COPEL

Pura Energia

Integrated Report

2023

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Introduction

GRI 2-22

Message from the CEO

As Copel approaches its 70th anniversary, we find ourselves at a unique moment in our history. The Company's transformation into a dispersed-ownership corporation enhances our ability to operate in the competitive and challenging environment that is the power sector, with efficiency gains and the potential to further leverage investment conditions. This change also helps project the company's leadership in the national power sector as an agent of sustainable development in both Paraná and Brazil.

Aligned with our purpose of providing energy and solutions for sustainable development, we are ramping up investments in alternative energy sources, electrifying our light fleet, increasing operational efficiency, and fostering social and environmental inclusion. These priorities align with the UN Sustainable Development Goals (SDGs) and the Principles of the Global Compact, to which Copel was one of the first companies in the Brazilian power sector to sign up.

In the short term, we aim to implement measures to improve operational efficiency and cut greenhouse gas emissions, while raising awareness and engagement of all stakeholders. In 2023, Copel was assigned an A- rating from CDP Disclosure Insight Action. The Company has been responding to the CDP since 2010 and in recent years has sustained a B score, raising its Climate Change Program score in 2023.

In the medium term, we plan to investment more in alternative energy sources, in order to achieve carbon neutrality by 2030 and fuel socioeconomic development in our geographies. In the long term, our strategy is to cement our position as a sustainability leader in the power sector, adopting innovative practices aligned with the SDGs. To this end, we have developed programs such as Aluno Energia, which offers scholarships to electrical engineering students and is conducive with SDG 4 (Quality Education).

Meanwhile, we are mindful of new challenges, such as climate change, the growing demand for renewable and low-carbon energy, and regulatory changes in the Brazilian electricity sector, such as the opening up of the free market and the regulation of distributed generation We are consequently investing in innovation, energy efficiency and strategic partnerships. Investments in R&D, in the open innovation program Copel Volt, and in the new Copel Venture Capital I fund bring initiatives that combine these traits: businesses of the future with potential returns for the company and that drive sustainable development.

We continue to invest heavily in the energy distribution system. With programs like Paraná Trifásico (Rural Three-Phase Program) and Smart Grid, we help modernize the system in the countryside and the city and contribute to the accelerated economic growth of Paraná, our concession area. In 2024, an additional BRL 2.1 billion will be invested in improving and expanding the state's power system.

In 2023, we also progressed in the process of divesting from the UEGA natural gas plant and expanded our fleet of electric vehicles to 17%. Through the Fatura Solidária campaign, we delivered just shy of 100 metric tons of food to educational and social welfare institutions and encouraged the adoption of digital energy bills, thereby reducing the number of printed bills. Today, 2 million of the Company's customers, or 40% of the total, receive their bills by email.

Copel's sustainability journey continues to receive plaudits, as evidenced by the certification with the Gold Label of the Brazilian GHG Protocol Program. The Company also remained in the Sustainability Index of B3 (ISE) and the ICO_2 index and joined the most recent portfolio recognizing sustainable practices, the IDIVERSA, all from B3 (São Paulo Stock Exchange).

These results vindicate our efforts to build a more efficient and socially responsible company. In 2024, we remain even more committed to ensuring that Copel's actions lead to a more sustainable and inclusive future.

Thank you and enjoy the report.

Daniel Pimentel Slaviero
Copel Chief Executive Officer

GRI 2-2, 2-14

About this report

The content-defining parameters for the 2023 Integrated Report of Companhia Paranaense de Energia – Copel relied on a set of national and international standards and best transparency and accountability practices.

Content is primarily guided by the materiality process. The report also outlines our management approach, business model, and Copel's performance in the human, intellectual, social and relationship, natural, infrastructure and financial capitals, in accordance with the Integrated Reporting Framework.

The non-financial data embraces Copel Holding and its Wholly-Owned Subsidiaries: Copel Geração e Transmissão S.A. (Copel GeT), Copel Distribuição S.A. (Copel DIS), Copel Comercialização S.A. (Copel Mercado Livre) and Copel Serviços S.A. (Copel Serviços).

When applicable, any scope inclusion or exclusion is mentioned[1]. The financial data is sourced from Financial Statements and covers Copel Holding, its Wholly-Owned Subsidiaries and other Controlled companies.

The terms "Copel," "Company," or "Corporation" denote the consolidated information. Meanwhile, "Holding" is the term used to refer specifically to Copel Holding as an individual entity, excluding the subsidiaries.

This report provides a consolidated view of the group's financial results while allowing each subsidiary to present specific details of their operations in their Annual Socio-Environmental and Economic-Financial Reports. Copel has pledged to provide this information in an aggregated manner in most cases, ensuring a consistent reporting methodology across the different companies in the group. However, any differences in how certain data is presented will be clearly specified in the report along with the reasons why.

The adopted methodology does not require adjustments for noncontrolling interests or for those entities over which Copel does not exercise control. Key corporate processes such as mergers, acquisitions and divestitures are duly highlighted in the report.

The Integrated Report and Materiality Report are evaluated by the Executive Board and the Sustainability Development Committee (CDS), and sign off by the Board of Directors (BoD) before publication.

[1] Historical data (from 2021) may still include data from Copel Telecomunicações S.A., a unit that we divested from in 2019 and whose transition process to the new controller concluded in 2022.

Supplementary reports

- Management Report and Financial Statements
- Copel Materiality Report
- 20F Report
- Reference Form

Disclosures of wholly-owned subsidiaries

- Annual Social-Environmental Responsibility and Economic-Financial Report of Copel Geração e Transmissão
- Annual Social-Environmental and Economic-Financial Responsibility Report of Copel Distribuição

Our *Sustainability Portal* is additionally an important platform for sharing up-to-date information about Copel's key initiatives.

Please send any questions, suggestions or requests for further information about this report to: *relato.integrado@copel.com*

This report referenced:

- This report complies with the GRI Universal Standards and uses GRI G4 Electric Utilities Sector Supplement;
- Technical Instruction OCPC 09 on Integrated Reporting, from the Brazilian Securities and Exchange Commission (CVM) Resolution No. 14
- Integrated Reporting Framework issued by IFRS Foundation
- SASB (Sustainability Accounting Standards Board), standards issued by the IFRS Foundation

The following guidelines were also consulted to prepare this report:

- International Financial Reporting Standards (IFRS) for the information derived from the Financial Statements in accordance with BR GAAP
- Stakeholder Capitalism Metrics – World Economic Forum
- Progress report regarding the United Nations (UN) Global Compact
- Indicators linked to the Corporate Sustainability Assessment (CSA).

With the exception of global abbreviations, all abbreviations in the Integrated Report were written in Portuguese

GRI 3-1

Materiality Assessment

The contents of this report were informed by our materiality matrix, which was compiled for 2023/2024. Copel's materiality matrix was informed by an analysis of sector studies; international norms and standards; sustainability assessments; the Company's strategic planning; benchmarking against national and international peers; and a broad stakeholder survey with 6,900 respondents, with representatives from all parties.

In the current materiality assessment, we also adopted the double materiality concept, an approach that assesses both the organization's impact on social, environmental and governance issues as well the impacts of these issues on the business. The materiality assessment was entirely conducted by the Companhia Paranaense de Energia team, demonstrating their uptake of the relevant knowledge and management involvement in the materiality process.

One of our goals in the process was to expand the number of survey respondents—with droves of customers (3,595), employees (1,755) and investors (512) obliging. In addition to the sheer number of participants, this involvement was geographically extensive. For example, among customers, there were registrations from 276 municipalities in Paraná state.

Stakeholders are segmented to ensure a broad view of all relationships established by Copel with them. Stakeholders were accordingly grouped into segments, such as regulators, equity interests, direct employees, outsourced workers, trade associations, customers and communities, among others (*see the following list*).

With minor variations, all 34 topics submitted to the survey were rated as high priority by the surveyed stakeholders. A cross-referencing with the financial impact of each topic on the business was subsequently carried out, which helped to fine-tune the analysis. The most critical issues were therefore prioritized based on the double materiality assessment.

Regarding the previous materiality process, two new points gained prominence: population safety and sustainable supplier management.

The material assessment also informed a reorganization of the survey questions, with some topics merged together, such as operating efficiency and energy transition, which are now grouped into a single topic. In another adjustment, employee well-being, health and safety was segregated from people management, so that related disclosures are now more compressive and detailed.

Further information about Copel's materiality process can be found in its *sustainability portal*

Copel conducted a double materiality assessment for the first time, where it relied on the active involvement of managers and the internalization of expertise

Materiality process 2023

Purpose:
Inform Strategic Planning and Risk Management

Sharpen the focus on the most material topics, and establish related key performance indicators and metrics

Broad-based survey:
6,905 respondents from all of Copel's priority stakeholders.

Steps GRI 3-1				
1	2	3	4	5
Studies and documents assessed	**Analyze the context and select material topics for stakeholder survey**	**Perform stakeholder survey**	**Develop materiality matrix**	**Review and define Copel's material topics and categorize them based on double materiality**
Global references: Global Compact GRI Standards and electric utilities sector disclosures SASB Electric Utilities & Power Generator Standard IBC WEF Stakeholder Capitalism Metrics		Customers Communities Direct and third-party employees Trade associations Shareholders Investors Suppliers Equity interests Regulators Social and environmental institutions	We assessed: - Internal vs. external stakeholders - Vision of company vs. stakeholders - Double materiality: Vision of stakeholders vs. financial impacts	
ESG assessments: Corporate Sustainability Assessment (CSA) Sustainability Index of B3 (ISE/B3) Sustainalytics FTSE4Good Index – ESG MSCI ESG ISS ESG	34 topics surveyed			Grouping topics = 10 material topics
Industry benchmarking: CSA/Dow Jones Top 20 ISE/B3 Top 9				

Stakeholders surveyed

Stakeholders	Corresponding questionnaire
Customers	Copel Distribuição Copel Mercado Livre
Communities	Copel Distribuição Copel Geração e Transmissão
Employees	Direct and outsourced Executive Board
Trade associations	Trade associations
Shareholders	Board of Directors
Investors	Investors
Suppliers	Copel Distribuição Copel Geração e Transmissão Copel Mercado Livre
Equity interests	Equity interests
Regulators	Regulators
The environment	Represented by society and regulators
Society	Organizations representing society

Inclusion of two new material topics: Community Safety and Sustainable Supplying

Changes in material topics

2021	2023
Corporate Governance and Risk Management	Corporate Governance
Business and Financial Performance*	Business and Financial Performance*
Customer Satisfaction	Customer Satisfaction
Environmental Management and Climate Action*	Environmental Commitment*
Corporate Social Responsibility	Social Commitment
People Management and Occupational Health & Safety*	People Management* Employee Well-Being, Health and Safety*
Operating Efficiency Transforming the Power Sector	Transforming the Power Sector
	Community Safety**
	Sustainable Supplying**

* Amended topic.

** New topic.

GRI 3-2

Copel's material topics [1] [2]

Caption:

Financial Capital | Infrastructure capital | Intellectual Capital | Social and Relationship Capital | Natural Capital | Human Capital

CORPORATE GOVERNANCE

DESCRIPTION:
The topic comprises corporate governance, together with the regulatory environment; corporate strategy; risk and opportunity management; integrity, transparency and sustainable development.

KEY IMPACTS:
- FINANCIAL: fines, sanctions, penalties, increased costs, compromised results, capital allocation failures, and market cap
- OPERATIONAL: process failures and market practices issues
- REGULATORY: changes in legislation
- REPUTATIONAL: transparency failures, reduced reliability and image impairment.

MAIN OPPORTUNITIES:
Process innovation focuses on trends such as double materiality; expansion and dissemination of best practices in integrity, compliance, risk management and internal controls.

SDGS:

CAPITALS:

SEE + PG. 45

BUSINESS AND FINANCIAL PERFORMANCE

DESCRIPTION:
This involves business-financial performance and sustainable investments.

KEY IMPACTS:
- FINANCIAL: lower earnings; capital allocation failures
- REPUTATIONAL: image impairment.

MAIN OPPORTUNITIES:
Expansion and diversification of funds allocation into new solutions, electrification processes and sustainable projects.

SDGS:

CAPITALS:

SEE + PG. 162

[1] Learn about each content in the GRI (page 194) and SASB Content summaries (page 214).

[2] The description of the topic is not exhaustive, indicating the main topics considered in each item. Throughout the report, the impacts, actions and performance related to each material topic are presented in greater depth. The table shows where to find each disclosure.

SOCIAL COMMITMENT

DESCRIPTION:
This entails the commitment to communities, human rights, stakeholder engagement and social responsibility.

KEY IMPACTS:
- FINANCIAL: fines, sanctions and penalties;
- REGULATORY: loss of licenses;
- REPUTATIONAL: image impairment.
- HEALTH AND SAFETY: accidents and fatalities involving the general public.

MAIN OPPORTUNITIES:
Strengthening of relationships and engagement with stakeholders.

SDGS:

CAPITALS:

SEE + PG. 119

ENVIRONMENTAL COMMITMENT

DESCRIPTION:
This involves the commitment to biodiversity, eco-efficiency, water stewardship, climate change and environmental responsibility.

KEY IMPACTS:
- FINANCIAL: fines, sanctions, and penalties; higher costs, compromised outcomes; fees due on greenhouse gas emissions and carbon pricing; higher direct and indirect operational costs; revenue decline due to reduced production capacity.
- OPERATIONAL: replacement of equipment and facilities; reduced production capacity; time, availability of human and material resources to restore infrastructure in the event of extreme weather events; impaired generation capacity; shorter asset lifespan; unavailability of natural resources for energy generation.
- REGULATORY: penalties due to failure to meet expected generation targets; regulatory changes related to emissions and climate adaptation.
- REPUTATIONAL: image impairment.

MAIN OPPORTUNITIES:
Expansion of clean energy and renewable sources; electrification; diversification of the renewable energy matrix; renewal of the light vehicle fleet powered by electricity and/or ethanol; development of new clean energy projects; decarbonization of the matrix, expansion of operations in the distributed-generation segment, and investment in research and development in new technologies related to green hydrogen and/or low-carbon sources from biomass, biofuels or other organic waste; and the growing marketing of renewable energy certificates.

SDGS:

CAPITALS:

SEE + PG. 96

Caption:

PEOPLE MANAGEMENT

DESCRIPTION:
Topic composed of people management, in conjunction with workforce development, diversity, equality and inclusion.

KEY IMPACTS:
- FINANCIAL: lower earnings
- STRATEGIC: Loss of intellectual capital; failure in identifying and preparing successors for critical business positions; failure in talent retention; reduction in workforce engagement; discontinuity of essential activities; inefficiency
- REPUTATIONAL: image impairment.

MAIN OPPORTUNITIES:
Attraction and retention of new talents; professional and personal development of the workforce; workforce engagement.

SDGS:

CAPITALS:

SEE + PG. 144

EMPLOYEE WELL-BEING, HEALTH AND SAFETY

DESCRIPTION:
It used to be part of the Human Resources Management topic but was carved out due to its specificity and relevance. The topic is one of the company's values and involves both direct employees and outsourced.

KEY IMPACTS:
- FINANCIAL: absenteeism, fatalities and lower productivity
- OPERATIONAL: absenteeism, fatalities and lower productivity
- REPUTATIONAL: image impairment.

MAIN OPPORTUNITIES:
Strengthening an organizational culture of health and safety; expanding the integrated management system for occupational health and safety.

SDGS:

CAPITALS:

SEE + PG. 156

Caption:

CUSTOMER SATISFACTION

DESCRIPTION:
Considers customer satisfaction and accessible electricity. The topic is related to how the Company meets customer expectations around products and services.

KEY IMPACTS:
- FINANCIAL: higher delinquency
- STRATEGIC: loss of concessions
- REPUTATIONAL: image impairment.

MAIN OPPORTUNITIES:
Offering new products and services through electrification; strengthening quality with investments in generation, transmission, and distribution infrastructure; enhancing processes, technologies, and customer service facilities.

SDGS:

CAPITALS:

SEE + PG. 129

COMMUNITY SAFETY

DESCRIPTION:
New topic, highlighting the importance of public safety, involving the safe use of electricity, dam and reservoir safety, among others.

KEY IMPACTS:
- SOCIO-ENVIRONMENTAL: damage to ecosystems and local communities;
- FINANCIAL: fines, sanctions, compensation, and penalties imposed by regulatory agencies; asset losses
- HEALTH AND SAFETY: accidents and fatalities
- OPERATIONAL: production stoppages
- REGULATORY: loss of licenses
- REPUTATIONAL: image impairment.

MAIN OPPORTUNITIES:
Improvement in the relationship with local communities; reinforcement of the safety culture, involving the workforce, local communities, and society as a whole; improvement of asset infrastructure and investment in distributed generation.

SDGS:

CAPITALS:

SEE + PG. 136

Caption:

SUSTAINABLE SUPPLYING

DESCRIPTION:
The topic was previously addressed but is now classed as a specific material topic. It involves monitoring, due diligence, guidance and supplier oversight, among other issues.

KEY IMPACTS:
- FINANCIAL: greater inflationary pressure on prices and costs; possible global recession
- OPERATIONAL: supply chain disruption
- REPUTATIONAL: image impairment.

MAIN OPPORTUNITIES:
Reinforcement and promotion of ESG practices among suppliers; implementation of due diligence processes in the supply chain; external assessments.

SDGS:

CAPITALS:

SEE + PG. 139

TRANSFORMING THE POWER SECTOR

DESCRIPTION:
It involves energy efficiency, operational efficiency, electrification, clean energy generation, innovation, investments in electricity distribution and transmission infrastructure, new business opportunities, and cybersecurity and information security.

KEY IMPACTS:
- FINANCIAL: fines, sanctions and penalties from regulatory agencies; price hikes; lack of or difficulty in raising funds
- OPERATIONAL: workforce preparation failures; inability to keep up with the effects of increased digitalization in the power sector; failure in developing solutions; productivity loss; failure to complete developed projects; failure to meet corporate goals for EBITDA restoration and growth and failure to achieve the ideal internal debt structure; increased recovery time to normalize operations
- STRATEGIC: lower competitiveness; failure in prospecting, negotiating, and structuring businesses and services; failure in investment program execution; information leaks; cyberattacks;
- REGULATORY: delay in signing new concession contracts for the company's main power plants
- EMERGING: geopolitical conflicts impacting cybersecurity
- REPUTATIONAL: image impairment.

MAIN OPPORTUNITIES:
Greater customer empowerment; technological development; entry into new markets; new strategic partnerships; workforce development; new product development, usage electrification and energy-as-a-service.

SDGS:

CAPITALS:

SEE + PG. 76

Caption:

1 About Copel

The year at a glance

A CORPORATION

Copel has become a **company with dispersed capital,** without a controlling shareholder and with robust governance

INNOVATION

The Copel Ventures I fund is **investing BRL 150 million** in ventures for the future of electricity

NEW MATERIALITY ASSESSMENT

The review of material topics involved surveying than **6,900 people**

SYSTEM QUALITY

BRL 2 billion invested in Distribution Paraná Trifásico ("Rural Three-Phase Program") surpassed **15,000 km** of new rural systems

TRANSITIONING TO CARBON FREE

Copel achieved **94% renewable generation**

Potential divestment from the **Araucária thermal power plant**

ACCESS

413,000 families are exempt from their electricity bills under the Energia Solidária Program

CERTIFIED INTEGRITY PROGRAM

Certified to ISO 37.001

Awards

CDP

CDP questionnaire "A–" rating for climate change disclosures

ISEB3

Listed in the ISE Index 18 times

IDIVERSA B3

Member of IDIVERSA, the new B3 index featuring listed companies performing best in diversity

GRI 2-1, 2-6

Company Profile

On the eve of its 70th anniversary, Copel secured another historic milestone in 2023 by transforming its structure into a corporation with dispersed capital and no controlling shareholder. In was actually a transition from a state-owned company to a private enterprise. The Paraná State Government, which had hitherto held the controlling stake, sold part of its shares through an offering on the São Paulo stock exchange, B3 *(see more on page 33)*.

Copel remains committed to Paraná state and to fostering regional and socioeconomic development. It is the largest company in this state and top of mind. As an integrated energy company, Copel is involved in the generation, transmission, distribution and marketing of energy and natural gas, which ensures a competitive advantage and prominence among the country's main energy groups.

The company owns a generation facility of plants and transmission lines in ten Brazilian states, and produces 94% of its energy from renewable sources. Energy distribution is concentrated in Paraná state, where Copel holds the concession and supplies energy to 99% of the territory, covering more than 5.1 million residential, commercial and industrial consumer units. It operates in the regulated market and the free energy market – a segment in which it is one of the largest Brazilian trading companies.

Its Wholly-Owned Subsidiaries include Copel Geração e Transmissão (Copel GeT) and Copel Distribuição (Copel DIS), in addition to interests in assets and partnerships. 2023 ended with 5,804 direct employees, in addition to approximately 8,700 outsourced workers who work primarily in operation and maintenance (O&M).

A publicly traded company, Copel's shares are traded on the stock exchanges in São Paulo (B3), New York (NYSE) and Madrid (Latibex) (*see more on page 45*).

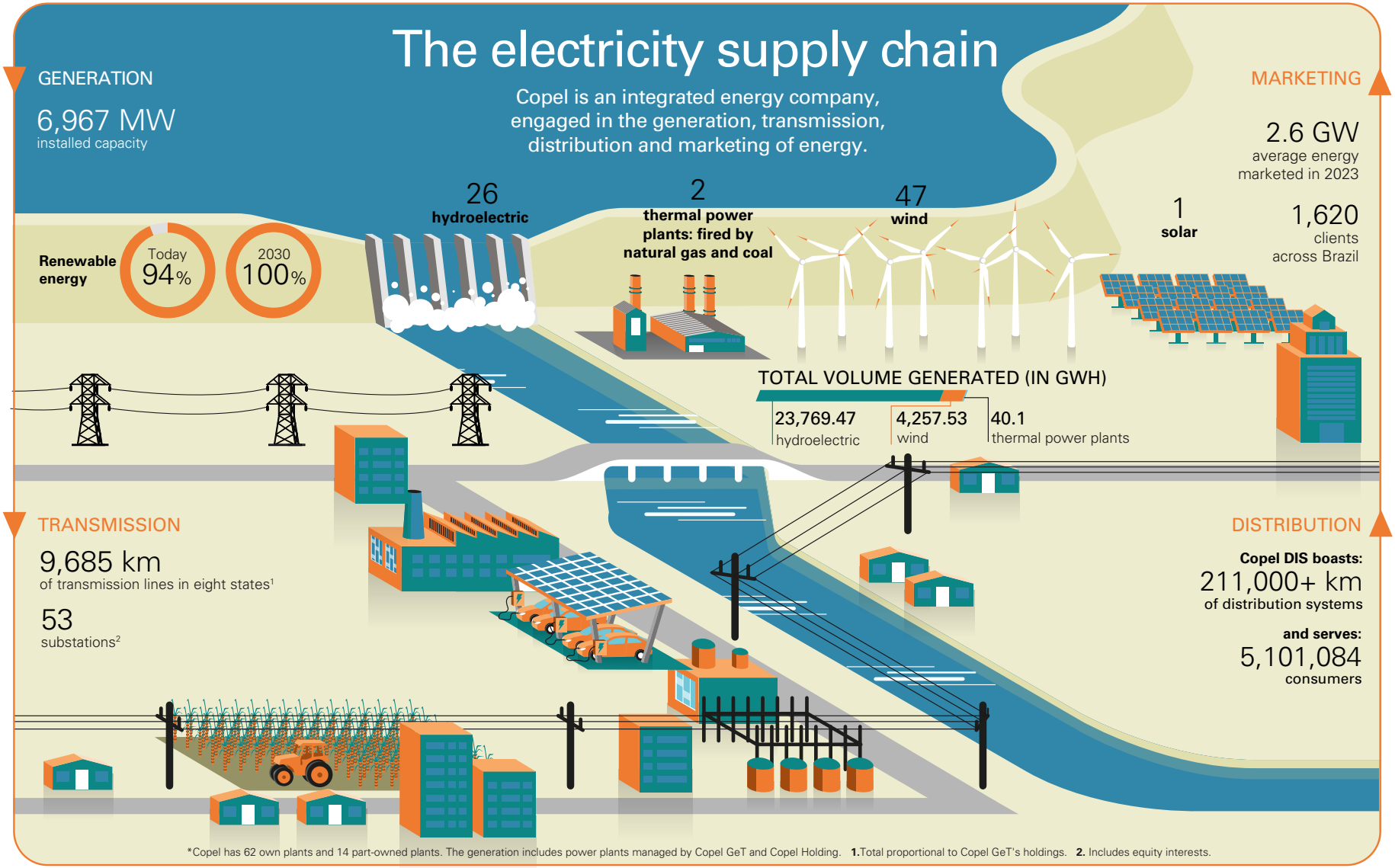
The transformation into a corporation was another milestone for Copel, which remains committed to Paraná state and the Brazilian electricity sector's development

Responsible for power distribution in **99% of Paraná state municipalities**

Generation and Transmission assets in **ten states**

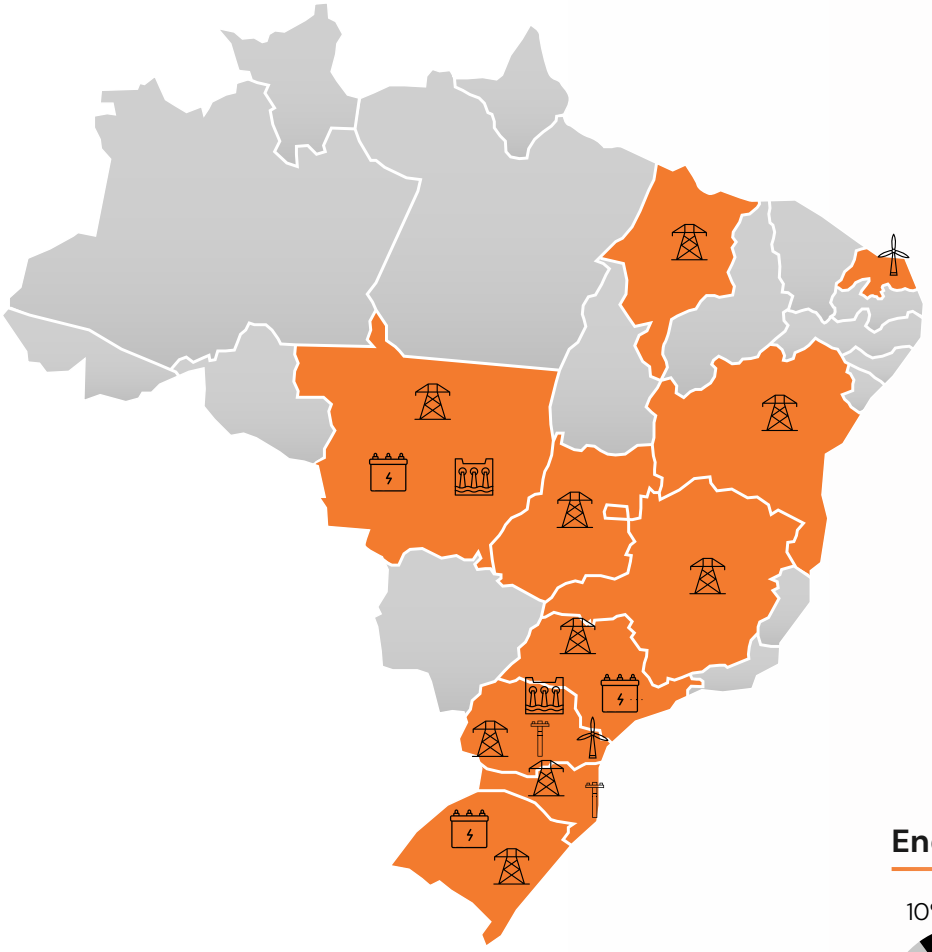
5 million+ consumer units served

The largest company in Paraná and one of the leading energy groups in Brazil



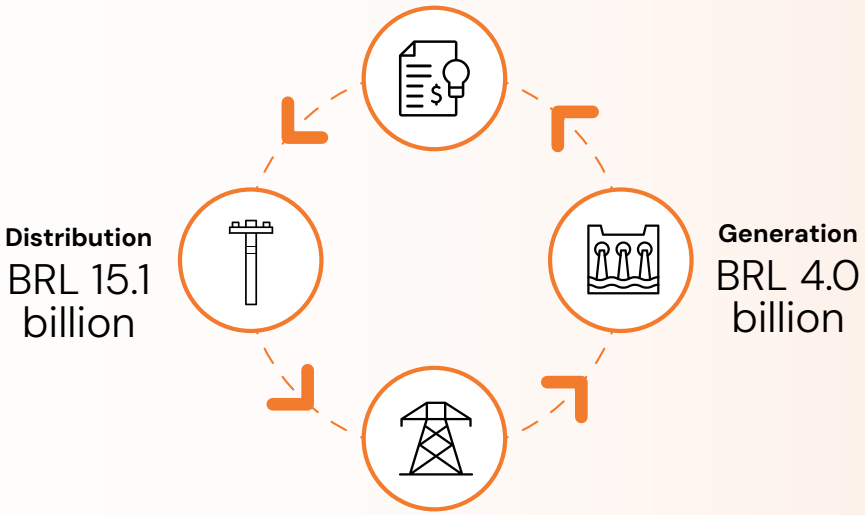
*Copel has 62 own plants and 14 part-owned plants. The generation includes power plants managed by Copel GeT and Copel Holding. **1.**Total proportional to Copel GeT's holdings. **2.** Includes equity interests.

Copel in Brazil

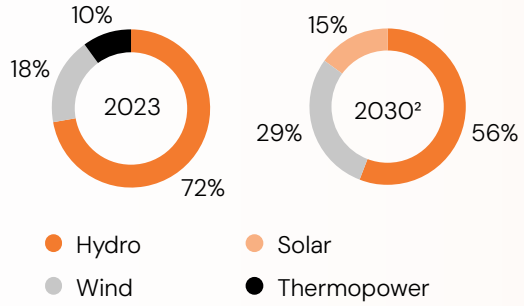


- Hydropower Plant
- Power Distribution
- Wind Farm
- Substation
- Transmission Lines

Business share (Net Operating Revenue)



Energy matrix (%)[1]



[1] Installed capacity.
[2] Foreseen in the strategic planning.

Number of employees

5,804
own staff

8,708
outsourced workers

Strategic Framework

Copel operates in accordance with the principles outlined in our Strategic Framework, which informs our management approach and all internal and external decisions and actions.

MISSION
Provide energy and solutions for sustainable development.

VISION
To be an industry-leading player in our business segments while creating sustainable value.

VALUES

ETHICS
A collective pact that guides individual behaviors in line with shared goals.

HEALTH AND SAFETY
A wholesome work environment in which workers and managers collaborate to achieve continuous improvement in health, safety and well-being.

RESPECTING PEOPLE
Showing consideration for others.

RESPONSIBILITY
Managing the organization sustainably, respecting the rights of all stakeholders, including future generations, and committing to preserving all forms of life.

DEDICATION
Wholehearted engagement in work, supporting the organization's goals.

TRANSPARENCY
Accountability for the organization's decisions and achievements, communicating both positive and negative aspects with all stakeholders.

INNOVATION
Turning ideas into processes, products, or services to enhance existing ones or create something new and better.

GRI 2-6, GRI G4-EU10

Generation and Transmission

Copel boasts a diversified generation hub, consisting of hydroelectric, wind, thermal and solar plants, totaling 6,967.0 MW of total proportional installed capacity, with 3,236.0 MW of guaranteed capacity average[1]. Most of the operations management is conducted by Copel Geração e Transmissão (Copel GeT), while the Holding company maintains a direct interest in certain plants.

In 2023, Copel completed the acquisition of the Aventura and Santa Rosa & Mundo Novo Wind Clusters, marking another vital step in its sustainable renewable energy growth strategy, diversifying the generation matrix in line with its Strategic Planning and Investment Policy. In operation since 2022 this venture and the Jandaíra Wind Cluster added 260.4 MW of renewable energy to the Copel GeT portfolio. Following the commissioning of the 26 generating units, wind generation now represents 17% of the energy generated, consistent with the strategy to be 100% renewable by 2030.

Copel is the 10th largest hydroelectric generator in the country in terms of installed capacity and accounts for 3.5% of Brazil's installed capacity. Its generation and transmission assets span ten states (*see map on page 20*).

In Transmission, Copel owns a 3.3% share in Brazil's electric power transmission system, encompassing own assets and interests, with its transmission lines totaling 9,685 km. The transmission concessions in operation generate a Permitted Annual Revenue (RAP) of BRL 1.56 billion in proportion to its interests in the ventures.

Among its customers, Copel GeT supplies energy to utilities and licensees across nearly the entire country, through auctions held in the Regulated Contracting Environment (ACR). In the Free Contracting Environment (ACL), it serves the industrial and commercial sectors, traders, free and special consumers.

Renowned management excellence

Copel GeT's governance and management practices were rated Gold level at the Best in Management Award from the National Quality Foundation (FNQ). It was the first company in the energy generation and transmission sector to achieve this feat, attesting to its advancements in the Management Excellence Model (MEG). In 2023, Copel GeT saw a significant increase in scoring, rapid upgrading its management stage maturity from Consolidated to Excellent. The award highlights the engagement and dedication of Copel's teams, and also recognizes management practices in areas such as workplace safety, supplier relations, innovation and project implementation.

[1] Includes integral infrastructures and partnerships.

GRI G4-EU1 **Installed capacity by energy source[1] (GW)**	**2022**	**2023**
Wind	0.9	1.2
Hydro	5.4	5.4
Thermal	0.4	0.4
Total	**6.7**	**7.0**

[1] The data denotes capacity proportional to Copel GeT's equity interest.

GRI G4-EU2 **Net power generation (GWh)[1] [2]**	**2021**	**2022**	**2023**
Hydroelectric Power Plants	15,798.60	23,682.20	23,769.47
Thermal power plants	1,784.64	204.26	40.10
Wind Farms	2,691.44	2,901.30	4,257.53
Solar Farm[3]	-	4.80	4.80
Total	**20,274.68**	**26,792.56**	**28,071.90**

[1] The indicator takes into consideration the amount generated by Copel GeT's operations and by the plants that Copel Holding Company has direct equity in: ELEJOR, UEGA, Foz do Chopim, Voltalia and Dona Francisca.
[2] The hydropower plants with installed capacity greater than 50 MW, correspond to the largest slice of the total energy generated by Copel. The power plants are coordinated centrally by the Operador Nacional do Sistema - ONS (National Electric System Operator) and in accordance with the conditions of the reservoirs and system demand.
[3] In 2021, the solar farm was undergoing testing.

Market share	**Brazil**	**South**	**Paraná**
Power generation[1]	3.50[2]	21.80[3]	52.10[3]
Electricity transmission[4]	3.30	12.15	22.73

[1] Installed capacity of Copel Geração e Transmissão and interests in Special Purpose Entities (SPEs) 100%
[2] Only Brazil's portion in the Itaipu Plant is counted.
[3] The Itaipu Plant is not considered to be in the South.
[4] The market considers the Permitted Annual Revenue (RAP).

Generation and Transmission in numbers

Core assets

62 own plants and 14 JVs

26 Hydroelectric power plants

1 Solar Farm

47 Wind Farms

9,700 km of transmission lines

2 Thermal power plants

7.0 GW of installed capacity

94% renewable

On of **10** largest generators in Brazil

Divestment from thermoelectric power plants underway

See the full list of Copel GeT's assets in ins Annual Social and Environmental Responsibility and Economic and Financial Report at *ri.copel.com/sustentabilidade/relatorios-anuais-e-socioambientais*

GRI 2-6

Distribution

Copel Distribuição (Copel DIS) is responsible for providing electricity to 396 of the 399 municipalities in Paraná, and to Porto União in Santa Catarina, serving over 5 million consumer units. Our customer are diverse, ranging from residential to industrial, commercial, rural and public sectors, covering more than 211,000 km of distribution systems.

Consumers enjoy access to a wide range of service channels, including mobile apps, a virtual agency, telephone support, WhatsApp, and social media.

With significant investments in recent years to enhance service quality, Copel DIS is recognized as one of the leading distributors in the country.

The Paraná Trifásico Program already renewed and bolstered 15,000 km of rural electrical grids between 2019 and 2023 – by 2025, 25,000 km of new grids will be erected. From 2019 to 2023 alone, upwards of BRL 1.8 billion was invested in the program, which will ensure supply security and service quality to rural producers. The advancements mean a reduction of up to 13% in the average duration of power outages has been observed in municipalities where modernization occurred. Single-phase grids have now been replaced with three-phase networks in 347 Paraná municipalities, representing 87% of the state total.

Copel is also executing the largest smart grid project in Brazil, which has installed over 615,000 smart meters in the southern part of the state – in 2023 alone, the initiative installed some 186,000 meters. The technology has already received investment of some BRL 820 million since 2021 and speeds up the restoration of supply in cases of accidental outages, reduces the service time for routine services, and allows real-time consumption control through the Copel app, among other benefits.

In 2023, the consumption of electricity in the grid market grew by 4%. This market comprises the captive market (customers who are unable to choose their supplier), power supply to electric utilities in the state of Paraná and free consumers within our concession area. The billed grid market, consisting of offset electricity from Mini and Micro Distributed Generation (MMGD), grew by 1.7% on a cumulative basis in the year.

Distribution in numbers

5,101,084
captive consumers, including:

4,212,397
Residential

69,134
Industrial

440,749
Commercial

324,103
Rural

54,701
Other

Single-phase grids have now been replaced with three-phase networks in 87% of Paraná municipalities

GRI 2-6

Marketing

As a pioneer in the energy trading segment in the free market, Copel was the first to supply energy in this model in Brazil in the 1990s. Following the creation of Copel Mercado Livre in 2016, it has maintained a leading position as one of the largest utilities in the sector.

This model offers assurances and confidence to help customers reduce electricity costs. The business leverages the integrated structure of one of the largest companies in the country's electric sector and provides its customers with straightforward access to services and solutions, offering flexible and customized energy contract models and comprehensive management throughout all stages of qualification and energy acquisition in the free market.

The trader operates in the purchase and sale of energy and in consultancy services for a variety of markets, including agriculture, commerce, industry, services, public sector and energy traders. Ordinance 50/2022 issued by the Ministry of Mines and Energy (MME) partially opened up the free energy market in 2024 to a larger group of users (consumers of the medium- and high-voltage Group A), in the retail segment. Recent initiatives include investments in technology, improvement of digital platforms, intensification of communication actions, and participation in meetings with entities and potential clients. Through the open innovation program, Copel Mercado Livre participates in a pilot initiative to support small and micro businesses in managing greenhouse gas (GHG) emissions (*see more on page 79*).

Copel Mercado Livre has a portfolio of approximately 1,620 clients from 24 states of Brazil, reaching a volume of 2.6 GW average energy traded in the Electric Power Trading Chamber (CCEE) in 2023, thus maintaining the same trading levels as the previous year.

Trading by numbers

Its portfolio contains some
1,620 clients

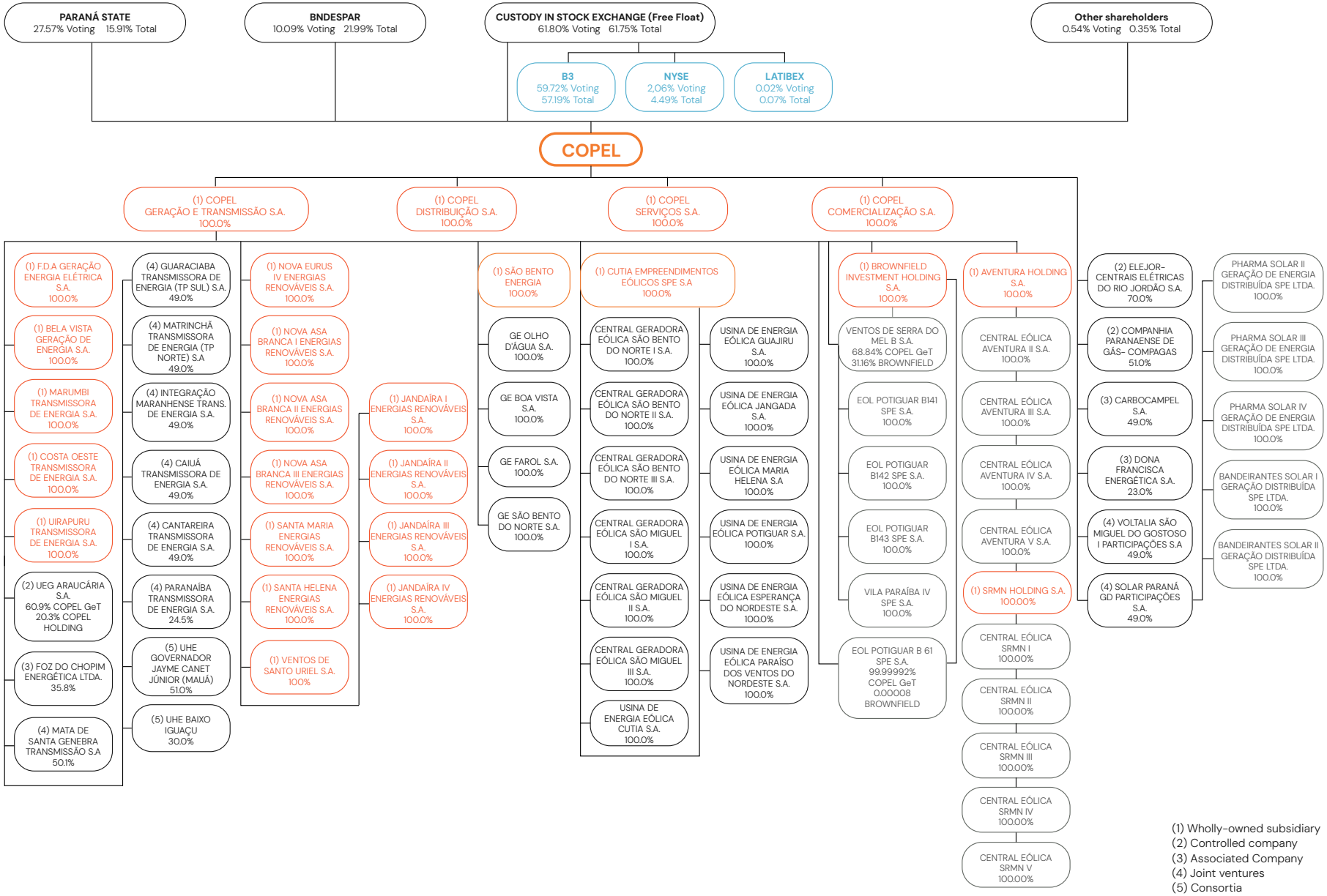
24 states in Brazil

2.6 GW average energy traded in 2023

LEARN MORE
www.copelmercadolivre.com

Ownership Structure

12/31/2023



(1) Wholly-owned subsidiary
(2) Controlled company
(3) Associated Company
(4) Joint ventures
(5) Consortia

Awards and Recognitions

Sesi 2023 SDG Label
Sesi – Industry Social Service
Smart Grid Project - Migration and Refuge Distribution Renewable Energy Certificates – Trading

Gold certification of the Brazilian GHG Protocol program
GHG Protocol

CIER Innovation Award for Copel Distribuição - 1st place in the Innovation Platform category and 2nd Place in Digitization
CIER – Comisión de Integración Energética Regional

Abraconee Award – 1st place for the Best disclosure of Financial Statements 2022 for holding companies and large-scale companies - Copel and Copel Geração e Transmissão and 2nd place for small companies - Marumbi
Abraconee – Brazilian Association of Power Sector Accountants

Best in Management Award – Gold category for Copel Geração e Transmissão
FNQ – National Quality Foundation

ANEEL Ombudsman Award 2023
ANEEL – National Electricity Regulatory Agency

Transparency Trophy 2023
Anefac – Brazilian Association of Executives

Top 10 Power and Renewables 2023
100 Open Startups Ranking

2nd place Ser Humano Award in the category organizational excellence for the corporate program Plenamente
ABRH – Brazilian Association of Human Resources

PMO Brazil Awards 2023
(Project Management Office)
3rd Place Copel Geração e Transmissão

Companies with the best reputation in the power sector and among the top 100 companies with the best reputation in Brazil
Merco – Corporate Reputation Monitor

Valor 1000 award - 1000 largest ranking
Valor Econômico

Largest Company in Paraná
Amanhã Magazine

Top 500 in the South Award – 5th place
Amanhã Magazine

National Quality of Life Award (PNQV) 2023
Gold in Management Excellence
ABQV – Brazilian Quality of Life Association

PMI Paraná
2nd Place Copel Geração e Transmissão
Category Best PMO (Project Management Office)

2 Strategy and Outlook

Sector Overview

The external environment is signaling the acceleration of profound changes in the energy sector, driven by the energy transition and strongly supported by ESG practices of decarbonization, decentralization and digitalization.

The United Nations Organization (UN) estimates that if nothing is done to increase decarbonization, we will reach 2100 with an average temperature 3.0 °C above the pre-industrial revolution period. The consequences of this include extreme climate events, physical risks to cities and to infrastructure and production assets, and may even compromise the survival of species and businesses.

Although emissions are currently amongst the top global risks in the World Economic Forum Reports, the pressure for clearer and bolder targets for climate care has caused countries, productive sectors, and large companies to broaden their decarbonization actions.

SEE MORE
Sustainability Website

Renewable energy is expected to replace fossil fuel in coming years, according to the International Renewable Energy Agency (Irena). In 2022 report highlighted green hydrogen as one of the drivers of change. Despite not citing Brazil directly, the national energy matrix, with about 84.25% of generation coming from clean sources, is a differential that can make the country a player in the new global energy geopolitics.

The Ten Year Plan of the Energy Research Office (EPE) predicts that the share of wind and solar energy sources in supply should increase from 11% to 16% by 2030, while thermoelectric power should fall from 14% to 8%.

Distributed generation is the essence of decentralization in the Brazilian electricity sector. Because of its expansion, the traditional centralized generation model is undergoing a significant change. The power system is becoming more complex, and the digitization of electrical systems through the adoption of new technologies, systems, equipment, devices and data intelligence makes the system more efficient and reliable.

