CTG Brasil operates 12 hydropower plants (HPPs) and two small hydropower plants (SHP), in addition to holding stakes in three other HPPs and 11 wind farms, making it the second largest private power generator in the country. The assets total 8.3 GW of installed capacity, which represents 5% of the Brazilian generation park, and are managed by four controlled operating companies: Rio Paraná, Rio Paranapanema, Rio Canoas and Rio Verde.

The expertise for the management of these units is strengthened by the integration and exchange of knowledge with the parent company, China Three Gorges Corporation, the world’s largest hydropower producer, with a presence in over 40 countries and 131 GW of installed capacity. The commercialization of the physical guarantee of the plants operated in Brazil is done in an integrated manner, taking into consideration the contracting environment (free or regulated), the risk and commercialization strategy and the exposure to hydrological risk, among other factors.

CTG Brasil is the Group’s holding company in Brazil, with headquarters in São Paulo (SP), where all corporate support activities to operations are concentrated, whose costs are prorated among the operating companies according to a Human Resources Sharing Contract, approved by the National Electric Energy Agency (Aneel). Additionally, CTG Brasil Serviços Administrativos Ltda., headquartered in Curitiba (PR), has the Shared Services Center, whose services are provided to CTG Brasil and the operating companies through a Service Contract, also approved by Aneel.

In 2019, the operations directly controlled by CTG Brasil generated 29.6 TWh of energy, enough to supply a city with approximately 10 million people in the same period. Net operating revenue in the period totaled BRL 4.8 billion and investments in expansion (CAPEX), mainly directed to the modernization of assets, totaled BRL 595.6 million.

*Considering that 1 average MW is enough to supply a city with approximately 3 thousand inhabitants, according to the Energy Bulletin of the Secretariat of Energy and Mining of the State of São Paulo.*
Trajectory of CTG Brasil

2013
Constitution of the company in the country

2014
Acquisition of stakes in HPPs Santo Antônio do Jari (PA), Cachoeira Caldeirão (AP) and São Manoel (MT)

2015
Beginning of the portfolio with direct control, through the acquisition of HPPs Salto and Garibaldi, and diversification of shareholdings, with investments in 11 wind farms of EDP Renováveis

2016
Positioning as the second largest private generator in Brazil with the incorporation of the Jupiá and Ilha Solteira hydropower plants, which composed Rio Paraná, and eight other hydropower plants and two SHPs of Duke Energy, consolidated in Rio Paranapanema

2017
Beginning of the modernization program for the Rio Paraná power plants, which will cover investments of around BRL 3 billion over a decade

2018-2019
Conclusion of the modernization of the Chavantes and Capivara HPPs, with an increase in the respective installed capacities. Strengthening of the integration between the teams and procedures of the acquired companies, raising the company’s level of readiness for a new growth cycle
How CTG Brasil operates in the country

In the Brazilian electricity sector, the value chain is organized into three major segments and two contracting environments. Click on the drawing text boxes and understand how they work and what is the role of CTG Brasil in each one.
Directly controlled hydropower plants (HPPs)

1. Jupiá HPP • 1,551.2 MW • Operated by Rio Paraná
2. Ilha Solteira HPP • 3,444 MW • Operated by Rio Paraná
3. Jurumirim HPP • 100.9 MW • Operated by Rio Paranapanema
4. Taquaruçu HPP • 525 MW • Operated by Rio Paranapanema
5. Salto Grande HPP • 73.8 MW • Operated by Rio Paranapanema
6. Capivara HPP • 643 MW • Operated by Rio Paranapanema
7. Chavantes HPP • 414 MW • Operated by Rio Paranapanema
8. Canoas I HPP • 82.5 MW • Operated by Rio Paranapanema
9. Canoas II HPP • 72 MW • Operated by Rio Paranapanema
10. Garibaldi HPP • 192 MW • Operated by Rio Canoas
11. Salto HPP • 116 MW • Operated by Rio Verde
12. Rosana HPP • 354 MW • Operated by Rio Paranapanema
13. Palmeiras SHP • 16.5 MW • Operated by Sapucaí-Mirim, controlled by Rio Paranapanema
14. Retiro SHP • 16 MW • Operated by Sapucaí-Mirim, controlled by Rio Paranapanema

