in this process.

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