The new regulatory framework for the electrical sector is under debate in the country. According to the proposal, all consumers will be able to choose the free energy market, where they can select their electricity supplier, paying the local distributor for using its infrastructure only. They can also choose the energy source (hydro, wind, solar) and negotiate prices and commercial conditions.

Accordingly, Administrative Ordinance 50/2022 published by the Ministry of Mining & Energy will allow, as of January 2024, all medium- and high-voltage consumers (Group A), to be eligible for the free market.

Electric mobility is another important element of the energy transition. The electric and hybrid car fleet is expanding rapidly worldwide. There are currently 24.8 million electric cars, according to International Energy Agency (IEA) data, which predicts that this fleet could reach 230 million by the end of the decade.

The smart city concept is also expected to take shape. According to UN data, the planet will have 9.7 billion inhabitants in 30 years, with 68% of them living in cities. The UN also states that population and urban sprawl is already creating sustainability challenges that could jeopardize the fulfillment of citizens' needs and the achievement of SDGs (Sustainable Development Goals).

Smart cities perfectly depict the concept of digitization in the power segment since they use information and communication technology to produce more seamless, conscientious and sustainable consumption.

The energy transition is founded on decarbonization, decentralization and digitalization

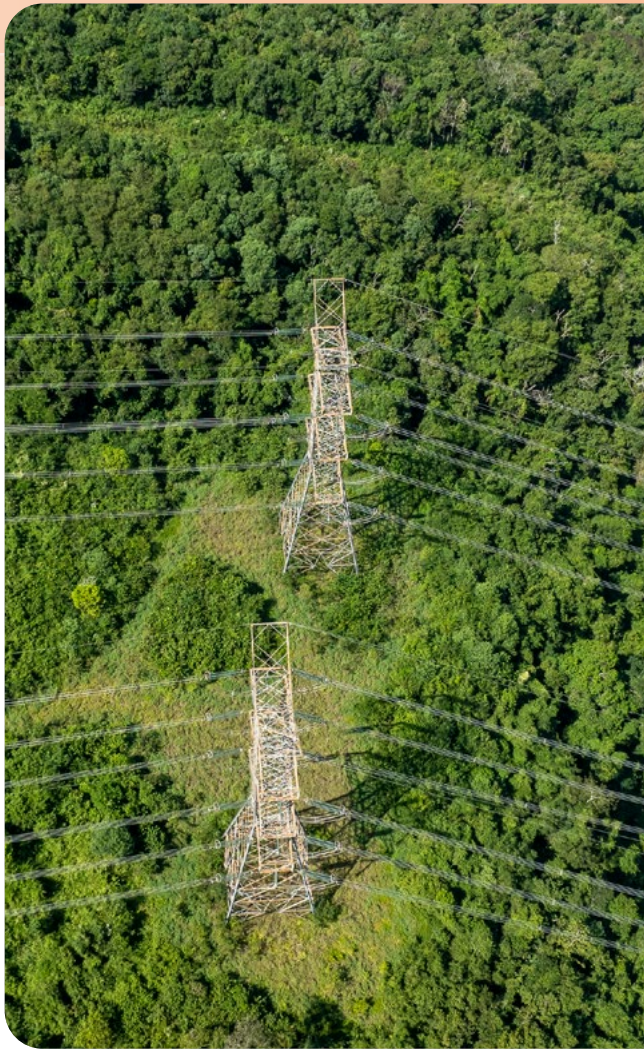
2030 Vision

Strategic planning

Launched in 2022, the 2030 Vision sets out the strategic plan for the coming years by focusing on electric power and prioritizing the decarbonization of the energy generation matrix and investments in technology and infrastructure.

These commitments gained even more momentum when the Company transformed into a corporation, making Copel more competitive in an evolving sector with increasingly fierce competition. Copel accordingly obtained approval from the Ministries of Mines and Energy and Finance to renew the concession contracts of its three largest generating plants ahead of schedule: Governador Bento Munhoz da Rocha Netto (Foz do Areia), Governador Ney Aminthas de Barros Braga (Segredo) and Governador José Richa (Salto Caxias). The Foz da Areia concession was due to expire in 2024, whereupon the concession authority would trigger a new bidding process for the subsequent concession period, in line with industry regulations. Copel's corporate reorganization facilitated the early renewal of the concession against a concession bonus payment to the government. Contracts for Segredo and Salto Caxias were due to expire in 2032 and 2033, respectively, reverting to public ownership upon expiration. These three generation complexes represent 60% of Copel's installed generation capacity, with a total output of 4,176 megawatts (MW), accounting for a significant portion of our revenues over the coming decades.

In line with our decarbonization commitment, in December 2023 we proceeded with the disinvestment process of the Araucária Gas Power Plant (UEGA), where Copel holds an 81.2% interest. In 2021, Copel had declared its intent to divest from fossil fuel assets under its carbon neutrality plan, aligning with our ambition to become a 100% renewable energy company. Copel is also planning to divest its 51% stake in Companhia Paranaense de Gás (Compagas), a gas utility in Paraná. The 30-year extension of Compagas' operating concession in Paraná was a strategic factor in making this asset more attractive. Copel's interest is expected to be sold in 2024.



Commitment to decarbonization: divesting out of fossil fuel assets is part of Copel's Neutrality Plan

Toward Net Zero and progress in ESG

Finalizing these divestments out of nonrenewable energy sources crucially supports Copel's commitment to achieving Net Zero by 2030 for assets under our operational control.

In strategic planning, we also factor Copel's material topics in the decision-making process. Examples of material topics that have been integrated into the goals outlined in our future vision include decarbonization (climate change), enhancing gender diversity in leadership (people management), and obtaining WELL[1] certification for our operations (environmental commitment, people management, and health, well-being, and safety).

We continue to pursue new opportunities in distribution assets. Our goal is to position Copel as one of Brazil's leading integrated energy and 100% renewable groups. At present, the Company ranks among Brazil's leading energy sector players, boasting a 3.5%[2] share in generation and a 6.2%[3] share in distribution. Copel has pioneered the free market and remained one of the top traders in this segment in 2023.

[1] Launched by the International WELL Building Institute (IWBI) and managed in partnership with the Green Building Certification Institute (GBCI), WELL certification is based on monitoring the impacts of developments on the health and well-being of employees.
[2] Includes the consolidated installed capacity of Copel Geração e Transmissão. Only Brazil's portion in the Itaipu Plant is counted.
[3] Calculated based on Monthly Power Consumption (EPE).

The strategic planning also considers Copel's materiality in its decision-making process

Copel's conversion to a corporation

On August 11, 2023, the State Government of Paraná finalized the dilution of its stake in Copel through stock offerings on the São Paulo Stock Exchange (B3). As a result, it ceased to be a controlling shareholder, enabling Copel's transition to a publicly-traded corporation.

Completed in a nine-month timeframe, this transaction raised BRL 5.1 billion, with BRL 2.03 billion allocated to Copel to cover investment commitments and to pay a bonus to the federal government for the renewal of concessions for our three main hydroelectric plants: Governador Bento Munhoz da Rocha Netto (Foz do Areia), Governador Ney Aminthas de Barros Braga (Segredo) and Governador José Richa (Salto Caxias).

Maintaining previous assets and without the constraints of government ownership, Copel will become more competitive.

A contemporary corporate management model better supports Copel's operations as an integrated electricity provider. The State Government of Paraná remains a key shareholder, underscoring its commitment to continuous investment in quality of service, while also safeguarding shareholder interests (*see more on page 47*). Copel now has greater autonomy in strategic decision-making, greater flexibility in talent acquisition, retention, and development, and streamlined procurement processes for goods and services.

Importantly, the privatization has not altered the electricity rate-setting structure for consumers, as rate adjustment percentages and timing continue to be determined by ANEEL The Brazilian National Electricity Regulatory Agency (ANEEL). Similarly, the privatization will not affect social programs, such as social rates and nighttime irrigation rates, as public policies remain under the auspices of government, with Copel serving as the program operator.

Thanks to its transformation into a corporation, Copel gains more autonomy, flexibility and agility

Capital allocation

The company continues to invest significantly in the expansion and upgrading of its assets. The investment program approved by the Board of Directors allocated BRL 2.25 billion in 2023, with a focus on distribution investments, which amassed BRL 1.97 billion.

Investment proposals are analyzed by the Investment and Innovation Committee, an independent advisory body that provides recommendations to the Board of Directors.

BRL 2.43 billion was approved for 2024, an 8% increase on the previous year. Distribution remains the primary investment focus, with BRL 2.09 billion directed towards end consumers. Priorities include modernizing and expanding infrastructure, aimed at delivering enhanced quality of service. We will invest BRL 265 million in generation and transmission infrastructure improvements.

Copel has also greenlit the creation of a corporate venture capital fund focused on energy tech startups specializing in alternative renewables, such as green hydrogen, process efficiency, asset and facility management, smart cities, and electric mobility. The Copel Ventures I fund will have BRL 150 million available for investment over a decade.

Investment at a glance

Innovation

BRL 150 million
held in the Copel Venture fund—to be invested over 10 years in energytechs

Distribution

BRL 1.8 billion
from 2019 to 2023 in Paraná Trifásico. The Program is renewing the company's assets while helping to build a more modern and reliable rural network.

BRL 820 million
in our Smart Grid program by 2025, which is automating our distribution systems to reduce outage time and enable real-time monitoring.

These funds are earmarked for the **modernization and expansion of substations, power lines, and systems,** to strengthen the infrastructure.

Generation and Transmission

BRL 265 million
in maintenance and improvement for transmission systems and power plants.

Business Model

INPUTS

NATURAL
> Use of water resources to generate **23,769.47 GWh** of electricity
> **94%** of the generator complex uses renewable sources

SOCIAL AND RELATIONSHIPS
> **5,101,084** consumers
> Various relationship channels with stakeholders:
* Social Programs
* Corporate volunteering
* Engagement with the community

HUMAN
> **5,804** direct employees
> **8,708** outsourced workers

INTELLECTUAL
> **Investment** in staff training and development
> **BRL 40.5 million** invested in R&D

INFRASTRUCTURE
> **26** hydropower plants
> **47** wind clusters
> **2** thermopower plants and **1** solar farm
> **9,685 km** of transmission lines »
Substations with a transformation capacity of 20,612 MVA

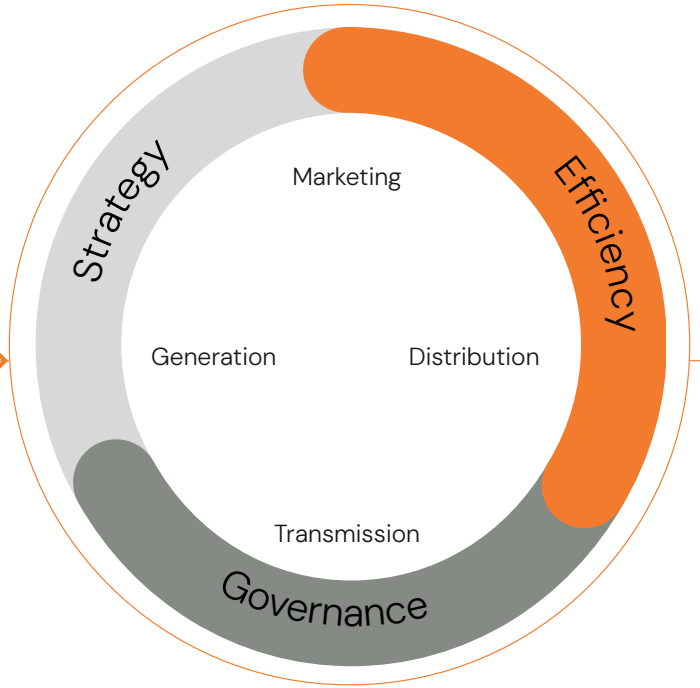
FINANCIAL
> **BRL 3.5** billion invested

Mission

Provide energy and solutions for sustainable development

Vision

To be an industry-leading player in our business segments while creating sustainable value



STAKEHOLDERS

EMPLOYEES
PARTNERS AND SUPPLIERS
SHAREHOLDERS AND INVESTORS
CUSTOMERS
REGULATORY BODIES AND SECTOR ENTITIES
SOCIETY

OUTCOMES

NATURAL
> GHG emissions:
* Scope 1: 81,690.26 tCO_2e
* Scope 2: 148,798.66 tCO_2e

SOCIAL AND RELATIONSHIPS
> **1,854 hours** of volunteering
> Abradee Satisfaction Survey - Residential Customer - 80.2%
> DER 112.93
> FER 4.81

HUMAN
> **BRL 1,878.33 million** realized in personnel and administrative

INTELLECTUAL
> Copel Volt: The 2nd edition had over 200 participants
> Copel Ventures I allocated BRL 150 million to investments

INFRASTRUCTURE
> **92%** uptime of generator complex
> **2.6%** transmission losses
> **9.0%** distribution losses
> DEC 7.86
> FEC 5.21

FINANCIAL
> **BRL 2.33 billion** in net income
> **BRL 3.5 billion** in investment
> **BRL 21.48 billion**in net operating revenue

GRI 2-12, 2-13

Sustainability Management

The Board of Directors (CAD) is the highest authority responsible for making strategic decisions, approving, and monitoring policies related to sustainability, climate change, people management, occupational health and safety, among other ESG topics, such as sustainable supplying, private social investment, eco-efficiency and human rights. The Board of Directors (CAD) does not designate a single senior executive to manage impacts but instead distributes responsibility across various departments and subsidiaries, which have specialized socio-environmental management teams.

The Sustainable Development Committee (CDS) and the People Committee (CDG), independent advisory and permanent bodies, assist the Board of Directors (CAD) in these matters.

The Holding Company defines the corporate guidelines and embeds them through policies and rules that apply to all company departments, including its subsidiaries. Every operation requires different types of action and monitoring, aiming at socio-environmental compliance and adherence to the best market practices. Each subsidiary has its own processes to assertively address specific socio-environmental issues related to the business.

The sustainability performance is assessed internally and by specialized market assessments, which enable a comparison with other companies. Among these assessments are the B3's Sustainability Index of B3 (ISE), the S&P Global's Corporate Sustainability Assessment (CSA)[1] and the CDP[2] climate change questionnaire. The results of these assessments are used as a basis for ongoing improvement of ESG-related processes.

Since the launch of Copel's 2030 Vision in 2022, goals related to environmental, social, and governance challenges have been part of the strategic agenda, such as reducing Greenhouse Gas (GHG) emissions and offsetting residual emissions by 2030 for the company's assets under operational control (Scope 1), commitment to integrity, and advancements in issues of diversity and customer satisfaction.

Greenlit by the Board of Directors in 2021, the Copel Neutrality Plan branched out into Climate Adaptation Plans for Copel DIS and Copel GeT, studies that deepen the understanding of climate change impacts on the Company through 2050 (see more on *page 98*). Policies on Biodiversity and Stakeholder Engagement were also approved, reinforcing the guidelines for managing these topics.

[1] S&P Global is one of the world's leading rating and financial analysis agencies, assessing how companies manage and respond to environmental, social and governance challenges.
[2] The CDP is an independent international organization that operates a global environmental disclosure system. Copel responds to questionnaires about climate and water security.

Pioneering and engagement

It should be noted that Copel has been blazing a trail in these ESG topics, having been the first company in the sector in Brazil to produce an Environmental Impact Report for a generation project in 1987, and the first to sign up to the UN Global Compact in 2000.

Copel also strives to disseminate the UN's 2030 Agenda and to implement the Sustainable Development Goals (SDGs). The company is also part of the Net Zero Ambition Movement, created by the Global Compact to enable large companies to work together on initiatives to reduce greenhouse gas emissions by 2030.

We subscribed to the Brazilian Business Commitment to Biodiversity in 2023, launched by the Brazilian Business Council for Sustainable Development (CEBDS).

Key corporate ESG policies

- **Sustainability**
- **Biodiversity**
- **Stakeholder Engagement**
- **Human Rights**
- **People Management**
- **Private Social Investment**
- **Environmental**
- **Climate Change**
- **Occupational Health & Safety**
- **Corporate Governance**
- **Integrity**
- **Information and Cyber Security**

Voluntary Commitments	Adoption
United Nations Global Compact	07.12.2000
Paraná Council of Corporate Social Responsibility	12.02.2004
Women's Empowerment Principles (UN)	05.27.2010
Business Contribution to Foster a Green and Inclusive Economy	05.11.2012
Call to Action for Governments to Fight Corruption	12.02.2014
Business Pact for Integrity and against Corruption	07.22.2015
National "We Can" Movement (Nós Podemos)	03.08.2016
Network of Companies for Learning and Eradication of Child Labor	11.26.2016
Principles for Responsible Management Education (PRME)	11.16.2018
Business for Climate Positioning - CEBDS	08.31.2021
Net Zero Ambition Movement	04.12.2022
100% Transparency Movement	10.11.2022
Stakeholder Capitalism Metrics (of the World Economic Forum - WEF)	05.10.2022
Brazilian Business Commitment to Biodiversity, launched by the Brazilian Business Council for Sustainable Development (CEBDS)	06.16.2023

ESG agenda goals

Corporate					
Disclosure	**Unit**	**2023 Performance**	**Goal 2025**	**Goal 2027**	**Goal 2030**
100% renewable generation assets	%	94.07	100	100	100
EV light fleet (hybrid)	%	17	15	30	50
Administrative centers with WELL Certification[1]	%	0	30	50	100
Fatalities among direct employees	No.	1	0	0	0
Fatalities among outsourced workers	No.	4	0	0	0
Performance assessment	%	97.81	100	100	100
Employees trained in health and safety (operations with significant risks)	%	100	100	100	100
Retention rate of women post-pregnancy	%	93.94	100	100	100
% variable remuneration indexed to ESG performance[2]	%	30	30	30	30
Women in senior leadership (2022 baseline)[3][4]	%	16.67[4]	40% increase in women in senior leadership roles by 2025		
Employees trained in anti-corruption, cyber security and Code of Conduct	%	94.54	100	100	100
Reduction in Scope 1 emissions (2017 baseline)	%	61.82	20	50	100

[1] Units being adapted for certification in 2025.
[2] The Performance Award (PPD), a short-term variable compensation program related to objectives and goals, has 30% of its funds indexed to ESG criteria. There are three related indicators: the ESG Indicator (2030 Neutrality Plan + CSA Performance), the Occupational Health and Safety indicator (reductive), and the Internal Controls indicator (reductive).
[3] Senior Leadership includes positions on the Board of Directors, Executive Board, and level 6 (Managing Directors and Executive Board Assistants).
[4] Copel currently has 16.67% of women in senior leadership positions, with the goal of increasing their presence to 40% by 2025 compared to the number of women in 2022.

ESG agenda goals

Copel Distribuição					
Disclosure	**Unit**	**2023 target**	**2023 performance**	**2025 target**	**2030 target**
ISO 14001 certification in the distribution infrastructure provisioning process	Yes/No	Yes	🔴 No	Yes	Yes
Energy Efficiency Program (PEE) - Energy saved	MWh	19,293.80	🟢 36,120.69	16,345.66	7,401.81
Employees trained in health and safety (operations with significant risks)	%	100	🟢 100	100	100
Abradee Customer Satisfaction Rate (ISQP)[1]	Points	77	🟢 80.2	80	85

Copel Geração e Transmissão					
Disclosure	**Unit**	**Goal 2023**	**2023 Performance**	**Goal 2025**	**Goal 2030**
Native vegetation coverage in reservoir APPs	%	82.0	🟢 85.67	84.0	87.0
Cultivar Energia Program – beneficiary families	No.	280	🟢 289	350	600
Waste disposal rate of operational units	%	76	🔴 63.4	82	85

[1] Perceived Quality Satisfaction Rate – Abradee.

🔴 Target not met 🟢 Target met

ESG Journey at Copel – continuous evolution

Certain milestones on the path to sustainability have brought even more maturity to this work

1987

- Publishes environmental impact report for the Segredo Hydroelectric Plant, a first in the electric sector

1999

- Constructs the first wind farm in the south of Brazil, in Palmas (PR)

2000

- Becomes the first Brazilian electric utility to join the UN Global Compact

2004

- Launches the corporate volunteering program EletriCidadania

2005

- Enters the Business Sustainability Index (ISE) for the first time, a listing maintained to this day

2009

- Develops its first greenhouse gas inventory and becomes a founding member of the Brazilian GHG Protocol program

2013

- Implements the Cultivar Energia program for community gardens
- Builds 7 wind farms in Rio Grande do Norte

2016

- Signs up to the UN's 2030 Agenda

2017

- Establishes the Governance, Risk, and Compliance Board (currently the Deputy Board of Governance, Risk and Compliance)

2018

- Builds Brazil's first electrical railway
- Participates in the prioritization of the power sector SDGs
- Restructuring of the Reporting Channel

2020

- Awarded the Pro-Ethics Seal from CGU
- Awarded concept B in the CDP climate change questionnaire
- Participates in the first class of the Ambition for SDGs program, a global initiative of the UN Global Compact aimed at accelerating the implementation of the 2030 Agenda
- Publishes Human Rights Policy

2021

- Drafts its Carbon Neutrality Plan
- Migration to Level 2 of governance at B3
- Sets up Sustainability Development and Investment and Innovation Committee
- Increases number of NCI representatives on the Board of Directors
- Inserts ESG goals into the variable remuneration

2022

- Reviews Code of Conduct
- Publishes Private Social Investment Policy
- Launches Copel's 2030 Vision with ESG goals
- Joins the 100% Transparency Movement and the Net Zero Ambition Movement – UN Global Compact
- Participates in the third class of the Ambition for SDGs program, a global initiative of the UN Global Compact
- Signs up to Stakeholder Capitalism Metrics, following World Economic Forum guidelines
- Begins partnership with UN Women on the Empowering Refugees project in Curitiba

2023

- Launches the Aluno Energia Program, an initiative linked to SDG 4 – Quality Education
- Creates and publishes the Climate Adaptation Plans for Wholly-Owned Subsidiaries
- Formalizes the Commitment to Biodiversity with the CEBDS
- Awarded A- rating in the CDP climate change questionnaire
- Publishes the Biodiversity and Stakeholder Engagement policies

GRI 2-29, GRI G4-EU19

Stakeholder engagement

Copel actively engages with stakeholders, and we have embedded sustainability principles into our mission, vision, and values. The goal in our engagement efforts is to strengthen relationships and capture stakeholder needs and insights that can inform improvements to our approach across various topics. Each of our subsidiaries implements stakeholder relationship practices suited to the nature of its business, guided by our corporate policies and Code of Conduct.

In 2023, Copel issued a Stakeholder Engagement Policy, as part of its Sustainability Policy, which was approved by the Board of Directors. This policy guides the process of identifying and reviewing, as necessary, our stakeholders list, and calls on policy users to respect stakeholder's unique characteristics, expectations, needs, and level of engagement across all processes. The policy is anchored in the AA1000 Stakeholder Engagement Standard, our commitments to the United Nations Global Compact 2030 Agenda, and best practices in corporate governance.

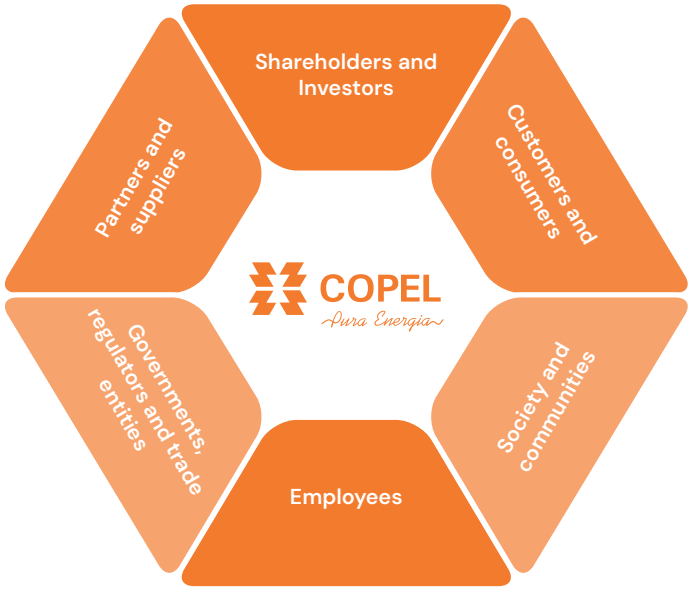
Stakeholders were identified and ranked on criteria such as impact, influence, dependence, power dynamics, closeness of relationship, and representation. The approach ensures a broad view of our stakeholder relationships and takes account of the needs of our full spectrum of stakeholders, including distribution and trading customers (free market), investors, communities, employees and outsourced workers, suppliers, and others, such as regulators and trade associations.

It should be noted that Copel seeks to absorb feedback and adapt to stakeholder needs and expectations through various means, including public surveys, environmental impact assessments and diverse communication strategies.

Copel maintains a continuous flow of stakeholder communication and feedback via multiple channels through which we communicate our compliance with stakeholder requirements, manage feedback and suggestions, and maintain ongoing communication with stakeholders. Our Sustainability Portal is also an important platform for sharing up-to-date information about our key initiatives.

Mapping our stakeholders

All those who influence and/or are influenced by the Company



GRI 2-29

Approach to stakeholder engagement

SHAREHOLDERS AND INVESTORS

As the holders of the Company's capital, the focus turns to the priority of investments, economic growth, sustainable development and the business longevity.

In return, Copel must dedicate itself to generating value and returns for these stakeholders.

The relationship takes place mostly through Investor Relations, which has its own corporate policy, dedicated phone lines, email and governance practices aligned with the best market practices.

CUSTOMERS AND CONSUMERS

In addition to influencing the perception and reputation of the business, they hold the power to decide on the mode of consumption and are directly impacted by the services and products.

Copel is committed to providing clean energy, quality services, quicker crew responses and fair rates.

The relationship is especially strong with Copel Distribuição and Copel Mercado Livre, which offer virtual and in-person channels, dedicated telephone numbers, email, and mobile device applications (*see more on page 129*).

EMPLOYEES

A stakeholder that impacts and is impacted by the Company, involving both direct employees and outsourced workers.

People management is covered in this report, starting on *page 144*.

Copel adopts different communication channels to get closer to its employees and keep them informed, such as the internal People Management site; to identify their needs and expectations, such as the Great Place to Work (GPTW) Survey; and to allow freedom and confidentiality in communications, such as the Communication Channels (Cadam, COE, Ombudsman and Reporting Channel – *see page 59*).

SOCIETY AND COMMUNITIES

Comprising local communities and the general population, it represents the environment and can be directly or indirectly affected by the Company's operations.

Copel is concerned with the installation and operation of its ventures, conducting environmental, social and economic studies as part of the licensing process. These underpin mitigation and offsetting programs for potential negative externalities and the enhancement of positive impacts (*see more on page 119*).

The relationship is especially strong with wholly-owned subsidiaries, which offer virtual and in-person channels, dedicated telephone numbers, email, and mobile device applications.

PARTNERS AND SUPPLIERS

A stakeholder that provides raw materials, services or technical support and whose performance can directly impact the quality and efficiency of operations.

This constant relationship occurs through the supplies areas and each contract's managers. In addition to direct contacts with buyers and managers, the Company provides virtual and in-person channels, dedicated telephone numbers, email, and pages on the website and on Copel's Sustainability Portal, with key information for these stakeholders (*see more on page 139*).

GOVERNMENTS, REGULATORS AND TRADE ENTITIES

Responsible for establishing laws, regulations, and policies, they affect the operation and compliance of the Company.

Copel maintains regular contact with regulatory bodies and public hearings and consultations, inspection visits, and guidance to ensure operational compliance.

The relationship mainly occurs through the official channels of governmental, sectoral and company entities.

RELATIONSHIP CHANNELS

To learn about the communication channels between Copel and the company's stakeholders, visit the Copel *Sustainability Portal*.

Copel and the SGDs

Copel's sustainable development work is based on the voluntary commitments undertaken, especially in the 2030 Agenda - Transforming our world, of the United Nations (UN) Global Compact.

The Company prioritizes the Sustainable Development Goals (SDGs) related to the Brazilian Electric Sector (SEB), and also includes SDG 4, committed to ensuring inclusive and equitable quality education and promoting lifelong learning opportunities. See the complete list of SDGs prioritized by Copel and their respective goals opposite.

APPENDICES
See the complete list of goals and Copel's performance in each of the SDGs. (*page 216*)

Priority SDGs of Copel and their respective goals

4. QUALITY EDUCATION

- 4.3 - By 2030, ensure equal access and retention in quality vocational and higher education, free of charge or at an affordable cost, irrespective of gender, race, income, location, and other factors.

7. AFFORDABLE AND CLEAN ENERGY

- 7.1 - By 2030, ensure universal access to affordable, reliable and modern energy services.
- 7.2 - Substantially increase the share of renewable energy in the global energy mix by 2030.
- 7.3 - Increase the rate of improvement in energy efficiency of the Brazilian economy by 2030.

8. DECENT WORK AND ECONOMIC GROWTH

- 8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services.

9. INDUSTRY, INNOVATION AND INFRASTRUCTURE

- 9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.
- 9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.

11. SUSTAINABLE CITIES AND COMMUNITIES

- 11.1 - Ensure everyone has access to safe, suitable and affordable housing and basic services and urbanize slums by 2030.
- 11.4 Address the need for bigger efforts to protect the world's cultural and natural heritage.

13. CLIMATE ACTION

- 13.2 Integrate climate change measures into national policies, strategies and planning.

EducaODS Program

The Copel initiative aims to consolidate actions in aid of fulfilling the 2030 Agenda and the voluntary commitments it has made, while linking them to its Strategic Framework and organizational values.

The EducaODS Program is aligned with the company's strategy and purposes, such as the strategic goal of 'expanding and disseminating best ESG practices and strengthening risk management, internal controls, and compliance".

All subsidiaries undertake actions to this end, including the dissemination of knowledge and raising awareness among stakeholders about Copel's relationship with the SDGs and sustainable development. EducaODS also connects with Copel's corporate sustainability programs such as those on Climate Change, Eco-efficiency, Waste Management, Cultivar Energia (Community Gardens), Diversity, Accessibility, and EletriCidadania (Corporate Volunteering).

SDGs in Practice

Launched in 2023, the Copel SDGs in Practice Seminar consists of events aimed at disseminating the company's commitment to the Sustainable Development Goals (SDGs) of the 2030 Agenda – Transforming our world, from the United Nations (UN).

The initiative seeks to raise awareness among our employees, partners, suppliers, customers, and the general public about the importance of practices related to the SDGs. At each meeting, solid connections are established between the company's day-to-day activities and the SDGs, demonstrating how each action can contribute to a more sustainable future.

In 2023, the main Copel cases and external cases from large companies with established SDG initiatives were presented and discussed. Participants also had the opportunity to attend lectures by two leading experts on the topic in Brazil.

Conceived by Copel's sustainability practice, the Seminar showed significant results and contributed to the dissemination of practices focused on the ambition to achieve the priority SDG targets for Copel. The Copel SDGs in Practice Seminar enters the company's agenda as a resource for promoting sustainable development.

Engagement

The four meetings of edition 1 were attended by 667 people.

The events are recorded and made available on the Copel *Sustainability Portal*.

By the end of 2023, the seminar content had 6,300 views.

See the Sustainability Energy podcast *here*.

3 Corporate Governance

GRI 3-3, 2-4, 2-9, 2-11, 2-12, 2-13

Leadership Structure

SDGs

Capitals

The Paraná State Government is no longer the Company's controller but is now an important shareholder

Copel adopts the Code of Best Practices and Governance of the Brazilian Institute of Corporate Governance (IBGC) and has been part of Level 2 governance at B3 (São Paulo Stock Exchange) since 2021. We also observe the requirements of the U.S. Securities and Exchange Commission (SEC), the New York stock exchange, and Brazilian legal and regulatory requirements.

Our governance structure consists of the General Stockholders' Meeting, the Supervisory Board, and beneath them the parent company's Board of Directors (CAD), its advisory committees, and the Full Executive Board. This system also incorporates the governance of the Wholly-Owned Subsidiaries.

The Board of Directors (CAD) is a collegiate body for strategic decision-making, which meets monthly and consists of nine members elected at the General Meeting. The 2023-2025 term was approved by the Annual General Meeting in April 2023. The composition as of 12/31/2023 included 88.9% independent members, the exception being the employee representative, thus exceeding the 25% minimum stipulated in the Corporate Bylaws. Directors serve a renewable term of two years.

Copel's Corporate Bylaws have forbidden since 1994 the possibility of the positions of Chairman of the Board of Directors and CEO or top executive of the Company to be accumulated by the same person. There are also no executives in the current composition of the Board of Directors (CAD).

The Executive Board is composed of five executive officers and three alternates, elected by the Board, who meet fortnightly.

The Paraná State Government used to be the Company's controller but is now an important shareholder, holding a total of 15.9% of Copel's shares (according to the limit applied to all shareholders, the voting right is limited to 10%). The Corporate Bylaws provide for a Golden Share, a special class of share, which establishes the situations where the State Government has veto rights. This instrument was created to protect the interests of Paraná State in maintaining the quality of the energy distribution service.

The Board of Directors (CAD) is responsible for the effectiveness of management processes, steering the Company's business in accordance with the Corporate Bylaws. The advisory committees meet monthly, and the Board of Directors receives a report on the issues related to each subject for their knowledge (*learn about the committees on page 53*).

Conversion into a corporation

After the public share offering conducted by the Paraná State Government and Copel, which was one of the largest IPOs in the country and the largest in the energy sector that year, the Company became a publicly traded corporation with dispersed capital and no controlling shareholder, known as a corporation. The process led to organizational and governance adjustments to fit the new model.

Following analysis and studies in collaboration with independent consultants, Copel established a new strategic role for our parent company while ensuring individual business units are able to independently manage their operations and results (*see more on page 50*). In addition to the challenges posed by the energy sector transformation and more frequent extreme weather events, other issues were on the agenda of the Board of Directors (CAD) meetings in 2023, such as evaluating structural adjustments and the formatting of the Voluntary Severance Plan (PDV).

As a company listed on the São Paulo (B3), New York (NYSE) and Madrid (Latibex) stock exchanges, Copel has a solid governance structure that has facilitated our corporate transformation and ensures the actions of our senior management and our strategic planning are aligned with the interests of the Company and stakeholders. Our governance processes have also been refined in recent years with the implementation of a series of best practices.

Copel has established a new strategic role for its parent company while ensuring the independence of operational results management

Governance highlights include:

- New Corporate Bylaws with voting power limiters and poison pills, now the Company is a corporation.
- Golden share (a special class of share held exclusively by the Paraná State Government) to ensure responsibility for investments in energy distribution in Paraná state.
- Eight of the nine Board of Directors' members are independent—the exception is the employee representative. No Board of Directors (CAD) members hold executive roles in the Company either.
- All Board of Directors' members are elected by the general shareholders meeting, with separate voting rights for shareholders holding preferred shares that meet the requirements set forth in Art. 141 (4) of Brazilian Corporation Law.
- Four advisory committees to the Board of Directors (CAD), all statutory. The most recent, established in 2023, is the People Committee.

GRI 2-10

Nominating directors

The selection for governance positions at Copel is guided by the Nominating Policy, which requires that appointed professionals have proven experience and a profile compatible with the responsibilities of the position. Among the criteria evaluated are academic background, relevant industry experience, and potential simultaneous occupations of the candidates. The Nominating Policy and the Corporate Bylaws also emphasize the inclusion of diversity in terms of gender, religion, age, and race.

The Board of Directors (CAD) members hold various significant positions and commitments, both internal and external to the Company.

The Board of Directors (CAD) consists of nine members, including one woman and a black person.

The People Committee, an advisory body to the shareholders, verifies the compliance of the process, and every candidate is submitted to a verification of requirements and the absence of impediments defined by law. This verification is performed by the Deputy Governance, Risk, and Compliance Board.

Members of the Copel Board of Directors (Holding Company)[1]	Independent	Participation in Committees[2]	Participation in other boards	Average tenure (years)
Marcel Martins Malczewski (chairman)	✓	-	-	4
Marco Antônio Barbosa Cândido (executive secretary)	✓	CAE CII (coord.)	3	5
Carlos Biedermann	✓	CAE (coord.)	3	4
Fernando Tadeu Perez	✓	CDG (coord.)	-	0
Fausto Augusto de Souza (employee representative)		CDS		2
Lucia Maria Martins Casasanta	✓	CDS (coord.)	3	0
Jacildo Lara Martins	✓	-	-	0
Geraldo Corrêa de Lyra Junior	✓	CII	-	0
Marcelo Souza Monteiro	✓	CII CDG	1	0

[1] Position at 12/31/2023.
[2] Committee key: Statutory Audit Committee (CAE); Investment & Innovation Committee (CII), Sustainable Development Committee (CDS) and People Committee (CDG).

Board of Directors

Member profile

88.9%
of directors are independent

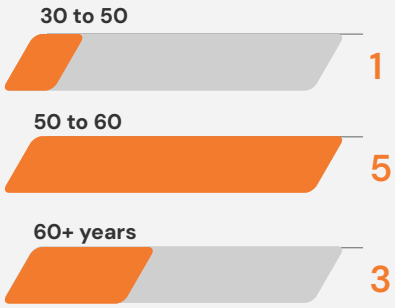
99.5%
average attendance at Board meetings

Gender

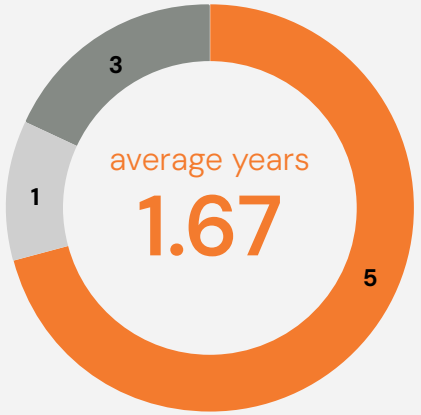
MEN
89%

WOMEN
11%

Age group (unit)



Time on Board (unit)



up to 1 year · 1 to 3 years · 3+ years

See complete biographies for each board member

Holding company's strategic role

Following the corporate model with no defined controller, the Holding company's role was also rethought. Supported by an external consultancy firm, Management reflected on opportunities to gain efficiency and agility in managing the Company in an increasingly competitive sector.
Copel defined its positioning as a strategic Holding company with an optimal structure that supports its businesses. The Holding company accordingly sets long-term guidelines, manages the asset portfolio, defines policies, and monitors the performance of financial, operational and process indicators. The businesses operate with autonomy and accountability for managing operational results, which include net revenue, operating costs and expenses, and EBITDA.

New Corporate Bylaws

The amendment to Copel's Corporate Bylaws was approved in July 2023 and, in addition to the Golden Share instrument granted to the Paraná State Government, imposed limits on shareholder voting power to a maximum of 10% of the total votes and a statutory provision that protects share dispersion and NCI interests (poison pill). The document also excluded provisions related to state-owned enterprise legislation. See *Copel's new Corporate Bylaws.*

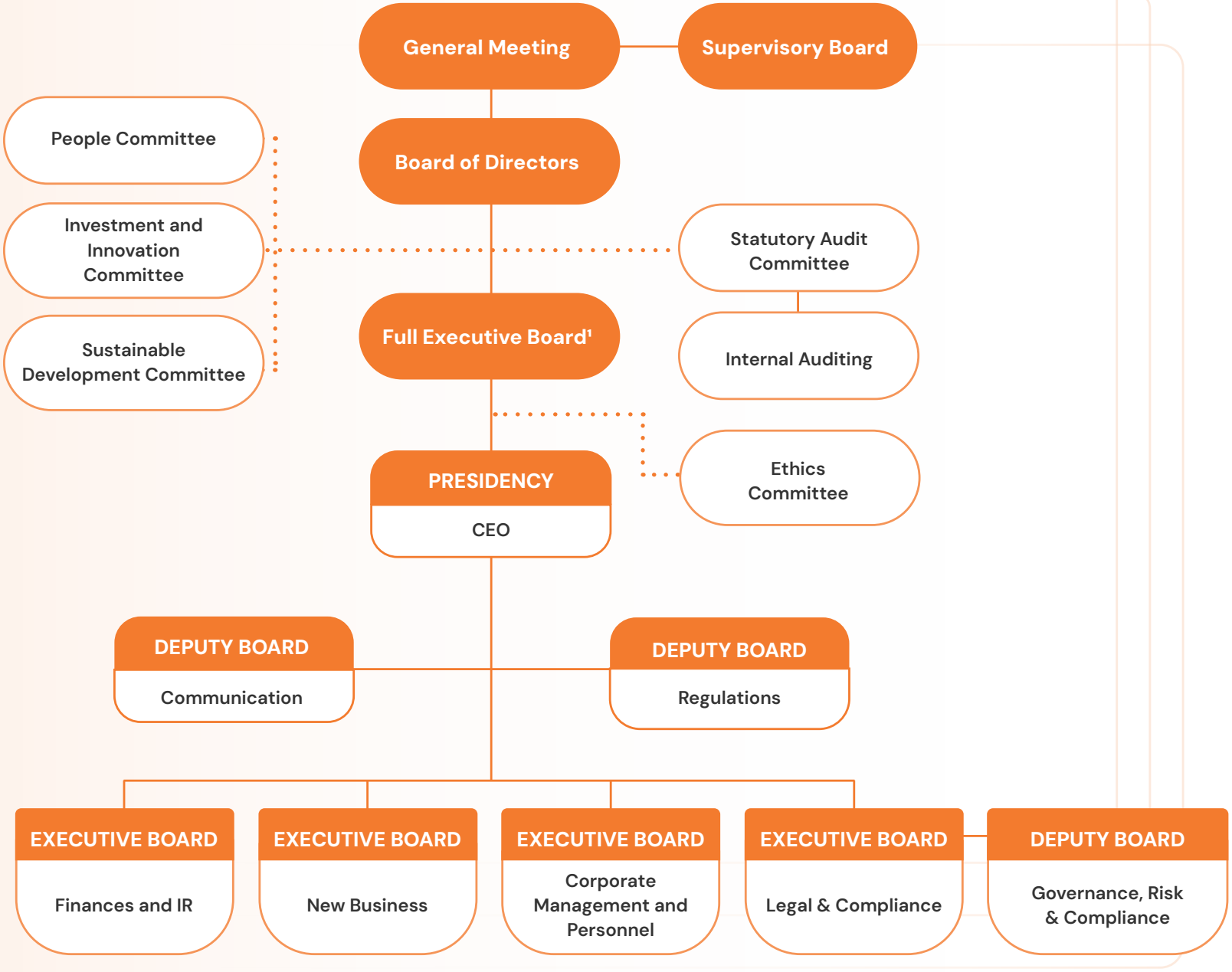
Golden share

The special class of shares exclusively owned by the Paraná State Government affords it the right to veto resolutions of the General Shareholders' Meeting in certain situations stipulated in the Corporate Bylaws:

- If Copel Distribuição's Annual Investment Plan fails to achieve at least 2.0x the Regulatory Reintegration Quota (QRR) of the same rate-setting review cycle or, cumulatively, through the end of the concession.
- Change to the Company's name.
- Moving the company's headquarters outside Paraná state.

See more about Copel's transformation into a corporation on *page 47*.

Organizational structure*



*Organizational structure in place at 12/31/2023.
¹ Full Executive Board: Statutory body composed of the acting officers of Copel Holding and its wholly-owned subsidiaries.

Evolution of organization structure

A review of Copel's organizational structure has revealed opportunities to improve and strengthen the organizational model. Due to synergies between the topics and process efficiency, in November 2023, it was decided that the legal and governance and compliance departments would be merged. The Governance, Risk and Compliance Division consequently became a Deputy Board, reporting to Legal and Compliance, with duties including strengthening risk mapping, expanding internal controls to be consistent with a private company, and evolving governance with direct support and involvement from Legal.

Additionally, a Deputy Regulation Officer function, reporting directly to the CEO, has been established to streamline processes and implement a more strategic approach to regulatory matters. The new organizational structure will enhance our ability to identify new business opportunities and bolster Copel's industry leadership (*see organizational chart below*).

These changes are important for the expansion and longevity of Copel's business, ensuring a more agile and efficient decision-making process.

See the Executive Board members

GRI 2-12

Renewal of advisory committees

The Board of Directors has 4 (four) advisory committees - all statutory. The composition of these bodies was updated following the election of the board members for the 2023-2025 term.

The Sustainable Development Committee (CDS) boasts an external expert to inform the debate on apposite topics, in addition to two members of the Board of Directors.

In 2023, the People Committee (CDG) was established to inform discussions on cultural transformation and the Company's transition to a private enterprise, and processes such as the appointment and evaluation of directors, succession planning and compensation strategy. This committee incorporated the responsibilities and expertise of the Nomination and Assessment Committee (CIA), which was dissolved.

With the dispersal of shares and now without a controlling shareholder, the Minority Shareholders Committee has also been dissolved.