Hydropower Plants (HPPs) with equity participation

15. Cachoeira Caldeirão HPP • 219 MW
   CTG Brasil Shareholding • 50%
16. Santo Antônio do Jari HPP • 392.95 MW
   CTG Brasil Shareholding • 50%
17. São Manoel HPP • 735.8 MW
   CTG Brasil Shareholding • 33.33%

Small Hydropower Plants (SHPs)

15. Palmeiras SHP • 16.5 MW • Operated by Sapucaí-Mirim, controlled by Rio Paranapanema
14. Retiro SHP • 16 MW • Operated by Sapucaí-Mirim, controlled by Rio Paranapanema

Wind farms with equity participation

16. Aroeira, Jericho, Umbuzeiros and Aventura I Wind Farms • 126.9 MW
15. Baixa do Feijão I, II, III and IV Wind Farms • 120 MW
16. Horizonte Wind Farm • 4.8 MW
15. Água Doce Wind Farm • 9 MW
16. Tramandaí Wind Farm • 70 MW

In each plant, the respective installed capacity is identified.
PURPOSE AND STRATEGY

Throughout 2019, CTG Brasil promoted a great movement to transform its corporate culture, which resulted in the disclosure of its purpose and the revision of its organizational values. “Powering the world’s development with large-scale, clean energy” synthesizes, as a corporate purpose, the value that CTG Brasil has to offer to society. Five company values consolidate the key aspects of this organizational culture.

A differential in this transformation process was the way in which the culture was built, in a collaborative manner strengthening the participation of all employees in different stages of the Nosso Jeito project to a transversal vision of the company and the strategic alignment and positioning. In a collaborative manner, multidisciplinary teams led the various stages of work, which included the survey to identify the current culture – with 98% of the collaborators’ adherence), individual interviews with executives, mapping of organizational networks (with 83% adherence), as well as focus groups and several workshops for collective construction.

In December 2019, during a meeting of all employees with the president of CTG, and purpose and values were disclosed to the internal public. In 2020, culture workshops will be conducted in each unit, involving 100% of the employees not only in the dissemination but also in the evolution of this culture and in the understanding of how each one can perceive them in their daily lives. These face-to-face moments will also include the reinforcement of an internal campaign calendar, with inspiring stories and intensive dissemination of corporate culture. In addition, processes will be reviewed in order to put this new culture into practice.

Purpose

Powering the world’s development with large-scale, clean energy

Values

We prioritize life
For us, safety and care for people and the environment always come first

Our energy is our people
We believe that each one has a lot to offer and that diversity allows us to go even further, together

Integrity, always
For us, ethics is non-negotiable and permeates everything we do

Excellence in everything
We work to excel ourselves every day. We understand that efficiency is in doing things in a simple way

We innovate to transform
We are bold and connected. We collaborate to deliver solutions that create value for everyone
The demand for energy in Brazil tends to increase in the medium and long term, through the recovery of economic activity, and the infrastructure to support this evolution must already be available when this moment comes. In addition, the context of combating climate change and decarbonization of the energy matrix, reinforced by the Brazilian targets in the Paris Agreement, requires this expansion to occur in renewable sources. The modernization of the sector’s regulatory framework, in turn, opens opportunities for new business models and an even more dynamic environment for buying and selling energy. Finally, innovations and technology development have transformed the way society consumes energy and can contribute to even greater efficiency and reliability in the management of generation assets.

Faced with this scenario, CTG Brasil defined its Strategic Plan that will guide the company’s growth and priorities in the country. To guide business management, four strategic guidelines were designed.