Statutory Audit Committee (CAE)

The body is independent and has responsibilities, duties and powers that follow the laws of Brazil and the United States, including the Sarbanes-Oxley Act (SOx), as well as supervising financial statements, compliance with legal requirements, independent audits and the efficiency of the internal control system, among other duties. The committee consists of two independent directors and one external member. *Learn more*

Investment and Innovation Committee (CII)

Aligned with Copel's commitment to use funds appropriately and promote efficiency, the body supports the formulation and revision of strategic guidelines related to investments, development of new products and services and innovative commercial initiatives. It also addresses topics such as divestments, participation in auctions, and supervision of project implementation, among other responsibilities. Composed of three independent members. *Learn more*

Sustainable Development Committee (CDS)

Responsible for enhancing the involvement of the board members, the committee's duties include monitoring and anticipating trends in global sustainability issues, such as those related to climate change, biodiversity, and human rights, among others. The committee also supports the formulation and revision of guidelines on key ESG agenda topics so that these are factored into Copel's Strategic Planning. It also evaluates the Company's sustainability policies and conduct, recommends improvements to policies and practices to the Board of Directors, and monitors indicators and goals, among other responsibilities. It consists of three members, including one independent member and one external member. *Learn more*

In 2023, the People Committee (CDG) was established to inform discussions on cultural transformation and the Company's transition to a private enterprise

People Committee (CDG)

Established in 2023, the body's mission is primarily to support Management in the challenge of transitioning to a private company, which includes the new compensation structure with the introduction of long-term incentives linked to value creation, to be presented in 2024, and the formatting of the Voluntary Severance Program (PDV), launched in 2023. Its responsibilities also include culture, people management, diversity and health and safety, among others, and supporting the nomination and evaluation of board members, committee members, and succession planning for governance members. Composed of three independent members. *Learn more*

Supervisory Board

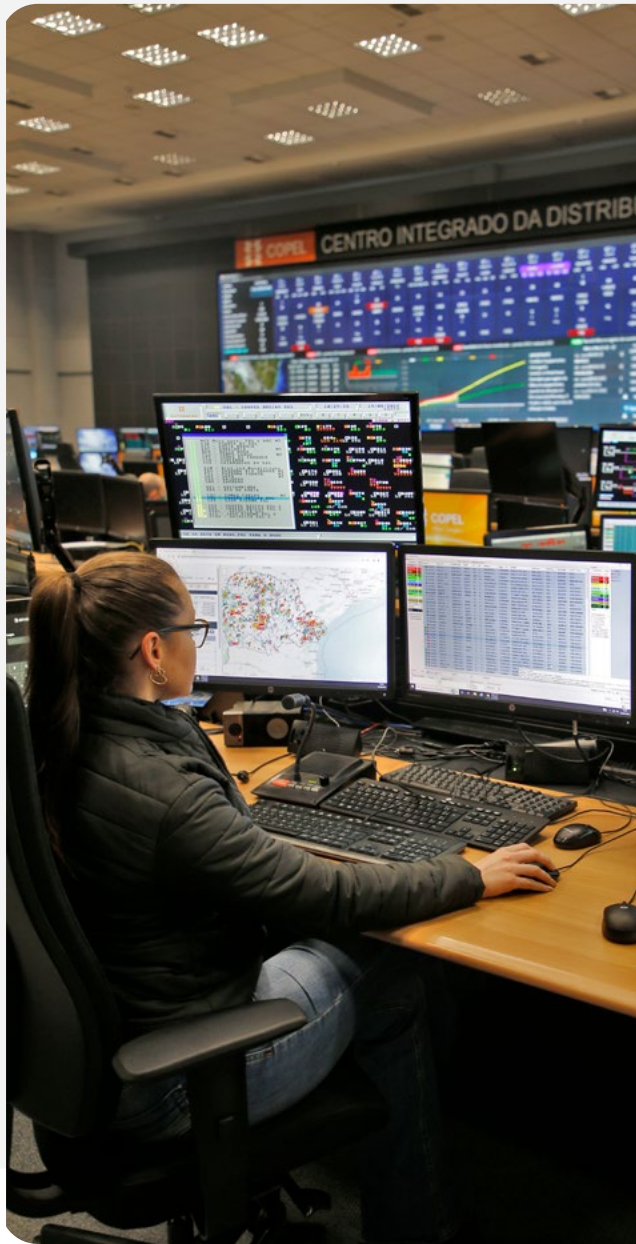
Copel's Supervisory Board is permanent. Since the publication of the new Corporate Bylaws in August 2023 it has been composed of three effective members and three alternates elected by the General Meeting for a one-year term, with re-election permitted. With monthly meetings, the Board has its composition, functioning, and duties established in the Corporate Bylaws and Rules of Procedure. The wholly-owned Subsidiaries also have their own supervisory boards. *Learn more*

GRI 2-12

Governance of wholly-owned subsidiaries

Copel Distribuição (Copel DIS) and Copel Geração e Transmissão (Copel GeT) are listed as a publicly-traded company on Category B of the B3 São Paulo stock exchange. The wholly-owned subsidiaries' Boards of Directors are focused on steering and planning the overall business. All board members are elected at the relevant General Meetings for renewable two-year terms. These boards are chaired by Copel's CEO.

Copel Holding's Statutory Audit Committee (CAE) also provides services to the wholly-owned subsidiaries.



GRI 2-17

Development of governance bodies

To keep leadership updated and in continuous development, Copel runs an enhancement program for board members, supervisory board members, and executives.

Reformulated in 2022, the initiative offers training on strategic topics, leadership qualification for the performance of their duties and governance dynamics, as well as legal training. The content offered includes ESG topics, innovation and trends, among others. The training actions were defined by the Board of Directors (CAD), with the participation of Fundação Instituto de Administração (FIA), and were conducted by the Brazilian Institute of Corporate Governance (IBGC), with synchronous online events and guidance for other sources of development and professional mentoring. Other actions were also developed that directly impact the agility of each board's decision-making and their integration with the company's internal areas.

The members of the full boards also undergo annual high-level training on topics such as corporate and capital market legislation, information disclosure, internal controls and risk management, Code of Ethics and anti-corruption practices, among others.

In addition to having access to specific training provided by the training department, the Board of Directors can convene the Sustainable Development Committee whenever necessary to deepen studies or provide clarification on related topics. This collaboration is vital to enrich the Board's deliberations, thus promoting the production of collective expertise while enhancing the skills and experience of its members in sustainability matters.

GRI 2-18

Assessing leadership

As stipulated in the Corporate Bylaws, board members and executive board of the Holding company and wholly-owned subsidiaries must undergo annual reviews, and their parameters are described in the Statutory Body Annual Performance Assessment Policy.

The Board of Directors is in charge of the process, and comprises collective assessments (from peers and the board) and self-assessments with independence ensured through the hiring of an external consulting firm.

In the last cycle, the assessment found the assessed members were performing with aplomb, with improvement opportunities mapped out involving ESG, innovation and risk management in the power sector and collaboration with strategic players. Internal knowledge about the company's operations was enhanced, and governance dynamics were improved to fine tune decision-making. At the individual level, direct interaction between the Chairman of the Board of Directors and its members is encouraged. Professional mentoring with experts is also offered.

GRI 2-19, 2-20

Leadership remuneration

The Statutory Bodies Remuneration Policy guides the process and remuneration of their respective members of the board of directors, supervisory board, committee members and executive board. The document is approved by the Board of Directors and executed according to the budget approved at the General Shareholders' Meeting.

Shareholders are involved through the agenda presented at the General Meeting, which is voted on. Additionally, the People Committee (CDG) plays a crucial role in assessing and recommending people management policies to the Board of Directors.

Following Copel's transformation into a Corporation, the remuneration program is being reassessed to align with the corporate market. A task force led by the Chairman of the Board of Directors, involving the People Committee and a specialized external consultancy, structured the new remuneration proposal and the formulation of long-term incentives indexed to the Company's value creation. The goal is to align remuneration practices with Copel's new corporate status, that can attract and retain talent, while maintaining leaders' commitment to strategic objectives. Proposal to be submitted to the Annual General Meeting in 2024.

At the end of 2023, the Extraordinary General Meeting (AGE) assessed and approved a partial review of fees for executives and members of statutory bodies, adjusted for inflation, which had not occurred since 2018, and a partial review of market practices.

The remuneration of all Copel functional levels is also under review, aiming to align it with business practices and ensure attraction and retention of professionals.

Bonus indexed to ESG goals

Established in 2021, ESG metrics are used to partly determine variable compensation across all levels[1] of the Company. The initiative seeks to maintain the commitment and engagement of professionals and to reinforce the meritocracy program.

As such, up to 30% of the variable compensation program is linked to overall sustainability performance, occupational health and safety, and the effectiveness of internal controls. In health and safety, the agreed-upon goal is zero fatalities among both direct employees and outsourced workers, a significant commitment extended to the value chain.

In the case of both safety and internal controls, the goals are reductive - i.e., if there are any material flaws pointed out in the external audit or accidents with fatalities, a penalty is applied to the variable remuneration.

The ESG metrics linked to the compensation program are composed of:

- **10%** Corporate Sustainability Assessment and implementation of the Neutrality Plan
- **10%** Internal controls indicator
- **10%** Occupational health and safety indicator - zero fatal accidents with directly employees and outsourced workers

[1] The term "levels" encompasses employees, managers, officers and the CEO.

GRI 2-23, 2-24

Ethics and Integrity

Copel's Integrity Program is based on clear criteria and complies with existing regulations It also considers legal concerns, driving the creation of a culture of ethics and integrity within the organization. Encompassing all employees, managers and supervisory board members, the Integrity Program is structured to prevent, detect and remedy potential harmful acts such as conflicts of interest, fraud in bidding processes and payments, among other points.

In order to continue ensuring the application of best practices, the Company acquired ISO 37301 certification - Compliance Management System, revising a series of practices and standards, expanded the interaction between the controls and risk management processes.

Copel is a member of the 100% Transparency Movement, led by the Global Compact, which encourages and equips companies to exceed legal obligations and strengthen integrity mechanisms and accountability.

Our goal is to uphold the sound practices that have earned us recognition over the years, including the Pró-Ética label for two consecutive years and strong performance in the Sustainability Index of B3 (B3 ISE) assessment.

The Code of Conduct was created in 2003, and is continuously revised and was updated for the last time in 2022, with the inclusion of new topics. The document offers guidance about the conduct expected from all those who perform activities on behalf of Copel and its equity holdings and includes references to conduct concerning contemporary matters, such as social networking, protection of personal data, working from home, and cybersecurity. It also offers guidance on issues related to transparency, health and safety, social and environmental responsibility, and respect for human rights, as well as others.

The Code of Conduct sets out standards of conduct for employees, members of the Executive Board, other boards and committees, interns, suppliers, service providers, and outsourced workers. During contracting and procurement, suppliers are required to formally commit to upholding the Code.

Audit and certification

In addition to policy revisions and amendments during Copel's transformation into a corporation, our Integrity Program underwent a third-party audit in 2023 and was certified to ISO 37301. This scrutiny entailed a detailed, independent assessment of Company policies and standards to identify areas for improvement and increase integration across control procedures and risk management. Introduced in 2021, the new ISO standard assists companies in forging a positive and effective compliance culture and embedding it in the behavior and attitudes of employees. Copel's certification attests that the Company has robust processes and control mechanisms and is committed to adopting best practices.

GRI 2-15

Conflicts of Interest

The guidelines for dealing with conflicts of interest are set out in the bylaws and rules of procedure, according to applicable law, specific policy and the corporate governance practices of the Brazilian Corporate Governance Institute (IBGC).

Documentation and transparency regarding conflicts of interest are ensured through minutes and proactive measures to avoid potential conflicts such as background checks on candidates for positions in statutory bodies, which involve analyzing cross-shareholdings with suppliers and other stakeholders.

The Company has a structure of statutory bodies that operate with different levels of responsibility and attributions. The duties, roles and responsibilities of governance members are clearly defined. It also maintains the Related-Party Transactions and Conflicts of Interest Policy, setting out guidelines to ensure the Company's best interest and the principles of independence, competitiveness, compliance, transparency, equity and commutativity.

LEARN MORE
All procedures are detailed in the *Governance Report, Brazilian Corporate Governance Code*

GRI 205-1, 205-3

Anti-corruption practices

In addition to the Integrity Program and the Code of Conduct, crucial for preventing and fighting corruption, Copel also follows regularly reviewed corporate policies, in line with domestic legislation and the US Foreign Corrupt Practices Act (FCPA) and the Sarbanes-Oxley Act and the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

Each year, Copel's operational processes are assessed for risks of errors or fraud, which could affect its financial results. These evaluations are supported by controls rigorously tested by Internal and External Auditors. In 2023, the operations of Copel (Holding) and its subsidiaries were assessed for corruption risks. No cases involving the company's direct employees were identified. Two cases of corruption involving service providers were identified. These cases were reported to the outsourced workers for investigation. There were no terminations or non-renewals of contracts with business partners due to these incidents, with the outsourced workers being responsible for applying penalties to the involved employees.

Integrity training

The Integrity Program is accompanied by a schedule of periodic training for employees. Integrity actions are not limited to the development and execution of activities in a single area of the Company, but rather they involve the entire organization and are present in the daily activities of each employee. In 2023 Copel accordingly launched the first cycle of training for the Integrity Program, in which 92% of participants successfully completed the virtual training. Following Copel's transformation into a corporation, this campaign succeeded the former Code of Conduct training. In an updated approach, the intention was to address general program topic without forgetting the general terms of the Code of Conduct and conflicts of interest.

Internal stakeholders can learn about integrity at Copel on the Integrity Portal, and external stakeholders on the Sustainability Portal.

GRI 2-16, 2-25, 2-26, 406-1

Channels for raising concerns

Copel maintains specific channels for all stakeholders to report any situation suggesting a violation of ethical principles, policies, laws, or other misconduct.

Managed by us and operated by an independent specialized firm that ensures anonymity for those who come forward, the Reporting Channel is tested and audited annually by both internal and external auditors. It receives reports on: a) harassment and discrimination; b) human rights violations; c) corruption; d) destruction or damage of company assets; e) misconduct; f) favoritism; g) fraud or theft of assets and/or money; h) irregularities in financial statements and/or management reports; i) environmental issues; j) non-compliance with internal policies and/or procedures; k) misuse of Copel resources; l) leakage or misuse of information and violation of laws. One of the topics with the highest number of grievances in the Reporting Channel were conduct and non-compliance with internal policies and procedures. In 2023, four cases of discrimination were recorded—three were deemed unfounded and one is still under analysis (*see all the details on the next page*).

An advisory body to the Board of Directors, the Ethics Committee helps to ensure that in our business conduct we uphold ethical principles and our core values, as well as the Global Compact principles and corporate governance requirements. Among its primary duties are monitoring the process of receiving and investigating reports through our Reporting Channel, conducting periodic reviews of and issuing guidance on the Copel Code of Conduct, and assisting in reviewing related policies and standards.

The Ombudsman's Office is another service and is certified to ISO 9001 and recognized as one of the best ombudsman's offices in the sector by the Brazilian National Electricity Regulatory Agency (ANEEL). In addition, there are other communication channels for consumers and clients regarding issues related to the services offered by the company.

Reporting Channel managed by the Deputy Governance, Risk and Compliance Board

Operated by an independent firm

Investigation: Ethics Committee (formed of executives and a Board member - connected to senior leadership)

Guaranteed anonymity

Guarantee of **non-retaliation**

Specific commission for analyzing moral harassment cases (CADAM) and for fraud and theft in the electric grid

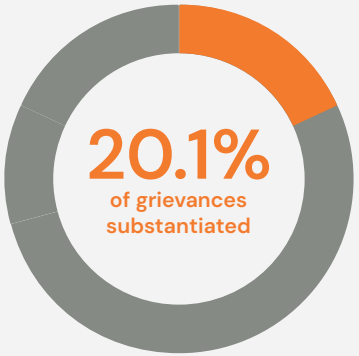
Ombudsman's Office certified to ISO 9001 (second instance service)

Reporting Channel - Nature of the report	Number
Others	39
Conduct	87
Non-compliance with internal policies and procedures	84
Query/doubt	28
Violation of labor laws	67
Favoring suppliers or consumers	9
Misuse of company of money	14
Fraud or theft of money	7
The environment	10
Sexual harassment	13
Moral harassment	15
Discrimination (race, color, sex, religion, etc.)	4
Violation of laws - other	4
Physical assault	4
Conflicts of Interest	6
Destruction or damage of company property	3
Information leaks or misuse	7
Customer data breach or loss	1
Corruption and Bribery	9
Theft, robbery or misappropriation of goods	3
Occupational safety	2
Violation of labor laws	2
Information security (cyber security)	13
Violations of human rights	1
Total	**432**

Complaints handled by Ethics Committee	Number
Unsubstantiated	174
Not included in our scope	29
Insufficient data	62
Substantiated	87
SOx[1] Tests	6
Queries answered	21
Partially founded	38
Under investigation	2
Under review	0
For Approval[2]	13
Total	**432**

[1]Internal test to comply with Sarbanes-Oxley
[2] Cases that were selected for investigation by the Ethics Committee.

TOTAL GRIEVANCES
432



+30.9% than 2022

OTHERS CHANNELS
See the chapter *Customer Satisfaction*

GOVERNANCE BOARD MEMBERS WHO HAVE RECEIVED COMMUNICATION AND TRAINING ON ANTI-CORRUPTION[1][2][3] GRI 205-2

Total members of the governing bodies	Members communicated	Percentage of members communicated	Members trained	Percentage of members communicated[1]
35	35	100%	9	25.71%

[1] In 2021 and 2022, all of the members of our governance bodies received training.
[2] All members are located in Paraná.
[3] It was established as a premise in 2023 that the number of communicated and trained members reported takes into account the position held in each of the committees that received training. This number can be counted multiple times if a member serves on more than one committee.

EMPLOYEES INFORMED OF ANTI-CORRUPTION POLICIES AND PROCEDURES[1] GRI 205-2

Employee category	Total employees	Total employees who received communications	Percentage of employees who received communications
2022			
Operational	18	18	100%
Secondary-level technical professional	1,450	1,450	100%
Secondary-level professional	3,271	3,271	100%
University-level professional	1,136	1,136	100%
Interns	287	287	100%
2023[2]			
Operational	17	17	100%
Secondary-level technical professional	1,395	1,395	100%
Secondary-level professional	3,107	3,107	100%
University-level professional	1,285	1,285	100%
Interns	343	343	100%

[1] Information not available in 2021.
[2] All employees are located in Paraná.

EMPLOYEES TRAINED IN ANTI-CORRUPTION POLICIES AND PROCEDURES GRI 205-2

Employee category	Total employees	Total employees trained	Percentage of employees trained
2021			
Operational	29	20	69%
Secondary-level technical professional	1,577	1,226	78%
Secondary-level professional	3,541	2,543	72%
University-level professional	1,236	973	79%
Interns	204	46	23%
2022			
Operational	18	18	100%
Secondary-level technical professional	1,450	1,450	100%
Secondary-level professional	3,271	2,984	91%
University-level professional	1,136	1,083	95%
Interns	287	94	33%
2023[1]			
Operational	17	17	100%
Secondary-level technical professional	1,395	1,314	94%
Secondary-level professional	3,107	2,972	96%
University-level professional	1,285	1,185	92%
Interns	343	324	93%

[1] All employees are located in Paraná.

BUSINESS PARTNERS THAT HAVE RECEIVED COMMUNICATIONS ON ANTI-CORRUPTION POLICIES AND PROCEDURES[1] GRI 205-2

Total business partners	Business partners who received communications	Percentage of business partners who received communications
2022		
3,410	2,245	66%
2023[3] [4]		
3,068	2,729	89%

[1] The organization's anti-corruption policies and procedures are communicated to other individuals and organizations through the Integrity page on Copel's website, which provides details about the initiatives, including the Integrity Program, Code of Conduct, Reporting Channel, and information on compliance and internal controls. This information is available here: https://www.copel.com/site/institucional/integridade. The specific area, Unicopel, also monitors training, notifying all employees about pending training. There is no survey on the reasons for non-delivery of training.
[2] Information not available in 2021.
[3] All employees are located in Paraná.
[4] Communications were sent to all suppliers with active contracts at the time, without distinction, including service providers, material suppliers, partners, and others.

GRI 2-23, 2-25

Integrated corporate risk management

The Integrated Management Policy for Corporate Risk is rooted in Copel's values, its Code of Conduct and the guidelines issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

The Company's corporate risk management is directly related to sustainable growth, Copel's profitability, and the creation of value for its shareholders. This process allows us to identify not only threats but also business opportunities, optimizing decision-making and the continuous improvement of results by more closely linking business strategy and objectives to the risks to which the Company is exposed.

Copel has an Integrated Management Policy for Corporate Risk rooted in its values, its Code of Conduct and the guidelines issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The policy's rules apply to the corporate areas, the wholly-owned subsidiaries and the controlled companies, and are recommended to joint subsidiaries, associated companies and other companies Copel holds an equity interest in.

According to the Policy, Copel relies on the following pillars in relation to its risk appetite:

- follow the highest ethical standards and compliance
- ensure that activities or practices adopted are aligned with ESG practices, with an emphasis on climate change and socio-environmental aspects
- ensure that occupational safety is rigorously observed in all Copel operations
- ensure the constant enhancement of cybersecurity around information technology and operational technology

- not to operate in segments that are not related to its core activity; and
- invest in businesses that adhere to the Investment Policy and strategic planning, based on the fundamentals and pillars of decarbonization, integration with scale, capital discipline, and innovation.

According to the policy, periodic reports of the risk portfolio and respective mitigation plans are made to senior management (quarterly for analysis by the Audit Committee and Supervisory Board and semi-annually for analysis by the Board of Directors). Accordingly, Copel's strategic risk management process has been consistently improved in accordance with the best market practices and in compliance with the laws in effect.

The portfolio of major corporate risks aims to consolidate the Company's risk management practices in line with its Corporate Bylaws, which establish that it is the responsibility of the Board of Directors to implement and oversee the risk management and internal control systems set up for the prevention and mitigation of the main risks to which the Company is exposed. Some of the main risks faced by Copel and its wholly-owned subsidiaries are described in this chapter, as well as the forms of mitigation adopted. Details about the management processes and the Company's main risks are also described in 20-F Form and on Company's website.

It is worth pointing out that risk management follows the three lines of defense, with roles and responsibilities assigned at the different management levels of the Company. The policy defines the following entities and related responsibilities involved in Copel's Risk Management function:

BOARD OF DIRECTORS approves the Policy, evaluates and approves the alignment of risk appetite with strategic management processes; monitors the effectiveness of the risk management process, analyzes the risk portfolio and the resulting mitigation plans semi-annually.

STATUTORY AUDIT COMMITTEE evaluates the effectiveness of the risk management process, reviews the Policy; and analyzes the risk portfolio and the resulting mitigation plans quarterly.

EXECUTIVE BOARDS as the first line of defense, they sponsor the implementation of risk management within their remit; support risk managers in establishing treatment actions and control mechanisms for risks and incidents, and support the executive board tasked with developing the corporate risk portfolio.

RISK MANAGER as the first line of defense, it identifies risks, their causes, and impacts, establishes treatment actions and adequate control mechanisms for each risk, performs periodic monitoring, communicates, and reports information to the responsible parties.

DEPUTY RISK AND COMPLIANCE BOARD, as the second line of defense, it defines and coordinates the implementation of guidelines, policies, methodologies and risk management practices. Also responsible for preparing, monitoring and managing the corporate risk portfolio, with periodic reporting of risk management activities to the boards.

INTERNAL AUDIT, as the third line of defense, it evaluates the effectiveness of the risk management process, assesses the adequacy of treatment actions and control mechanisms, and recommends process improvements to the risk manager when necessary.

Strategic risk management

Associated with decision-making by senior management and strategic planning, it encompasses the main risks that could cause substantial economic losses and undermine long-term objectives. The management methodology considers legal, regulatory, socio-environmental and reputational factors, with monitoring and reporting practices. The strategic risks associated with its operations are reviewed during the strategic planning setup, a job carried out jointly by the senior management of Copel (Holding Company) and its subsidiaries through the identification and analysis of risk, the definition of a control and contingency plan and the establishment of oversight actions. In addition to the strategic ones, the management structure classifies the main risks into Financial, Operational, and Compliance.

In terms of strategic risks, we adopt a portfolio view focusing on the main risk categories, harnessing metrics related to social capital, equity, EBITDA, and both quantitative and qualitative techniques. We utilize the GRC Risk Management – SAP system, which allows for Monte Carlo simulation.

Managing new business risks

Business ventures related to the Company's core activity and aligned with its strategic planning grow through acquisitions of equity interests or new businesses, and participation in bidding processes to obtain concessions or in business auctions in all areas of operation. Risk analysis is an integral part of the studies into these opportunities, as per the Company's acquisition and auction flowcharts.

For risks related to new business ventures, we adopt a portfolio view focusing on the main risk categories, using metrics such as Capital Expenditure (CAPEX) and both qualitative and quantitative techniques. The process gets underway by evaluating the matrix and enhancing according to the study object, with support from the GRC Risk Management – SAP system and Monte Carlo simulation.

Risk assessment steps

Identifying and responding proactively to events that have the potential to affect the achievement of strategy and business targets is critical to the sustainability of any company. In Copel's corporate risk management, this procedure goes through several stages, from its identification, to its assessment, analysis and review, and also the communication and disclosure of the risks and their respective mitigation plans.

Risk detection

This entails the identification of the set of events, both external and internal, that can impact the Company's strategic objectives through an understanding of the control environment around each risk and verification of existing mitigation actions to reduce exposure.

Technological support for risk management

To support risk management activities, the company adopts the Governance, Risk, and Compliance (SAP GRC) Risk Management (RM) system, which is equipped to continuously monitor impacts on the company's business processes. The Risk Matrix is compiled by identifying and defining risk profiles linked to business processes. It registered in the system and used to monitor identified risks.

Risk classification

Corporate risks are classified into the following categories:

Strategic risk, related to strategy, senior management decision-making, and strategic planning, which can lead to substantial economic losses and reputational damage due to the deterioration of Copel's brand in the eyes of customers and regulatory bodies, as a result of negative publicity.

Financial risk, related to the market and fluctuations due to changes in prices, such as exchange rates, interest rates and stock prices. Liquidity: insufficient funds, cash, or other financial assets. Credit arising from difficulties in collecting invoiced amounts from customers. Disclosure: associated with the possibility of issuing incomplete, inaccurate or untimely financial, managerial, regulatory, tax or statutory reports.

Operational risk, related to internal processes, information technology, operational technology, socio-environmental, climate (on Company operations), and transmission, generation and distribution projects.

Compliance risk, related to laws and regulations, fraud and corruption, and personal data protection.

Risk assessment regarding impact and probability

The risks to be managed are prioritized based on their relevance, resulting from the assessment of impact and probability according to pre-established criteria validated in the risk methodology. Probability is the chance of the risk event occurring within the specified timeframe to achieve the objective/result. Impact is the result or effect of a risk. There may be a variety of possible impacts associated with a risk, including financial, operational, image and socio-environmental.

Handling risk

This involves planning and carrying out actions to modify the level of risk. This can be modified through response measures that mitigate, transfer or avoid these risks.

Action plans and monitoring

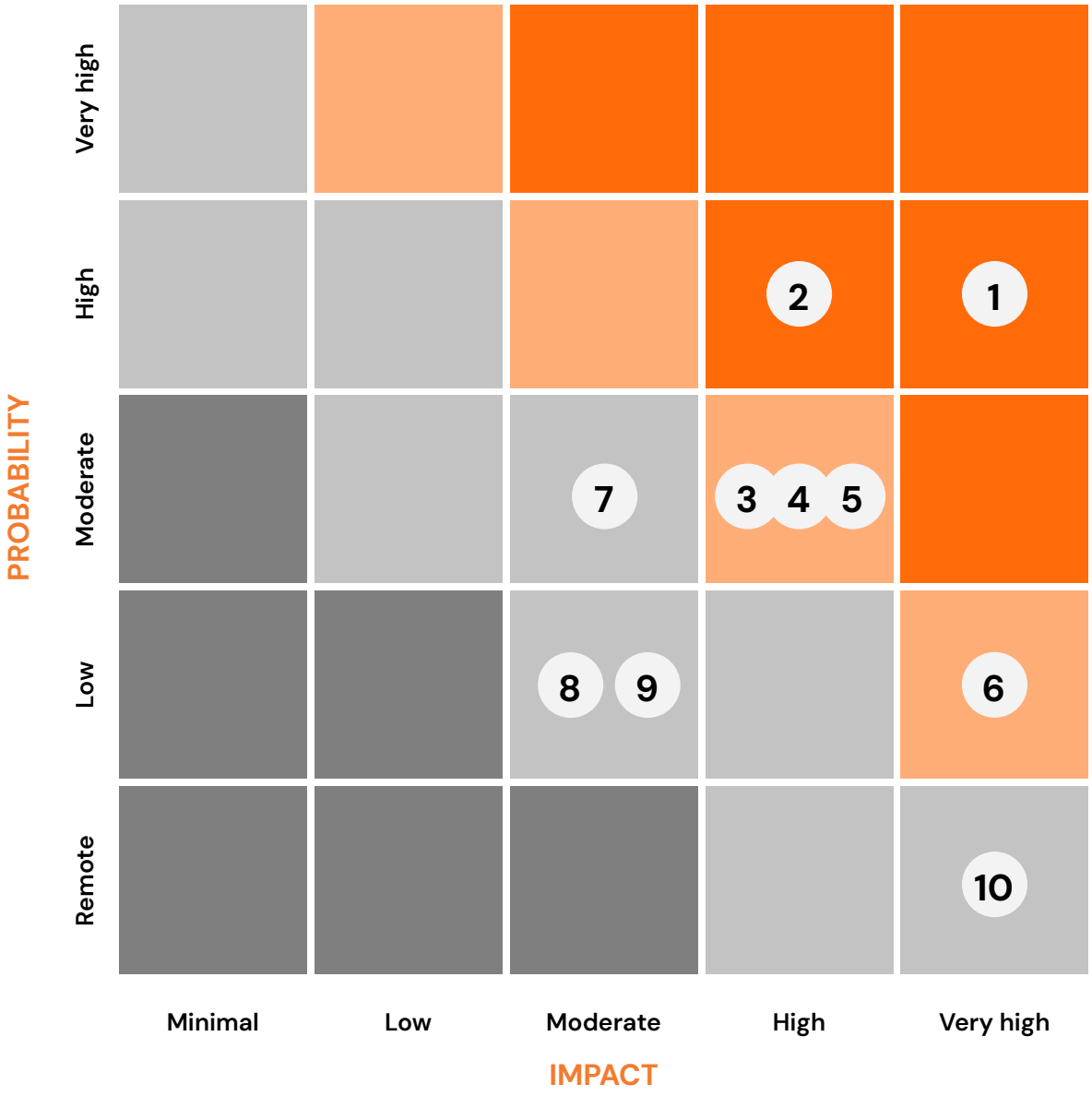
Risk monitoring is carried out periodically, aiming at updating and completing the data. Action plans defined for improving the control systems are monitored, considering the implementation timeframe for improvement opportunities. Parameters for classifying impact and probability concerning materialization are reviewed based on the presented results. Key Risk Indicators (KRI) are also used to identify the need for implementing improvement actions to reduce exposure to risks.

Main risks

The adjacent matrix demonstrates the top ten risks that may in some way undermine the Company's objectives, among a broader portfolio of risks, including related action and mitigation plans, periodically monitored and managed by the Company's Management and its respective committees.

Group of top risks

1	CYBER SECURITY
2	PEOPLE MANAGEMENT
3	SUSTAINABILITY CAPITAL ALLOCATION
4	SUPPLY CHAIN
5	ETHICS, FRAUD AND CORRUPTION
6	LITIGATION
7	CLIMATE CHANGE
8	THIRD-PARTY RISKS
9	HYDROLOGICAL RISK
10	DAMS



Cyber security

Recognized as one of the main threats to modern-day business - a belief Copel shares - information security is comprehensively addressed in the company. A cyberattack can result in serious consequences, affecting information technology systems and directly harming business operations.

To protect the integrity of data and restore our systems when needed, the Company follows the strictest security protocols, adopting the National Institute of Standards and Technology Cybersecurity Framework (NIST - CSF) as a benchmark for the planning and deployment of actions. The maturity of our technology systems is checked annually by external consultants, who make ongoing improvements under the Continuous Information Security Program.

There is widespread implementation of controls, external security testing, collaboration between internal teams and outsourced services, and frequent reporting to the executive board and other boards. The company's approach is structured into five functions (NIST model):

IDENTIFY – critical asset identification and management, risk and business impact management, and vulnerability management

PROTECT - access control and identity management, training and awareness, enhancement of protection technologies, including behavior pattern recognition, reviews of existing parameterizations, and continuous reviews of processes and procedures.

DETECT – specialized security operation center (SOC) and external threat tracking services.

RESPOND - incident response and communication plan with deployment of assessment routines and effectiveness testing.

RECOVER – new backup policies with recovery tests, hiring an external consulting firm, and a business continuity plan.

Copel has Information Security and Cybersecurity policies in place, establishing strategic guidelines to protect corporate information and other information assets. It also has a Privacy and Data Protection Policy aligned with the Brazilian General Data Protection Act (LGPD), regulating the collection, use and disclosure of information on the company's websites.

Training

Aligned with the Strategic Planning and Information Security Policy (NPC 0301), employees undergo training and awareness on information security and defense against cyberattacks. The KnowBe4 platform has been adopted for awareness training, combined with phishing attack simulations, aiming to increase security maturity and develop data protection practices. In 2023, several campaigns were conducted for different Copel stakeholders, with 78.86% of employees trained in cybersecurity, including senior management.

As in previous years, no significant security breaches were identified in Copel's information security in 2023, nor was there any data leakage or loss. No fines or penalties were enforced in this regard either.
GRI 418-1, SASB-IF-EU-550a.1

GRI 205-1

Assessing corruption risk

100% of Copel's operations were assessed for corruption risks. In addition to the Fraud and Corruption Risk Report, Copel conducts annual assessments of operational processes, detecting risks that may affect its financial results.

These assessments are supported by controls rigorously tested by Internal and External Auditors.

Dams

A topic identified as material in the most recent review of the materiality matrix in 2023, community safety has the potential to generate impacts on the Company's business, albeit in very distinct ways. At Copel GeT, the greatest safety risks are related to dams, especially downstream from reservoirs.

Essential for electricity generation, dams are structures built to impound a river, forming water reservoirs that are harnessed to power turbines. These structures have rigorous construction standards and safety criteria and that safety verification is carried out at all stages – design, construction and operation.

However, as in any engineering project of this scale, they pose an intrinsic risk of failure linked to different internal and external factors, such as extreme weather events.

The hydroelectric power plants have a Plano de Segurança de Barragens - PSB (Dam Safety Plan) and an Plano de Ação Emergencial - PAE (Emergency Action Plan) to mitigate these risks, in compliance with legal parameters. They also adopt the Plano de Ações para Emergências Socioambientais - PAMA (Socio-environmental Emergency Action Plan), guiding the work of teams of sociologists and social workers who operate in specific situations that may pose risks to the population. The documents are also shared with the municipalities' mayors and civil defense authorities (*see more on page 136*).

Operation and Maintenance conduct PAE simulations in plants, as established in the Management Contract and whose targets have been fully met in the last three years, reflecting the effectiveness of the security and emergency plans implemented since 2019.

Decisions regarding the operation of power plants are made in coordination with the companies responsible for other hydroelectric plants and under the command of the Operador Nacional do Sistema - ONS (National Electric System Operator).

In 2023, due to the increase in storms, gales, lightning and record rainfall, a number of dams entered a state of alert, leading to the closure of certain passages for safety reasons, to ensure the isolation of risk areas. These reservoirs were monitored around the clock, with the surrounding population kept abreast of developments through various means such as the press, company channels and municipal authorities. Despite the conditions, no removals were necessary in the year. Alternative measures such as opening spillways and increasing outflow through the gates were adopted to ensure environmental safety and the safety of the local population.

In 2023, seven internal tabletop exercises were conducted to validate the procedures of the Plano de Ação Emergencial - PAE (Emergency Action Plan)

Hydrological risk

With most energy production coming from hydraulic sources, managing this precious resource and the risks generated by hydrological regime changes are strategic for Copel. Much of the Company's generation is located in the Iguaçu River basin, covering Paraná and Santa Catarina.

Uncertainties about the amount of rainfall and, consequently, the effluent flow to the reservoirs, could have impacts not only on hydroelectric generation capacity but also on the energy prices in the National Grid. The greatest water management risks are associated with extreme hydrological events (floods and water shortage situations).

The water used by hydroelectric power plants is not consumed, meaning the volume used is immediately discharged downstream in the same quantity and quality. Copel's projects are not located in permanently water-stressed areas either, although there has been some level of water stress in recent years.

To mitigate them, Copel adopts preventive measures such as Dam Safety Plans and participates in river management groups for the Iguaçu River.

We also maintain a Reservoir Oversight System (SMR), which tracks in real-time the amount of water available for hydroelectric generation. It also maintains a hydrological monitoring network in the watersheds by collecting data on river and reservoir water levels and rainfall data. The data is available on Copel's Hydrological Monitoring website and on the Brazilian Water and Basic Sanitation Agency (ANA) website.

Copel analyzes cyclical water availability scenarios (historical variations) for energy planning purposes, revenue estimates (generation from the Energy Reallocation Mechanism, short-term prices) and associated risks.

In the enterprise risk management methodology, the possibility of changes in local regulations is taken into consideration. As such, Copel actively participates in discussion forums, such as the Crisis Rooms of the Southern Region and Paranapanema and, especially, in the National and State Councils for Water Resources and the River Basin Committees, where regional matters concerning water resources are discussed. This ensures that issues related to changes in water availability are always in discussion and being duly tracked and included by Copel.

The impact on Copel's pricing structure and business are minimized because the National Grid relies on hydroelectric, wind, thermal and solar power plants as well as interconnected transmission lines to meet the energy demand in all Brazilian regions.

The risk analyses do not show that there could be any significant change in the short term that could impact the Company.

Despite this, Copel takes part in discussions within the scope of the Technical Water Resource and Operation Groups of the Brazilian Electricity Generation Company Association (ABRAGE).

Copel also has an internal standard that sets rules and responsibilities to regulate multidisciplinary activities (environmental, assets, social, etc.) in the geographic area that houses the reservoirs, waters and areas surrounding the enterprise, with the local committees of each production unit participating under the coordination of the Institutional Reservoir Management Committee.

The hydraulic potential of the power plants maintained and operated by Copel is also preceded by a Grant for the Right to Use Water Resources, an instrument of the Brazilian Water Resources Policy (Brazilian Federal Law 9,433/97) that aims to ensure the quantitative and qualitative control of water use and the effective exercise of the right to access water. The projects are also subject to environmental licensing.

Emerging risks

Copel strives to detect and manage potential emerging risks for a medium to long-term window that could influence the Company's business.

	Risks and impacts	Actions
Consumer choice (portability, distributed generation)	Customers in the distribution concession area may cease to purchase energy from us. Electricity customers within the concession's geographical area who meet certain regulatory requirements may qualify as free customers. These customers have the right to purchase energy directly from generation and energy trading utilities, rather than through our business. If the number of customers with micro and mini-distributed generation increases, our revenues and operational results may be affected.	The special rates project for consumer units with micro and mini-distributed generation to set up a microgrid. This initiative aims to evaluate the use of special energy rates to encourage generation access users to participate in and set up microgrids to reduce losses and increase supply reliability to consumers within the microgrid.
New Technologies, artificial intelligence and Cybersecurity	Digital transformation presents untold challenges, and the Company may not be able to keep pace with the rampant digitalization in the electricity sector, and the significant potential for the development of solutions which the energy sector goes through as technology advances and artificial intelligence (AI) is deployed, both for improving processes and services for consumers and the effective creation of new products and services, aiming to achieve productivity gains, more affordable prices, increased competition, and the creation of new markets. A discontinuity in the modernization of digital tools is related to obsolescence and the speed of digital transformation initiatives, given the constant innovation we are experiencing.	Hiring a consultancy firm to provide services for analyzing Copel's maturity regarding Digital Transformation; smart grid project.
Increasing impact of deregulation – Regulatory Risk	Changes in laws and regulations governing our operations, which have occurred in the past, may adversely affect our financial condition and operational results. If any other regulations or new laws are passed by the Brazilian government to reduce electricity prices, these new laws and regulations may have a significant adverse effect on our operational results.	Monitoring of ANEEL's hearings and public consultations, in order to foresee actions and contribute to changes in sector regulations; regulatory leadership, with contributions and proposals for changes in sector regulations, for working groups of Abradee and for ANEEL itself; monitoring of notifications and infractions, with the aim of monitoring compliance with deadlines and mitigating impacts. The agendas and public meetings of ANEEL's Board of Directors are followed, especially those deliberating on hearings and public consultations, aiming to foresee actions and proposals for possible decisions and regulations of ANEEL and the Ministry of Mines and Energy.

Regulatory environment

The year 2023 saw ongoing debate around the energy transition, climate events such as those fueled by El Niño, the expansion of the free market, and the challenges imposed by the modernization, security, flexibility and long-term sustainability of the system's operation due to the increasing presence of renewable sources such as wind and solar in the Brazilian power matrix. The growth of micro and mini distributed generation also shaped the regulatory debate.

Under Ministry of Mines and Energy (MME) initiatives, public consultation 156/2023 was opened to discuss the response to emergency situations and the imminent risk of supply restrictions or outages. Another topic that featured in public consultation 152/2023 was the definition of guidelines for the renewal of 20 power distribution concessions expiring between 2025 and 2031 – this does not include Copel Distribuição, whose concession contract expires in 2045.

On the trading front, the Federal Government published decree 11,835/2023 in December 2023. This amended the governance structure of the Electric Power Trading Chamber (CCEE) and seeks to shore up the legal framework for the representation of consumers with a load of less than 500 kW through retail agents and reinforce the possibility of CCEE participating in energy certification systems. ANEEL also published regulatory resolution 1,080/2023 to enhance the normative framework around retail trading in terms of relaxing requirements to migrate to the Free Contracting Environment.

We also mention ANEEL public consultation 012/2023, which sought information to improve the preparation of the Five-Year Strategic Innovation Plan (PEQuI 2023-2028) of the Research, Development, and Innovation Program (ANEEL PDI). And the consultation to improve the draft of Call 23/2023 issued by the Strategic Research, Development and Innovation Project entitled "Renewable Hydrogen and the Brazilian Power Sector".

In regard to the progress of legislative proposals in the National Congress, the suggestions to improve the regulatory and legal framework of the electricity sector, Bills of Law 414/2021 and 1,917/2015 did not move forward in 2023.

Generation

New criteria and initiatives regarding hydroelectric plants dam safety came into effect via ANEEL regulatory resolution 164/2023, along with a new regulation for procedures and criteria for imposing penalties on the same subject – both in 2023.

Regulatory resolution 167/2023 was also published by ANEEL, consolidating the procedures and conditions for obtaining and maintaining the operational status and defining the installed and net capacity of power generation projects.

ANEEL also amended norms and requirements for conducting hydroelectric inventory studies of river basins, exploration and granting permits to hydroelectric projects. Regulatory resolution 1,071/2023 governs the requirements and procedures for obtaining authorization for power plants running on wind, solar, thermal, hybrid and other alternative sources.

Other notable topics included ANEEL's regulatory resolution 1,077/2023, which outlines criteria for approving plans for the transfer of corporate control of concession operators, permit holders or authorized services and facilities for generation and transmission, as an alternative to terminating the concession. Meanwhile, public consultation 39/2023 aimed to improve the Regulatory Impact Analysis Report on regulations for Electricity Storage, including Pumped-storage power plants, in order to prepare future proposals for the regulatory adjustments necessary to embed storage systems in the Brazilian power sector.

Regarding auctions, MME held two Existing Energy Auctions in 2023 on December 01, which auctioned quantity-based Regulated-environment Power Purchase Agreements (CCEARs).

Transmission

In July 2023, ANEEL set the adjustment of the Annual Permitted Revenues (RAP) for electricity transmission assets for the period July 2023 to June 2024. ANEEL also decided to postpone the 2023 Periodic Rate-setting Review of the RAP for transmission concession operators, setting a new deadline of July 01, 2024, for the full RAP approval of these companies.

The year saw two transmission auctions: one held on June 30, 2023, with all nine lots awarded, an average discount rate of 47%, and expected investments of BRL 15.7 billion in transmission. The second auction took place on December 15, 2023, offering three lots, all awarded, with an average discount rate of 41% and expected investments of BRL 21.8 billion in transmission.

Marketing

Thanks to the flexibility introduced on January 01, 2024, allowing a broader range of eligible consumers to freely choose their energy supplier, 2023 witnessed a significant increase in the number of captive consumers migrating to the free contracting environment. This measure opens up this environment to over 100,000 high-voltage consumers in energy distribution companies.

In 2023, ANEEL concluded public consultations on energy marketing, including one which established procedures and criteria for opening up the market to high-voltage consumers with individual loads below 500 kW, which resulted in Regulatory Resolution 1,081/2023. The year also marked the second phase of consultation, ushering in the "shadow period," of Prudential Monitoring of the Electricity Market, with a planned duration of 12 months starting November 01, 2023.

Among the public consultations whose contribution period ended in 2023 and which ANEEL expects to start concluding in 2024 are those seeking inputs for the improvement of energy storage regulations, including Pumped-storage plants (039/2023), and the one addressing the ending of discounts on transmission and distribution system usage rates, applicable to incentivized sources (No. 20/2023).

Distribution

In 2023, the electric power distribution sector faced operational challenges related to climate phenomena, with increasingly extreme events wreaking havoc on the electrical infrastructure in distribution areas.

In addition to the discussion around the process of extending expiring distribution concessions, as mentioned earlier, another positive development in 2023 was the creation of the National Policy for Pole Sharing among power distributors and telecommunications service providers. Named *Poste Legal*, the joint ordinance issued by the Ministries of Telecommunications and MME aims to optimize resource use and cut operating costs, ensure correct installation power poles, reduce accident risks, provide quality services to users, and contribute to expanding connectivity and digital inclusion in remote or rural areas.

As regards micro and mini-distributed generation, ANEEL discussed the amendment of Power System Procedures in response to the expansion of this modality in the planning and scheduling of the electro-energy operation of SIN and, consequently, in the formation of the Difference Settlement Price (PLD).

LEARN MORE
For details of the regulatory environment see our *2023 Management Report*

4 Performance

GRI 3-3

Energy Sector Efficiency and Transformation

SDGs

Capitals

Recent trends such as emerging disruptive technologies, the digitalization of business and operational processes, distributed generation and decarbonization efforts have the potential to bring about significant and accelerated transformation in the power sector.

Growing concerns around climate change and reducing greenhouse gas (GHG) emissions, as reflected in government decisions and international agreements, and emerging technologies such as demand-side management and electrical mobility, are leading to the transformation of the power sector and pose a challenge to utilities to modernize their power system infrastructure. Access to the Free Contracting Environment (ACL), which is being extended to all high-voltage consumers in 2024 and should be extended to other customer classes in the coming years, will also have implications for Copel DIS.

Copel seeks to anticipate these trends, protect the business and explore new opportunities. Investments in innovation and improving efficiency have prepared the Company to navigate this fast-changing landscape.

Our efforts on this front have become increasingly strategic in recent years. To accelerate these initiatives, the Company established an innovation department in 2022, reporting to the Chief Business Development Officer, and incorporated investment policy-making within the scope of the Investment and Innovation Committee, which advises the Board of Directors.

The initiatives we support range from cutting-edge innovation—such as battery storage systems and green hydrogen—to solutions to increase system efficiency and reliability.

Investments in innovation and improving efficiency have prepared the Company to navigate this fast-changing landscape

GRI G4-EU7

Innovation and Research

In two editions in just over three years, the Copel Volt open innovation program has partnered with national and international start-ups, paving the way for the application of solutions across all business areas related to energy.

In 2023, Copel announced the creation of Copel Ventures I, a corporate venture capital fund, to seek new investment opportunities in innovation ventures in the electricity sector. The Company also funds Research & Development (R&D) projects, in line with sector regulations.

One notable characteristic of the innovation partnerships and R&D projects is the applicability of the studied and developed solutions—many of which are already being tested in Copel's Distribution, Generation, Transmission and Marketing businesses, aiming for these developments to increasingly benefit service quality and business efficiency.

Fund to finance the energy transition

Copel registered its first corporate venture capital fund at the CVM (the Brazilian Securities and Exchange Commission) in 2023. Copel Ventures I will provide BRL 150 million to invest in startups driving the energy transition.

This market instrument enables the company to finance and partner start-ups that align with the Company's strategy and combine economic, financial and sustainability opportunities.

Copel Ventures I seek out startups in the Seed and Series-A stages (the first two stages in the maturity cycle) offering seamless technological solutions for the energy sector. Areas of interest include renewable energies, innovative internal processes, energy as a service, smart cities and asset and facility management.

Investments ranging from BRL 2 million to BRL 12 million per company are planned, with a portfolio of approximately 15 startups. The fund is expected to make its first investments in 2024.

BRL **150 million**
invested in startups driving the energy transition

Copel Volt Program

The Copel Volt is an open innovation program initiated by the Company in 2021 to leverage new products and services in the energy sector and strengthen its position within the innovation ecosystem.

The main objective is the development of proof of concepts (POCs) by start-ups, seeking the most innovative solutions to tackle the challenges raised, with financial and technical support from Copel.

The solutions supported by Copel Volt involve all segments of Copel's businesses. The second edition of the program, held between 2022 and 2023, received nearly 300 applications from startups from Brazil, the United States, Canada, and countries in Europe, Asia and Africa. Five projects were finalists, and the solutions have already been tested in proof of concepts. One of them, from Shipay, resulted in a contract with Copel Distribuição.

Investments in new ideas

AI for maintenance optimization

An experiment using artificial intelligence to schedule turbine maintenance in hydroelectric plants is being tested by the German startup LexaTexer and Copel GeT. The model could predict with greater accuracy the optimal times for inspections, optimizing work and increasing the uptime of hydroelectric plants. The application was tested at the Governador Ney Aminthas de Barros Braga Hydroelectric Plant (Segredo).

Real-time vegetation control

Using high-resolution satellite images to monitor vegetation growth near high-voltage power lines is the purpose of the collaboration between the Dutch startup Overstory and Copel. This monitoring occurs remotely in real-time, facilitating management, reducing inspection costs, travel and avoiding outages. It also contributes to preserving green areas around the lines, promoting sustainability, and environmental care.

A faster solution for late payments

Part of Copel Distribuição's customers can now choose to pay late bills electronically and instantly. The idea is to offer customers on the verge of having their power cut off the option to settle their debt through contact via messaging app (WhatsApp) and PIX (Easy payment method provided by the Central Bank of Brazil). This option is offered by Copel's electrician before disconnecting the service and prevents power supply disruptions, optimizes travel, reduces default rates, improves customer relations, and contributes to people's safety. The instant payment solution was developed by the Brazilian startup Shipay and is being tested in Curitiba, Londrina and Campo Mourão.

Solar power for hydrogen production

The Colombian startup Solenium is committed to obtaining hydrogen sustainably by establishing a testing laboratory with Copel. The company will adopt the electrolysis technique, using solar photovoltaic energy as the source. The solution includes monitoring that maximizes energy efficiency in both solar generation and hydrogen production, further reducing the environmental footprint of the hydrogen production process, minimizing the effects of climate change, and driving the energy transition.

Support for carbon emission management in small businesses

Small and micro-enterprises are being offered technical support to advance in low-carbon management through a partnership between Copel and the Brazilian startup Repenso. The initiative includes tools such as greenhouse gas (GHG) emissions inventories, offsetting, creation of a public company profile regarding climate actions, and exclusive specialized content. As an engagement practice, ten clients of Copel Mercado Livre and Copel Distribuição participate in the program to improve their GHG emissions management practices and form a global engagement network in addressing climate change.

Electromobility is one of the priorities in the smart cities segment

Aligned with the Company's strategic planning and its decarbonization commitment, Copel seeks to offer services to customers that drive down their greenhouse gas (GHG) emissions, including investments directed towards electric mobility infrastructure. As the Brazilian electric vehicle market takes form, it is strategic for Copel to establish partnerships with companies focused on developing solutions and building new business models from electric mobility and sustainable energy initiatives, notably concerning charging infrastructure, relying on open ecosystems.

The development of this market involves solutions and new business models based on consumer demand, companies, cities, and public agencies, plus a strong connection with the electricity business and ESG premises. It is also essential to assess existing infrastructure and opportunities for improvement and new businesses.

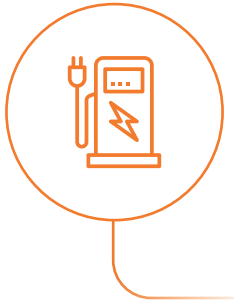
To meet this demand, Copel Ventures I made its first investment in the startup Move, a company specialized in smart electromobility management solutions through a seamless management platform for EV charging systems. With operations in Brazil and elsewhere in Latin America, the startup offers a comprehensive platform for drivers, owners and managers of charging points, driving electric mobility efficiently and sustainably. In addition to the investment, the partnership includes a service contract for the company to implement its solution at Copel's charging points.

Move participated in the first edition of Copel Volt in 2022 and had already established a close relationship with the Company by expanding the Paraná EV-highway along the BR-277 highway with new charging points, connecting Londrina in Northern Paraná to Joinville in Santa Catarina. All charging points that make up Copel's charging network can be found on Copel's Eletroposto Fácil app, also developed in partnership with Move during the first edition of Copel Volt.

Another Copel initiative aligned with its commitment to the 2030 Agenda and reducing GHG was the start-up in 2023 of its first ultra-fast charger in downtown Curitiba. The structure can charge three electric vehicles at once with the option of fast and ultra-fast charging with power up to 150 kW.

Electric mobility solutionscan be used in the following segments:

- commercial public applications, electrical railway and supply centers (hubs)
- in gated communities and business parks
- serving vehicle fleets
- serving public and private collective transportation.



1st
ultra-fast charger in downtown Curitiba

BRL 15.6 million
invested in electromobility

Known as the Fuel Station of the Future, the location was created through an R&D project in a public tender run by the Brazilian National Electricity Regulatory Agency (ANEEL). Together with other projects, they total a Copel investment of BRL 15.6 million in electromobility.

The initiative also includes solar energy generation on the roofing of the parking spaces, integrated with a storage system, ensuring sustainable charging. The recharging authorization and charging process is also carried out through Copel's Eletroposto Fácil app.

The implementation of these new charging points takes the number of EV chargers provided by Copel from 23 to 32 throughout Paraná, positioning Curitiba as the city with the best charging station coverage in Brazil.

This synergy allows Copel to strengthen its planning and its insertion in the electromobility market, connected with its objectives of growing sales through innovation, sustainability and profitability.

Copel's initiatives place Curitiba at the forefront as the city best served by EV charging stations in Brazil

GRI G4-EU8

Research and Development Programs (R&D) - ANEEL

Another area focused on research and innovation is the projects carried out to drive the development of the Brazilian power sector and help build solutions for its challenges.

Copel GeT and Copel DIS maintain specific areas for managing R&D and Energy Efficiency programs, in accordance with Brazilian Federal Law No. 9,991/2000, which requires 1% of Net Operating Revenue (NOR) be invested in these activities.

These projects support the entire sector with innovative solutions that have a lower socio-environmental impact in areas such as electric mobility, safety, renewable energy generation including green hydrogen (*see more on pages 84 and 85*), and the expansion and modernization of generation, transmission, distribution and trading utilities. All these initiatives generate technical, operational, economic, social and environmental benefits, leading to an increase in the quality and reliability of systems for end consumers.

The investment in these projects in 2023 was BRL 40.5 million. This volume is lower than in previous years due mainly to regulatory changes introduced by ANEEL in 2023, which influenced project procurement, resulting in an operational slowdown.

Copel holds the registration for 12 industrial designs, 53 software registration certificates, 11 awarded patents and 62 industrial design registration applications.

11
patents granted by INPI (National Institute of Industrial Property)

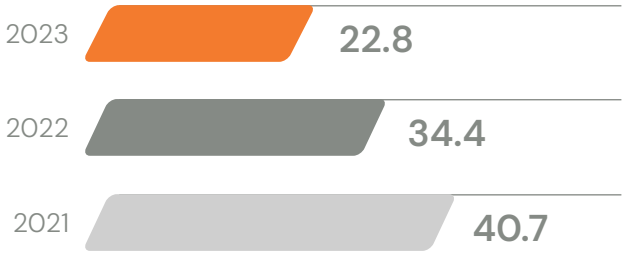
53
software registration certificates

62
industrial design registration certificate applied for

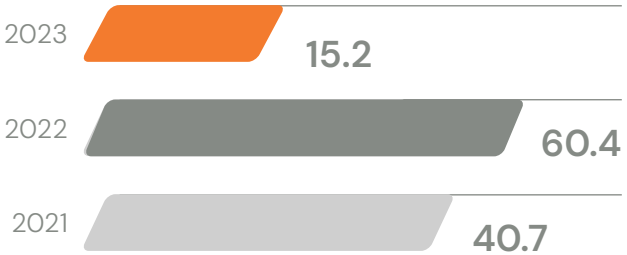
GRI G4-EU8

Investment in R&D (BRL millions)

COPEL GeT



COPEL DIS



Investment in Research and Development by topic	2022	% in total investments	2023	% in total investments
Energy storage	BRL 249,164.53	~0%	BRL 0.00	0.0%
Energy efficiency	BRL 5,021,355.08	5%	BRL 3,455,227.66	9.2%
Alternative energy sources	BRL 0.00	0%	BRL 12,740.12	~0.0%
Watershed and reservoir management	BRL 87,414.42	~0%	BRL 0.00	0.0%
The environment	BRL 3,870,352.29	4%	BRL 2,932,283.44	7.8%
Metering, billing and loss reduction	BRL 1,079,553.04	1%	BRL 586,125.20	1.6%
Operation of electric power systems	BRL 9,404,677.85	10%	BRL 1,882,964.28	5.0%
Power system planning	BRL 12,011,135.89	12%	BRL 4,128,767.66	11.0%
Power system supervision, control and protection	BRL 8,669,288.73	9%	BRL 9,892,428.31	26.3%
Safety	BRL 5,293,328.60	6%	BRL 1,907,385.92	5.1%
Power supply quality and reliability	BRL 24,957,441.56	28%	BRL 11,469,844.63	30.5%
Others	BRL 24,014,931.57	25%	BRL 943,789.78	2.5%
RD&I management	BRL 174,331.41	~0%	BRL 360,441.48	1.0%
Total	BRL 94,832,974.97	100%	BRL 37,571,998.48	100%

Green hydrogen

Hydrogen is one of the promising sources for the future of low-carbon energy production, and continuing to advance in different hydrogen technologies is one of the focuses of Copel GeT's R&D area. In 2023, a tender called for projects with a comprehensive approach to hydrogen, with a common requirement: the utilization of biomass, making the process of obtaining hydrogen even more sustainable.

Energy is required to develop hydrogen, and the tender was conducted to foster the use of a natural and abundant product in Paraná, biomass (waste) originating from pig farming, to generate the energy to power this process.

The tender received around 70 applications and selected three projects for development. The research is expected to take two years and will receive a total of BRL 7.6 million from Copel (considering the three projects). Learn more about the initiatives below:

Federal University of Paraná (UFPR): the project is based on the production of renewable hydrogen associated with the use of artificial intelligence (AI) to optimize the process performance. The project's format is innovative and proposes increasing the degree of technological maturity involved in electricity production from biogas through the hydrogen route.

National Industrial Training Service of Pernambuco (Senai-PE): the initiative proposes the structuring of traceability and assurance for the certification of low-carbon hydrogen (H_2) from biomass. By applying blockchain technology in the hydrogen chain production process, the idea is to trace the source of the electricity used for H^2 production and the associated carbon emissions.

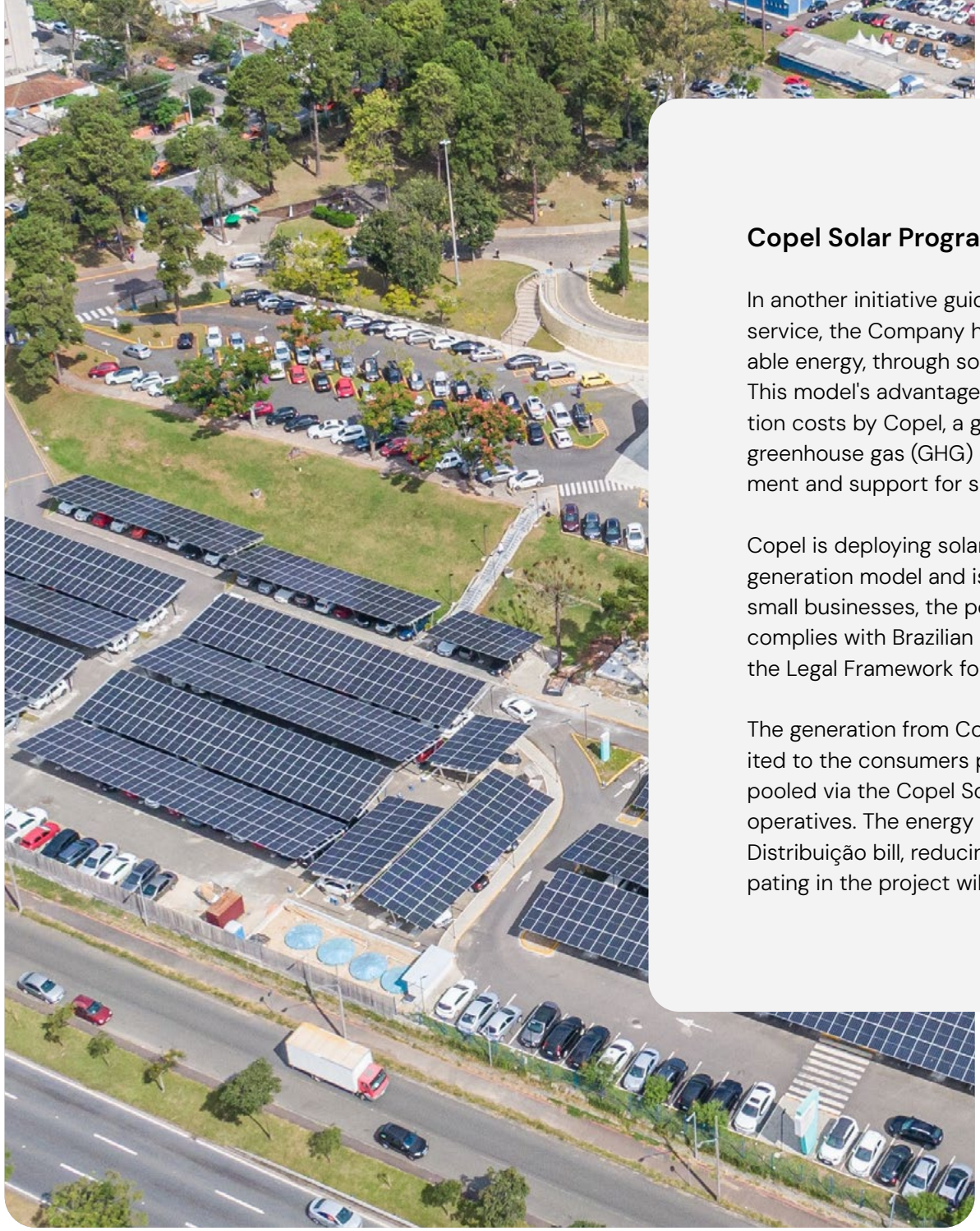
Association of Researchers of North Brazil (RO) (Apreno): aiming to develop a low-carbon hydrogen production system at scale to produce ammonia and urea. The ammonia and urea produced by this low-carbon method can be used in agriculture as fertilizers.

Renewable Hydrogen Project

Alongside this, a corporate initiative aligned with the State Government's strategy is in the spotlight by positioning Paraná as a hub for green-hydrogen energy generation. Sanepar and Copel have joined forces to run the Renewable Hydrogen project that harnesses energy for electromobility from the dry reforming of biogas emitted during household sewage treatment.

The implementation of Brazil's first pilot plant for producing renewable hydrogen from biogas in Paraná will receive an investment of BRL 12.5 million (50% financed by Finep, the financier of studies and projects, of the Brazilian Ministry of Science, Technology and Innovation) and will receive support from the ITCs CIBiogás and UFPR. The goal is to conduct a market study and develop a business model for renewable hydrogen.

Other applications that Copel is mapping for the use of renewable hydrogen in Paraná include methanol, steelmaking, serving industries such as ceramics, glass and cement and refineries, which already have their own generation facilities, and fields such as those used for electricity production storage, mobility and exports.



Copel Solar Program

In another initiative guided by the ESG agenda and customer service, the Company has launched a service offering local renewable energy, through solar sources, in the form of a cooperative. This model's advantages include the absorption of implementation costs by Copel, a greater renewable energy supply and lower greenhouse gas (GHG) emissions, as well as community engagement and support for small businesses.

Copel is deploying solar farms in Paraná in the shared distributed generation model and is offering certain consumers, especially small businesses, the possibility of saving money. The initiative complies with Brazilian Federal Law 14,300/2022, which introduced the Legal Framework for Micro and Mini-Generation of Energy.

The generation from Copel's solar farms will be shared and credited to the consumers participating in the project, who will be pooled via the Copel Solar/Nex and Copel Solar/Nextron cooperatives. The energy credit will be deducted from the Copel Distribuição bill, reducing the invoice amount. The fee for participating in the project will be paid directly to the Cooperative.

LEARN MORE
Further information is available in the program's website, at
www.copelsolar.com

Microgrids to reinforce the supply system

Microgrids are seen as a key element in the future of distribution because, in the event of a system failure, these generating units can be automatically islanded and start supplying the microgrid area during the contingency period. A pioneering project spearheaded by Copel in partnership with the Federal University of Paraná (UFPR) and the Municipality of Curitiba is building small power stations in Parque Barigui. The idea is to test the efficient management solution and the supply, making the distribution network more reliable, and spread awareness about renewable energies and their various applications.

The structure includes a microgrid management system that serves part of a municipal government building near the site and a space for electric vehicle charging, powered by solar energy. This part of the building can now operate on a standalone basis, with the support of a hybrid inverter system and batteries. The set-up increments the energy generation structure in the park, through a micro-hydropower plant (MHP) and a photovoltaic generation unit.

The goal is to reduce peak demand on the feeder circuit and electrical system losses, increasing overall energy efficiency. In addition to feasibility, the initiative also helps raise awareness about renewable energies and smart power grids.

In São Miguel do Iguaçu, a microgrid has been operational since 2021 in partnership with residents, Copel and Itaipu.

Copel is adopting efficient management solutions for solar energy generation, microgrids and smart power grids

Operating Efficiency

GRI G4-EU6

Generation

More than a commitment, operational efficiency is one of Copel's strategic objectives. Copel GeT maintains dedicated areas for efficiency management, which assess performance metrics according to the Management Excellence Model (MEG) of the National Quality Foundation (FNQ) (*see more on* page 22).

The performance of generation assets is assessed by indicators established in the Management Agreement between the Holding company and Copel GeT and in certification processes. The subsidiary implements the Reliability-Based Operation & Maintenance (O&MBC) model to optimize performance and reduce asset failures. Recognition by the ONS' Annual Performance Report (RAD) and the ISO 9001, ISO 14001, and ISO 45001 certifications show our strategies are working.

As part of the Company's decarbonization and ESG improvement commitments, Copel notified the Ministry of Mines and Energy (MME) of its intention to return the concession of the Figueira Thermal Power Plant (UTE Figueira) (*see more on* page 100). The challenge of becoming increasingly efficient is also embedded as one of the objectives of the open innovation program and research and development projects (*see more on* page 77).

Efficiency of plants

Power generation depends on weather conditions to ensure delivery volumes, as well as compliance with sector regulations.

The generation volume of hydroelectric plants that have an installed capacity of more than 50 MW is defined by the Operador Nacional do Sistema - ONS (National Electric System Operator) in accordance with the state of the reservoirs and electricity demand. The plants' uptime, i.e., the percentage of time the generating units remained available for operation, was 91% in 2023. This performance is highlighted in the ONS' Annual Performance Report (RAD), indicating results comparable to high-performance plants. The ANEEL technical report also rated the performance of GeT's largest plants as good and excellent.

Wind generation showed progressive growth from 2,461.47 GWh in 2021 to 2,701 GWh in 2022, and 4,056 GWh in 2023. The improvement in 2021 could be attributed to the normalization of wind patterns after 2020, which had below-average winds. The growth in 2022 and 2023 was driven by the commissioning of the Jandaíra Wind Clusters and then the Aventura and Santa Rosa & Mundo Novo clusters.

GRI G4-EU30

Average availability factor for our hydroelectric dams (%)

In 2023, the UTE Figueira had an operational efficiency of 23.9%. The Araucária Plant did not operate in 2023. GRI G4-EU11

Modernization

Reopened in 2022, the Generation and Transmission Operation Center (COGT) in Curitiba remotely and centrally manages our multiple power plants and substations and thousands of kilometers of power transmission lines around the clock. Following an upgrade, the various platforms used to oversee and control power plants, lines and substations were merged, and data storage was centralized to generate efficiency, quality and safety.

Continuous investment in the revitalization and technological improvement of assets is ongoing. After completing investments in its largest hydroelectric plant, Foz do Areia, in 2022, Copel is planning investments in the Governor Pedro Viriato Parigot de Souza Hydroelectric Plant in 2024 and the Governor Ney Aminthas de Barros Braga Hydroelectric Plant (Segredo) in 2025. In 2023, the Chaminé Hydroelectric Plant, in São José dos Pinhais (PR), had its turbine and generator control systems upgraded. The installation is living history, generating energy since 1930.

LEARN MORE
about generation efficiency in the
2023 Annual Social-Environmental and Economic-Financial Responsibility Report of GeT

Transmission

Throughout 2023, Copel obtained authorizations from the Brazilian National Electricity Regulatory Agency (ANEEL) for investments of approximately BRL 200 million in a package of projects in the Paraná energy transmission network, including the replacement of transformers and other equipment to increase the capacity of substation transformation and reinforce interconnection. The investments in infrastructure ensure a stable and secure energy supply and will increase Copel's Annual Permitted Revenue (RAP) by BRL 32.6 million in the coming years.

Transmission efficiency is measured by technical losses in the transport of energy to the "Center of Gravity", where it is split into 50% for generators and 50% for energy consumers, in accordance with the terms of the current regulations. In 2023, the percentage of this technical loss was 2.59% of total energy compared to 2.82% the previous year. The index is the lowest in the last three years.

The technical losses can be explained by the increase in energy generation, restrictions in the transmission system and the installation of new equipment, as well as the concentration of generation at points distant from the load center, causing a significant variation in the energy exchange between the submarkets. The losses of the last three years are close and depend on the operation of the Brazilian system.

The Integrated Management System is certified to ISO 9001 in the Operate and Maintain Transmission Infrastructure process.

BRL **32.6 million**
increase in Annual Permitted Revenue (RAP) in the years ahead

GRI G4-EU12
Technical transmission losses (%)

GRI G4-EU6, EU12, EU28

Distribution

The concession agreement between Copel DIS and ANEEL sets out clear rules for maintaining operational efficiency with rules for rates, regularity, continuity, safety, modernity and quality of services and of the service offered to consumers.

Distribution companies are required to serve the entire market without excluding low-income communities or sparsely populated areas. ANEEL standards also encourage utilities to implement measures to reduce electricity waste and support R&D in the power sector.

Operational efficiency in distribution are assessed using indicators like Equivalent Outage Duration per Customer (DEC) and Equivalent Outage Frequency per Customer (FEC).

The indicators are set by ANEEL, which also sets the limits to ensure the quality and efficiency of the electricity sector.

Historically, Copel DIS's results have been more efficient than the parameters defined by ANEEL. In 2023, the FEC was 5.21 and the DEC 7.86 – showing improvements compared to the previous year of 1.54% and 1.53%, respectively. This result is even more significant considering the more frequent occurrence of extreme weather events during the period, mainly due to storms, factors determined by the quality of the network and Copel's prompt response (*see more about storm damage on* *page 106*).

The efficiency is also measured by the distribution energy loss indicators, i.e. the difference between the electricity acquired by the distributor and that billed to its consumers. In 2023, the global losses represented 9.0% of all the energy injected into the distributor's system, of which 5.9% was technical losses, 1.9% non-technical losses and 1.2% backbone losses.[1].

[1] Technical losses refer to the portion inherent to the transport process, voltage transformation, and measurement of energy in the utility's grid. The non-technical losses, in turn, derive from energy theft, measurement errors, errors in the billing process, consumer units without measurement equipment, and others.

Efficiency metrics GRI G4-EU28, EU29, SASB-IF-EU-550a.2	Copel DEC	ANEEL DEC Limit	Copel FEC	ANEEL FEC Limit
2021	7.22	9.29	4.83	6.84
2022	7.98	9.19	5.29	6.80
2023	7.86	8.69	5.21	6.39

Loss rate[1] (%) GRI G4-EU12	2021	2022	2023
Backbone	1.5	1.4	1.2
Technical losses - Distribution	5.8	5.7	5.9
Non-technical losses - Distribution	1.9	1.9	1.9
Global losses - Distribution	9.2	9.0	9.0

Grid market (TUSD) GRI G4-EU3	Number of consumers			Electricity sold (GWh)		
	2022	2023	%	2022	2023	%
Captive sales	5,011,557	5,098,006	1.72	19,370	20,173	4.15
Free market	2,629	3,071	16.81	12,244	12,737	4.03
Sales to concession operators	7	7	-	925	940	1.62
Grid market	5,014,191	5,101,084	1.73	32,539	33,850	4.03

Captive sales (Electricity Sold) (GWh) GRI G4-EU3	2021	2022	2023	%
Residential	8,068	8,212	8,888	0.08
Industrial	2,275	2,102	1,941	-0.08
Commercial	4,149	4,294	4,520	0.05
Rural	2,461	2,357	2,352	~0.00
Others	2,359	2,405	2,472	0.03
Total	**19,312**	**19,370**	**20,173**	**0.04**

[1] The losses are classified into technical losses in the Backbone and technical and non-technical losses in Distribution, both measured by the energy lost in relation to the energy injected into the distributor's system.

GRI 203-2, G4-EU6

Investment in technologies and network modernization

Throughout the year, we continued to advance our Transformation Program and its three core pillars: *Paraná Trifásico* ("Rural Three-Phase Program"), Smart Grids, and *Confiabilidade Total* ("Total Reliability"). We successfully met our targets for the year across these initiatives. With investments totaling BRL 1.8 billion in infrastructure for lines, substations, physical installations, and data communication technology, Copel DIS has benefited clients and consumers, providing higher quality in the distributed electricity and agility in the distributor's service delivery.

BRL **1.8 bn**
invested by Copel Distribuição in infrastructure for lines, substations, physical installations, and data communication technology

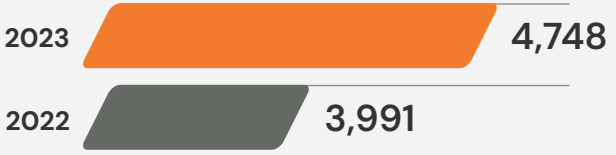
Paraná Trifásico

Through this program, Copel DIS is modernizing rural electrical infrastructure by replacing outdated single-phase power lines. This initiative will provide access to more affordable electricity, improve power quality, enhance public safety, and strengthen the state's energy security while renewing its assets.

The program received a BRL 672 million investment in 2023 with a view to reaching the milestone of 15,000 km of three-phase power lines. Since its launch in 2019, upwards of BRL 1.8 billion has been allocated out of the total planned investment of BRL 3.1 billion in a total of 25,000 km of new power lines to be completed by 2025.

With 60.1% of the program now complete, the initiative has positively impacted the agricultural sector in Paraná state in over 351 cities benefited by the program, resulting in reduced Operation & Maintenance (O&M) costs for the company.

Km of lines modernized



GRI G4-EU7

Smart Grids

Our Smart Grid program started its second phase in the latter half of the year, primarily focused on installing sensors and remote-control devices, including digital meters at customer connections. As of 2023, a total of 615,000 smart digital meters had been installed in homes, businesses, industrial facilities, and rural properties.

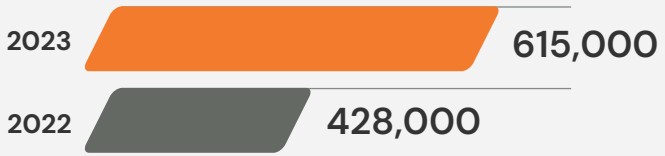
The program has a budget allocation of BRL 820 million across its three phases, making it Brazil's largest smart grid initiative. Upon completion in 2025, Copel DIS's Smart Grid program will benefit 1.6 million consumers.

Investments in communication and automation equipment for the power grid will help to reduce outages and enable quicker crew responses thanks to real-time data, avoiding trips to consumer units for service execution and meter reading.

In addition to improving safety and energy efficiency and helping to identify losses and theft, Smart Grids will accommodate other services in the future, such as distributed microgeneration, energy storage, public lighting, and electric vehicle charging.

Consumers in areas covered by the Smart Grid Program can also monitor their energy consumption using Copel's mobile app.

Smart meters installed[1]



[1] Cumulative numbers.

Full Reliability

This program aims to improve power quality through automation, helping to build consumer trust in Copel DIS's energy services. In 2023, BRL 300 million was invested in power system automation, substation construction, and technology for field crew communication and remote system operation.

Built on four integrated pillars, the program is focused on reducing both the duration and frequency of power outages, while also supporting better targeted maintenance crew dispatching, enhancing operational safety through improved communication systems, and accelerating the implementation of automated self-healing systems.

The core software at the Control Center, monitoring high, medium, and low voltage consumer data across Paraná, was also upgraded. Copel DIS has invested in an Advanced Distribution Management System (ADMS), providing the Integrated Distribution Center team with greater flexibility to operate across all substations efficiently. This translates into a more reliable electricity supply to customers.

After integrating the system across distribution substations, ADMS was expanded to other grid equipment used to restore power after outages, supporting better integration across grids, power lines, substations, and other infrastructure.

Operational switching has also been automated, enabling the distribution network to detect faults, trigger responses, and restore power autonomously.

In addition to automating network operation, the system has also enhanced cybersecurity.

GRI G4-EU6

Energy efficiency program and Procel

The Energy Efficiency Program (EEP) receives annual funds from energy utilities aimed at promoting the efficient use of electrical energy in all sectors of the economy, regulated by federal legislation.

Copel DIS issues every year a bid notice for consumers to submit project proposals that demonstrate the importance and economic feasibility of improving the energy efficiency of equipment, processes and end uses of energy. Industrial, residential (condominium), rural, commercial and service consumers, public authorities, public lighting and public services may participate in the process.

In 2023, the program selected 191 projects from industrial, residential (condominiums), and public lighting consumers, with a total investment of BRL 82.2 million. The initiatives involve the replacement of lamps, household appliances, industrial machinery, and other electrical equipment with more efficient models.

This initiative is directly linked to the Sustainable Development Goals, as it enables access to more modern and efficient equipment, leading to energy savings and a better quality of life for customers by reducing greenhouse gas emissions.

[1] The Energy Efficiency Program is provided for in Brazilian Federal Law No. 9,991/2000 and ANEEL Normative Resolution No. 920/2021.

BRL 82.2 million
invested in projects that foster energy efficiency

Energy efficiency	2021	2022	2023
Energy saved (MWh/year)	17,476.67	22,572.26	36,120.69
Emissions avoided (tCO_2/year)[1]	1,537.95	2,674.81	4,280.30
Peak shaving (kW)	2,607.27	2,682.73	4,324.32

[1] To obtain avoided emissions, multiply the energy saved by the conversion factor of 0.1185 tCO_2 per MWh, as presented in the National Energy Balance (BEN) published in the previous year (2022).

Public hospitals are set to save up to 75% on their electricity bills

The investment made in 2023 includes 41 hospitals, which are improving their energy efficiency thanks to the program. The improvements include the installation of photovoltaic panels, the replacement of lighting, and upgrading equipment to more efficient models. These enhancements are expected to generate savings of up to 75% on electricity bills, allowing the saved funds to be redirected to the population. The hospitals were selected based on socioeconomic criteria such as the number of national health service (SUS) beds, the municipality's Human Development Index (HDI) and the difficulty in paying the energy bill, in addition to technical requirements for project evaluation.

GRI 3-3, 201-2, SASB-IF-EU-110a.3

Environmental Commitment

SDGs

Capitals

GRI 3-3

The commitment to the environment is taken seriously at Copel, and was enshrined in the materiality review conducted in 2023. Through this assessment, which involves consultation with stakeholders and alignment with the company's vision, priority environmental topics were grouped under Environmental Commitment. These encompass not only climate change and concerns about biodiversity and ecosystem services but also eco-efficiency and the rational use of resources such as water and energy, and waste generation.

For all these issues, Copel relies on national and international references. This includes the use of recommendations from the Task Force on Climate-related Financial Disclosures (TCFD) in disclosing climate-related matters and beginning to apply the recommendations from the Taskforce on Nature-related Financial Disclosures (TNFD), launched in 2023, which Copel is learning more about.

Our Ecoefficiency Program systematizes actions to reduce energy, water, fuel and paper waste and waste in general. The company has established corporate guidelines that have been drawn up and disseminated through policies and rules that cover all its areas, including its subsidiaries, with performance targets tailored to each business unit.

The guidelines include:

- Promote ecoefficiency in all processes, aiming at reducing consumption and encouraging the sustainable use of natural resources and ecosystem services.
- Mitigate the negative impacts and enhance the positive ones in its activities and business.
- Make a difference minimizing climate change impacts within the operation and when increasing assets.

Environmental management governance

The Board of Directors is the highest governance body guiding strategic decisions, including investment plans, supervision of the implementation of Copel's 2030 Vision, and Carbon Neutrality Plan. Its actions are also aligned with the guidelines of the Climate Change Policy, Corporate Risk Management requirements, and other environmental issues relevant to the Company.

Interconnected topics such as biodiversity management, eco-efficiency, climate agenda, and environmental management share a common governance structure, especially concerning the responsibilities of the Board of Directors and the Sustainable Development Committee (CDS).

The Sustainable Development Committee (CDS) is a permanent statutory body whose role is to support directors in deepening the debate on key environmental issues and making recommendations for decision-making.

The Sustainable Development Committee (CDS) actively participates in defining objectives, indicators, and goals, while regularly monitoring performance and risks and engaging related public policies. It comprises three members: two directors and one external member, an ESG expert.

The Investment and Innovation Committee (CII) sets the criteria for the selection, evaluation, approval and monitoring of investments aligned with strategic planning, including the Company's decarbonization agenda.

Aligned with the strategic planning and commitments approved by the Board of Directors, Legal and Compliance establish environmental guidelines that cover climate change, biodiversity, and eco-efficiency. Moreover, these departments are responsible for implementing decisions approved by the Board of Directors, with specific committees formed by representatives of all wholly-owned subsidiaries and boards for climate-related topics.

With a results-oriented management model since 2022, the Company has set ESG goals indexed to variable compensation. Climate change, biodiversity and eco-efficiency feature heavily among the established indicators and goals. Depending on each Company department, these goals involve reducing fossil fuel consumption and electricity, enhancing smart grid services, delivering the Neutrality Plan, and seeking new technologies to improve the Company's environmental performance.

Copel is also adapting to new International Sustainability Standards Board (ISSB) and IFRS Sustainability Disclosure Standards to enhance transparency in its relationship with investors.

The next pages show the main actions adopted in the areas of energy, climate change, biodiversity, water and waste.

Climate change[1]

Copel has been deploying its climate strategy across two fronts: the Neutrality Plan and the Business Adaptation Plans.

The 2021 Neutrality Plan is conducive with the Paris Agreement commitments. Through this plan, Copel commits to reducing greenhouse gas emissions (GHG) and offsetting Scope 1 2030 residual emissions by 2030, which includes assets under its operational control (*see more in targets and performance below*).

Copel is further seeking to mitigate the energy transition risk by expanding its generating facilities to include more renewable sources and offering increasingly sustainable services.

In 2023, Copel GeT and Copel DIS ramped up their assessments of climate change risks and vulnerabilities, resulting in the development of their respective adaptation plans. These documents, available on the *Sustainability Portal* help outline the risks and opportunities according to each business' characteristics.

Subsequently, the Company plans to advance studies and modeling for monetizing climate change risks and opportunities, enhancing the analysis of these impacts' financial consequences.

In Generation, studies were conducted to analyze the effects of climate change on watershed water patterns and wind variation are two of the risks assessed for generation, among others. In distribution, work conducted by Sinapsis - Innovation in Energy and Climatempo (StormGeo Company), supported by Copel, presented a climatic analysis of Southern Brazil, considering the resilience of distribution networks in projections up to 2050.

[1] The climate management disclosure considers the framework of the Task Force on Climate-related Financial Disclosures (TCFD), which provides voluntary recommendations for climate-related financial disclosures.

Climate models

Copel has been studying the impacts of climate change using climate models. For physical risks, the RCP 8.5 scenario is used, and for transition risks, the IEA NZE 2050 scenario is applied. These models assist the Company in both managing and growing its operations (*see more about the implications of climate risk management on page 101*).

Commitment to reduce greenhouse gas emissions (GHG) and offset Scope 1 residual emissions by 2030

Mitigation and adaptation measures

To minimize the potential impacts of climate change, the Company has Contingency Plans and Action and Emergency Plans that guide teams how to respond to extreme weather events. It also conducts real-time monitoring using satellite images and meteorological radars, along with forecasts on rainfall, temperatures, wind patterns and future flow scenarios.

Copel DIS is participating in an R&D project with the Sistema de Tecnologia e Monitoramento Ambiental do Paraná (Simepar - Paraná Environmental Technology and Monitoring System) to develop a mathematical model that will estimate the risks of power outages due to severe events before they occur.

Regarding climate adaptation in the medium and long term, in addition to decarbonizing the generation matrix, the Company invests in R&D projects, energy efficiency and transmission and distribution infrastructure, such as Paraná Trifásico (Rural Three-Phase Program) and Smart Grids, which improve network resilience (*see more on page 93 and 94*).

Copel spearheading the transition

On the regulatory front, Copel monitors the actions of governmental bodies, including discussions on a bill that sets a ceiling for carbon emissions and seeks to regulate the carbon credit market in Brazil. It also participates in forums and discussions held by associations related to the topic.

Copel believes it can play a leading role in supporting society's transition to a low-carbon economy. It is therefore investing in wind and solar energy sources, aiming to decarbonize its energy matrix. Among the identified opportunities are the development of solar energy projects in areas adjacent to existing wind farms, expansion in the distributed generation segment, and investments in research and development of innovative technologies related to green hydrogen or low-impact carbon from biomass, biofuels, or organic waste.

It also aims to increase the trading of Renewable Energy Certificates (I-REC), a traceability instrument that ensures the energy is renewably sourced. Copel Mercado Livre, one of the main energy traders in the country, is also striving to expand the offer of renewable energy in the market.

Among the opportunities are the expansion of distributed generation, R&D, and innovations related to green hydrogen or biomass carbon, biofuels and organic waste

Financial Planning

At Copel, the financial planning horizon spans the short- (2023), medium- and long-term (2024 to 2027), including the 2030 Vision to decarbonize the current portfolio by switching to renewable energies. Operational, strategic and innovation investments follow the guidelines of the Sustainable Development Committee and the Investment Policy.

In recent years, the company has focused its financial efforts on technological advancement and nurturing innovation, along with forming more ventures dedicated to clean energy generation, such as wind farms, solar projects and hydroelectric plants. The growing demand for energy from renewable sources is evident among customers, who seek solutions that help drive down Greenhouse Gas (GHG) emissions.

Divesting out of assets:

Araucária Thermal Power Plant (UEGA): progress in the disinvestment process of the Araucária Gas Power Plant (UEGA), where Copel holds an 81.2% interest.

Usina Termelétrica de Figueira (UTE Figueira): request to return the concession submitted to the Ministry of Mines and Energy.

Compagas: potential divestment of interest in progress.

Copel – Transitioning to carbon free

By committing to the goal of becoming a company with 100% renewable energy, Copel also began the process of divesting its thermal assets. Unveiled in 2021 alongside the 2030 neutrality plan, Copel's electrical matrix decarbonization is in an advanced stage.

In December 2023 Copel proceeded with the disinvestment process of the Araucária Gas Power Plant (UEGA), where Copel holds an 81.2% interest. The operation is estimated to be completed in 2024. Also in 2023, the company filed a request to return the concession of the Figueira Thermopower Plant (UTE Figueira) to the Ministry of Mines and Energy.

Lastly, Copel is also planning to potentially divest its 51% interest in Compagas, a gas utility in Paraná. The 30-year extension of Compagas' operating concession in Paraná was a strategic factor in making this asset more attractive. Copel's interest is expected to be sold in 2024.

Managing climate risks

The major corporate risks are identified on the basis of the strategic benchmarks, climate models and the internal and external environments in a detailed Risk Management process. Since 2022, climate risks have been assessed separately from socio-environmental risks.

The risk map plots both physical risks and transition risks. See the detailed breakdown below:

MAIN RISKS INVOLVING COPEL'S BUSINESS AND ITS SUBSIDIARIES

Physical risks		Potential impacts	Mitigation initiatives
Physical, acute	Cyclone, tornado, hurricane	Strong winds can damage the Company's transmission lines and distribution networks.	Short-term initiatives include meteorological monitoring and procedures, aiming to restore the electrical system as quickly as possible. Additionally, planning includes investments geared towards a robust and secure network, with technologies that minimize the impact, frequency and duration of outages, meaning the energy supply can be restored more quickly. Our key initiatives are: **Rural Three-Phase Program (p. 93), Smart Grid Program (p. 94), Urban Forestry Program (p. 113).**
	Flash floods	The occurrence of heavy rains can affect the hydrological regime and trigger risk situations for the energy generation business operations.	Copel has devised a Dam Safety Plan that includes structure monitoring procedures, inspections, periodic safety reviews, and the establishment of Emergency Action Plans for dams and socio-environmental actions (pg 69). There are also emergency action plans against floods with periodic drills (pg. 137).
Physical, chronic	Temperature changes	Warmer weather tends to increase energy consumption due to greater use of air conditioning. Under these conditions, the load limit of high-voltage distribution lines is reduced to preserve the thermal balance of the conductors and ensure cables remain at a safe height above the ground.	Copel relies on studies to revise the ambient temperature value used to evaluate the loading of distribution lines in expansion planning studies, aiming for greater operational safety.

Transition risks	Potential impacts	Mitigation initiatives
Current regulations	The growing popularity of micro and mini-distributed generation grids with credit offsets can lead to distributor over-contracting. The need to adapt the existing electrical grid due to regulatory changes motivated by climate issues may lead to unprovisioned financial investments or administrative sanctions from the regulatory agency.	Monitoring, tracking, and participating in discussions on the topic in forums promoted by sector entities and associations.
Emerging regulations	Establishment of a regulated carbon market in the country, which, by definition, sets greenhouse gas reduction targets, may impact the company's offsetting costs.	Monitoring, tracking, and participating in discussions on the topic in forums promoted by sector entities and associations. The Company established its Neutrality Plan in 2021 aiming to minimize Scope 1 emissions from its operations.
Technology	Ability to keep up with the speed and pace at which innovative low-carbon products and services are required.	Monitoring market trends, executing R&D projects, the Copel Volt open innovation program, creating a corporate venture capital fund for energy techs, startups focused on new renewable energies (pg. 77-87).
Legal	Potential increase in litigation, driven by power supply outages, due to the heightening of acute physical risks in power grids (rain, wind and lightning).	Investment in a new management system to expand and modernize customer service for the distributor's entire customer base and implementing the Smart Grid Program, which aims to automate the distribution network, seeking to reduce downtime and allowing real-time monitoring, along with other actions related to distribution assets.
Reputational	Potential impacts on Copel's image due to the increase in the number of severe weather events and the intensification of their effects.	
Market	Possibility of impacts on the energy trading price in the free market due to the influence of rainfall conditions.	Carrying out studies and analysis and adopting processes and systems for risk mitigation and portfolio diversification through the inclusion of other energy generation sources, such as solar and wind.

Targets

According to the strategic planning, Copel's 2030 Vision, and the Carbon Neutrality Plan endorsed by the Board of Directors in 2021, aligned with the Paris Agreement commitments, Copel aims to reduce its Scope 1 greenhouse gas emissions (GHG) and offset residual emissions by 2030 for assets under its operational control.

With the divestments from natural gas, coal and piped gas assets in full flow, Copel is on track to achieve its goal of having a 100% renewable generation matrix by 2024. To further advance in the development of a renewable, sustainable electric sector that provides energy security, the Company has also committed to ramping up renewable energy production and diversifying its portfolio, increasing the share of wind and solar sources. In 2023, these sources accounted for 17.1% of generation or 4,257.53 GWh – in 2022, the volume was 2,901.3 GWh.