The first is operational excellence, which means operating the plants with the highest standards of quality and safety and conducting all processes according to the best market practices, seeking simple and agile solutions. The second is financial discipline, in which the company must establish a culture of efficiency and austerity, ensuring that all processes and initiatives aim at creating value. The third is commercial efficiency, in which CTG Brasil will use innovative solutions to optimize the relationship between risk and return in energy sales. And, finally, sustainable growth, which suggests the development of skills and the use of competitive advantages for the growth and strengthening of the business in the long term.

Defined in 2019, the Strategic Plan guarantees the company’s readiness to take advantage of growth opportunities in renewable sources, strengthening its relevance in the country.
Evident in the purpose and nature of CTG Brasil’s business, the commitment to sustainable development is ensured by the Sustainability Policy, structured in 2017. This instrument defines six pillars on which the company has been acting with the purpose of building its sustainability strategy.

**CTG Brasil’s sustainability pillars**

- Community engagement
- Environmental protection
- Sustainability and innovation in operations
- Development and welfare of employees
- Responsibility in the value chain
- Responsible performance
After the approval of the Sustainability Policy, CTG Brasil structured a corporate area dedicated to the governance of the issue. The objective is to make the management approach increasingly aligned with the principles of the Global Compact, a UN initiative to which the company has been a signatory since 2017.

In 2019, a process was conducted for the construction of the materiality matrix that establishes the central themes for sustainability management, in light of the context of action and the main expectations of the engaged relationship publics (learn more about this work on page 5). This matrix, together with the Policy, subsidizes the construction of the corporate sustainability strategy. Among the other advances of the year, a mapping of sustainability demands of the electricity sector was also highlighted, which identified market demands and how they are being worked on by the sector, as well as advances in the strategy of involvement with communities (learn more on page 59).

This continuous evolution of the management model is monitored by the Sustainability Committee, a multidisciplinary group that aims to guide and direct the action plans developed. This structure is formed by representatives from the areas of Environment, Health & Safety, Legal, Brand, Communication & Sustainability, Controllership, Human Resources, Operation & Maintenance and Strategic Planning. Throughout 2019, in order to improve the knowledge of the participants, the Committee’s meetings had external guest speakers, who addressed sustainability issues relevant to the context of CTG Brasil’s operations. The Brand, Communication & Sustainability Department is the body responsible for facilitating the various initiatives, making it possible to execute the projects and consolidate the results achieved.
AWARDS AND RECOGNITIONS

Benchmarking Brasil 2019

The case "Control of Infestation by Golden Mussel Genetic Infertility Induction" was second in the Senior category of Best Practices and Sustainability Projects by Benchmarking Brasil Award. The initiative is recognized in the country for certifying and sharing good practices in sustainability management, with its own methodology and the participation of experts from different countries in the assessment benches.

Brasil Bioeconomia 2019

This same research by CTG Brasil for biotechnological control of the golden mussel was awarded in the category Ideas of the Brasil Bioeconomia Award. Promoted by the Brazilian Association of Industrial Biotechnology (ABBI), the initiative gives visibility to the advances made by companies in this field and is presented annually at the Brazil Bioeconomy Forum, which brings together representatives of industries, research and financial institutions, government, investors, NGOs, startups and civil society.

Anuários Valor 1000 and Valor Grandes Grupos

For the third consecutive year, CTG Brasil is part of the rankings of the 1,000 largest companies and the 200 largest groups in the country, prepared by Valor Econômico newspaper. The surveys consider financial criteria, such as net revenue, EBITDA, net profit and profitability. The list of the 1,000 largest also includes Rio Paranapanema.

Eloy Chaves Award

In 2019, Rio Paranapanema was recognized with the silver medal of the Eloy Chaves Award, promoted by the Brazilian Association of Electric Power Companies (ABCE) since 1980 to reward the companies in the electric sector with the best safety performance.