Copel has intensified internal initiatives to reduce GHG emissions. In 2023, the percentage of electric vehicles in our light vehicle fleet increased to 17% – the goal is to reach 50% by 2030. For the truck fleet, Copel is studying technological alternatives that can meet its needs. The Company is also installing photovoltaic panels in substation areas in mini-generation systems to supply these locations with generated energy, while generating credits to offset its energy consumption (*see more in the box aside*).

17.1%
generation output from wind sources in 2023

17%
is the percentage of electric vehicles in our fleet

Solar energy to offset own consumption

The solar panels installed at the Centro-Sul Transmission Unit in Ponta Grossa (PR) will generate enough energy to power the company's facilities there. The surplus energy will generate credits to offset Copel's consumption elsewhere through the net metering system. The more than 500 panels have an estimated average generation of 35,000 kWh/month, for a 12-month period. Three other photovoltaic generation systems are under construction in towns and cities in North and Northeast Paraná, regions with abundant sunshine, in an investment of BRL 20.6 million. These units will account for 30% of the subsidiary's distribution consumption and are expected to save BRL 4.5 million annually. Sustainability and efficiency are taken into account when choosing solar panel installation sites. Land in substations already owned by Copel was selected. Another seven solar generation systems near substations are already being planned stages by the Company. The project combines cost savings with a commitment to sustainable energy and facilitates Copel's goal of achieving net zero emissions.

2030 Commitments

100% renewable matrix

2 GW+ in generation capacity

44% of the matrix from wind and solar sources, which will help reduce the CO_2 emission factor of the national power system, and consequently the reduction of Scope 2 and 3 emissions.

Topics in our innovation portfolio

Production and usage of **hydrogen**

Storage/battery systems

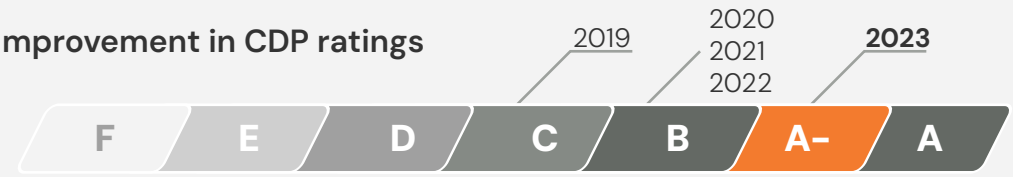
Electric **mobility**

Energy **efficiency**

CDP

To further strengthen management and indicator monitoring, the Company has been responding to the CDP Climate questionnaire since 2010, and performance continues to trend upwards. In 2023, the CDP awarded Copel an A- rating (on a scale from F to A) for its questionnaire.

Improvement in CDP ratings



Performance metrics

The Company monitors carbon emissions through inventories based on the Brazilian GHG Protocol Program, which it has been doing since 2009. For the third consecutive year, Copel has achieved the highest level of certification in this standard, the main platform used in Brazil to quantify and manage an organization's greenhouse gas emissions.

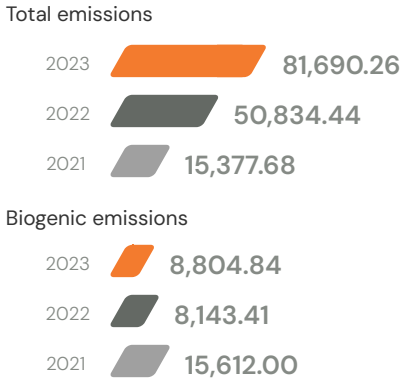
The organization exceeded its corporate goal for cutting emissions, based on the 2017 baseline, with a decrease of 132,257 tCO_2e achieved as part of Copel's Carbon Neutrality Plan, as the coal-fired power plant had its emissions reduced during the period.

In 2023, there was a reduction in emissions of 131 tCO_2e (tons of CO_2 equivalent) compared to the previous year. This was a direct result of initiatives such as the replacement of combustion-powered vehicles with electric models. The gases CO_2, CH_4 and N_2O were considered in this calculation, which followed the Brazilian GHG Protocol.

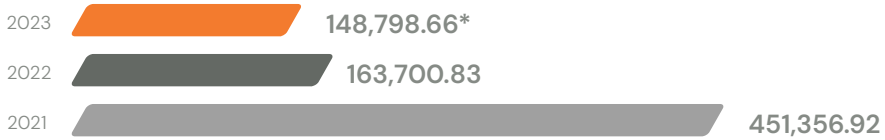
GRI 305-1, 305-2, 305-3, SASB-IF-EU-110a.2

Total greenhouse gas emissions (tCO_2e)[1] [2]

SCOPE 1[3] [4] [5]

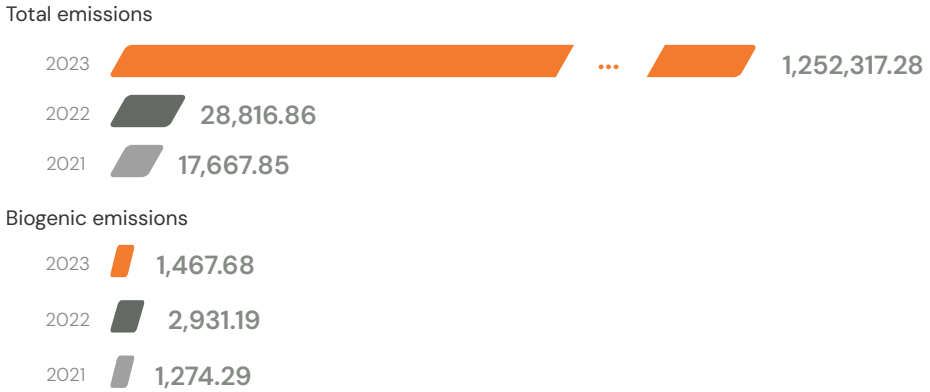


SCOPE 2[5] [6]



* Location-based approach

SCOPE 3[7] [8]



[1] The reference parameters adopted in the calculation tool follow the Brazilian GHG Protocol Program and the reports of the Intergovernmental Panel on Climate Change (IPCC). Also considered are the guidelines of the United States Environmental Protection Agency (US-EPA), the Department for Environment, Food and Rural Affairs of the United Kingdom (DEFRA), and the Paris Agreement under the United Nations Framework Convention on Climate Change (UNFCCC), which stipulates that national inventories must use the Global Warming Potential (GWP) values from the Fifth Assessment Report of the IPCC (AR5) or subsequent reports approved by the parties to the Agreement.
[2] The emissions inventory is assured by an external auditor, the Totum Institute.
[3] The gases included in Scope 1 are CO_2, CH_4, N_2O, HFCs, SF_6. CO_2 is included in Scope 2. The gases included in Scope 3 are CO_2, CH_4, N_2O. The method used to consolidate emissions was operational control.
[4] In 2023, the trial operation of UTE Figueira drove up Scope 1 emissions.
[5] 2017 is the baseline year for Scopes 1 and 2. This choice was made after revising the company's goals. This year, the total Scope 1 emissions reached 213,983 metric tons of CO_2 equivalent (tCO_2e), while Scope 2 emissions totaled 319,791 tCO_2e. It is important to note that during this baseline period, there were no significant changes in emissions that warranted new emission calculations.
[6] In 2023, there was a reduction in the CO_2 emission factor of the national interconnected grid, which pushed down emissions compared to the previous year.
[7] For Scope 3, Copel is still in the process of consolidating the baseline definition. However, the year 2019 was selected as the period in which certain fundamental data collection assumptions were established. The total emissions recorded that year were 686.67 tCO_2e. The categories and activities included in the calculation were transportation and distribution, operational waste, business travel and employee commuting.
[8] In 2023, it was understood that the emissions resulting from the use of electricity by customers in the captive and free markets should be accounted for and reported in Copel's inventory. Due to the sizeable number of Copel's customers, Scope 3 is now the company's largest source of emissions. The result for 2023 is not therefore comparable to those of 2022 and 2021.

GHG emissions intensity[1] [2] GRI 305-4	2021	2022	2023
Scope 1 emissions/revenue (tCO_2e/millions BRL)	0.65	2.32	2.75

[1] The gases included in the calculation were CO_2, CH_4, N_2O, HFCs, SF_6.
[2] Copel has revamped its emissions intensity calculation methodology, discontinuing the use of the tCO_2e/employee metric and opting solely for the financial metric as a reference. The Company recognized that the former metric proved inefficient for reporting, as it also accounted for non-administrative energy consumption. Additionally, incorporating financial indicators makes the information comparable to other companies. **GRI 2-4**

GRI G4-EU21

Extreme weather events cause unprecedented damage

2023 was marked by severe storms throughout Paraná state. A sequence of extreme climate oscillations, mainly between July and October, damaged the electrical grid.
The intensity of the storms caused most of the damage to the electrical grid, a situation compounded by strong winds and lightning strikes. The company also had to deal with the consequences of two tornadoes, when winds reached speeds of 160 km/hour. Between July and October, Copel DIS accordingly recorded 198,000 emergency outages, a number 28% higher than the historical average.

Copel DIS maintains a Contingency Plan for Adverse Weather Conditions, revised at the end of 2022, which defines guidelines for optimizing mobilizing teams and restoring the electrical system as quickly as possible. Investments in infrastructure, increasing automation of the grid, and deploying advanced technology also help deal with the damage left by the storms. These include the Rural Three-Phase Program and Smart Grid *(see more on pages 93 and 94)*.

Our generation structure was impacted in addition to the distribution network. Some hydropower plants entered a state of alert and led to closures of passages to ensure the isolation of risk areas. Monitoring of these reservoirs was constant, with the surrounding population communicated about it. Despite the conditions, no population removals were necessary in the year. Alternative measures such as opening spillways and increasing outflow through the gates were adopted to ensure environmental safety and the safety of the local population.

Copel GeT manages dams via a Dam Safety Engineering Department dedicated to maintenance and monitoring. In 2023, the company conducted internal drills to validate emergency procedures and achieved 100% of its goals. The Emergency Action Plans (PAEs) are easily accessible to municipal governments, Civil Defense and employees with whom Copel maintains constant engagement *(see more on page 136)*. To minimize future impacts, both Copel DIS and Copel GeT have the adaptation plans available.

LEARN MORE
See more about the socio-environmental and financial impacts of climate change on Copel and its stakeholders on our *Sustainability Portal.*

The elements[1]

3,935
CASES OF GUSTS OF WIND EXCEEDING 50 KM/H

in relation to
+14% 2022
+34.8% 2021

LIGHTNING STRIKES
+25%[2]

compared to 2021
+183%

Damage to the distribution system

5,637
BROKEN POLES

in relation to
+68% 2022
+59% 2021

This number of poles is equivalent to the structure of a **new network** spanning approximately **320 kilometers**

[1]Source: Paraná Meteorological System (Simepar)
[2]Compared to 2022

GRI 3-3, 304-2

Biodiversity[1]

Guidelines

Interconnected topics such as biodiversity management and the climate agenda share a common governance structure, especially concerning the responsibilities of the Board of Directors and the Sustainable Development Committee (Sustainable Development Committee (CDS)), detailed on *page 53*.

In 2023, the management of biodiversity and ecosystem services issues began to rely on a specific guiding document, the *Biodiversity Policy*, which is part of our Sustainability Policy. This document was based on national and international benchmarks, such as the National Biodiversity Policy (Brazilian Federal Decree No. 4,339/2002) and the Global Compact's 2030 Agenda. It determines that the actual and potential impacts on nature must be embedded in the company's strategic planning, internal processes, risk analysis and decision-making.

Among the guidelines outlined in the policy is the commitment to identify, assess, quantify and, whenever possible, price the impacts, dependencies, risks, and opportunities related to current and future projects to enable strategic management. The document also recognizes and reinforces the importance of indigenous peoples, quilombola communities, and other traditional communities in biodiversity conservation and the sustainable use of ecosystem resources and services (*see more about the relationship with indigenous peoples on* *page 128*).

[1] Launched in 2023, the set of recommendations for nature-related financial disclosures was factored into Copel's biodiversity management presentation. These recommendations were developed by the *Taskforce on Nature-related Financial Disclosures* (TNFD), an initiative similar to the *Task Force on Climate-related Financial Disclosures* (TCFD) focused on climate and also applied by Copel.

GRI G4-EU13, GRI 2-25

Strategy

Copel's assets span several Brazilian biomes, including the Atlantic Forest, the Cerrado, the Amazon, and the Caatinga, meaning our footprint touches different ecosystems. The most significant impacts on biodiversity stem from the modification of environments where the energy generation, transmission and distribution projects are deployed and operated.

Our activities sometimes require the clearing of vegetation that could trigger fauna and flora decreases or flight, affect green corridors between remnants of native vegetation, or alter the composition and dynamics of aquatic communities in the case of hydroelectric installations, among other risks.

Changes affecting the availability of ecosystem services, such as water provision, climate regulation, nutrient cycling, and soil erosion control, can also affect Copel's operations. These consequences can impact both generation operations, due to the unavailability of services such as water and wind for hydroelectric and wind power generation, as well as transmission and distribution networks, which may face operational restrictions.

To manage these risks and impacts, environmental studies are conducted at various stages of environmental licensing and include the specification and monitoring of changes in fauna and flora. Whenever possible, new ventures steer clear of protected areas or biodiversity hotspots and are subject to prior risk management processes. Whenever Conservation Units or other protected areas are identified, the possibilities of relocation or changes in the project are studied to minimize the impact on the areas.

Copel has also developed pilot studies to deepen its evaluation of ecosystem services and the impacts of its activities, with a view to drawing on this expertise to assist in the assessment of new projects and in addressing challenges. Based on this, environmental programs and measures are defined to avoid, reduce or offset impacts.

Copel GeT's operations affect biodiversity more and operational areas are therefore periodically evaluated. In the latest update, which assessed 220,000 hectares across Brazil, the locations of all the Company's hydroelectric plants, transmission lines and five wind clusters were analyzed in relation to their proximity to critical biodiversity conservation areas, according to Ministry of the Environment data.

The impacts of Copel DIS's operations include modifications to the environments where the projects are built, such as distribution lines and substation locations, as in some cases, it is not possible to completely eliminate the risk of deforestation. One proposal to mitigate its impacts is investing in environmental programs to minimize deforestation, such as Urban Forests, helping municipalities manage the harmonious coexistence of trees and the power grid. An R&D project is also assessing the potential for integrated management in opening easements for high- and medium-voltage lines which could ease vegetation clearing.

Copel has developed pilot studies to deepen its evaluation of ecosystem services and the impacts of its activities

Business Commitment to **Biodiversity**

Copel signed up to the Brazilian Business Commitment to Biodiversity in 2023, a document drafted by the Brazilian Business Council for Sustainable Development (CEBDS) that urges companies to acknowledge the importance of conservation and to set targets for conservation and sustainable use of natural resources.

Among the nine goals proposed by the movement, Copel has adopted four that align most closely with its activities and management on the subject and identifies opportunities to foster sustainable development. The actions to deliver on these commitments are reported in this publication and detailed on the Sustainability Portal. They will also be monitored by CEBDS.

1

Target 1
Embed biodiversity into the company's business strategy.

2

Target 2
Apply the mitigation hierarchy, prevent, mitigate, recover and offset impacts on biodiversity throughout the life cycle of ventures.

4

Target 4
Develop and promote studies, research projects, technology, and innovation that aid the conservation of biodiversity and ecosystem services.

5

Target 5
Understand the biological diversity in the company's geographies and, whenever possible, monitor and measure impacts and dependencies.

TNFD Working Group

In addition, Copel participates in a working group to deepen the understanding of and apply the guidelines of the Taskforce on Nature-related Financial Disclosures (TNFD) in disclosing information about the nature-related risks of its business.

The participating companies are being supported by CEBDS and technical partners in applying the LEAP methodology (Locate, Estimate, Assess and Prepare), recommended by TNFD. The first phase, currently underway, is Locate, which identifies areas directly affected and those with direct or indirect influence on operations (in Copel's case, hydropower plants and wind farms). For Copel, this represents an opportunity for learning and improvement that will help create new reporting standards regarding impact measurements.

Risk management

The major corporate risks are identified with basis on the strategic benchmarks and the internal and external environments included in the strategic planning cycle.

For new ventures, environmental studies are conducted at various stages of environmental licensing, which include the specification and monitoring of changes in fauna and flora in the venture's area. We always strive to steer clear of protected areas or biodiversity hotspots.

When this is not feasible, every effort is made to minimize negative impacts, maximize positive ones, and develop offset programs.

Copel GeT abides by a series of federal and state legal norms to ensure environmental protection and biodiversity conservation in its activities. The company also devises restoration and conservation plans, including those for rare species (*see more below*). At Copel DIS, in addition to actions required by law, an internal study called Preliminary Environmental Analysis assesses multiple alternatives to support the selection of sites for housing switchyards and power substations.

In the company's risk management process, threats to biodiversity and ecosystem services are embedded in operational risks (*described on* page 66).

Performance

Copel protects areas of native vegetation covering more than 24,000 hectares across different biomes, vital sanctuaries for regional native fauna and flora. Copel's owns approximately 10,400 hectares of these areas, primarily dedicated to the conservation of the Atlantic Forest, located in the Paraná Sea Ridge, one of the planet's most biodiverse regions.

For traditional communities located in protected areas, Copel strives to adopt minimal-impact alternative-energy sources, such as photovoltaic panels. When this isn't possible, a meticulous route study is conducted to divert power lines away from these areas.

The company manages its Permanent Preservation Areas (APPs) and has defined an environmental performance indicator as the percentage of areas suitable for restoration with native vegetation cover relative to the total APP area. Vegetation cover is analyzed annually based on images and periodic inspections, indicating the most appropriate corrective actions for forest restoration, in line with the goals of SDGs 11, 13, and 15.

In total, the company maintains over 10,100 hectares of APPs. The goal in 2023 was to achieve 82% native vegetation cover in these areas which surround the reservoirs used in generation operations. At the UHE Colíder reservoir's APP in Mato Grosso state, approximately 290,000 native seedlings were planted and protective fences were erected, resulting in a native vegetation cover of 94.8% in this APP.

Protected areas in Serra do Mar
10,665.54 hectares

Areas located in Conservation Units
3,466.06 hectares

APPS with native vegetation
9,753.72 hectares

Areas under restoration
342.58 hectares

APPENDICES
Other performance indicators are available in the section Supplementary Disclosures (*from* *page 176*).

Supporting species conservation programs

The power generation, transmission and distribution ventures also have a positive impact on biodiversity and ensure greater protection to natural environments. Copel runs specific programs aimed at conserving rare or threatened species that may be found near its facilities (*see some of them below*).

Generation

Fish species

The fauna monitoring program to reduce potential impacts of hydropower projects has been in place since 1993. As many as 98.2% of the fish are salvaged during dam construction and hydropower electric plant operations. These actions reduce the risks of fish becoming trapped due to water level changes in reservoirs and maintenance activities.

Copel GeT also carries out actions aimed at research, reproduction and fish release. From the scientific point of view, the program's main benefit lies in recording the biology and ecology of Paraná's fish species. The program serves as an important tool in mapping the richness of fish fauna, including the identification of endangered species.

At the UHE Colíder, located in the Amazon Basin in Mato Grosso, additional precautions include electric barriers that can repel fish to prevent them from entering the plant's structures. A transposition system provides a passageway for different species. More than 80 fish species have been recorded at the site.

Distribution

Urban Forestry Program

Over 14 years of operation, the initiative has assisted over 100 municipalities by planting 85,000 tree seedlings. The goal is to ensure the harmonious coexistence of trees in streets, roads and squares with the power grid, either by replacing trees that pose risks to the power lines or by planting new ones. In 2023, 5,700 seedlings were planted in 19 municipalities, and in 2022, another 5,750 seedlings were planted.

Integrated vegetation management in power systems

The R&D project examines how integrated vegetation management in the clearing of easements around distribution lines affects vegetation recovery. It also assesses how this influences the number of interventions and the cost of opening and maintaining networks. In experiments conducted on both operational and new projects, the selective application of herbicides showed extremely promising results, controlling 85% to 100% of weeds while demonstrating environmental safety and biodiversity gains.

APPENDICES
See more biodiversity indicators in the section Supplementary Disclosures (*from* *page 176*).

LEARN MORE
To see detailed information about biodiversity management and conservation initiatives, please see the socio-environmental reports of *Copel GeT and Copel DIS.*

Environmental efficiency

The Eco-efficiency Program has been in place since 2014 and structures initiatives to reduce the consumption of natural resources and raise awareness among employees. This includes the consumption of water, energy, fuels and paper, and reducing waste. The set of initiatives also promotes sustainability education among employees and respect for the environment and concern for future generations.

GRI 303-1, SASB-IF-EU-140a.3

Water

Electricity generation is the process that uses the largest volume of water at Copel. We stress that the generation process does not consume water because the resource is discharged with the same quality and quantity back into the water body, in accordance with the local laws.

Interaction with water mainly occurs through collection at our 26 hydroepower plants located in the basins of the Iguaçu, Tibagi, Alto Ribeira, Atlântico Sudeste and Teles Pires rivers, using water to generate power and then returning it to the water bodies. Building dams to form reservoirs alters the aquatic environment, impacting water transparency and sedimentation. To identify and manage these impacts, Copel conducts hydrological studies and environmental monitoring, covering multiple water uses in the drainage basins.

One of the risks related to water resources include water scarcity, especially given the changes in hydrological regimes, which can affect electricity generation, and dam management. Copel has water level and rainfall monitoring systems and emergency action plans with preventive and corrective procedures, strategies, and channels for alerting affected communities, among other management measures.

Water stress

The company does not draw or discharge water in water-stressed areas, nor does it store water. This condition is supported by the company's analysis, based on Brazilian public data and information from the Water Risk Atlas.

Real-time information

Real-time information about hydrological conditions in regions where Copel operates hydroelectric generation is available on a site. The monitoring provides relevant information for the communities in the vicinity of these projects (*see more on page 69*).

Hydroelectric inventory studies and analyses of alternatives for sustainable water use contribute to water and wastewater management and goal setting.

Transparency is another concern, with the publication of real-time monitoring and operation data and participation in water resources forums and councils.

This commitment is supported by the company's analysis, based on Brazilian public data and information from the Water Risk Atlas (available at https://www.wri.org/aqueduct), which indicates that Copel's hydropower projects are not located in regions of water stress.

Copel obtains water rights, and collaborates with the community and Civil Defense. It contributes to the Drainage Basin Plan, aligning its objectives with public policies and the specific situation in each area.

At the Holding company and in distribution and trading operations, most of the water is used in administrative activities, which draw on various water supply sources, including water utilities, artesian wells and sewage treatment systems. Consumption data is monitored monthly and tracked by the Eco-Efficiency Program. The approach is proactive with awareness-raising and consumption reduction actions through the adoption of more efficient equipment.

GRI 303-2, SASB-IF-EU-140a.3

Wastewater management

Wastewater management is rigorously controlled in line with internal guidelines and specific regulations for each type of operation, from substations and distribution lines to hydropower, wind and thermal power plants, as well as administrative facilities. Although operations in substations, lines and electricity distribution networks do not usually generate wastewater all the time, periodic inspections are carried out on water-oil separation tanks to prevent and respond to accidental leaks.

As for sanitary wastewater, the common practice is to direct it to local sewage networks, where available. In the absence thereof, wastewater is treated using conventional methods such as septic tanks, anaerobic filters, septic drain fields and infiltration trenches, always observing the classification of the recipient water body to ensure appropriate discharge.

Water consumption (ML)[1] [2] [3] GRI 303-5, SASB-IF-EU-140a.1

	2021	2022	2023
Total water withdrawals	109,287.81	94,929.82	85,564.43
Total water discharged	109,262.07	94,904.92	85,504.15
Total water consumption	**19.06**	**24.9**	**60.28**

[1] Copel does not draw from or discharge water into water-stressed areas, nor does it store water.
[2] The Company's use of surface water is non-consumptive, meaning the water is used in operations, passes through turbines, and is then returned to its original water body without changing its properties. For consumption analysis, it is assumed that 80% of the total water intake is discharged as sanitary sewage, implying that actual consumption corresponds to just 20% of water drawn.
[3] In 2021, 95.29 megaliters were withdrawn from third-party sources, of which 19.06 megaliters were consumed.

GRI 302-1, 302-4

Energy

Within its decarbonization strategy, the focus on reducing energy consumption in operations and replacing them with low-carbon sources is a priority for management. Initiatives against energy waste are part of the eco-efficiency program and encompass a series of measures, including internal reduction targets, employee awareness and cost-cutting.

The Company is also installing photovoltaic panels in substation areas, using mini-generation systems to supply these locations with the energy generated, as took place at the Centro-Sul Transmission Unit in Ponta Grossa (PR) in 2023. Apart from supplying the facilities, the system generates surplus energy that can be used as credits to offset the company's consumption elsewhere. Three other photovoltaic generation systems are under construction in towns and cities in North and Northeast Paraná and seven are in the planning stages (*see more on page 103*).

Moreover, a 28% reduction in electricity consumption within the organization compared to the previous year was achieved due to efficiency improvements and investments in lighting modernization carried out gradually in recent years. Considering energy consumption as a whole, initiatives such as having more electric vehicles and electric forklifts triggered a reduction of 1,144 GJ.

GRI 305-5

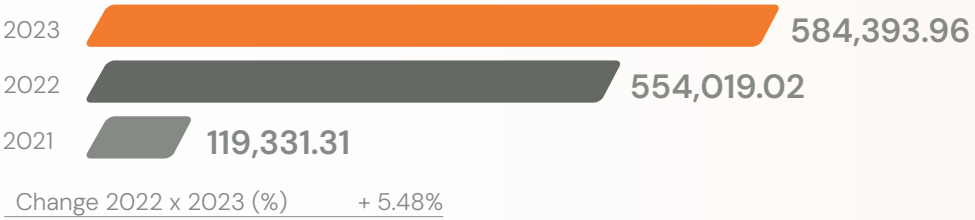
Electric fleet

Part of Copel's goal to reduce its greenhouse gas emissions entails electrifying at least half of its light vehicle fleet by 2030. By the end of 2023, the rate reached 17% of administrative cars, surpassing the target of 15% by 2025.

GRI 302-1

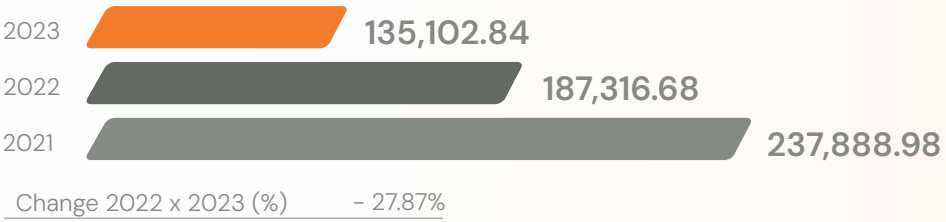
ENERGY CONSUMPTION WITHIN THE ORGANIZATION

FUEL COMBUSTION (GJ)



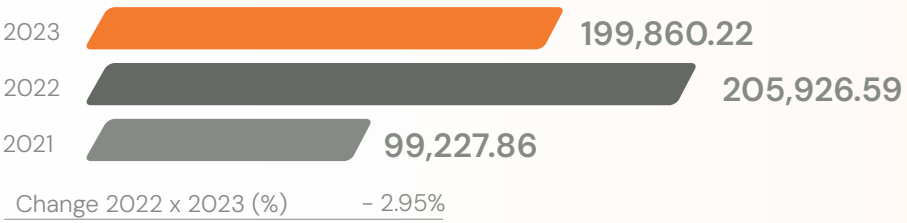
Change 2022 x 2023 (%) + 5.48%

ELECTRICITY CONSUMPTION (GL)



Change 2022 x 2023 (%) – 27.87%

ENERGY CONSUMPTION (MWh)



Change 2022 x 2023 (%) – 2.95%

Energy Intensity[1] [2] [3] GRI 302-3	2021	2022	2023
ENERGY CONSUMPTION WITHIN THE COMPANY	357,220.29 GJ	741,335.70 GJ	719,496.80 GJ
ENERGY INTENSITY (GJ/BRL MILLION)	10.11	24.39	24.27

[1] Copel has revised its approach to calculating energy efficiency to adopt a financial metric as a benchmark, whereas previously it was based on energy consumption and the number of employees. This financial indicator therefore makes the information comparable to other companies.
[2] The intensity rate comprises both fuels and electricity.
[3] The change in 2021 and 2022 was due to coal consumption.

28%
reduction in electricity consumption within the organization in 2023

GRI 306-1, 306-2

Waste management

Distribution, generation, and transmission activities do not depend directly on the consumption of inputs, however, equipment operation and maintenance generates secondary waste.

At the Holding company, the main sources of waste generation stem from administrative and operational activities in office complexes. Copel implements selective waste collection and prioritizes sending recyclable materials for recycling. Contracts with waste collection companies and cooperatives include provisions for issuing official documents such as waste waybills (MTR) and waste handling statements (DMR). Among the best practices adopted are the reuse of materials by employees, recycling, environmental responsibility clauses in service contracts, and proper treatment of construction waste, all emphasizing Copel's commitment to responsible waste management.

At Copel DIS, the primary impact derives from the expansion and maintenance of networks. In addition to management, initiatives such as route planning to avoid native vegetation, using taller towers and the use of drones for cable laying help prevent vegetation clearance and the generation of vegetative waste.

Copel GeT has management plans tailored to each unit. For hazardous waste, the preferred method is disposal for co-processing in cement kilns, a solution that harnesses the energy of materials and substitutes raw materials, under the strictest of environmental standards. During civil construction works, service providers are required to present Construction Waste Management Plans (PGRCC), as well as waste transport and disposal permits.

The volume of waste generated in 2023 was 79,929.93 tons, of which 4,820.86 tons was Class I materials (hazardous) and 75,109.07 t was Class II (non-hazardous). This was an increase of 39.74%[1] on 2022. During the period, ash was generated by the Figueira Thermoelectric Plant, accounted for as non-hazardous waste. With the plant's curtailment and considering the neutrality plan Copel aims to eliminate the ash generated by 2030. Units that were previously not part of Copel were also included: Complexo Eólico Aventura, Santa Rosa, Mundo Novo, Vilas and Jandaíra.

[1]In 2022, the reported values did not account for the disposal of poles removed from the grid (Class II), generated by Copel Distribuição, totaling 39,049.84 tons, and trimming waste of 9,799.64 tons, which are adjusted in this report. The 39.74% increase is not only due to Figueira's waste but also to poles removed from the grid and trimmings generated.

LEARN MORE
Details about environmental efficiency can be seen in the socio-environmental reports of *Copel GeT and Copel DIS.*

APPENDICES
See more environmental efficiency indicators in the section Supplementary Disclosures (*from page 171*).

GRI 3-3, 203-1, 203-2, 413-1

Social Commitment

SDGs

Capitals

Copel recognizes its significant role in society as a provider of an essential service to over 5 million customers and it endeavors to develop social programs and initiatives aligned with the needs of the communities it serves. It also looks to international best practices and commitments such as the UN's 2030 Agenda as cornerstones for its social and environmental initiatives.

Access to electricity and energy security and the generation of jobs and revenues, are direct benefits associated with the company's activities. Nonetheless, its activities can generate impacts that need to be mitigated or offset.

Upon implementing new ventures, these impacts are assessed in the environmental licensing processes with public presentations and disseminated through different communication channels. The social programs are described in the Basic Environmental Plans by creating simplified environmental reports and detailed reports of each enterprise's environmental programs.

In addition to the mandatory social programs within the environmental licensing process, Copel also develops other actions aimed at communities within the corporate sustainability scope, such as the EducaODS Program, which help implement the Sustainable Development Goals (SDGs) which represent the UN's 2030 Agenda commitments (*see more on page 44*). Actions to disseminate knowledge, share best practices, and raise awareness about the importance of sustainability build upon initiatives promoting safe energy use (*see more on page 133*). There are also campaigns pushing citizenship issues, emphasizing the importance of diversity and combating gender-based violence.

We also support the community through private social investment and support for social, cultural, sports and health programs under incentive laws. Approved in 2022, the Private Social Investment Policy bolsters the main connection to the SDGs prioritized by Copel as a criteria for defining social investments.

Copel GeT and Copel DIS also have organizational structures responsible for community engagement, tailored to the specific features of each business.

Copel's social programs

Aluno Energia

Supporting Sustainable Development Goal (SDG) 4—which aims to ensure inclusive and equitable quality education and promote lifelong opportunities for all—Copel Distribuição launched the *Aluno Energia* program in 2023, offering participants scholarships and professional mentoring.

The proposal aims to help affirmative action beneficiaries enrolled in the first semester of Electrical Engineering courses at public universities in Paraná stay in school. Other criteria were detailed in a notice published in July 2023. Electrical engineering was selected due to having one of the highest dropout rates in Brazilian higher education and for its strong and direct relationship with Copel's business. The Company seeks to encourage and enable these students to complete their higher education and to introduce new professionals to the electricity sector.

The selection process was conducted in three phases, attracting 51 applicants. The 15 selected students were loaned a notebook. Throughout their five-year undergraduate program, they will receive an allowance equivalent to Paraná's minimum wage. In the final two years, they will be offered an internship opportunity at Copel DIS. Each student will be mentored by an experienced electrical engineer from Copel throughout the program's duration.

The program is set to have new editions every six months and aims to benefit up to 150 students in the coming years, and will also include other areas within the Company.

The Aluno Energia program was presented in the Third Edition of the Ambition for the SDGs project, organized by the Global Compact. The UN initiative urges parties to the Global Compact to expedite actions in support of the 2030 Agenda, supporting the establishment of ambitious goals that embed sustainability into their business strategies, also considering the value chain and stakeholder engagement.

Eletricidadania (Corporate Volunteering): supporting volunteering

Recognized as one of the main corporate initiatives in Paraná, Copel's corporate volunteering program encourages employees to do community work. They can dedicate up to eight hours of work time to social activities every two months.

Created in 2004, the program's actions can work at educational institutions, charities, associations, hospitals and other non-profit institutions, among other participation opportunities. The activities are inspired by the Sustainable Development Goals (SDGs) and cover topics such as human rights, education, inclusion, health, environment, citizenship and sustainability.

In 2023, 235 volunteers dedicated 1,854 hours to the projects. One of the areas targeted during the period was to push volunteer mobilization, as participation fell off during the Covid-19 pandemic.

GRI G4-EU24, SASB-IF-EU-240a.4

Migrants and refugees

Copel supports Cáritas Paraná and Cáritas Curitiba in welcoming and supporting migrants and refugees arriving in the state. One of the actions for this group is the Empowering Women Refugees Program, a partnership between the UN Refugee Agency (UNHCR), the UN Global Compact in Brazil, and UN Women, aimed at training women refugees for entry into the Brazilian job market. In 2023, the second class was held in Curitiba, with 22 women and 28 Copel volunteers participating.

The program offered participants a course from the National Industrial Training Service (Senac) on quality customer service, alongside workshops conducted by Copel volunteers on topics such as Brazilian culture and integration in Curitiba, financial education, socio-emotional skills and mental health, Brazilian legislation, safe use of electricity, and resume writing. On graduation day, the women were invited to attend a job fair with seven guest companies, which conducted 34 interviews and hired two people on the spot.

To facilitate access to energy services and social programs, Copel launched booklets in six languages in 2021: Portuguese, English, Spanish, Haitian Creole, Ukrainian and French with guidance for these groups. *(see the booklets)*.

GRI G4-EU24, SASB-IF-EU-240a.4

Iluminando Gerações

Held in partnership with education professionals and Municipal Education Departments, the Illuminating Generations Program provides educational activities on the safe and conscientious use of electricity, including lectures, theater, videos, attending events and content generation, aiming to help reduce the number of accidents with electricity and cultivate positive habits not only for students but for the community as a whole.

The program is aimed at students in grades 4 and 5 of Elementary School I. Soon students in grades 8 and 9 of Elementary School II will be able to partake, in partnership with the Paraná State Department of Education. More than 1.7 million students have already taken part in the project in 16 years of existence. In 2023, the program served approximately 60,000 students.

Illuminating Generations received an interactive boost for children with the launch of two mobile games, available for free on the Google Play app store (Android). The games "*Se Liga*" and "*Click Esperto*" were specifically designed for children aged 7 to 10 to top-up the program's content.

Community vegetable gardens

In 2023, the Cultivar Energia Program gained two new gardens - Paraíso Dembinski, in Curitiba, and Jardim Lolata, in Londrina. The Augusta B Community Garden in Curitiba was also made and revitalized. The number of families benefiting rose to 535, 90 more compared to the previous year. It is estimated that 1,956 people directly benefit from the Cultivar Energia Program, and another 3,912 people indirectly benefit from social inclusion, encouragement of healthy eating, and income generation stimulated by the community gardens installed under Copel's power lines. There are now 14 productive gardens installed in seven municipalities in Paraná - Maringá, Curitiba, Ponta Grossa, Cascavel, Francisco Beltrão, Londrina and Umuarama - and more new gardens are in the process of being created in Foz do Iguaçu, Almirante Tamandaré, Apucarana, Curitiba and São José dos Pinhais.

Copel employees also support the program by purchasing produce from the gardens through collective purchasing pools organized fortnightly. This allows them to get a feel of the program by consuming the fresh and organic produce grown in areas ceded by Copel, benefiting hundreds of families. The benefits therefore extend to communities, the company and employees in a sustainable and ongoing manner.

There are 14 productive gardens in seven municipalities in Paraná

The Energy Museum

Copel opened the doors of the Energy Museum (Espaço Energia Museum) in 1984. This museum provides educational and cultural activities designed to help disseminate knowledge about the history of energy and key historic moments, the importance of energy for the societal development and how to use it consciously, safely and efficiently in daily life, focusing on the importance of the Sustainable Development Goals (SDGs).

The museum features a permanent exhibition room that tells the story of engineer Pedro Viriato Parigot de Souza, who served as governor of Paraná and Copel CEO in the late 1960s. It also includes a space for temporary exhibitions, such as the artwork "Poética da Luz" by artist Maristela Ono, which explores the relationship between light and color. There is the Antique Room too, filled with stories and curiosities, the Modern Room equipped with cutting-edge technology and innovations, the Multipurpose Room for video presentations, and the Sustainability Corridor showcasing the SDGs and games. Outside, the Energy Patio features various pieces equipment with their histories and experiments for visitors.

The museum operates out of a 19th century mansion in Curitiba that was completely renovated in 2018. Visitors experience a rich and interactive journey through the world of energy – from its applications to sustainable use; from the past to the future; from light to art.

Visit the Energy Center

All visits to the Copel Energy Center are guided by educators at fixed times.
The museum opens from **Tuesday to Friday, from 9:00 AM to 12:00 PM and from 2:00 PM to 5:00 PM.**
Admission is free, upon prior reservation.

For further information
https://www.copel.com/site/educacao/espacoenergia/

Generation operations support infrastructure in the surrounding areas

The Brisa Potiguar Wind Cluster and the Colíder Hydropower Plant, managed by Copel GeT and financed by BNDES (bank subordinate to the Ministry of Development, Industry, Trade and Services), have been giving back to the local communities in Rio Grande do Norte and Mato Grosso, respectively. With investments in education, health and social welfare, the Brisa Potiguar Cluster allocated over BRL 1.1 million in 2023 to equipment and vehicles, benefiting municipalities such as João Câmara (RN) and São Miguel do Gostoso (RN).

The Colíder Hydropower Plant is helping improve solid waste management in Nova Canaã do Norte (MT) with the installation of a landfill. It also allocated BRL 300,000 to upscale the Alta Floresta Natural History Museum, to safeguard a valuable regional archaeological collection and drive local education and tourism.

Private Social Investment at Copel

Copel's Private Social Investment Policy defines the guidelines for allocating funding, whether through its own funds or via incentive laws, whether voluntary or mandatory contributions. The policy also supports the principle of connection with the SDGs prioritized by Copel as a criterion for defining social investments.

The subsidiaries must report voluntary and non-voluntary donations and contributions to the Holding Company's Governance, Risk and Compliance Office. The Executive Board, in turn, periodically informs the amounts earmarked for Private Social Investment to the Company's Sustainable Development Committee.

Voluntary contributions	**2023**
Tax incentives	BRL 26,574,095.00
Community investments	BRL 984,825.00
Cost of volunteering during working hours	BRL 155,778.79
Donations	BRL 450,888.00
Involuntary contributions[1]	**2023**
Community investments	BRL 1,911,090.65
Total	**BRL 30,076,677.44**

[1] Involuntary contributions: Transfer of goods or services that is due to legal, regulatory or contractual obligations linked to the Company.

GRI 203-2, GRI G4-EU23, SASB-IF-EU-240a.4

Contribution to Public Policies

Copel participates in public policies through its role of implementing government programs that generate significant economic impacts, improving the quality of life in needy communities and driving local development. These initiatives align with stakeholders' priorities and national and international policies, promoting social inclusion, efficient energy use and sustainable development. See below:

Social Rate

The Social Electricity Rate offers discounts on electricity bills to low-income families enrolled in the Cadastro Único welfare program. The discounts are applied up to a consumption of 220 kWh.

The rate is extended to families with monthly income of up to three minimum wages who have people over 65 or individuals with disabilities requiring the continuous use of electrical appliances or who receiving the Continuous Benefit (BPC).

In 2023, the program benefited over 605,000 consumers, with a disbursement of BRL 184.1 million by ANEEL.

Energia Solidária Program (Energy Solidarity)

Operated by the State Government and implemented by Copel, the initiative provides free access to electricity for low-income families. In 2023, 413,000 families benefited from this program, relieving them of electricity bills. The approved investment was BRL 129.7 million.

Casa Fácil Paraná (Easy Home) housing program

Through this initiative, Copel DIS builds electricity distribution networks and sets up service startups in properties aimed at families with a monthly income of up to six minimum salaries. The costs incurred by Copel are reimbursed by Paraná state each year. In 2023, the program constructed 1,611 housing units, in a total investment of BRL 5.3 million.

The Night Irrigation/Aquaculture Rate (TIN/TAN)

A federal program that offers discounts of 60% to 70% on the energy tariff used exclusively for irrigation and aquaculture between 9:30 PM and 6 AM, aiming to incentivize agricultural productivity and consumption during off-peak hours. In 2023, the program benefited 2,900 rural producers.

GRI G4-EU20, EU22

Managing displacement

Populations that need to be relocated due to the implementation of energy ventures can count on Copel's monitoring and full support. The process has as its core principle respect for people and human dignity. It's worth noting that in recent years, this displacement has not been necessary.

In distribution projects, line planning is done to avoid displacements of families, employing technologies that reduce interference with vegetation and increase safety, thus avoiding direct contact with power lines. The company is making progress in using compact networks and smart systems as part of its initiatives to reduce impacts. While there is no need to relocate people during routine operations, in specific cases of installing new lines and substations, compensation has been paid out totaling BRL 29.2 million in the last three years.

In the transmission sector, Copel GeT faced the challenge of squatters in the area designated for upgrading the 230kV Santa Mônica – Pilarzinho Transmission Line, where approximately 235 occupations were identified, requiring relocation for safety reasons. Copel established a partnership with Companhia Paranaense de Habitação (Cohapar) and the municipal government of Almirante Tamandaré, creating a Technical Cooperation Agreement to relocate these families, ensuring them safe housing through the Casa Fácil Paraná and Vida Nova programs. Copel GeT pledged to help fund the initiative, striking a balance between expanding energy infrastructure and environmental and social conservation.

The socioeconomic surveys required by the environmental legislation are conducted.

During the planning phase, communication channels are established for the affected population to voice their concerns. In transmission projects, the social, land and engineering areas work together to find a way, even during the stage of outlining the roadmap, to avoid relocation as much as possible. The search for amicable solutions is the basic assumption with fair financial compensation or social support in cases of families in vulnerable conditions.

In dam risk management, especially during meteorological events, emergency evacuations of communities may also occur based on safety criteria (*see more on page 137*).

GRI 411-1, GRI G4-EU24 , SASB-IF-EU-240a.4

Interacting with indigenous peoples

Copel GeT has facilities located near quilombola communities and indigenous populations with whom it seeks to forge a relationship based on respect, cultural appreciation and the promotion of socioeconomic sustainability.

There are currently two indigenous communities (Kaingang) near the facilities: the Apucarana Indigenous reservation in Tamarana, and the Barão de Antonina Indigenous reservation in São Jerônimo da Serra, both in Paraná. These activities are made possible by specific funds managed in a hybrid manner by joint management committees, composed of representatives from Copel and the indigenous communities, with oversight from the National Indigenous Foundation (Funai) and the Public Prosecutions Department. The investments are established in discussions with the communities taking into consideration their traditions.

A bilingual booklet, in Portuguese and Kaingang, was published for this group to raise awareness and disseminate information about dam safety. This aid was produced in collaboration with Kaingang teachers and cultural agents from the community, and it uses language and resources that are embedded in indigenous culture.

Copel Distribuição develops projects to meet the demand for energy in these communities, including the installation of photovoltaic panels and guidance on efficient electricity use. It also registers the communities for the Social Rate. The company participates in the meetings of the State Council for Indigenous People and Traditional Communities of Paraná to listen to their demands and offer explanations.

Copel GeT and Copel DIS monitor the updating of registration data for consumer units in indigenous areas, resulting more of these families enrolling in social energy programs. There was no record of violations of indigenous peoples' rights in any of our operations in 2023.

GRI 3-3

Customer Satisfaction

SDGs 7 9 16

Capitals

With a customer-centric approach, Copel is constantly seeking to improve its services to meet consumer needs. Quality is monitored through various indicators, both internal and regulatory.

To further improve the relationship with consumers and clients, this group had a significant participation in the direct survey in the most recent review of material topics[1]. With a broader scope, Copel secured the participation of 3,592 customers from 276 municipalities served, who responded to a survey on the topics they consider most relevant (*see more on page 08*).

The topic Customer Satisfaction, which was already material to Copel, gained even more importance in the 2023 materiality review.

Copel conducts regular surveys to gage customer satisfaction and perception, covering different segments including residential, industrial, rural and public sectors. The results of these surveys are analyzed by the Permanent Customer Satisfaction Committee. In 2023, Copel DIS achieved a score of 80.2 points on the Perceived Quality Satisfaction Index (ISQP) compiled by Abradee.

In 2023, over 66.8 million consumer interactions were handled, mostly virtually, thanks to the facilities offered by the company, such as a free app for electronic devices, a virtual agency, and a dedicated customer service number via messaging app (WhatsApp). Copel DIS received 95,105 complaints and 24,538 were deemed substantiated – 27.85%, with a complaint rate per interaction of just 0.04%.

[1] In previous processes, Copel consulted the Consumer Council.

Copel also oversees the indicators required by ANEEL, the Equivalent Complaint Duration (Duração Equivalente de Reclamação - DER) and Equivalent Complaint Frequency (Frequência Equivalente de Reclamação - FER) for every thousand consumer units. The results of these indexes, in 2023, were 112.93 for DER and 4.81 for FER.

Distribution customer profile

Consumer units GRI G4-EU3, SASB-IF-EU-000.A[1]	**2022**	**2023[2]**
Residential	4,131,039	4,212,397
Industrial	69,811	69,134
Institutional (power and public service)	45,978	54,701
Commercial	431,818	440,749
Other classes (rural, own consumption, etc.)	341,882	324,103
Total	**5,020,528**	**5,101,084**

[1] Data unavailable in 2021.
[2] There was an increase of 1.6% compared with 2022.

Assessment of consumer perception	**2021**	**2022**	**2023**
Abradee Satisfaction Survey - Residential Customer	78.7%	77.0%	80.2%
Abradee Satisfaction Survey - Group A Customer	82.0%	81.3%	79.8%
Cier Customer Satisfaction Survey	Bronze or 3rd place	Silver or 2nd place	5th place

Profile of Copel Mercado Livre clients

Consumer units GRI G4-EU3, SASB-IF-EU-000.A[1]	**2022**	**2023**
Industrial	1,093	1,206
Commercial	397	418
Total	**1,490**	**1,624**

[1] Data unavailable in 2021.

Enhanced customer service

The smartphone app was the most popular means used by customers and consumers to access Copel Distribuição, with almost 26.7 million interactions, accounting for 45% of all requests received during the year.
The website was the second preferred channel, accounting for 41% of requests.

In order to enhance its responsiveness, Copel is investing in a new management system to expand and modernize customer service for its entire customer base – more than 5 million consumer units and over 11 million residents of Paraná.

With an estimated investment of BRL 205 million and implementation scheduled over 30 months, the set of solutions is expected to streamline consumer service processes, seamlessly integrate different channels, and expand the range of services available through digital means, thereby promoting a higher quality consumer experience.

The modernization primarily involves the digital transformation of Copel's processes. The new omnichannel system will allow Copel's customers to initiate a request through one communication channel and continue through another without having to resubmit their information.

Recognition:
Brazil's best ombudsman office

Copel DIS's Ombudsman office was voted the best in Brazil at the ANEEL Awards in 2023.

The award recognizes distributors performing best in handling complaints made by customers and with the best service structure.

Criteria evaluated by ANEEL include

Complaints

- Time for resolution
- Validity of complaints
- Clarity of information provided
- Speed of response to the consumer

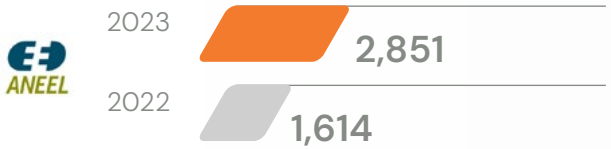
Structure

- Structure available
- Number of available channels
- Hierarchical level of the department within the energy distributor
- Existence of internal Ombudsman regulations
- Preparation of monitoring reports and response times

Number of complaints submitted via our Reporting Channel

To the company (substantiated)

To ANEEL



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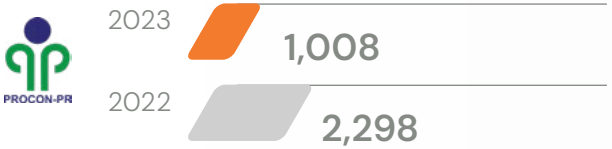


To the courts

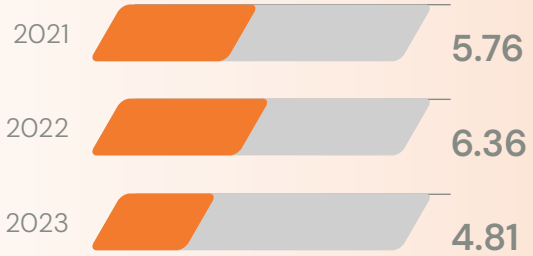
Complaints resolved [1]	2022	2023
Received	91,145	95,105
Substantiated	31,875	24,538
Complaints solved in relation to the number of substantiated complaints	31,875	24,538

[1] All complaints are resolved within 30 days.

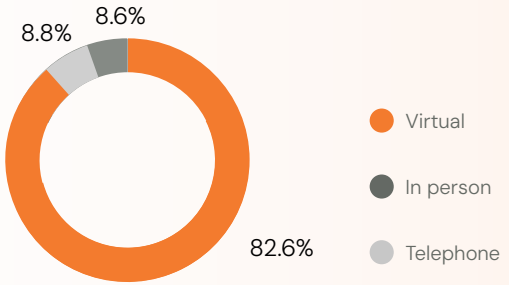
Handling of complaints

DER (hours)

FER (units)



Customer service by type



GRI 417-1

Communication initiatives

Our annual communication plan includes campaigns to inform our customers and communities about electrical safety and efficiency, as well as content on civics and environmental protection. In 2023, Copel DIS produced several podcasts for both internal and external audiences: *GDCast,* on innovation and distributed generation; and *Energia da Sustentabilidade*, featuring topics related to the Sustainable Development Goals (SDGs) in everyday language. This content is all available on Copel's website.

In 2023, Copel DIS established important partnerships with universities, charities, and educational institutions to produce workshops, training sessions, charitable activities, and instructional materials for various stakeholder groups. Information on the safe use of electricity is available on the *Company's website* and on *Copel's Sustainability Portal*, including booklets and educational games that promote conscientious and safe energy use.

The most frequently used communication channels included radio stations, our website, and YouTube. Copel Distribuição also maintains a corporate profile on the leading socials, such as LinkedIn, X, Facebook and Instagram.

We also organize a variety of community engagement activities, including workshops and training for both internal (employees and outsourced workers) and external stakeholders (communities, social and educational institutions). These activities covered a range of topics such as human rights, diversity, environment, child labor, health and the SDGs.

Information about services

When initiating a relationship with Copel Distribuição, the consumer receives the contract which details the electricity supply terms and the rights and obligations of the parties involved. The primary form of communication is through the electricity bill, a fiscal document that breaks down the quantity and nature of the energy supplied monthly, complying with the requirements of Resolution ANEEL 1,000/2022. Copel also provides detailed billing information on its website and a wide range of services and information about products and consumer rights.

Copel's efforts to enhance accessibility include providing bills in Braille and making adaptations to the website for people with visual and hearing impairments

GRI G4-EU24 , SASB-IF-EU-240a.4

Accessibility

Copel provides various communication channels to facilitate contact for consumers and the general public. These include the website, the toll-free number 0800 51 00 116, the Ombudsman's office, and in-person services at agencies and owned and/or third-party service points (Copel com Você) in all municipalities within its concession area.

It also offers energy bills in Braille for blind consumers and website adaptations to improve accessibility for visually and hearing impaired individuals.

Further efforts to disseminate information in accessible language include the Iluminando Gerações education program for students, which offers content about safe energy use and other apposite information (*see more on page 122*), and booklets in six languages to provide migrants and refugees with access to information about basic energy services and social programs (*see more on page 122*).

The Company also participates in integrated actions developed by the state and city governments, such as the Mutirões da Cidadania (Citizenship Groups) and Paraná Cidadão (Paraná Citizen), to offer guidance on sustainability, safe and efficient use of energy, in addition to on-site commercial service to the population, aiming to facilitate access to services and assist in clarifying doubts.

GRI G4-EU27, SASB-IF-EU-240a.3

Residential disconnections

Disconnection services for non-payment are carried out after the overdue notice has been sent, with a 15-day deadline for payment, as per the regulations. When the payment is made and there are no other impediments, the service order is automatically generated by the system and executed as a priority and as quickly as possible to restore the service. In 2023, 82% of reconnections were completed within 48 hours.

Copel is striving to make this service increasingly agile. In partnership with a startup, it is testing a tool to facilitate payment by the consumer. Under the new functionality, when the Copel electrician has turned up to disconnect the service due to overdue bills, the customer is given the opportunity to call the WhatsApp chatbot and make an instant payment via Pix, thereby avoiding disconnection, bringing more peace of mind and security to consumers.

Regarding indicators, Copel Distribuição has observed an increase in disconnections due to non-payment over the past three years, following the period of 2020-2021, during which this operation was significantly impacted by the pandemic. Before suspending the service, the company adopts various preventive collection measures, including notices in bills, emails, and offering payments in installments.

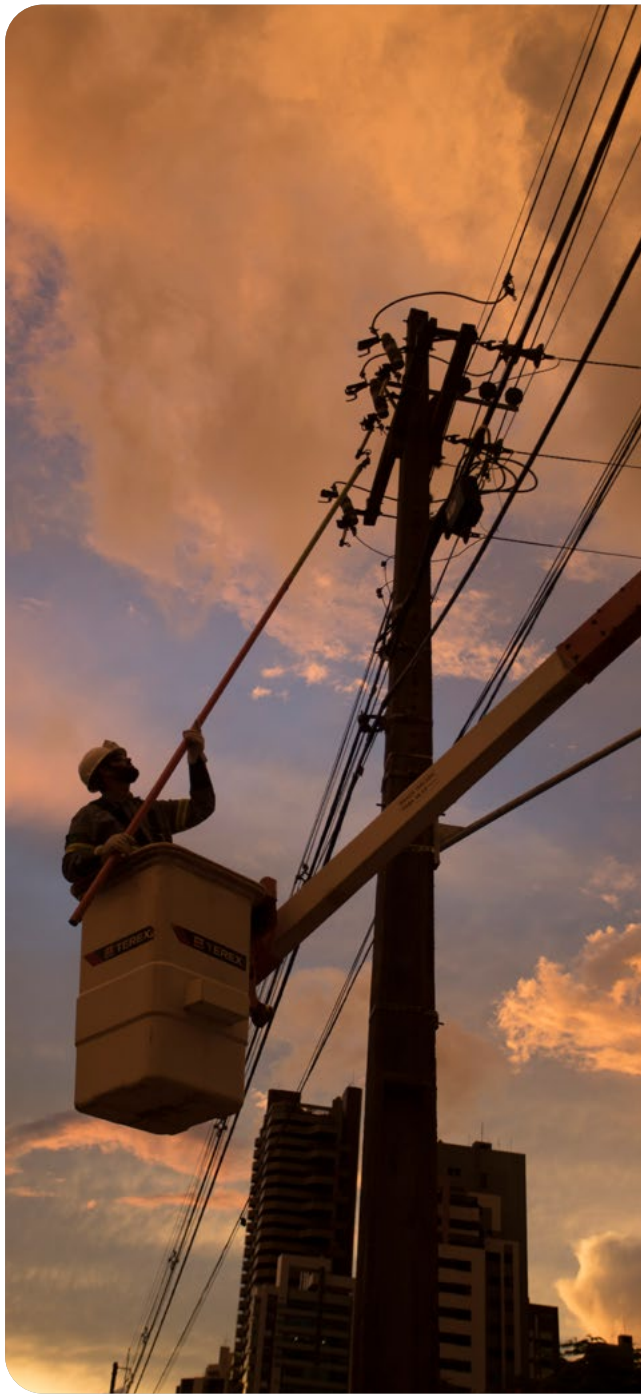
Number of residential disconnections for non-payment			
	2021	2022	2023
Less than 48 hours	354,423	469,590	520,489
48 hours to 1 week	39,457	55,920	59,489
1 week to 1 month	58,257	79,186	82,949
1 month to 1 year	24,323	65,849	65,273
More than 1 year	0	0	0
Reconnection time following payment			
Less than 24 hours	333,520	420,547	469,020
24 hours to 48 hours	18,708	23,595	20,514
49 hours to 72 hours	11,906	14,903	13,985
73 hours to 96 hours	5,648	5,867	6,509
97 hours to 1 week	9,079	10,299	10,546
More than a week	53,740	64,179	73,595

GRI 3-3

Community Safety

SDGs 11 13

Capitals



GRI G4-EU21

Identified as one of the most important topics in the materiality process in 2023, public safety can generate impacts on the Company's business, in different ways among its subsidiaries.

At Copel Geração e Transmissão, the greatest safety risks are related to dams, especially downstream from reservoirs. In Copel Distribuição's concession, potential impacts involve electric shocks and other accidents with the grid, as described below.

Energy accidents GRI G4-EU25	2021	2022	2023
Individuals involved in accidents	24	35	24
Number of fatalities	15	17	14
Pending health and safety lawsuits[1]	104	114	132
Resolved health and safety lawsuits[1]	6	14	11

[1] The 2022 data was adjusted following an evaluation by the legal department, which deemed it necessary to include all pending cases, regardless of the year they were initiated. **GRI 2-4**

GRI 2-25

Power generation safety

Essential for electricity generation, dams are structures with well-established construction standards and safety criteria where safety is checked at all stages – design, construction and operation.

As in any engineering project of this scale, however, they pose an intrinsic risk of failure linked to different internal and external factors, such as extreme weather events. Our hydroelectric power plants have a Plano de Segurança de Barragens - PSB (Dam Safety Plan) and an Plano de Ação Emergencial - PAE (Emergency Action Plan) to mitigate these risks, in compliance with legal parameters. The documents are also shared with the municipalities' mayors and civil defense authorities.

Operation and Maintenance conduct PAE simulations in plants, as established in the Management Contract and whose targets have been fully met in the last three years.

Decisions regarding the operation of the power plants are made in coordination with the companies responsible for other hydroelectric plants and under the command of the Operador Nacional do Sistema - ONS (National Electric System Operator).

In 2023, due to the increase in storms, gales, lightning and record rainfall, a number of hydropower plants entered a state of alert, leading to the closure of certain passages for safety reasons, to ensure the isolation of risk areas. These reservoirs were monitored around the clock, with the surrounding population kept abreast of developments through various means such as the press, company channels and municipal authorities. Despite the adverse conditions, no population removals were necessary in the year. Alternative measures such as opening spillways and increasing outflow through the gates were adopted to ensure environmental safety and the safety of the local population.

The Social Communication and Community Relations Subprogram establishes the main guidelines for informing the public about restrictions and precautions to prevent accidents.

The communication plan was structured to be rolled out in emergency situations, aiming to provide more safety to the population, helping them safely live beside Copel's facilities.

Copel GeT also has the Plano de Ações para Emergências Socioambientais - PAMA (Socio-environmental Emergency Action Plan), which aims to ensure rapid mobilization and a structured and efficient response in emergency cases.

In emergencies, Copel GeT informs the Civil Defense and the press, with additional support from the Paraná State News Agency and the Association of Radio Broadcasters. To ensure access to reliable information, the Company directly sends messages via WhatsApp. The need for communication is monitored 24 hours a day.

Making distribution safer

In distribution, the main focus is on urging customers and consumers to learn about safe electricity use. The Permanent Committee of the Risk Detection Program was set up to prevent accidents in the community, and is made up of employees from all Copel Distribuição's steering committees. Its creates procedures and actions to handle risky situations.

Copel also invests in safety campaigns for the community, intensifying efforts to educate about the safe use of electricity. These efforts include lectures for students in public schools, guidance for construction and rural workers, visits to private construction sites, distributing informative material in commercial establishments and public places, as well as promotion through communication channels such as radio, TV, and social media.

Booklets and brochures in virtual and printed formats are also made available via the website and at Copel Agencies, distributed at fairs and events, and in commercial establishments, industries, construction sites and rural areas.

The amount of accidents with the community is monitored through specific indicators included in the Management Commitments. The number of individuals involved in accidents fell from 35 in 2022 to 24 in 2023.

31.4% reduction in the number of injuries involving communities versus 2022

GRI 3-3, 2-6, 407-1, 414-2

Sustainable Management of Suppliers

The Company developed procedures for supplier evaluation and diligence and is expected to begin implementing certain initiatives in 2024

SDGs

Capitals

Copel cements its relationships with suppliers through initiatives focused on sustainable development, improving supply chain management, and optimizing resources to benefit the community.

The supply chain is diversified to meet the needs for generation, transmission, trade and distribution of electricity, including several types of manufacturers of materials, heavy machinery and service providers, among others. Within Copel Holding, the main categories include service providers and administrative support, such as cleaning and conservation, surveillance, property rental, maintenance and renovation of facilities, consulting and travel agencies.

In 2023, Copel and its wholly-owned subsidiaries' supply chain comprised some 8,000 companies.

In 2022, a supplier assessment process was initiated to understand critical chains and support risk management. Based on this diagnosis, the Company developed procedures for supplier evaluation and diligence and is expected to begin implementing certain initiatives in 2024. Existing processes at Copel already included diligence in human rights and compliance with labor, tax and environmental legislation, and this agenda has now been further developed. As a corporation, Copel gains now has more flexibility in procurements, including the requirement for social and environmental compliance.

When selecting services or products that may cause an impact on the environment, Copel requires environmental certificates and qualifications. The contractual demands include following sustainability principles, prioritizing local supplier from small and medium suppliers, hiring and training professionals with disabilities, preventing and combating child or forced labor and eliminating bullying and sexual harassment in the workplace.

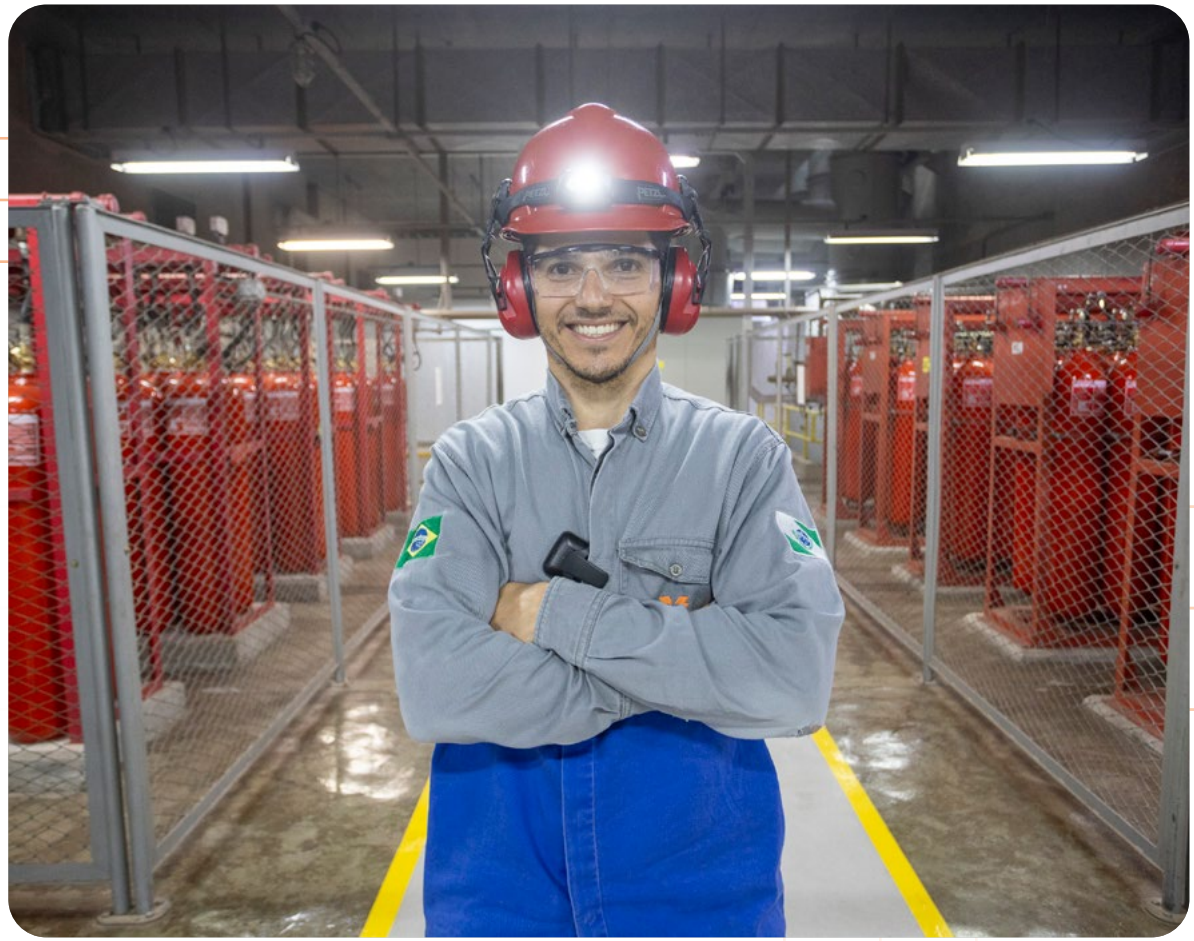
Copel sends its Sustainability Policy, Code of Conduct and Supplier Manual to its suppliers. Inspections may be carried out at any time to verify compliance with contractual clauses.

It also organizes awareness meetings and offers informative material on topics such as forced or slave-like labor.

Copel also supports management with internal normative documents on Supplier Screening, the Solid Waste Management Manual, and the Privacy and Personal Data Protection Policy.

Non-compliance with contractual environment or social responsibility clauses may trigger sanctions proportionate to the severity of the case, ranging from warnings, fines, or even contract termination. We may also notify the legal authorities of possible infractions.

After Copel's transformation into a corporation, the guidelines for supplier procurement underwent changes, and new rules are being structured. The Company aims to nurture the supplier relationship into a business partnership, investing in long-term and mutually profitable relationships.



Proportion of spending on locally-based suppliers[1] [2] GRI 204-1	2022	2023
Copel Holding Company	34.64%	35.73%
Copel Distribuição	18.61%	22.61%
Copel Geração e Transmissão	71.28%	57.44%

[1] The definition of 'local' refers to suppliers in the states where Copel operates, without attaching more importance to any operational unit. The procurement policy aims to equitably benefit all operations.
[2] In 2021, Copel implemented preferential treatment policies for Micro and Small Enterprises (ME and EPP) in its procurement processes, as required by Brazilian Federal Law 147/2014.

In relation to information security, Copel also provides the Good Data Protection Practices Handbook on its corporate website. This document demonstrates how the Company respects the handling of personal data when selecting its suppliers, valuing information privacy and security from the process of selecting service-providers over the term of the contract, in accordance with the terms of the Brazilian General Data Protection Regulation (LGPD).

LGPD

The Good Data Protection Practices Handbook is shared with suppliers to demonstrate how Copel values information privacy from the selection of service providers.

Labor issues

The suppliers attend onboarding meetings and must offer information, such as their list of employees, employee documentation, occupational health certificates, and registration forms to the Regional Labor Steering Committee, among other requirements. The contracts signed by the Company include commitments to complying with labor laws and respecting the freedom of association.

In 2023 there were no instances of irregularities related to these matters. In operations among Copel GeT suppliers located in Brazil, however, activities were identified in which irregularities may occur, particularly in areas of stewardship, mowing, cleaning, and maintenance, but none were officially confirmed.

In 2023, 564 suppliers were screened, with 29 identified as causing significant negative social impacts, such as serious or fatal accidents involving employees. This type of assessment is conducted in the business of Copel DIS.

Supplier assessments

The subsidiaries have their own processes for assessing and engaging with suppliers. Copel Distribuição holds the Copel DIS Supplier Award, which evaluates social impacts in the supplier network. Copel GeT uses the Supplier Performance Index (IDF) as a reference, which is the result of evaluating technical, operational, administrative and management process quality and engagement with sustainability agendas.

LEARN MORE
For details on the relationship with suppliers see the *reports of Copel GeT and Copel DIS*.

GRI 408-1, 409-1

Human Rights

SDGs

5 8 9 11 12

Capitals

To enhance its human rights performance, Copel established guidelines for its due diligence process with the publication of new regulations on the subject in July 2023. The document reinforces the company's commitment to respecting people and preventing violations in all its activities and operations, in commercial relations, services, and impacted local communities, supporting the rights of employees, outsourced workers, partners, suppliers and women, children, indigenous peoples, riverside populations, migrant workers and any groups in situations of social vulnerability.

In addition to reinforcing the company's existing position, the document mandates targeted inspections at contractors. The due diligence process allows for the identification, mitigation, and response to adverse impacts or potential risks regarding human rights. This tool helps protect workers' rights and keep the company's processes and services sustainable.

The 2023 document was a major stride forward in the management of the topic and vindicates Copel's existing commitments in its human rights and sustainability policies, opposing and combating all forms of discrimination - whether based on characteristics such as skin color, origin, sexual orientation, biological sex, gender identity, age, disability, religion, culture, financial condition, social class and others.

It includes periodic actions for impact mapping, risk prevention and the development of mitigation and impact remediation plans if necessary.

Copel complemented this with two training cycles in 2023, in October and December, focusing on the subject. It was conducted by an external consultancy firm to enable company professionals to engage in human

rights assessments on contractors, aligning with the Sustainable Development Goals (SDGs) and market sustainability best practices. Participants included contract managers and representatives from the areas of socio-environmental management of wholly-owned subsidiaries, procurement, health and safety, and legal.

Even though some activities may present potential risks in areas such as stewardship, vegetation removal, cleaning, and maintenance, there have been no records of operations involving child labor, young people exposed to hazardous work, forced labor or situations analogous to slavery.

To mitigate and prevent these risks, Copel includes Social and Environmental Responsibility clauses in its contracts, urging suppliers to comply with the Principles of the Global Compact, the guidelines of the Universal Declaration of Human Rights, and the Principles of the Sustainability Policy.

Two training cycles were conducted to hone employees' skills in assessing human rights at contractors

Complying with the Global Compact

Copel engages in the Human Rights Working Group for the Electric and Energy Sector of the Global Compact Brazil Network, supporting discussions and initiatives to bolster this agenda.

GRI 3-3

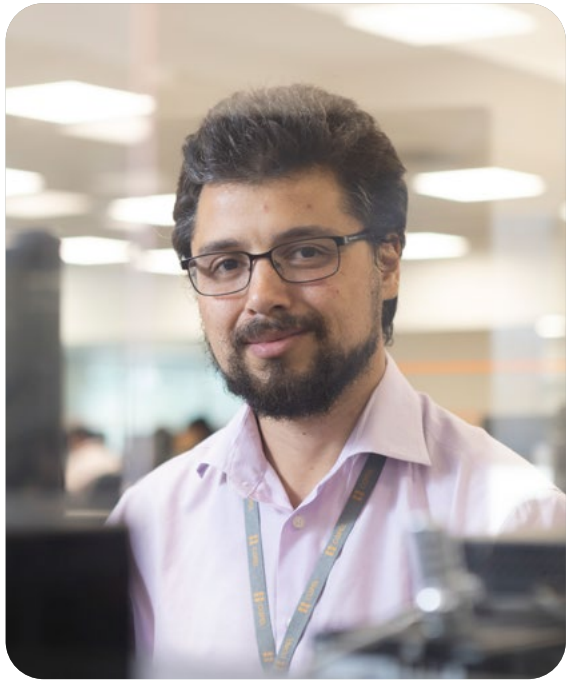
People Management

SDGs

5 8 10

Capitals

Copel's New Way of Working



This journey has required in-depth reflection on our organizational culture and which behaviors need to be maintained and which require further development to achieve Copel's New Way of Working.

This value recognition, expressed in our People Management Policy, has guided the ongoing revision of our policies and practices as we transition to a corporation.

In line with market practices, Copel had already transitioned into "state-owned company with a private mindset". Measures implemented in recent years, such as reformulating our remuneration structure to include variable components, introducing performance assessments, establishing new voluntary severance programs, and reviewing managerial positions, are now being complemented with a redesign of our organizational model.

As part of this organizational process, we conducted assessments to determine the ideal size of the organization. These assessments explored aspect such as capturing efficiencies while maintaining service quality and safety; accelerating our digitalization program; mapping out critical functions; and building succession for employees who opted for the Voluntary Severance Program (PDV) and knowledge transfer plans, in addition to PDV implementation proper. We also began developing our first long-term incentive program in 2023 (*see more on page 155*).

This unprecedented moment for the Company has heightened expectations among workers. It has also led to new lessons learned, especially in regard to improving our approach to ensuring efficient and effective communication. Process redesign and policy review are still underway, following a work schedule established for the next two years.

This intensive program of activities is leveraging the recognized capabilities of our workforce and the full potential of our new corporate status as a private company. The program will also create benefits for employees, including investments to enhance our ability to attract and retain talents, in line with market trends and the continued development of the organization.

PDV and pledge not to downsize

Since it began transitioning to a corporation, the Company vowed to avoid large-scale layoffs – an objective formally established through a Collective Labor Agreement with the unions – and offered the Voluntary Severance Program (PDV).

The program was designed based on capacity studies aimed at achieving efficiencies without compromising service excellence. We have also implemented programs to identify business-critical positions, develop succession plans, and manage knowledge transfer.

Launched in August 2023, the program set compensation of 30 months' salary for severance and the maintenance of monthly health and food plan subsidies for one year after the contract ends.

Copel established operational and financial thresholds for the program to ensure service quality and budgetary viability. The goal was to ensure the safety and excellence of the Company's operations, which provide an essential service to the population, and maintain business balance. 1,438 individuals were therefore included for the program's first year.

Employee severances are scheduled for August 2024, and the total estimated cost of the program, including indemnities and additional costs, is BRL 610 million.

As established in the Collective Labor Agreement, Copel is set to run further editions of the PDV through 2027, aligning the employees' interests with the company's (*see more on page 148*).

PDV

1,438 employees embraced

Succession planning defined for critical positions

Knowledge Transfer Plans

Governance for **filling vacancies**

159
professionals made a career transition

940
promotions

Promotion opportunities

Efforts were made to source in-house to fill critical positions that became vacant due to the PDV, in line with succession plans and the governance defined for internal recruitment.

Alongside greater efficiency and synergies, our new corporate status as a private entity allows for greater flexibility and introduces new avenues for merit-based recognition of our workforce. Without the constraints of government ownership, we can unlock opportunities for mobility and career progression. For instance, individuals who initially joined our Company with an associate degree may now hold higher education degrees or specialized qualifications making them eligible for more senior positions. This movement began in the second half of 2023, after the transition to a corporation, with 159 professionals being repositioned in their functional roles. It is expected to expand as new opportunities arise in internal recruitment processes. 940 functional promotions also took place during the year.

One challenge being addressed is the development of new core skills to address the rapid transformation of the sector and its increasing competitiveness, while filling critical positions opened by the PDV without clear internal successors. These challenges are included in the company's strategic planning, serving as the guiding core for leadership and team development strategies.

GRI 2-7, 2-8, 2-30

Current workforce

Copel ended the year 2023 with 5,804 permanent employees[1], virtually unchanged on 2022, when there were 5,875 employees (a drop of 1.2%). All employees are covered by collective bargaining agreements.

To support operational areas and specific jobs, the Company adopts the provision of services (hiring outsourced employees). Most of the outsourced workers are allocated to the operational areas of Copel DIS and Copel GeT and the Shared Services Center (CSC) of the Holding Company, for activities such as conservation and safety of facilities, engineering work, administrative, commercial and support services. In 2023, there were 8,708 outsourced workers compared to 8,574 in 2022. It is worth noting that hirings and relationships with third parties follow the principles and guidelines established in the Outsourcing, Human Rights, and Occupational Health and Safety policies and other internal regulations, such as the Supplying and Procurements Manual.

[1] The number includes employees who joined the Voluntary Severance Program (PDV) who will only leave Copel in August 2024.

Direct workforce, by gender [1] GRI 2-7	2021	2022	2023
Women	1,417	1,268	1,257
Men	4,966	4,607	4,547
Total	6,383	5,875	5,804

[1] All employees have a permanent contracts. Copel does not have any employees on zero-hour contracts.

APPENDICES
Details on the number of people is available in **Additional Disclosures** (*page 182*).

Trade union relations

Copel respects its employees' right to free association and historically maintains a relationship of engagement and balance with the 18 unions representing its functional categories. These values underpinned the company's actions in the corporation transformation process.

Negotiations about the effects of transitioning to a corporation on labor relations began in 2022 when the Paraná State Government announced its intention to relinquish control of Copel's shares, naturally raising concerns for both employee representatives and the company.

The Collective Labor Agreement, with a base date of October each year, defines the adjustment of salaries and benefits and issues agreed upon between the parties regarding working hours, flextime, vacations, the Copel Foundation, and the Voluntary Severance Program (PDV). The Agreement underwent evaluation and negotiation with employee representatives over five months and was approved in January 2023.

Among the effects on labor relations is the adjustment of understanding related to job maintenance, where Copel pledged not to make dismissals in the first year after the transformation into a corporation and to ensure the maintenance of at least 95% of the workforce in the following two years and 90% upon completing five years.

Our commitment to diversity

Copel is committed to cultivating a diverse and equitable workplace and respecting human rights. This topic is overseen by the Permanent Committee for the Promotion of Diversity, which devises actions to foster gender, racial and age diversity with diversity in religion, sexual orientation, and inclusion of people with disabilities, migrants and refugees.

The goal of increasing women's participation in senior leadership positions by 40% (including the Board of Directors, Executive Board, Managing Directors and Executive Board Assistants) by 2025 is part of Copel's commitments under the Copel 2030 Vision. Representation of these groups currently stands at 16.67%.

The Female Leadership Development Program, which provides forums for discussions on women's positioning and new career growth opportunities, began in 2022 with workshops on the Lean In Circle methodology. The second round began in 2023, inviting all current female leaders in the Company (including managers and supervisors) – 135 women participated in the edition. In the second half of 2023, a new phase of the Lean In Circle was conducted, building upon the progress already achieved previously. In the mentoring action, two executives completed training to enable advising and support with the goal of developing female leadership. A new phase was initiated for an additional 20 leaders as part of the mobilization of the culture towards diversity in leadership.

The Diversity Promotion Committee is designing a specific strategy to address the Company's key challenges related to diversity, equity and inclusion. Also included in the committee's calendar are training sessions on ageism, migrants, LGBTQIA+ rights, Black awareness month, and combating gender-based violence.

For the first time, Copel hired a specialist company to conduct a census-type survey that helped outline the profile of its employees and ascertained their perceptions on diversity. The results will help inform the planning of new actions.

Target to increase by

40%

the number of women in senior leadership positions by 2025

Diversity remains a relevant point on the agenda of actions in 2024, also reflecting Copel's commitment to the UN Women Empowerment Principles (WEP).

B3 reference index

An important recognition of Copel's initiatives was its inclusion in the Diversity Index (IDIVERSA), a theoretical portfolio created by B3 in 2023 to increase visibility of gender and race-related data and allow comparability. The listing includes companies with outstanding performance in the Diversity Score, obtained by weighting based on the data available in the Reference Form.

Preferred name

Referring to people by their preferred name is a sign of respect for each individual's identity and helps people to feel comfortable being themselves in the work environment. The employee may choose to use the social name on a badge, email and corporate telephone guide.

Women at Copel

Women represent 16.67% of senior leadership and make up 21.65%of the Company's total functional workforce. The current female representation in managerial and executive positions is as follows:

87 women in managerial positions, accounting for 22% of all managers.

52 women in initial management positions[1], 23% of total such positions.

7 women in top management[2], 20% of the total.

1 woman on the executive board, or 14% of the total.

1 woman on the Board of Directors[3], or 11% of the total.

10 women in revenue-generating managerial positions, representing 21% of all such managers.

262 women in STEM (Science, Technology, Engineering and Mathematics[4]**)** , accounting for 20% of professionals in these areas.

281 women in administrative roles, or 44% of all professionals in these positions.

20%
of our top management positions held by women today

[1] Division managers.
[2] Managing directors .
[3] BoD (Holding co.)
[4] Science, Technology, Engineering and Mathematics.

GRI 405-1

Workforce diversity[1]

	Total	Women		Men	
		Number	%	Number	%
By employee category and gender					
Operational	17	0	0%	17	100%
Secondary-level technical employees	1,395	97	7%	1,298	93%
Secondary-level employees	3,107	803	26%	2,304	74%
University-level employees	1,285	357	28%	928	72%
Total	**5,804**	**1,257**	**22%**	**4,547**	**78%**

	Total	Under 30		30 to 50		Over 50	
		Number	%	Number	%	Number	%
By employee category and age group							
Operational	17	0	0%	1	6%	16	94%
Secondary-level technical employees	1,395	3	0%	1,064	76%	328	24%
Secondary-level employees	3,107	8	0%	2,168	70%	931	30%
University-level employees	1,285	3	0%	934	73%	348	27%
Total	**5,804**	**14**	**0%**	**4,167**	**72%**	**1,623**	**28%**

By functional category and employees from minority or vulnerable groups[2]	Total	Black people		People with disabilities		LGBTQIA+		Indigenous people	
		Number	%	Number	%	Number	%	Number	%
Operational	17	2	12%	0	0%	0	0%	0	0%
Secondary-level technical employees	1,395	203	15%	7	1%	1	0%	1	0%
Secondary-level employees	3,107	439	14%	96	3%	0	0%	5	0%
University-level employees	1,285	110	8%	13	1%	0	0%	2	0%
Total	**5,804**	**754**	**13%**	**116**	**2%**	**1**	**0%**	**8**	**0%**

[1] The percentages have been rounded to simplify the data analysis.
[2] The table by vulnerable group has been reorganized to present the data more clearly and ensure greater compliance with requirements. **GRI 2-4**

Percentage of members in Governance bodies [1] [2] GRI 405-1	Executive Board		Board of Directors		Supervisory Board		Statutory Audit Committee		Other bodies[4]	
By gender										
	Number	%	Number	%	Number	%	Number	%	Number	%
Male	6	86%	8	89%	4	80%	3	100%	6	75%
Female	1	14%	1	11%	1	20%	0	0%	2	25%
By age group										
Below 30	0	0%	0	0%	0	0%	0	0%	0	0%
30 to 50	5	71%	1	11%	1	20%	0	0%	2	25%
Over 50	2	29%	8	89%	4	80%	3	100%	6	75%
By vulnerable group[3]										
Black people	1	7%	3	19%	0	0%	0	0%	1	10%
People with disabilities	0	0%	0	0%	0	0%	0	0%	0	0%
LGBTQIA+	0	0%	0	0%	0	0%	0	0%	0	0%
Indigenous	0	0%	0	0%	0	0%	0	0%	0	0%

[1] The percentages have been rounded to simplify the data analysis.
[2] It was established as a premise in 2023 that the number of communicated and trained members reported takes into account the position held in each of the committees that received training. This number can be counted multiple times if a member serves on more than one committee.
[3] The table by vulnerable group has been reorganized to present the data more clearly and ensure greater compliance with requirements. **GRI 2-4**
[4] The "other bodies" category included the Investment and Innovation Committee, the Sustainable Development Committee and the People Committee.

Average salary by hierarchal level and gender	Average female salary (BRL)	Average male salary (BRL)	Female/male
Executive level (base salary)[1]	68,575.48	64,877.72	1.06
Executive level (base salary + other financial incentives)[1]	68,575.48	64,877.72	1.06
Management level (base salary)[2]	12,834.60	15,346.43	0.84
Management level (base salary + other financial incentives)[2]	30,189.98	32,938.66	0.92
Non management level (base salary)[2]	6,834.46	6,790.94	1.01

[1] Officers at 12/31/2023.
[2] As per **GRI 405-2**.

APPENDICES
Details on the number of people is available in Additional Disclosures (*page 182*).

GRI 404-2, GRI G4-EU14

People development

Copel's Corporate Education Policy sets the guidelines to drive training and development initiatives

The program offerings range from skill-building to career transition assistance, emphasizing topics such as communication, soft skills, and digital transformation.

There are also incentives for both undergraduate and graduate degree programs, along with partnerships with educational institutions that extend benefits to employees' dependents.

In 2023, Copel began redesigning leadership profiles and mapping skills, a process continuing into 2024, which will support employee reviews and the formation of individual development plans.

The Leadership Development Program (PDL) 2023, conducted in collaboration with ISAE FGV, accordingly focused on strengthening leadership skills. The program targeted formal leaders and supervisors, with over 800 professionals participating. Six priority topics were defined for the program, offering choices for boards in the composition of the journeys:

- **Managers' Journey:** Environmental, Social and Governance (ESG), Neuroleadership and High-Performance Team Management, Innovation and Digital Transformation, Management through Results Indicators, Consolidation of Program Experiences (CPE);

- **Supervisors' Journey:** Environmental, Social and Governance (ESG), Basic Leadership Tools, and Consolidation of Program Experiences (CPE).

The Female Leadership Program aims to increase female representation in leadership roles, promoting skills development through self-awareness and self-leadership (*see more on page 149*).

To reinforce a culture of continuous learning, Copel adopted an innovative digital streaming platform dedicated to professional development and live broadcasts on the subject. Various events were held, including Career Development, open to all employees, and a workshop on Performance Cycles and Development Conversations, focusing on leadership. These actions are also connected to Copel's performance review program, Nossa Energia.

There is a specific program too for information security training and protection against cyber-attacks. In 2023, several campaigns were conducted, and 78.86% of employees underwent training on the subject, including senior management (*see more on page 68*).

Among other development-focused initiatives, partnerships with various educational institutions, including Senac and Senai, encourage employees' families to study at different education levels, from preschool to higher education, through discounts and other benefits. The internship program offers

opportunities for high school and college students in various areas and locations within the company to contribute to their development. In 2023, Copel also launched a scholarship program for engineering students (*see more on page 120*).

The investment in development in 2023 amounted to BRL 8.4 million, a larger volume than in 2022 when it was nearly BRL 6.6 million. The average hours of training in 2023 was 34.73 per employee.

Investment in training and development (BRL million)

34.73
was the average hours of training per employee

Total and average hours of training by gender GRI 404-1	Total employees	Hours of training	Average hours of training
Men	4,547	160,177.09	35.23
Women	1,257	41,396.21	32.93
Total	**5,804**	**201,573.30**	**34.73**

LEARN MORE
See more about *Corporate education*.

GRI 404-3

Performance review

The Our Energy performance management program is a tool for driving professional development and recognition. Implemented in 2013, it has undergone continuous learning and improvements with each cycle (annual). In 2021 it underwent a revitalization process aligned with the company's strategic objectives, a process advised by Fundação Instituto de Administração (FIA-USP). Our Energy's current model features well-defined skills with varying levels of expectations based on the employee's role, development, maturity, and career progression. Changes were also made to the process to fuel reflection and dialog, including the addition of intermediate feedback, self-assessment, and the development of individual development plans. Moreover, the evaluation process flow now includes a collegiate stage for consistency analysis, aimed at ensuring a higher degree of balance and consistency in the evaluation process.

In 2023, 100% of eligible employees participated in the review program and received their respective feedback.

GRI 2-19, 2-21

Remuneration

Following the restructuring of executive compensation (*see more on page 56*), practices at all functional levels will be reassessed. The aim is to instill a culture of meritocracy and ensure a model better aligned with the market, guaranteeing attractiveness and talent retention. This review is expected to take place in 2024.

The document Career and Remuneration Structure describes how this topic is organized within the Company. Under the present model, employees receive a Performance Bonus (PB). This variable and periodic remuneration rewards teams with outstanding performances based on the achievement of different levels of financial, operational and sustainability goals.

The benefits and short-term variable remuneration are established in the Collective Bargaining Agreement. The employees can share their opinion regarding the remuneration policy in annual workplace surveys (GPTW) and at the periodic meetings held between Copel and the unions.

In 2023, the total annual remuneration of the highest paid individual (not considering the CEO) was 8.8 times higher than the average annual remuneration of the other Copel employees – in 2022 this difference was 4.6. If we consider the CEO's remuneration, the ratio becomes 10.4 times, compared to the mean remuneration.

LEARN+
learn more about benefits in the *Sustainability Portal.*

GRI 401-2

Main benefits
offered to employees

- Health insurance – Copel Foundation
- Private pensions – Copel Foundation
- Financial and pensions education
- Physical and mental health education
- Specialized support in mental health and substance dependence
- Life insurance – Copel Foundation
- Commercial partners
- Educational partnerships
- Parental leave
- Family sick leave
- Breast-feeding support rooms
- Influenza vaccinations
- Preventive health stage associated with periodic examination
- Primary Health Care (APS) – Copel Foundation
- Use of social name
- Nursery allowance
- Assistance for persons with disabilities for employees and dependents
- Flexible working hours
- Part-time work
- Telecommuting
- Advance of 13th month salaries
- Meal allowance
- Hours bank
- Volunteering

GRI 3-3, 403-1, 403-2, 403-4, 403-5, 403-6, 403-7, 403-8, 403-10, GRI G4-EU16, EU18

Well-being, health and safety

A non-negotiable condition in the company, the commitment to health and safety forms part of Copel's values

One of its strategic objectives its the creation of a wholesome workplace in which workers and managers collaborate to achieve continuous improvement in health, safety and well-being.

In 2023, during the materiality review process, which involved a survey on more than 6,000 people, representatives of the company's stakeholders, the topic gained even more visibility. Promoting the well-being and health and safety of employees, service providers, and all relationship audiences is a material issue for Copel (*see more about materiality and population safety on pages 08 and 136, respectively*).

Health and safety practices are managed by a multi-professional team composed of engineers, occupational physicians, and a social

worker, ensuring a cohesive approach. Integrated in a coordinated manner, the Occupational Health Surveillance Program (PCMSO) and the Risk Management Program (PGR) consider regulatory and environmental issues and specific activities to identify hazards, assess risks, and establish respective control measures focused on the prevention of accidents and health impairments of employees.

The management includes, among others, monitoring absenteeism, conducting preventive and periodic exams, and monitoring the rates of frequency and severity of accidents involving both direct employees and outsourced workers.

It's worth noting that 100% of employees and outsourced workers are covered by a workplace safety management system.

The safety program covers all workers, activities, and workplaces, and is managed by the occupational safety department in collaboration with employees and the Internal Commission for Accident and Harassment Prevention (CIPA). Qualified professionals guide employees on hazard and risk analysis, and the KPIs on the subject are part of the Balanced Scorecard and the definition of strategic actions. These indicators are also incorporated into management contracts with subsidiaries and cascaded into the management commitments of divisions and departments. The topic's importance and the ubiquitous buy-in make it a factor for variable compensation at Copel since 2022.

In 2023 there were no incidents of occupational illnesses involving direct employees. However, unfortunately, there were fatalities among employees in typical accidents, including one direct employee and four outsourced workers.

Health and Safety Risk Management

Copel employees perform various activities in urban, rural, and maritime areas, with significant accident risks such as traffic, presence of animals, falls, impacts and electricity. The occupational safety area, the CIPAs and other company areas are jointed charged with identifying risks and adopting preventive actions.

The Occupational Health and Safety Policy allows employees to postpone tasks in the event of imminent risk, and the Code of Conduct prohibits unsafe activities or that may cause diseases, where complaints can be submitted through the Reporting Channel. Additionally, all staff are protected from retaliation through commitments in the policy and conduct norms.

The topic's importance and the ubiquitous buy-in make it a factor for variable compensation at Copel

Safety training

The Occupational Health and Safety Policy ensures that employees and outsourced workers have the necessary technical and safety training needed to handle risk in the workplace and in complex activities. The SG3 system controls all documentation related to outsourced workers, auditing health and safety training. Outsourced workers undergo onboarding training and, for high-risk activities, must have certificates from mandatory training and a valid Occupational Health Certificate (ASO). They also attend lectures during Internal Occupational Accident Prevention Week (Sipat).

All direct employees receive internal or external training, while outsourced workers receive external training, except for the Safety Onboarding, which is conducted by Copel.

Personal Protective Equipment (EPI)

Both direct employees and outsourced workers are provided with Personal Protective Equipment (EPI) appropriate to the risk, according to technical specifications. The equipment is recorded in a responsibility agreement and replaced when necessary, in accordance with internal standards.

[1] The ratios were calculated for every 1,000,000 hours worked, and no worker was excluded from the calculation.
[2] The main workplace accidents involve impacts from falling objects, traffic incidents, trips, and injuries due to improper movements, which can result in leave of less than 15 days or no leave at all.
[3] Workers who are not employees, but whose work and/or workplace is controlled by the organization.

WORK-RELATED INJURIES GRI 403-9, SASB-IF-EU-320A.1

Work-related fatalities[1] [2]	2022		2023	
	Direct employees	Outsourced workers[3]	Direct employees	Outsourced workers[3]
Number	0	3	1	4
Rate	0	0.18	0.15	0.27
High-consequence work-related injuries (excluding fatalities)	**Direct employees**	**Outsourced workers[3]**	**Direct employees**	**Outsourced workers[3]**
Number	0	3	0	2
Rate	0	0.18	0.00	1.93
Recordable work-related injuries	**Direct employees**	**Outsourced workers[3]**	**Direct employees**	**Outsourced workers[3]**
Number	20	112	21	107
Rate	1.84	6.59	5.99	15.59

GRI 403-3, 403-6

Health & quality of life

The Copel Health and Quality of Life Program aims to improve the overall health of its employees by creating safe and healthy workplaces and fostering a culture that values health and quality of life.

Based on the World Health Organization (OMS) work model, the program is structured around four pillars: physical health, psycho-emotional health, social well-being, and financial well-being.

Its actions are also aligned with the UN Sustainable Development Goals (SDGs), particularly SDG 3 and SDG 8, which promote emotional health and a healthy work environment.

The health management relies on epidemiological data analysis, health complaints, absenteeism, and engagement to offer more suitable and integrated actions and programs, aiming at the program's sustainability and continuous improvement.

The engagement in the Plenamente Program's work was

42.5%

of employees

Looking after physical health

Copel prioritizes the physical health of its employees through various initiatives such as a Health Plan with extensive coverage and variable copays;flu vaccinations, which achieved an engagement rate of 65.6% in 2023, surpassing the 2022 result of 57.1%; Primary Health Care (APS), which in 2023 launched a virtual unit in addition to the three existing physical ones, expanding to 63% the total number of employees who can be served by this structure;and diagnostic and preventive exams associated with various diseases, at no cost to the employees.

Additionally, the focus on preventive action, aimed at preventing worsening conditions or new illnesses and promoting overall health, is emphasized. To this end, a strategy was developed that includes guidance and planning of health actions, with the refinement of the management of the epidemiological profile, absenteeism, employees on leave, and critical medical certificates. This allows for the early identification of associated risks, health complaints, and illness profiles, thereby improving the management of absenteeism, leaves of absence, and the most critical health issues that may impact work. It is noted that engagement in physical health actions was 77.4% in 2023, an increase from the 61.5% recorded in 2022.

Looking after mental health

Another significant indicator of the strategic importance of health and safety at Copel is the engagement of employees in actions focused on mental health. The number of people entering the Plenamente Program, which was implemented in 2021, nearly doubled in 2023, reaching 42.5% of employees, compared to 23.5% in 2022.

Looking after social and financial wellbeing

The inclusive approach to people has brought new advancements in initiatives aimed at balancing the lives of employees, including aspects involving family and financial planning. On Family Day 2023, Copel hosted three virtual events addressing topics such as mental and emotional health, technological dependency, and conscientious parenting, in addition to the in-person events that took place at 26 company locations. Now in its 9th edition, the event engaged 20.3% of the workforce. In the Bem Gestar Program, focused on care for pregnant employees, two new breastfeeding support rooms were inaugurated this year, taking the total to seven, ensuring that all major company hubs have facilities to encourage the continuation of breastfeeding, thus striking a balance between motherhood and careers.

In 2023, Copel also established the Parents Support Group to foster the exchanging of experiences and mutual support among parents of children with Autism Spectrum Disorder (ASD).

The Redefining Values Program was launched to strengthen this journey. This initiative provides financial and pension education to employees and their families, aiming to promote financial well-being, economic sustainability and planning for financial independence.

Overall, the actions mentioned here, as well as those detailed on the *Sustainability Portal*, have been meeting the employee needs. Engagement rates are 20.4% for actions related to the social well-being pillar and 21.5% for actions connected to the financial well-being pillar.

Awards

Copel's commitment to health care and promoting quality of life at work was recognized on two occasions in 2023. The focus on mental health through the Plenamente Program and the Chemical Dependency Program was highlighted at the Ser Humano Award, presented by the Brazilian Association of Human Resources (ABRH) in Paraná state. Copel also won the National Quality of Life Award organized by the National Association for Quality of Life—the leading national award that recognizes the best practices in health, well-being, and quality of life for professionals. In that edition, Copel stood out as the highest scorer of the award.

LEARN MORE
Learn more about the health and safety initiatives in the socio-environmental reports of Copel GeT and Copel DIS which are *available here*.

GRI 3-3

Business and Financial Performance

SDGs 8

Capitals

In 2023, Copel recorded an adjusted EBITDA[1] of BRL 5.693 billion, growth of 6.5% compared to 2022. Net operating revenue advanced by 4.6%, reaching BRL 21.480 billion, and net income increased by 102.5%, totaling BRL 2.327 billion in 2023.

This performance was mainly driven by revenue from electricity sales to consumers with the distributor's rate adjustment and an increase in the number of free consumers; revenue from the provision of the electrical grid, with a rate adjustment in distribution usage and growth in billed grid sales, among other factors. In generation, for example, there was an increase in wind generation assets with the commercial operation of the Jandaíra Complex and the acquisition of the Aventura and SRMN Wind Clusters at Copel GeT.

Costs and expenses reached BRL 18.093 billion, a 4.9% increase in the year, with BRL 610.1 million provisioned for the Voluntary Severance Program (PDV) associated with the Company's transformation process into a corporation (*see more on page 145*). This growth was also influenced mainly by performance bonuses (PPD) and profit sharing associated with the better earnings and achievement of short-term goals, and by an increase in charges for the use of the electrical grid, among other factors. On the other hand, the reduction in expenses for purchased electricity for resale and provisions and reversals partially offset the increase in costs and expenses.

Even in a year beset with challenges such as the constant low energy prices, an increase in installations of micro and mini-distributed generation (MMGD), and increased competition in the free market, Copel maintained consistent results in its operations: Copel DIS recorded 4% growth in grid sales and adjusted EBITDA[1] of BRL 2.1 billion with efficiency 28% above regulatory EBITDA[2]; Copel GeT reached BRL 3.5 billion in adjusted EBITDA in its ongoing operations, 1.8% below the 2022 result; and Copel Mercado Livre remained among the largest energy traders in the country in terms of volume for the third consecutive year.

The Company's investment program also remains at a high level, with BRL 2.252 billion invested in 2023, mainly in the expansion and automation of distribution infrastructure, and BRL 2.432 billion planned for 2024 (*see more on page 34*).

Copel's common shares appreciated by 43%, and preferred shares grew by 36% in the period, reaching a market value of BRL 29.8 billion. The year's results also led to a payment of BRL 958.0 million in 2023 in the form of interest on equity - and an additional BRL 131.2 million in dividends, subject to approval at the Annual General Meeting in April 2024, resulting in a total of BRL 1.09 billion in dividends in 2023.

[1] Adjusted EBITDA: is an adaptation of the indicator to the company's reality, depending on the particularities that affect its operations or sporadic items that have impacted EBITDA.
[2] Regulatory EBITDA: Denotes the company's actual cash generation.

Investment program

Subsidiaries	Actual		Projected	Change %
	2022	2023	2024	2022 x 2023
Copel Geração e Transmissão	472.7	240.1	265.1	(49.21)
Copel Distribuição	1,848.1	1,966.5	2,091.7	6.41
Copel Comercialização	2.6	1.6	1.5	(38.46)
Copel Serviços	0.1	40.7	17.1	40,600.0
Holding Company	6.2	3.2	3.4	(48.39)
Other interests	-	-	53.4	-
Total[1]	**2,329.7**	**2,252.1**	**2,432.2**	**(3.33)**

[1] Does not include the acquisition of Complexo Eólico Aventura and Santa Rosa & Mundo Novo.

Share trading volume in 2023

Trading volume		ON (CPLE3)		PNB (CPLE6)		UNIT (CPLE11)[1]	
		Total	Daily average	Total	Daily average	Total	Daily average
B3	Businesses	1,402,762	5,656	4,539,711	18,305	374,455	1,528
	Number	885,389,800	3,570,120	4,043,784,200	16,305,581	68,145,500	278,145
	Volume (BRL thousand)	7,146,634	28,817	33,646,502	135,671	2,740,022	11,138
	Presence in trading sessions	248	100%	248	100%	245	100%
Nyse	Number	-	-	-	-	107,639,271	435,787
	Volume (USD thousand)	-	-	-	-	1,337,595	5,415
	Presence in trading sessions	-	-	-	-	247	100%
Latibex	Number	-	-	150,113	1,220	13,565	1,130
	Volume (€ thousand)	-	-	218	2	110	9
	Presence in trading sessions	-	-	123	48%	12	5%

[1] The Unit program was discontinued in December 2023.

Net operating revenue

Net Operating Revenue was BRL 21.4795 billion in 2023, an increase of BRL 944.2 million or 4.6% compared with 2022 (BRL 20.5353 billion). This variation is mainly due to:

1. increase of BRL 436.2 million in **Electricity sales to consumers Revenue**, essentially due to the effect of the 17.37% rate adjustment applied to the Energy Rate (TE) component of the distributor in June 2023 and the 9.3% growth in the number of free consumers of Copel Mercado Livre, partially offset by the lower additional revenue due to the application of the rate tier at the water stress level until April 2022 and the reduction observed in the captive market due to the increase in installations of Micro and Mini Distributed Generation (MMGD).

2. decrease of BRL 211.6 million in **Sales to Distributors**, mainly due to the lower volume of energy sold in bilateral contracts by Copel Mercado Livre and lower energy selling prices from Elejor, partially offset by the adjustment of contracts in the regulated environment and also by new contracts resulting from the newly established GSF and the acquisition of the Aventura and Santa Rosa & Novo Mundo Wind Clusters.

3. increase of BRL 1.1734 billion in **Revenue from Grid Availability** mainly due to the 6.32% distribution usage rate adjustment in 2023 and the 4% growth in Copel Distribuição's billed grid sales (1.9% growth considering MMGD compensation), partially offset by the reduction in inflation indexes that adjust transmission contract assets.

4. increase of BRL 169.7 million in Construction Revenue, mainly due to the increase in the volume of works related to the "Transformation" program, which includes investments aimed at improving and modernizing infrastructure and improving customer service in the distribution segment.

5. decrease in Sector Financial Assets and Liabilities of BRL 705.7 million due to the lower A portion, reflecting lower costs of contracted energy from Itaipu and reduction in rate tiers.

6. increase of BRL 99.4 million in Other Operating Revenue resulting mainly from revenues from leasing and rentals with emphasis on the growth in the distributor's revenues from sharing poles, a consequence of the higher volume of allocated poles/fixing points.

Net operating revenue

Electricity sales to consumers

Electricity sales to distributors

Grid availability

Construction revenue

Financial sectoral assets and liabilities

Fair value of concession financial asset

Other operating revenue

Operating costs and expenses

In 2023, Operating Costs and Expenses increased by BRL 838.0 million, a 4.9% increase compared to 2022, with BRL 10.6306 billion in non-manageable costs, such as purchased electricity for resale, electrical grid usage charges and raw materials and inputs for production, and BRL 3.7602 billion in manageable costs, including personnel and administrative costs, credit losses, provisions and reversals, and outsourced services.

Among the factors influencing this result were adjustments to grid usage contracts and increased reserve energy charges, partially offset by reduced purchases of energy for resale due to improvements in the hydrological situation in non-manageable costs. Among the manageable costs, there was a greater impact with the provision of BRL 610 million for the Voluntary Severance Program connected to the Company's transformation into a Corporation (*see more on page 145*), higher provisions for performance and profit sharing due to Copel's improved results, among others. It's worth noting that there was a reduction in estimated losses, provisions, and reversals due to the decrease in expected credits.

Non-manageable

Electricity purchased for resale

2023	7,716.2
2022	8,096.9

Electricity grid usage charge

2023	2,896.7
2022	2,488.0

Raw material and input for electricity production

2023	17.7
2022	9.3

Others

Depreciation and amortization

2023	1,382.0
2022	1,233.1

Construction costs

2023	2,319.7
2022	2,137.2

Manageable

Personnel and management

2023	1,878.3
2022	977.9

Loss of credits, provisions and reversals

2023	92.2
2022	717.5

Outsourced services

2023	996.3
2022	754.6

Social security and welfare plans

2023	260.2
2022	260.2

Material

2023	102.7
2022	90.5

Other operating costs and expenses

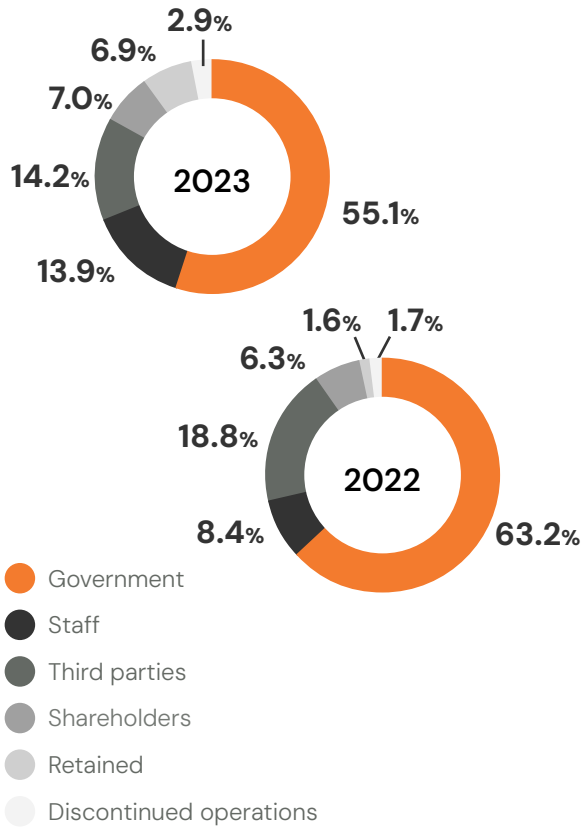
2023	430.5
2022	489.3

Added Value

Copel posted BRL 15.5 billion in Added Value in 2023, 1.5% more than the previous year amounting to BRL 15.2 billion. The full statement can be found in the Financial Statements.

GRI 201-1

Value distributed



Debt

The Company finances liquidity and capital needs primarily with funds provided by operations and through financing to expand and upgrade the businesses linked to generation, transmission, trade and distribution of energy.

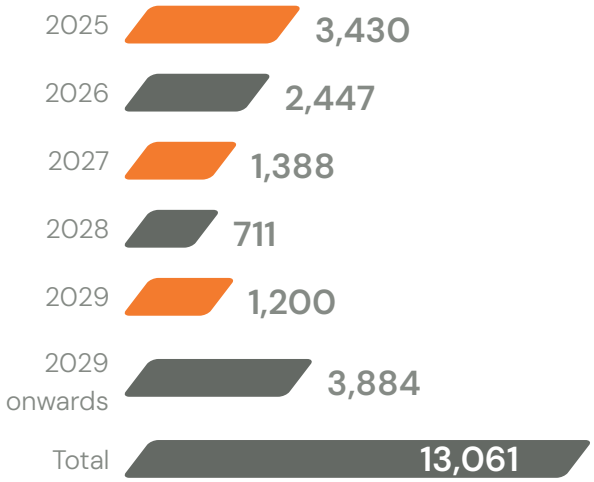
It is important to point out that the Company endeavors to invest in projects and for this purpose uses financing lines available in the market, which make sense in Copel's capital structure in terms of financial leverage in view of the return of projects. The prospects for financing, as well as cash available, will be sufficient to meet the investment plan for 2024.

Payments made in the year excluding discontinued operations totaled BRL 3,312.5 billion, of which BRL 1.47 billion was principal and BRL 1.66 billion was charges.

Funding secured in 2023

Income (BRL million)	Company	Financier	Amount
8th Debentures Issuance	Copel Geração e Transmissão	Debenture holders	1,300.0
8th Debentures Issuance	Copel Distribuição	Debenture holders	1,600.0
Financing agreement	Jandaíra I	Banco do Nordeste	3.3
Financing agreement	Jandaíra II	Banco do Nordeste	8.5
Financing agreement	Jandaíra III	Banco do Nordeste	9.8
Financing agreement	Jandaíra IV	Banco do Nordeste	9.8
Financing agreement	Aventura II	Banco do Nordeste	2.6
Financing agreement	Aventura III	Banco do Nordeste	2.9
Financing agreement	Aventura IV	Banco do Nordeste	4.5
Financing agreement	Aventura V	Banco do Nordeste	4.0
Total			2,945.4

Debt maturities



Consumer delinquency

In December 2023, Copel Distribuição's consumer delinquency stood at BRL 215.2 million, which is equivalent to 0.90% of its TTM revenue, representing a 12.2% increase compared to December 2022 (BRL 191.8 million), which was equivalent to 1.01% of Copel DIS's sales.

The Company implements collection tools such as default notices (SMS, email, bill protest, collection letter), and as a last resort, suspending energy supplies (*see more on page 135*).

Disclosure	2022	2023	Change %
Company Delinquency[1]	0.90%	1.01%	12.22%
Abradee Delinquency[2]	1.87%	2.32%	24.06%

[1] Corporate Criteria Delinquency Rate: pending energy from 16 to 360 days and 12 month billing.
[2] Abradee Criteria Delinquency Rate: Pending energy from 1 to 90 days and 12 month billing.

Leverage of
1.9x
EBITDA

Find out more

To see our 2023 business results in full please refer to *Management Report and Financial statements*

5 Appendices

Supplementary Disclosures

Environmental commitment

Energy

Energy consumption within the organization (GJ) GRI 302-1

Type of fuel[1]	2020	2021	2022	2023	Change 2022 x 2023 (%)
Non-renewable					
Gasoline	1,278.71	1,858.95	2,452.61	2,810.70	+ 14.60%
Diesel fuel	98,926.87	85,611.67	103,204.63	102,851.86	- 0.34%
Coal	-	-	411,475.69	439,771.48	+ 6.88%
LPG	-	-	-	1,208.00	-
Total	**100,205.58**	**87,470.62**	**517,132.93**	**546,642.04**	**+ 5.71%**
Renewable					
Ethanol	19,051.17	21,814.88	24,173.80	25,259.98	+ 4.49%
Anhydrous Ethanol	0	0	627.07	0	-
Biodiesel	15,884.18	10,045.81	12,085.23	12,491.94	+ 3.37%
Total	**34,935.35**	**31,860.69**	**36,886.10**	**37,751.92**	**+ 2.35%**
Total renewable and nonrenewable fuels	**135,140.93**	**119,331.31**	**554,019.02**	**584,393.96**	**+ 5.48%**

[1] To calculate the energy equivalent to consumption, the specific calorific value of each fuel was used, according to the conversion factors provided by the National Energy Balance (BEN) of 2022. For calculations related to biodiesel blends, CNPE Resolution 03/2023 was referenced.

Electricity consumption (GJ) GRI 302-1

	2021	2022	2023	Change 2022 x 2023 (%)
Electricity consumption	237,888.98	187,316.68	135,102.84	- 27.87%

Electricity sold (GJ) GRI 302-1

	2021	2022	2023	Change 2022 x 2023 (%)
Electricity sold	70,751,504.92	70,487,895.32	71,393,075.95	+1.28%

Total energy consumption (MWh) GRI 302-1

	2021	2022	2023	Change 2022 x 2023 (%)
Non-renewable sources (fuels)	24,297.39	143,648.00	151,845.01	+ 5.71%
Renewable sources (fuels)	8,850.19	10,246.14	10,486.64	+ 2.35%
Electricity consumption (non-renewable)	14,471.58	6,608.11	0.00	-
Consumption of electricity (renewable)	51,608.68	45,424.28	37,528.56	- 17.38%
Total	**99,227.83**	**205,926.53**	**199,860.22**	**- 2.95%**

Waste and materials management

Materials used by weight or volume GRI 301-1

MATERIALS USED[1 2 3 4] (t) GRI 301-1			
Copel Distribuição (DIS)	**2021**	**2022**	**2023**
Aluminum conductors	-	8,556.94	9,406.66
Copper conductors	-	282	192.91
Crosshead	-	4,851.92	4,818.22
Polymer crosshead	-	95.22	84.22
Operating equipment	-	691.72	390.64
Iron	-	1,581.83	1,489.72
Insulators	-	1,936.83	1,905.95
Energy meters	-	580.67	383.35
Concrete poles	-	170,549.17	173,231.79
Fiber poles	-	635.62	571.01
Current transformer	-	166	166.81
Network transformer	-	4,715.26	4,768.96
Total	194,408.00	194,643.18	197,410.24
Copel Geração e Transmissão (GeT)	**2021**	**2022**	**2023**
Aluminum	-	884.02	476.85
Copper	-	3,233.82	4,467.67
Electronic components	-	2,869.04	2,682.48
Contaminated	-	17,710.45	2,092.21
Miscellaneous operating equipment	-	520.00	33.24
Iron and steel	-	3,372.62	5,745.32
Lighting	-	886.15	687.87

MATERIALS USED[1 2 3 4] (t) GRI 301-1			
Insulators	-	410.08	509.29
Wood	-	25.00	0.00
Insulating oil	-	840.00	5,640.00
Lube oil	-	5,961.30	5,592.32
Paper	-	146.11	81.38
Transformers	-	-	200.00
Polymers	-	4,139.34	5,058.77
Glass and porcelain	-	26.64	225.32
Total	**1,512,734.15**	**41,024.57**	**33,492.72**

[1] Only wood and paper are renewable. All materials are acquired from external suppliers.
[2] The increase in material consumption reflects the extra demand generated by Copel DIS's construction program.
[3] In 2021, materials were disclosed in groups: 1. Aluminum, Copper, Iron and Steel; 2. Insulating and lubricating oils; 3. Insulators, Glass and Porcelain; 4. Chemical Products, Rags, Polymers and Paper; 5. Electronic Components. Starting in 2022, there was a change in disclosure, maintaining the current methodology for 2023 and future disclosures.
[4] Regarding areas subordinated to the Holding company, 52,618.00 sheets of paper were used.

Waste generated [1 2 3] GRI 306-3

Waste composition[1]	Description of waste	Weight of waste generated (t)			
		2021	2022	2023[2]	Change 2022 x 2023 (%)[3]
Hazardous waste - Class I	Batteries; lead-acid batteries; portable batteries; treated wood cross arms; unserviceable equipment containing insulating mineral oil; lamps; alkaline batteries; posts; oils; solvents and paints	4,523.66	1,194.55	4,820.86	+ 303.57%
Non-hazardous waste - Class II	Paper; cardboard; food waste; pruning waste; sanitary waste; glass; metals; plastics and optical fiber scraps from telecom operations	53,335.13	56,970.74	75,109.07	+ 31.84%
Total waste		**57,858.79**	**58,165.29**	**79,929.93**	**+ 37.42%**

[1] Copel has a system for the collection and proper disposal of waste, issuing Waste Waybills (MTR) for all subsidiaries through SINIR.
[2] In 2022, the reported values did not account for the disposal of poles removed from the grid (Class II), generated by Copel Distribuição, totaling 40,043.93 tons, and trimming waste of 9,799.64 tons, which are adjusted in this report.
The 37.40% increase is not only due to Figueira's waste but also to poles removed from the grid and trimmings generated.
[3] There was also an increase in waste registration due to the integration of units that previously did not belong to Copel, including the Aventura, Santa Rosa, Mundo Novo, Vilas, and Jandaíra Wind Clusters.

Waste diverted from disposal GRI 306-4

	Waste weight (t)									%
	2021			2022			2023			
	On-site	Off-site	Total	On-site	Off-site	Total	On-site	Off-site	Total	
Hazardous waste										
Preparation for reuse	-	-	-	-	1,031.53	1,031.53	-	963.72	963.72	- 6.57%
Recycling	-	3,971.16	3,971.16	-	2,708.53	2,708.53	-	3,092.75	3,092.75	+14.19%
Reuse	-	311.5	311.5	-	-	-	-	-	-	-
Re-refining	-	252.58	252.58	-	-	-	-	-	-	-
Co-processing	-	50.77	50.77	-	-	-	-	-	-	-
Other recovery actions	-	-	-		176.32	176.32	-	151.75	151.75	-13.93%
Total hazardous waste diverted from disposal	0	4,586.01	4,586.01	-	3,916.38	3,916.38	-	4,208.22	4,208.22	+7.45%
Non-hazardous waste										
Recycling	32	37,511.21	37,543.21	-	11,971.92	11,971.92	0.00	4,037.14	4,037.14	- 66.28%
Composting	13.42	9,914.50	9,927.92	-	-	-	-	-	-	-
Preparation for reuse	-	-	-	-	35,601.09	35,601.09	-	30,482.85	30,482.85	- 14.38%
Other recovery actions	-	-	-	7.60	0.00	7.60	6.46	9,074.92	9,081.38	*
Total non-hazardous waste diverted from disposal	45.42	47,425.71	47,471.13	7.60	47,573.01	47,580.61	6.46	43,594.91	43,601.37	- 8.36%
Total hazardous and non-hazardous waste diverted from disposal	45.42	52,011.72	52,057.14	7.60	51,489.39	51,496.99	6.46	47,803.13	47,809.59	- 7.16%

* Value outside the scale of percentage variation, exceeding 119,000%

Waste directed to disposal GRI 306-5

	Waste weight (t)									%
	2021			2022			2023			
	On-site	Off-site	Total	On-site	Off-site	Total	On-site	Off-site	Total	
Hazardous waste										
Incineration without energy recovery	-	77.18	77.18	-	29.03	29.03	-	6.30	6.30	- 78.30%
Incineration with energy recovery	-	-	-	-	-	-	-	2.95	2.95	-
Landfill	-	155.39	155.39	-	363.33	363.33	-	28.91	28.91	- 92.04%
Total hazardous waste directed to or disposal	-	232.57	232.57	-	392.36	392.36	-	38.16	38.16	- 90.27%
Non-hazardous waste										
Incineration without energy recovery	-	77.18	77.18	-	-	-	-	1.39	1.39	-
Incineration with energy recovery							-	-	-	-
Landfill	-	2,169.43	2,169.43	-	3,935.96	3,935.96	-	15,094.97	15,094.97	+ 283.51%
Total non-hazardous waste directed to disposal	-	2,246.61	2,246.61	-	3,935.96	3,935.96	-	15,096.36	15,096.36	+ 283.55%
Total hazardous and non-hazardous waste diverted from disposal	-	2,479.18	2,479.18	-	4,328.32	4,328.32	-	15,134.52	15,134.52	+ 249.66%

Water

Water withdrawal by source GRI 303-3, SASB-IF-EU-140A.1

Water withdrawal (ML)[1 2 3]	2021	2022	2023
Surface water	109,152.10	94,805.31	85,264.50
Groundwater	40.42	39.85	185.17
Utility water	95.29	84.66	114.76
Total water withdrawals	**109,287.81**	**94,929.82**	**85,564.43**

[1] None of the collections mentioned derive from water-stressed areas.
[2] The collection of groundwater and outsourced water is measured by hydrometers.
[3] The water withdrawal data consist solely of fresh water (total dissolved solids ≤1,000 mg/L). The company does not collect seawater nor produce its own water.

Water withdrawal by source GRI 303-4, SASB-IF-EU-140A.1

Water discharge (ML)[1 2 3]	2021	2022	2023
Surface water	109,152.10	94,805.31	85,264.31
Groundwater	33.02	31.88	148.04
Utility water	76.95	67.73	91.80
Total water withdrawals	**109,262.07**	**94,904.92**	**85,504.15**

[1] None of the mentioned discharges derive from water-stressed areas.
[2] The water discharge data consist solely of fresh water (total dissolved solids ≤1,000 mg/L). Furthermore, the company does not discharge seawater or internally produced water, as there is no collection or production of water in these categories.
[3] The company's use of surface water is non-consumptive, meaning the water is used in operations, passes through turbines, and is then returned to its original water body without changing its properties. No treatment is consequently necessary to discharge this water, justifying the indication of the same volume for untreated discharge. The volume for which primary treatment is provided through a septic tank-filter system is therefore 0.68 (ML), and it pertains to office wastewater. Its is discharged in accordance with the parameters recommended in CONAMA Resolution 430/2011.

Atmospheric Emissions*

Nitrogen oxides (NOx), sulfur oxides (SOx) and other significant air emissions (t)[1] [2] [3] [4] GRI 305-7	2023
NOx	4.98
SOx	0.33
Persistent Organic Pollutants (POP)	0.00
Volatile Organic Compounds (VOCs)	1.35
Hazardous Air Pollutants (HAP)	0.00
Particulate matter (PM)	0.28
Other standard categories of atmospheric emissions identified in relevant laws and regulations	0.00

[1] Data related to fleet emissions.
[2] In 2021, the Figueira Thermal Power Plant was undergoing modernization, not generating ash waste and not emitting particulates, NOx, and SOx since then.
[3] In 2022, NOx and SOx emissions were not measured as the Figueira Thermal Power Plant operated only in a testing phase.
[4] With the curtailment of UTE Figueira and considering the neutrality plan, by 2030, Copel aims to reduce its own GHG emissions, and eliminate industrial emissions of NOx, SO_2, and particulates.
* Assured by a different independent auditor

Emissions of sulfur hexafluoride (SF_6) in metric tons.			
Scope 1*	2021	2022	2023
Total	**0.036**	**0.126**	**0.119**

* Assured by a different independent auditor.

GRI 304-4

Biodiversity

IUCN Red List species and national conservation list species with habitats in areas affected by operations

Number of species according to the level of extinction risk[1] [2]	2021	2022	2023
Critically endangered	15	14	14
Endangered	63	63	65
Vulnerable	106	115	120
Near threatened	77	82	90
Least concern	724	901	1,119
Total	**985**	**1,175**	**1,408**

[1] The UCN Red List 2022 and the 2022 lists of the Environment Ministry and of the state, by level of extinction risk.
[2] The data comes from various environmental studies and forest inventories, which involve fieldwork for monitoring fauna and flora.

Habitats protected or restored GRI 304-3

SIZE AND LOCATION OF ALL AREAS OF PROTECTED OR RESTORED HABITATS[1] [2] [3] [4] GRI 304-3

Area designation	Size of habitat areas (hectares)	Location of all habitat areas protected or restored	Status of each area based on its condition at the close of the reporting period
Forest Offsets Programs	342.5798	Other	In progress
Paraná APPs	4,265.3700	Other	Protected and monitored
Mato Grosso APPs	5,488.3500	Other	Protected and monitored
Serra do Mar Area – Guaricana National Park	6,003.8300	Guaratuba (PR)	Protected and monitored
Serra do Mar Area – Chaminé SHP	3,779.6200	Tijucas do Sul (PR)	Protected and monitored
Serra do Mar Area – Guaricana SHP	812.0400	Other	Protected and monitored
Serra do Mar Areas – Various	70.0500	São José dos Pinhais (PR)	Protected and monitored
Tia Chica Ecological Station	460.2000	Pinhão (PR)	In process of formalization as an Integral Protection Conservation Unit
Rio Guarani State Park	2,235.0000	Três Barras do Paraná (PR)	Integral Protection Conservation Unit (State Decree 2322/2000)
Rio dos Touros Ecological Station	1,231.0600	Iguaçu Reserve (PR)	Integral Protection Conservation Unit (State Decree 4229/2001)
Total habitats protected or restored	**24,688.1000**		

[1] The effectiveness of ecological restoration initiatives is measured based on ecological indicators defined by state legislation, such as those in São Paulo and Paraná. These actions follow methodologies supported by both legislation and the Society for Ecological Restoration (SER), with the aim of fostering biodiversity, increasing climate resilience, and strengthening the connection between society and the natural world.
[2] The data is based on the environmental licensing process, with annual updates to the corresponding management plans.
[3] From 2022 to 2023, there was a 50-hectare increase in forest offsets due to the acquisition of wind clusters and transmission lines, contributing approximately 49 hectares, in addition to offsetting actions for the 230 kV Bateias – Pilarzinho and Santa Monica – Pilarzinho transmission lines, adding about 1 hectare.
[4] Changes in Permanent Preservation Areas (APPs) between these years are due to registration adjustments, not vegetation clearance, indicating corrections in property documentation.

Operational sites owned, leased, managed in protected areas GRI 304-1

Area designation	Size (km²)	Location	Type of operation	Biodiversity value
Fully protected areas	1.05	Paraná state	High voltage distribution lines (LDAT)	Protecting terrestrial ecosystems. It includes parks (national, state, and municipal), wildlife sanctuaries, private natural heritage reserves (RPPN), ecological stations and ecological reserves.
Fully protected areas	3.43	Paraná state	Distribution networks at 34.5 kV	Protecting terrestrial ecosystems. It includes parks (national, state, and municipal), wildlife sanctuaries, private natural heritage reserves (RPPN), ecological stations and ecological reserves.
RAMSAR Sites - Guaraqueçaba ESEC	0.01	Guaraqueçaba (PR)	Distribution networks at 34.5 kV	The Guaraqueçaba ESEC is a protected area in the public domain, formed by mangroves, sandbanks and coastal islands.
RAMSAR Site - State Environmental Protection Area of Guaratuba	0.17	Guaratuba, Mandirituba, Tijucas do Sul, Matinhos, Pontal do Paraná, São José dos Pinhais and Morretes (PR)	Distribution networks at 34.5 kV	Guaratuba State Environmental Protection Area (APA) - the Guaratuba RAMSAR site boasts a high biodiversity value, given its high diversity of living beings and a landscape rich in wetlands.
RAMSAR Site - State Environmental Protection Area of Guaratuba	0.46	Guaratuba, Mandirituba, Tijucas do Sul, Matinhos, Pontal do Paraná, São José dos Pinhais and Morretes (PR)	High voltage distribution lines (LDAT)	Guaratuba State Environmental Protection Area (APA) - the Guaratuba RAMSAR site boasts a high biodiversity value, given its high diversity of living beings and a landscape rich in wetlands.
APA Estadual da Escarpa Devoniana APA Estadual Serra da Esperança APA Estadual de Guaratuba APA de Guaraqueçaba	5,686.1	Paraná state	Hydroelectric dams	Conservation Units of Sustainable Use. Entered in SNUC.
Estação Ecológica Rio dos Touros Parque Estadual do Pico Marumbi Parque Estadual Do Rio Guarani Parque Estadual Pico do Paraná Parque Estadual Serra da Baitaca Parque Nacional dos Campos Gerais Parque Nacional de Guaricana	3,407.54	Paraná state	Hydroelectric dams	Fully Protected Conservation Units. Entered in SNUC.
Parque Estadual do Pau Oco Parque Estadual do Rio Guarani Parque Estadual Vale do Codo Parque Nacional do Iguaçu Refugio da Vida Silvestre Mono Castro Refúgio da Vida Silvestre do Rio Tibagi	57.93	Paraná state	Transmission Lines	Fully Protected Conservation Units. Entered in SNUC.
Bacia do Paraíba do Sul EPA Cabreúva EPA Corumbataí, Botucatu and Tejupa perím EPAs. Corumbataí APA de Campinas APA do Iguaçu APA do Iraí APA do Passaúna APA do Pequeno APA do Rio Verde APA Estadual da Escarpa Devoniana APA Estadual do Piraquara APA Estadual do Guaraqueçaba APA Jundiaí APA Municipal do Alto Rio Turvo APA Municipal do Rio Vermelho Humbolt APA Piracicaba Juqueri Mirim Area I APA Piracicaba Juqueri Mirim Area II APA Sistema Cantareira RPPN Morro da Mina RPPN Perna do Pirata	3,894.09	Paraná Santa Catarina São Paulo	Transmission Lines	Conservation Units of Sustainable Use. Entered in SNUC.
Buffer zones of fully protected areas	6.59	Paraná state	High voltage distribution lines (LDAT)	Protecting terrestrial ecosystems. Includes state and national parks, wildlife sanctuaries and ecological stations.
Buffer zones of fully protected areas	20.02	Paraná state	Distribution networks at 34.5 kV	Protecting terrestrial ecosystems. Includes state and national parks, wildlife sanctuaries and ecological stations.
Buffer zones of fully protected areas	0.01	Paraná state	Power substations	Protecting terrestrial ecosystems. Includes state and national parks, wildlife sanctuaries and ecological stations.

Area designation	Size (km²)	Location	Type of operation	Biodiversity value
Estação Ecológica Rio dos Touros Parque Estadual da Graciosa Parque Estadual do Pico Marumbi Parque Estadual do Rio Guarani Parque Estadual Pico Paraná Parque Estadual Serra da Baitaca Parque Nacional de Guaricana Parque Nacional dos Campos Gerais Reserva Vida Silvestre (RVS)	26,116.61	Paraná state	Hydroelectric dams	Fully Protected Conservation Units. Entered in SNUC.
APA do Iraí APA Estadual da Escarpa Devoniana APA Estadual da Serra da Esperança APA Estadual de Guaratuba APA Estadual do Piraquara APA Estadual de Guaraqueçaba RPPN Helmuth Krause RPPN Reserva Natural Rio Cachoeira RPPN Sitio Cagnini	59,595.89	Paraná state	Hydroelectric dams	Conservation Units of Sustainable Use. Entered in SNUC.
Estação Ecológica de Assis Estação Ecológica de São Carlos - Estação Ecológica Mata do Jacaré Parque Estadual de Vila Velha Parque Estadual do Guartelá Parque Estadual do Pau Oco Parque Estadual do Penhasco Verde Parque Estadual do Rio Guarani Parque Estadual Pico Paraná Parque Estadual Vale do Codo Parque Municipal Augusto Ruschi Parque Nacional de Ilha Grande Parque Nacional Saint Hilaire Lange Parque Nacional do Iguaçu Parque Nacional dos Campos Gerais Parque Nacional Guaricana Reserva Biológica de Apiaí Refúgio de Vida Silvestre do Rio Tibagi Refúgio de Vida Silvestre Mono Castro	37,478.98	Paraná São Paulo	Transmission Lines	Fully Protected Conservation Units. Entered in SNUC.
APA Bacia do Paraíba do Sul APA Cabreúva APA Corumbataí Botucatu Tejupa perim Corumbataí APA Corumbataí Botucatu Tejupa perim Tejupa APA de Campinas APA do Iguaçu APA do Iraí APA do Passaúna APA do Pequeno APA do Rio Verde APA Estadual da Escarpa Devoniana APA Estadual de Guaratuba APA Estadual do Piraquara APA Estadual Guaraqueçaba APA Ilhas e Várzeas do Rio Paraná APA Jundiaí APA Municipal do Alto Rio Turvo APA Municipal do Rio Vermelho Humbolt APA Pedregulho APA Piracicaba Juqueri Mirim Área I APA Piracicaba Juqueri Mirim Área II APA Serra Dona Francisca APA Sistema Cantareira ARIE Matão de Cosmopolis Floresta Estadual Assis Floresta Estadual Navarro de Andrade Floresta Estadual Metropolitana Floresta Nacional de Assungui Floresta Nacional de Ipanema RPPN Instância Jatobá RPPN Fazenda do Tigre parte I RPPN Fazenda do Tigre parte II RPPN Fazenda Horii RPPN Fazenda Itapua RPPN Fazenda Monte Alegre RPPN Fazenda Nova Esperança RPPN Granja Perobal RPPN Invernada do Cerradinho RPPN Mata do Barão RPPN Morro da Mina RPPN Narciso Luiz Vanini I RPPN Perna do Pirata RPPN Reserva Natural Rio Cachoeira RPPN Sitio do Bananal RPPN Vo Borges	500,295.29	Paraná Santa Catarina São Paulo	Transmission Lines	Conservation Units of Sustainable Use. Entered in SNUC.

Area designation	Size (km²)	Location	Type of operation	Biodiversity value
RPPN Fazenda Santa Helena	751.73	Rio Grande do Norte	Wind farms	Conservation Units of Sustainable Use. Entered in SNUC.
Priority Areas for Atlantic Forest Biodiversity Conservation (APCBs)	198.55	Paraná state	Distribution networks at 34.5 kV	Protecting terrestrial ecosystems - APCB Mata Atlântica
Priority Areas for Atlantic Forest Biodiversity Conservation (APCBs)	29.14	Paraná state	High voltage distribution lines	Protecting terrestrial ecosystems - APCB Mata Atlântica
Priority Areas for Cerrado Biodiversity Conservation (APCBs)	5.60	Jaguariaíva and Itararé (PR)	Distribution networks at 34.5 kV	Protecting terrestrial ecosystems - APCB do Cerrado
Priority Areas for Cerrado Biodiversity Conservation (APCBs)	1.01	Jaguariaíva (PR)	High voltage distribution lines	Protecting terrestrial ecosystems - APCB do Cerrado
Priority Areas for Atlantic Forest Biodiversity Conservation (APCBs)	0.67	Paraná state	Power substations	Protecting terrestrial ecosystems - APCB Mata Atlântica
MA051 MA062 MA065 MA068 CA047 CA055 AMZ-816	15,193.28	Paraná Santa Catarina São Paulo Rio Grande do Norte Mato Grosso	Hydroelectric power plants Transmission Lines Wind Farms	APCB Mata Atlântica, APCB Caatinga, APCB Amazônia: Area of extremely high biological importance and extremely high priority for conservation action.
144513 (Cerrado-Pantanal s/cod) MA053 MA058 MA064 MA106	15,823.83	Paraná Santa Catarina	Hydroelectric power plants Transmission Lines	APCB Mata Atlântica, APCB Cerrado-Pantanal: Area of very high biological importance and very high priority for conservation action.
144513 (Cerrado-Pantanal s/cod) MA067 MA107 MA114	423.81	Paraná São Paulo	Transmission Lines	APCB Mata Atlântica, APCB Cerrado-Pantanal: Area of very high biological importance and high priority for conservation action.
AMZ-529	319.98	Mato Grosso	Hydroelectric power plant	APCB Amazônia: Area of high biological importance and very high priority for conservation action
302363 (Cerrado-Pantanal s/cod) MA072 MA090 MA092 MA099 MA118	5,376.55	Paraná São Paulo	Hydroelectric power plant Transmission Lines	APCB Mata Atlântica, APCB Cerrado-Pantanal: Area of high biological importance and high priority for conservation action.
MA089 MA079 MA063 MA076	385.18	Paraná São Paulo	Transmission Lines	APCB Mata Atlântica: Area of extreme biological importance and very high priority for conservation action

Social commitment

Membership of energy sector associations GRI 2-28

Associations and annual value of fees (in BRL)	
Brazilian Association of Electric Power Companies (ABCE)	47,476.00
Brazilian Wind Power Association (ABEEólica)	177,160.20
Brazilian Association of Large Electric Power Generation Companies (ABRAGE)	237,334.32
Brazilian Association for Clean Power Generation (ABRAGEL)	111,000.00
Brazilian Association of Large Electric Power Transmission Companies (ABRATE)	370,775.65
Brazilian Association of Independent Power Producers (APINE)	314,202.52
Brazilian Association for Photovoltaic Solar Power (ABSOLAR)	43,083.60
Brazilian Electric Utility Association (ABRADEE)	742,784.34
Brazilian Wholesale Electricity Association (ABRACEEL)	84,600.00
Brazilian Coal Association (ABCM)	55,053.00
Brazilian Association of Asset Management and Maintenance Companies (ABRAMAN)	33,724.00

People management

Total employees GRI 2-7

Employees by gender and region[1] [2]

Region	2021			2022			2023		
	Women	Men	Total	Women	Men	Total	Women	Men	Total
North-east	0	15	15	0	14	14	0	7	7
Midwest	5	34	39	5	32	37	5	2	7
Southeast	1	19	20	1	17	18	0	12	12
South	1,411	4,898	6,309	1,262	4,544	5,806	1,252	4,526	5,778
Total	**1,417**	**4,966**	**6,383**	**1,268**	**4,607**	**5,875**	**1,257**	**4,547**	**5,804**

[1] The data includes all units: Holding company, Generation and Transmission, Distribution, Wholesale, and Services.
[2] Counts active employees as of December 31.

Workforce by worktime, employment contract and gender[1] [2]

Gender	2021			2022			2023		
	Full time	Part Time	Total	Full time	Part Time	Total	Full time	Part Time	Total
Women	1,411	6	1,417	1,267	1	1,268	1,255	2	1,257
Men	4,963	3	4,966	4,605	2	4,607	4,544	3	4,547
Total	**6,374**	**9**	**6,383**	**5,872**	**3**	**5,875**	**5,799**	**5**	**5,804**

[1] COPEL does not have employees under temporary contracts nor does it maintain employees on zero hours contracts.
[2] Full-time was considered as working 6 or 8 hours (more than 30 hours per week), and part-time, 4 hours (less than 30 hours per week).

Workforce by worktime, employment contract and region[1] [2]

Gender	2021			2022			2023		
	Full time	Part Time	Total	Full time	Part Time	Total	Full time	Part Time	Total
North-east	15	0	15	14	0	14	7	0	7
Midwest	39	0	39	37	0	37	7	0	7
Southeast	20	0	20	18	0	18	12	0	12
South	6,300	9	6,309	5,803	3	5,806	5,773	5	5,778
Total	**6,374**	**9**	**6,383**	**5,872**	**3**	**5,875**	**5,799**	**5**	**5,804**

[1] COPEL does not have employees under temporary contracts nor does it maintain employees on zero hours contracts.
[2] Full-time was considered as working 6 or 8 hours (more than 30 hours per week), and part-time, 4 hours (less than 30 hours per week).

Diversity of governance bodies[1] GRI 405-1

By gender[2]	Executive Board	Board of Directors	Supervisory Board	Statutory Audit Committee	Other bodies[4]
2021[2]					
	%	%	%	%	%
Men	86%	89%	78%	100%	100%
Women	14%	11%	22%	0%	0%

2022	Executive Board		Board of Directors		Supervisory Board		Statutory Audit Committee		Other bodies[4]	
	Number	%	Number	%	Number	%	Number	%	Number	%
Men	6	86%	8	89%	5	100%	3	100%	13	93%
Women	1	14%	1	11%	0	0%	0	0%	1	7%
2023										
Male	6	86%	8	89%	4	80%	3	100%	6	75%
Women	1	14%	1	11%	1	20%	0	0%	2	25%

By age range[2]	Executive Board	Board of Directors	Supervisory Board	Statutory Audit Committee	Other bodies[4]
2021[2]					
	%	%	%	%	%
Below 30	0%	0%	0%	0%	0%
30 to 50	71%	44%	44%	0%	33%
Over 50	29%	56%	56%	100%	67%

2022	Executive Board		Board of Directors		Supervisory Board		Statutory Audit Committee		Other bodies[4]	
	Number	%	Number	%	Number	%	Number	%	Number	%
Below 30	0	0%	0	0%	0	0%	0	0%	0	0%
30 to 50	5	71%	4	44%	1	20%	0	0%	6	43%
Over 50	2	29%	5	56%	4	80%	3	100%	8	57%
2023										
Below 30	0	0%	0	0%	0	0%	0	0%	0	0%
30 to 50	5	71%	1	11%	1	20%	0	0%	2	25%
Over 50	2	29%	8	89%	4	80%	3	100%	6	75%

[1] It was established as a premise in 2023 that the number of communicated and trained members reported takes into account the position held in each of the committees that received training. This number can be counted multiple times if a member serves on more than one committee.
[2] The percentages have been rounded to simplify the data analysis.
[3] In 2021, the total numbers were unavailable.
[4] In 2023, the "other bodies" category included the Investment and Innovation Committee, the Sustainable Development Committee, the People Committee, and the Statutory Audit Committee, specific to Copel GET's subsidiaries.

By vulnerable group [1] [2] [3] [4]	Executive Board		Board of Directors		Supervisory Board		Statutory Audit Committee		Other bodies[5]	
	2022									
	Number	%	Number	%	Number	%	Number	%	Number	%
Black people	0	0%	1	11%	0	0%	0	0%	1	7%
People with disabilities	0	0%	0	0%	0	0%	0	0%	0	0%
LGBTQIA+	0	0%	0	0%	0	0%	0	0%	0	0%
Indigenous	0	0%	0	0%	0	0%	0	0%	0	0%
	2023									
Black people	1	7%	3	19%	0	0%	0	0%	1	10%
People with disabilities	0	0%	0	0%	0	0%	0	0%	0	0%
LGBTQIA+	0	0%	0	0%	0	0%	0	0%	0	0%
Indigenous	0	0%	0	0%	0	0%	0	0%	0	0%

[1] Data unavailable in 2021.
[2] The percentages have been rounded to simplify the data analysis.
[3] The table by vulnerable group has been reorganized to present the data more clearly and ensure greater compliance with requirements. **GRI 2-4**
4 It was established as a premise in 2023 that the number of communicated and trained members reported takes into account the position held in each of the committees that received training. This number can be counted multiple times if a member serves on more than one committee.
[5] In ²O²³, the "other bodies" category included the Investment and Innovation Committee, the Sustainable Development Committee, the People Committee, and the Statutory Audit Committee, specific to Copel GET's controlled companies.

Percentage in relation to each Management Group

Vulnerable Group	Boards & Committees	Executive Board	Assistant Manager to the Executive Board	Managing Director	Department Manager	Division Manager
			2023			
Women	17.65%	7.69%	25.00%	20.00%	20.97%	22.32%
Black people	11.76%	7.69%	0.00%	0.11%	9.68%	7.73%
PwDs	0.00%	0.00%	0.00%	0.03%	0.81%	1.72%
50+	76.47%	38.46%	12.50%	0.29%	29.84%	17.17%

Diversity total employees GRI 405-1

Workforce by employee category and gender[1]	Total	Women		Men	
		Number	%	Number	%
2021					
Operational	29	0	0%	29	100%
Secondary-level technical employees	1,577	110	93%	1,467	7%
Secondary-level employees	3,541	974	28	2,567	72%
University-level employees	1,236	333	27%	903	73%
Total	**6,383**	**1,417**	**22%**	**4,966**	**78%**
2022					
Operational	18	0	0%	18	100%
Secondary-level technical employees	1,450	102	7%	1,348	93%
Secondary-level employees	3,271	866	27%	2,405	74%
University-level employees	1,136	300	26%	836	74%
Total	**5,875**	**1,268**	**22%**	**4,607**	**78%**
2023					
Operational	17	0	0%	17	100%
Secondary-level technical employees	1,395	97	7%	1,298	93%
Secondary-level employees	3,107	803	26%	2,304	74%
University-level employees	1,285	357	28%	928	72%
Total	**5,804**	**1257**	**22%**	**4547**	**78%**

[1] The percentages have been rounded to simplify the data analysis.

Workforce by employee category and age group	Total	Below 30		30 to 50		Over 50	
		Number	%	Number	%	Number	%
2021[1]							
Operational	-	-	0%	-	7%	-	93%
Secondary-level technical employees	-	-	1%	-	74%	-	24%
Secondary-level employees	-	-	2%	-	69%	-	29%
University-level employees	-	-	1%	-	69%	-	31%
2022							
Operational	18	0	0%	2	11%	16	89%
Secondary-level technical employees	1,450	8	1%	1,157	80%	285	20%
Secondary-level employees	3,271	32	1%	2,366	72%	873	27%
University-level employees	1,136	3	0%	832	73%	301	27%
Total	**5,875**	**43**	**1%**	**4,357**	**74%**	**1,475**	**25%**
2023							
Operational	17	0	0%	1	6%	16	94%
Secondary-level technical employees	1,395	3	0%	1,064	76%	328	24%
Secondary-level employees	3,107	8	0%	2,168	70%	931	30%
University-level employees	1,285	3	0%	934	73%	348	27%
Total	**5,804**	**14**	**0%**	**4167**	**72%**	**1,623**	**28%**

[1] The total numbers were unavailable in 2021.

Employees from minority or vulnerable groups by employee category[1]	Black people	People with disabilities	LGBTQIA+	Indigenous
2021[2]				
Operational	17%	0%	-	-
Secondary-level technical employees	15%	1%	-	-
Secondary-level employees	14%	3%	-	-
University-level employees	8%	1%	-	-
Total	**13%**	**2**	**-**	**-**

2022	Total	Number	%	Number	%	Number	%	Number	%
Operational	18	2	11%	0	0%	0	0%	0	0%
Secondary-level technical employees	1,450	215	15%	6	0%	0	0%	1	0%
Secondary-level employees	3,271	463	14%	105	3%	1	0%	6	0%
University-level employees	1,136	92	8%	12	1%	0	0%	1	0%
Total	**5,875**	**772**	**13%**	**123**	**2%**	**1**	**0%**	**8**	**0%**

2023	Total	Number	%	Number	%	Number	%	Number	%
Operational	17	2	12%	0	0%	0	0%	0	0%
Secondary-level technical employees	1,395	203	15%	7	1%	1	0%	1	0%
Secondary-level employees	3,107	439	14%	96	3%	0	0%	5	0%
University-level employees	1,285	110	9%	13	1%	0	0%	2	0%
Total	**5,804**	**754**	**13%**	**116**	**2%**	**1**	**0%**	**8**	**0%**

[1] The table by vulnerable group has been reorganized to present the data more clearly and ensure greater compliance with requirements. GRI 2-4
[2] In 2021, the absolute numbers were unavailable.

GRI 405-2

Ratio of basic salary and remuneration of women to men

Ratio of basic salary and remuneration of women to men, by employee category [1] [2] [3]	Ratio of basic salary	Remuneration ratio
2022		
Secondary-level technical employees	0.97	0.96
Secondary-level employees	1.04	0.96
University-level employees	0.85	0.90
2023		
Secondary-level technical employees	0.99	0.93
Secondary-level employees	1.06	0.92
University-level employees	0.84	0.89

[1] The organization counts all units of Companhia Paranaense de Energia as important operational units.
[2] For the calculation of average basic salaries and remuneration, employees with a workday of less than 8 hours long were not included. The total remuneration was determined by adding the base salary, additional payments, Profit Sharing (PLR), Copel Performance Bonus (PPD), and the Bonus provided in the Collective Labor Agreement (ACT).
[3] The information presentation format was reviewed and changed starting in 2022. The data for 2021 is not available on this basis. The information can be seen in the 2021 Integrated Report.

GRI 202-1

Ratio of the entry level wage by gender to the minimum wage

Ratio of standard entry-level wage compared to local minimum wage, by gender [1] [2] [3] [4]	2022			2023		
	Men	Women	Variation Women x Men	Men	Women	Variation Women x Men
Entry-level wage paid by the organization	2,173.37	2,088.51	0.96	2,434.71	2,636.30	0.92
Minimum salary as established by legislation or the relevant union	1,212.00	1,212.00	1	1,320.00	1,320.00	1
Percent ratio	1.79	1.72	0.96	1.84	2.0	0.92

[1] It does not include employees with a workday below eight hours.
[2] The calculation is based on the national minimum wage, taking into account the 2023 adjustment, which set it at BRL 1,320.00.
[3] In 2021, only the proportion of the lowest salary paid to women compared to the minimum wage was available, which was 1.98.
[4] Regarding workers (outsourced employees), Copel stipulates in its contracts that companies must present receipts or proof of salary payments to employees. To audit these documents, the contract oversight team uses the SG3 management system tool, and also relies on expert audit services provided by a specialized company. In cases of identified irregularities, managers and inspectors apply the sanctions provided for in the contract.

GRI 401-3

Parental leave

Parental leave[1]	2022		2023	
Employees entitled to parental leave	Men	4,607	Men	4,547
	Women	1,268	Women	1,257
Employees who took the leave	Men	163	Men	124
	Women	55	Women	40
Employees who returned to work during the reporting period after parental leave ended	Men	163	Men	122
	Women	55	Women	31
Employees who returned to work after their leave and were still employed 12 months after their return	Men	157	Men	138
	Women	50	Women	31
Rate of return	Men	100%	Men	98.39%
	Women	100%	Women	77.50%
Retention rate	Men	96.32%	Men	97.87%
	Women	90.91%	Women	93.94%

[1] The 2021 data are not included in this report due to a change in the presentation format, making it impossible to compare it with current data.

GRI 201-3

Defined benefit plan obligations and other pensions plans

The Company's pension plans have two contribution tiers. The first is limited to 10 Pension Units (UP) with discounts ranging from 2% to 4%, and for amounts exceeding this tier, a 12% discount is applied. The policy ensures equal contributions from both employees and the company, resulting in a 99.07% participation in the pensions plans.

The pension plans show a surplus, with no need for specific funds to cover liabilities, with the Unified Plan and the CV Plan recording surpluses of BRL 796 million and BRL 84 million, respectively, as of December 31, 2023.

EMPLOYEES WHO MAY CAN RETIRE IN THE NEXT 5 OR 10 YEARS BY JOB CATEGORY GRI G4-EU15	2022		2023	
	5 years	10 years	5 years	10 years
Line and connection workers	21.18%	34.73%	23.58%	38.07%
Power plant operators	13.64%	22.73%	14.10%	33.33%
Engineers	15.74%	29.07%	16.93%	30.37%
Maintenance mechanics	17.42%	32.75%	19.62%	35.84%
Other positions	24.18%	37.59%	25.87%	42.26%
All employees	**22.03%**	**36.00%**	**23.78%**	**40.00%**

GRI 401-1

New employee hires and employee turnover[1] [2] [3]

	2021[4]				2022				2023			
	New hires	New hire rate (%)	Terminations	Turnover rate (%)	New hires	New hire rate (%)	Terminations	Turnover rate (%)	New hires	New hire rate (%)	Terminations	Turnover rate (%)
By Gender												
Men	3	75.00	190	1.87	3	100.00	362	3.67	0	0.00	60	0.65
Women	1	25.00	97	3.24	0	0.00	149	5.26	1	100.00	12	0.51
Total	**4**	**100%**	**287**	**2.18%**	**3**	**100%**	**511**	**4.03%**	**1**	**100%**	**72**	**0.62%**
By age												
Under 30	0	0.00	20	4.41	0	0.00	3	1.44	0	0.00	0	0.00
30 to 50	2	50.00	158	1.71	1	33.33	150	1.63	0	0.00	56	0.64
Over 50	2	50.00	109	3.17	2	66.67	358	10.91	1	100.00	16	0.58
Total	**4**	**100%**	**287**	**-**	**3**	**100%**	**511**	**4.03%**	**1**	**100%**	**72**	**0.62%**
By region												
South	3	75.00	284	2.18	3	100.00	509	4.06	1	100.00	71	0.62
Midwest	0	0.00	2	2.27	0	0.00	0	0.00	0	0.00	0	0.00
Northeast	1	25.00	0	2.38	0	0.00	2	6.67	0	0.00	1	3.57
Southeast	0	0.00	1	5	0	0.00	0	0.00	0	0.00	0	0.00
Total	**4**	**-**	**287**	**-**	**3**	**100%**	**511**	**4.03%**	**1**	**100%**	**72**	**0.62%**

[1] For the calculation of number of new hires, the rate of new employees and turnover considered as hired, the hired and reinstated employees.
[2] The turnover rate is calculated using the formula (new hires + terminated/2)/by the total number of employees in disclosure **GRI 2-7** (by category).
[3] Since August 2023, Copel has evolved from a mixed-ownership company to a corporation. With this transition, the company is no longer required to hold public competitions for hiring. Fresh guidelines are therefore being developed for the process of future hires.
[4] The total turnover rates by age and region were not available in 2021.

Turnover rate of direct employees			
Rate	**2021**	**2022**	**2023**
Total turnover rate of employees	2.18%	4.03%	0.62%
Total voluntary turnover rate of employees	1.87%	3.91%	0.43%

GRI 404-1

Average hours of training per year per employee

Hours of training by gender GRI 404-1	Number of employees	Hours of training	Average hours of training
2021			
Men	4,966	121,499.19	24.47
Women	1,417	22,849.19	16.13
Total	**6,383**	**144,348.38**	**22.61**
2022			
Men	4,607	174,147	38
Women	1,268	37,033	29
Total	**5,875**	**211,180**	**36**
2023			
Men	4,547	160,177.09	35.23
Women	1,257	41,396.21	32.93
Total	**5,804**	**201,573.30**	**34.73**

Hours of training by job category GRI 404-1	Operational	Secondary-level technical employees	Secondary-level employees	University-level employees	Total
2021					
Total employees	29	3,541	1,577	1,236	6,383
Hours of training	584.5	48,645.34	48,646.08	46,472.43	144,348.35
Average hours of training	**20.16**	**13.74**	**30.85**	**37.60**	**22.61**
2022					
Total employees	18	1,450	3,271	1,136	5,875
Hours of training	444.44	77,591.42	87,700.60	45,443.62	211,180.08
Average hours of training	**24.69**	**53.51**	**26.81**	**40**	**35.95**
2023					
Total employees	17	1,395	3,107	1,285	5,804
Hours of training	465.30	58,514.01	78,291.10	59,256.13	196,526.54
Average hours of training	**27.37**	**41.95**	**25.20**	**46.11**	**33.86**

GRI 404-3

Percentage of employees receiving regular performance and career development reviews

By gender (%)	2023
Men	98%
Women	97%
Total	**98%**

By employee category (%)	2023
Operational	100%
Secondary-level technical professional	99%
Secondary-level professional	97%
University-level professional	98%
Total	**98%**

[1] The assessment program is intended for all employees, excluding those on leave, newly hired, reinstated, or on leave for less than 180 days, totaling 77 dismissals. 50 employees were also dismissed for being part of the Excess Personnel Roster (QEP) during the assessment cycle.
[2] In the 2021 and 2022 cycles, 100% of the employees deemed eligible for evaluation were assessed.

GRI G4-EU17

Amount of outsourced work

Outsourced work (days)[1] [2]	2023
Construction activities	551,760
Operation activities	461,241
Maintenance activities	461,241
Total time (in days) worked by outsourced workers	**1,474,242**

[1] This is the first disclosure of this metric, which is why there is no data from previous years.
[2] The activities are classified into five categories: Engineering Works, Technical/Operational Services, Commercial/Support Services, Facility Conservation/Security, and Administrative Services. The number of days was calculated on the basis of a 360-day year and the workers allocated to contracts, although Copel does not control the actual days worked by each individual.

Infrastructure

GRI G4-EU4

Transmission and Distribution Lines

Length of transmission and distribution lines by voltage category[1] [2] [3]	2023
500/525 kV	1,031.00
230 kV	2,667.00
138 kV	6,775.23
69 kV	779.01
Less than 69 kV	203,767.12
Total	**215,019.36**

Length of transmission and distribution lines by line location (kV)[1] [2] [3]	2023
Above ground	214,673.40
Underground	345.96
Total	**215,019.36**

[1] The data were re-presented to ensure greater compliance with established standards. **GRI 2-4**
[2] Copel DIS's distribution lines cover up to 138 kV, including systems from 13.8 kV to 34.5 kV and high-voltage distribution lines (LDATs) of 69 kV and 138 kV. The transmission lines managed by Copel GeT operate above 138 kV.
[3] In 2022, there were 9,685 km of transmission lines, with the transformation capacity of their substations at approximately 20,462 MVA (megavolt-amperes).

GRI Content Summary

Content Index – Essentials Service, GRI Services assessed that the GRI content index was presented consistently with the requirements for reporting according to the GRI Standards, and that the information in the index is clearly presented and accessible to stakeholders. The service was applied to the Portuguese version of the report.

Statement of use	Companhia Paranaense de Energia – Copel has developed its report in accordance with the GRI Standards for the period from January 01 to December 31, 2023.
GRI 1 used	GRI 1: Foundation 2021

GRI Standards GRI G4 Electric Utilities Sector Supplement	Contents	Page/Where addressed	Omissions			SDGs
			Requirements Omitted	Reason	Explanation	
GENERAL DISCLOSURES						
The organization and its reporting practices						
GRI 2: General Disclosures 2021	**2-1** Organizational details	The Companhia Paranaense de Energia (Copel) is a publicly traded corporation with a private-law legal personality. It is headquartered in Curitiba (PR). *See more on page 18*.				
	2-2 Entities included in the organization's sustainability reporting	4, 6				
	2-3 Reporting period, frequency and contact point	Period: January 01 to December 31, 2023. Frequency: annual, the same as the company's financial reporting. Disclosure of this report May 06, 2024. For further details or queries please *e-mail ri@copel.com*.				

GRI Standards GRI G4 Electric Utilities Sector Supplement	Contents	Page/Where addressed	Omissions			SDGs
			Requirements Omitted	Reason	Explanation	
GRI 2: General Disclosures 2021	**2-4** Restatements of information	105, 36, 151, 184, 187 e 193 Due to the operations in 2023, Copel ceased to be a state-owned company and became a corporation without a controlling shareholder and with dispersed capital. As a result, it underwent various adjustments, particularly in governance (*which can be reviewed from page 46*). In 2023, a new materiality process was also carried out, followed by a review of the reported indicators. When applicable, different approaches and restatements of information are also described and signaled in the footnotes to the disclosures.				
	2-5 External assurance	219, 220, 221				
Activities and Workers						
GRI 2: General Disclosures 2021	**2-6** Activities, value chain and other business relationships	18, 22, 24, 25, 139				
	2-7 Employees	147, 182				8, 10
	2-8 Workers who are not employees	147				8

GRI Standards GRI G4 Electric Utilities Sector Supplement	Contents	Page/Where addressed	Omissions			SDGs
			Requirements Omitted	Reason	Explanation	
Governance						
GRI 2: General Disclosures 2021	**2-9** Governance structure and composition	46				5, 16
	2-10 Nomination and selection of the highest governance body	48				5, 16
	2-11 Chair of the highest governance body	46				16
	2-12 Role of the highest governance body in overseeing the management of impacts	36, 46, 53, 54				16
	2-13 Delegation of responsibility for managing impacts	36, 46				
	2-14 Highest governance body's role in sustainability reporting	6				
	2-15 Conflicts of interests	58				16
	2-16 Communicating critical concerns	59				
	2-17 Collective knowledge of highest governance body	55				
	2-18 Evaluating the highest governance body's performance	55				
	2-19 Remuneration policies	56, 155				
	2-20 Process for determining remuneration	56				
	2-21 Annual total compensation ratio	155				

GRI Standards GRI G4 Electric Utilities Sector Supplement	Contents	Page/Where addressed	Omissions			SDGs
			Requirements Omitted	Reason	Explanation	
Strategy, policies and Practices						
GRI 2: General Disclosures 2021	**2-22** Statement on sustainable development strategy	4				
	2-23 Policy commitments	All of Copel's policies and commitments are approved by the Board of Directors and are applicable across the entire Company. The Code of Conduct specifies that these guidelines extend to all levels of employees and managers, suppliers and service providers. *See more on pages 57 and 63.*				16
	2-24 Embedding policy commitments	All of Copel's policies and commitments are approved by the Board of Directors and are applicable across the entire Company. *See more on page 57.*				
	2-25 Processes to remediate negative impacts	59, 63, 108, 137				
	2-26 Mechanisms for seeking advice and raising concerns	59				16
	2-27 Compliance with laws and regulations	There were no significant cases of non-compliance, nor were any fines or non-monetary sanctions imposed. However, fines from 2016 and 2020 were paid, totaling BRL 289,857.00. The organization considers amounts over BRL 25 million to be significant.				
	2-28 Membership of associations	181				

GRI Standards GRI G4 Electric Utilities Sector Supplement	Contents	Page/Where addressed	Omissions			SDGs
			Requirements Omitted	Reason	Explanation	
Stakeholder Engagement						
GRI 2: General Disclosures 2021	**2-29** Approach to stakeholder engagement	41, 42				
	2-30 Collective bargaining agreements	147				8
MATERIAL TOPICS						
GRI 3: Material Topics 2021	**3-1** Process to determine material topics	8, 9				
	3-2 List of material topics	11-15				
Community Safety						
GRI 3: Material Topics 2021	**3-3** Management of material topics	136				
GRI 416: Consumer Health and Safety 2016	**416-1** Assessment of the health and safety impacts of product and service categories	100% of significant product and service categories have their health and safety impacts assessed for improvement. This information refers to Copel DIS.				
	416-2 Incidents of non-compliance concerning the health and safety impacts of products and services	This monitoring is conducted for the distribution business. There were no cases in 2023.				16

GRI Standards GRI G4 Electric Utilities Sector Supplement	Contents	Page/Where addressed	Omissions			SDGs
			Requirements Omitted	Reason	Explanation	
GRI 417: Marketing and Labeling 2016	**417-1** Requirements for product and service information and labeling	133				12
	417-2 Incidents of non-compliance concerning product and service information and labeling	There were none at Copel Distribuição unit.				16
	417-3 Incidents of non-compliance concerning marketing communications	None.				16
GRI G4: Electric Utilities Sector Supplement	**EU21** Contingency planning measures, disaster/emergency management plan and training programs, and recovery/restoration plans	106				
	EU25 Number of public injuries and deaths involving company assets, including legal judgments, settlements, and pending legal cases of illnesses	136				
Customer Satisfaction						
GRI 3: Material Topics 2021	**3-3** Management of material topics	129				
GRI G4: Electric Utilities Sector Supplement	**EU3** Number of residential, industrial, institutional and commercial customer accounts	92, 130				
	EU23 Programs, including those in partnership with government, to improve or maintain access to electricity and customer support services	126				

GRI Standards GRI G4 Electric Utilities Sector Supplement	Contents	Page/Where addressed	Omissions			SDGs
			Requirements Omitted	Reason	Explanation	
GRI G4: Electric Utilities Sector Supplement	**EU24** Practices to address language, cultural, low literacy and disability related barriers to accessing and safely using electricity and customer support	122, 128, 134				
	EU26 Percentage of population unserved in licensed distribution or service areas	Copel concluded its Universalization Plan in the urban area in 2006 and in the rural area in 2010.				
	EU27 Number of residential disconnections for non-payment, broken down by duration of disconnection and by regulatory regime	135				
Employee Well-Being, Health and Safety						
GRI 3: Material Topics 2021	**3-3** Management of material topics	156				
GRI 403: Occupational Health and Safety 2018	**403-1** Occupational health and safety management system	156				8
	403-2 Hazard identification, risk assessment, and incident investigation	156				8
	403-3 Occupational health services	159				8
	403-4 Worker participation, consultation, and communication on occupational health and safety	156				8, 16
	403-5 Worker training on occupational health and safety	156				9
	403-6 Promotion of worker health	156, 159				3

GRI Standards GRI G4 Electric Utilities Sector Supplement	Contents	Page/Where addressed	Omissions			SDGs
			Requirements Omitted	Reason	Explanation	
GRI 403: Occupational Health and Safety 2018	**403-7** Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	156				8
	403-8 Workers covered by an occupational health and safety management system	156				8
	403-9 Work-related injuries	158				3, 8, 16
	403-10 Work-related ill health	156				3, 8, 16
GRI: Security Practices 2016	**410-1** Security personnel trained in human rights policies or procedures	21% of the organization's security professionals have received formal training on specific human rights policies and procedures. It is important to emphasize that the use of the organization's own staff is prioritized, who will be responsible for passing the information on to contracted companies.				16
GRI G4: Electric Utilities Sector Supplement	**EU16** Policies and requirements regarding health and safety of employees and employees of contractors and subcontractors	156				
	EU18 Percentage of contractor and subcontractor employees that have undergone relevant health and safety training	156				

GRI Standards GRI G4 Electric Utilities Sector Supplement	Contents	Page/Where addressed	Omissions			SDGs
			Requirements Omitted	Reason	Explanation	
People Management						
GRI 3: Material Topics 2021	**3-3** Management of material topics	144				
GRI 401: Employment 2016	**401-1** New employee hires and employee turnover	191				4, 5, 8, 10
	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	155				3, 5, 8
	401-3 Parental leave	189				5, 8
GRI 402: Labor/management relations 2016	**402-1** Minimum notice periods regarding operational changes	Significant changes in the organizational structure are accompanied by a detailed plan outlining what will be changed, the timeline, the methodology, and how those affected will be informed and involved in the process. An example is Collective Labor Agreement (ACT) 2022/2024, which mandates that changes in benefits such as medical and pension assistance be communicated at least three years in advance. In 2023, there were also significant changes related to the transition from a state-owned company to a corporation.				8
GRI 404: Training and education 2016	**404-1** Average hours of training per year per employee	154 and 192				4, 5, 8, 10

GRI Standards GRI G4 Electric Utilities Sector Supplement	Contents	Page/Where addressed	Omissions			SDGs
			Requirements Omitted	Reason	Explanation	
GRI 404: Training and education 2016	**404-2** Programs for upgrading employee skills and transition assistance programs	153				8
	404-3 Percentage of employees receiving regular performance and career development reviews	154, 192				5, 8, 10
GRI 405: Diversity and equal opportunity 2016	**405-1** Diversity of governance bodies and employees	151, 183, 185				5, 8
	405-2 Ratio of basic salary and remuneration of women to men	188				5, 8, 10
GRI 406: Non-discrimination 2016	**406-1** Incidents of discrimination and corrective actions taken	59				5, 8
GRI 407: Freedom of association and collective bargaining 2016	**407-1** Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	139				8
GRI G4: Electric Utilities Sector Supplement	**EU14** Programs and processes to ensure the availability of a skilled workforce	153				
	EU15 Percentage of employees eligible to retire in the next 5 and 10 years broken down by job category and by region	190				
	EU17 Days worked by contractor and subcontractor employees involved in construction, operation & maintenance activities	193				

GRI Standards GRI G4 Electric Utilities Sector Supplement	Contents	Page/Where addressed	Omissions			SDGs
			Requirements Omitted	Reason	Explanation	
Social Commitment						
GRI 3: Material Topics 2021	**3-3** Management of material topics	119				
GRI 202: Market presence 2016	**202-1** Ratio of standard entry level wage by gender compared to local minimum wage	188				5, 8
	202-2 Proportion of senior management hired from the local community	100% of the members of the corporate board are hired from within Brazil. The organization defines the board of directors as the body responsible for management and executive representation, in accordance with the Board of Directors' guidelines.				8
GRI 203: Indirect economic impacts 2016	**203-1** Infrastructure investments and services supported	119				5, 9, 11
	203-2 Significant indirect economic impacts	93, 119, 126				1, 3, 8
GRI 411: Rights of indigenous peoples 2016	**411-1** Incidents of violations involving rights of indigenous peoples	128				2
GRI 413: Local communities 2016	**413-1** Operations with local community engagement, impact assessments, and development programs	119				

GRI Standards GRI G4 Electric Utilities Sector Supplement	Contents	Page/Where addressed	Omissions			SDGs
			Requirements Omitted	Reason	Explanation	
GRI 413: Local communities 2016	**413-2** Operations with significant actual and potential negative impacts on local communities	At Copel DIS, the main impacts include waste generation, noise, and vibration during the asset implementation phase, as well as vegetation clearance and limitations on land use and occupation. There are also risks of accidents involving third parties and interference with the urban landscape. For Copel GeT, potential or actual impacts are primarily associated with increased pressure on urban infrastructure and public services due to demographic growth during asset construction, compulsory displacement of populations, health issues, and noise emissions. Environmental risks include the formation of erosive processes, vegetation clearance, impacts on fauna, water, soil, and biota pollution, as well as air pollution, depletion of natural resources, proliferation of synanthropic fauna, and generation of industrial wastewater.				1, 2
GRI G4: Electric Utilities Sector Supplement	**EU19** Stakeholder participation in the decision making process related to energy planning and infrastructure development	41				
	EU20 Approach to managing the impacts of displacement	127				

GRI Standards GRI G4 Electric Utilities Sector Supplement	Contents	Page/Where addressed	Omissions			SDGs
			Requirements Omitted	Reason	Explanation	
GRI G4: Electric Utilities Sector Supplement	**EU22** Number of people physically or economically displaced and compensation, broken down by type of project	127				
Sustainable Supplying						
GRI 3: Material Topics 2021	**3-3** Management of material topics	139				
GRI 204: Procurement practices 2016	**204-1** Proportion of spending on locally-based suppliers	140				8
GRI 408: Child labor 2016	**408-1** Operations and suppliers at significant risk for incidents of child labor	142				5, 8, 16
GRI 409: Forced or compulsory labor 2016	**409-1** Operations and suppliers at significant risk for incidents of forced or compulsory labor	142				5, 8
GRI 414: Supplier social assessment 2016	**414-1** New suppliers that were screened using social criteria		Requisite A (single).	Information unavailable	Copel does not manage the percentage of suppliers exclusively based on social criteria. However, it considers compliance with labor, human rights, tax and environmental legislation in its evaluation processes. An indicator is being developed and monitored for future disclosure.	

GRI Standards GRI G4 Electric Utilities Sector Supplement	Contents	Page/Where addressed	Omissions			SDGs
			Requirements Omitted	Reason	Explanation	
GRI 414: Supplier social assessment 2016	**414-2** Negative social impacts in the supply chain and actions taken	139	Requisites D and E.	Information unavailable.	Copel does not manage the percentage of suppliers identified with negative social impacts, with whom improvements have been agreed upon or with whom business relationships have been terminated. An indicator is being developed and monitored for future disclosure.	5, 8, 16
GRI 308: Supplier Environmental Assessment 2016	**308-1** New suppliers that were screened using environmental criteria		Requisite A (single).	Information unavailable.	Copel does not manage the percentage of suppliers exclusively based on environmental criteria. However, it considers compliance with labor, human rights, tax and environmental legislation in its evaluation processes. An indicator is being developed and monitored for future disclosure.	5, 8, 16

GRI Standards GRI G4 Electric Utilities Sector Supplement	Contents	Page/Where addressed	Omissions			SDGs
			Requirements Omitted	Reason	Explanation	
GRI 308: Supplier Environmental Assessment 2016	**308-2** Negative environmental impacts in the supply chain and actions taken		All.	Information unavailable.	Copel does not manage the data for this indicator. Environmental impact assessments are controlled individually and are only part of the documentation for the respective contracting/qualification/management processes. An indicator is being developed and monitored for future disclosure.	
Environmental Commitment						
GRI 3: Material Topics 2021	**3-3** Management of material topics	96				
GRI 301: Materials 2016	**301-1** Materials used by weight or volume	171, 172				8, 12
GRI 302: Energy 2016	**302-1** Energy consumption within the organization	116, 117, 169, 170				7, 8, 12, 13
	302-2 Energy consumption outside of the organization	Copel Distribuição monitors energy consumption in upstream transportation and distribution, which in 2023 amounted to 107,153.00 GJ. Other units do not manage energy consumption outside the organization.				7, 8, 12, 13
	302-3 Energy intensity	117				7, 8, 12, 13
	302-4 Reduction of energy consumption	116				7, 8, 12, 13

GRI Standards GRI G4 Electric Utilities Sector Supplement	Contents	Page/Where addressed	Omissions			SDGs
			Requirements Omitted	Reason	Explanation	
GRI 303: Water and effluents 2018	**303-1** Interactions with water as a shared resource	114				6, 12
	303-2 Management of water discharge related impacts	115				6
	303-3 Water withdrawal	175				6
	303-4 Water discharge	175				6
	303-5 Water consumption	115				6
GRI 304: Biodiversity 2016	**304-1** Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	178				6, 14, 15
	304-2 Significant impacts of activities, products, and services on biodiversity	107				6, 14, 15
	304-3 Habitats protected or restored	177				6, 14, 15
	304-4 IUCN Red List species and national conservation list species with habitats in areas affected by the organization's operations	176				14, 15
GRI 305: Emissions 2016	**305-**1 Direct (Scope 1) GHG emissions	105				3, 12, 13, 14, 15
	305-2 Energy indirect (Scope 2) GHG emissions	105				3, 12, 13, 14, 15

GRI Standards GRI G4 Electric Utilities Sector Supplement	Contents	Page/Where addressed	Omissions			SDGs
			Requirements Omitted	Reason	Explanation	
GRI 305: Emissions 2016	**305-3** Other indirect (Scope 3) GHG emissions	105				3, 12, 13, 14, 15
	305-4 GHG emissions intensity	105				13, 14, 15
	305-5 Reduction of GHG emissions	116				13, 14, 15
GRI 305: Emissions 2016	**305-6** Emissions of ozone-depleting substances (ODS)		All.	Not applicable.	Copel does not produce or import ozone-depleting substances (ODS).	3, 12
	305-7 NOx, SOx, and other significant air emissions	176				3, 12, 14, 15
GRI 306: Waste 2020	**306-1** Waste generation and significant waste-related impacts	118				3, 6, 11, 12
	306-2 Management of significant waste-related impacts	118				3, 6, 8, 11, 12
	306-3 Waste generated	172				3, 12, 15
	306-4 Waste diverted from disposal	173				3, 11, 12
	306-5 Waste directed to disposal	174				3, 6, 11, 12, 15

GRI Standards GRI G4 Electric Utilities Sector Supplement	Contents	Page/Where addressed	Omissions			SDGs
			Requirements Omitted	Reason	Explanation	
GRI G4: Electric Utilities Sector Supplement	**EU5** Allocation of CO_2 emissions allowances or equivalent, broken down by carbon trading framework		All.	Not applicable.	Copel is not involved in carbon credit market schemes for managing its emissions but is awaiting the Brazilian Congress's decision regarding the approval of the carbon market in the country.	
	EU13 Biodiversity of offset habitats compared to biodiversity of the affected areas	108				
Corporate Governance						
GRI 3: Material Topics 2021	**3-3** Management of material topics	46				
GRI 205: Fighting corruption 2016	**205-1** Operations assessed for risks related to corruption	58, 69				16
	205-2 Communication and training about anti-corruption policies and procedures	61, 62				16
	205-3 Confirmed incidents of corruption and actions taken	58				16
GRI 206: Unfair competition 2016	**206-1** Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	None.				16
GRI 415: Public policy 2016	**415-1** Political contributions	Copel's corporate policies prohibit political contributions.				16
GRI 418: Customer privacy 2016	**418-1** Substantiated complaints regarding breaches of customer privacy and losses of customer data	68				16

GRI Standards GRI G4 Electric Utilities Sector Supplement	Contents	Page/Where addressed	Omissions			SDGs
			Requirements Omitted	Reason	Explanation	
Transforming the Power Sector						
GRI 3: Material Topics 2021	**3-3** Management of material topics	76				
GRI G4: Electric Utilities Sector Supplement	**EU1** Installed capacity, broken down by primary energy source and by regulatory regime	23				
	EU2 Net energy output broken down by primary energy source and by regulatory regime	23				
	EU4 Length of above and underground transmission and distribution lines by regulatory regime	193				
	EU6 Management approach to ensure short and long-term electricity availability and reliability	88, 91, 93, 95				
	EU7 Demand management programs, including residential, commercial, corporate and industrial programs	Copel Mercado Livre has not formalized a partnership contract with the company that offers load management services. For Copel DIS, *see pages 77 and 94*.				
	EU8 Research and development activity and expenditure aimed at providing reliable electricity and promoting sustainable development	82, 83				
	EU10 Planned capacity against projected electricity demand over the long term, broken down by energy source and regulatory regime	22				

GRI Standards GRI G4 Electric Utilities Sector Supplement	Contents	Page/Where addressed	Omissions			SDGs
			Requirements Omitted	Reason	Explanation	
GRI G4: Electric Utilities Sector Supplement	**EU11** Average generation efficiency of thermal plants by energy source and by regulatory regime	88				
	EU12 Transmission and distribution losses as a percentage of total energy	90, 91, 92				
	EU28 Power outage frequency	91, 92				
	EU29 Average power outage duration	92				
	EU30 Average plant availability factor by energy source and by regulatory regime	88				
Business and Financial Performance						
GRI 3: Material Topics 2021	**3-3** Management of material topics	162				
GRI 201: Financial performance 2016	**201-1** Direct economic value generated and distributed	166				8, 9
	201-2 Financial implications and other risks and opportunities due to climate change	96				13
	201-3 Defined benefit plan obligations and other retirement plans	190				
	201-4 Financial assistance received from government	Copel's social investments in 2023 included BRL 26.2 million through incentive laws. In addition, the Paraná State Government is part of Copel's shareholding structure, with a 27.57% interest in voting capital and 15.91% of total shares.				

SASB Summary

Topic	Code	Title	Where addressed/page
Greenhouse gas emissions and energy resource planning	IF-EU-110a.2	Greenhouse gas (GHG) emissions associated with power deliveries	105
	IF-EU-110a.3	Discussion of the long and short-term strategy or plan for managing Scope 1 emissions, emission reduction targets, and an analysis of performance against these targets	96
Water stewardship	IF-EU-140a.1	(1) Total water withdrawn, (2) Total water consumed, percentage of every withdrawal from high or extremely high water stress regions	115, 175
	IF-EU-140a.3	Discussion of water management risks and description of strategies and practices to mitigate those risks.	114, 115
Access to Energy	IF-EU-240a.3	Amount of residential customers who had their power cut due to default, percentage reconnected within 30 days	135
	IF-EU-240a.4	Discussion of impact of external factors on customer affordability of electricity, including the economic conditions of the service territory	122, 126, 128, 134
Workforce health and safety	IF-EU-320a.1	(1) Total recordable injury rate (TRIR), (2) fatality rate, and (3) near miss frequency rate (NMFR)	158
Network resilience	IF-EU-550a.1	Number of incidents of non-compliance with standards or regulations on physical and/or cybersecurity.	68
	IF-EU-550a.2	(1) System Average Interruption Duration Index (SAIDI), (2) System Average Interruption Frequency Index (SAIFI) and (3) Customer Average Interruption Duration Index (CAIDI), including the main event days.	92
Activity metrics	IF-EU-000.A	Number of clients: (1) residential, (2) commercial and (3) industrial.	130
Ecological Impacts of project development *	RR-ST-160a.1	Number of occurrences and duration of delays in projects due to issues related to environmental impacts.	There were no occurrences.
	RR-ST-160a.2	Description of measures and initiatives taken during the development of solar energy systems projects to mitigate any negative impacts that may affect local communities and the environment.	Given the low environmental impact nature of these projects, environmental licensing was waived. Additionally, to ensure environmental protection, oil/water separation tanks were installed under the transformers, thus minimizing potential contamination risks.

* The items on this page are monitored by the execution areas; however, detailed disclosure is not provided due to the reasons specified for each topic.

Topic	Code	Title	Where addressed/page
Management of energy infrastructure integration and related regulations *	RR-ST-410a.1	Description of potential risks involved in incorporating solar energy into existing energy infrastructure and analysis of measures taken to mitigate and manage these risks.	To ensure the safety and efficiency of integrating solar energy into existing energy infrastructure, energy utilities impose requirements such as the installation of specific protection systems and equipment in the solar farm.
	RR-ST-410a.2	Description of potential risks and opportunities arising from energy policy and its impact on the integration of solar energy systems into existing energy infrastructure.	One of the main advantages is the ability to generate renewable energy close to consumption points, which reduces dependence on non-renewable sources in the system.
Activity metrics *	RR-ST-000.B	The total capacity of fully implemented and operational solar energy systems.	The capacity of fully implemented and operational systems is 3.00 MWp, referring to the installed capacity at the Bandeirantes plants, where Copel holds a 49% interest.

* The items on this page are monitored by the execution areas; however, detailed disclosure is not provided due to the reasons specified for each topic.

Global Compact and SDGs Performance

4. EDUCATION

Target 4.3: By 2030, ensure equal access and retention in quality vocational and higher education, free of charge or at an affordable cost, irrespective of gender, race, income, location, and other factors.

Copel Performance: launched in 2023, the Aluno Energia Program offers scholarships and mentoring to help affirmative action beneficiaries enrolled in Electrical Engineering courses at public universities in Paraná stay in school.

See more on page 120.

7. AFFORDABLE AND CLEAN ENERGY

Target 7.1: By 2030, ensure universal access to affordable, reliable and modern energy services.

Sector Target: Strive to reach a 5% gain in electrical efficiency (GWh or equivalent) by 2030.

Copel Performance: The electricity generation complex produced 28,067.1 GWh in 2023, around 5% more than in 2022. The Annual Performance Report (RAD) from the Operador Nacional do Sistema - ONS (National Electric System Operator) indicated that Copel GeT's results are comparable to high-performance power plants. Moreover, Copel is making a series of investments to ensure the operational efficiency of its plants and continues to increase the share of wind power in its generation portfolio.

See more on pages 22 and 88-89.

Sector Target: Enable access to electricity to 100% of the Brazilian population by 2030 through the use of new technologies, at affordable prices and with quality.

Copel Performance: Copel currently meets all the criteria for universal access to electricity established by the Brazilian National Electricity Regulatory Agency (ANEEL) and is improving its distribution assets in remote or hard-to-access places.

Target 7.2: By 2030, substantially increase the share of renewable energy in the global energy mix.

Copel Performance: Copel's energy matrix is 94% derived from renewable sources, with a goal of reaching 100% by 2030, and it is increasing the share of wind and solar sources in generation.

See more on page 31.

Target 7.3: By 2030, increase the rate of improvement in energy efficiency of the Brazilian economy.

Copel Performance: The availability of hydroelectric power plants was 91%.

See more on page 88.

8. DECENT WORK AND ECONOMIC GROWTH

Target 8.3: Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services.

Sector Target: Foster strategies/initiatives to hire micro, small, and medium-sized companies in order to increase their share in the value chain (implementation goal/target).

See more on pages 139-141.

Copel Performance: Copel adopts practices of differentiated and special treatment for micro and small companies, as set forth in Federal Law 147/2014, which enables these suppliers to participate in contracting processes.

Sector Target: Ensure no fatalities involving direct employees and outsourced workers while on the job in the electricity sector.

Copel Performance: Ensuring the health and safety of employees and outsourced workers is a non-negotiable value for Copel. This commitment is linked to the company's variable remuneration program as a way to reinforce everyone's commitment to the issue. Five fatalities involving direct employees and outsourced workers were recorded in 2023.

See more on pages 156-158.

9. INDUSTRY, INNOVATION AND INFRASTRUCTURE

Target 9.1: Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.

Sector Target: Reach at least 80,000 public electric charging stations installed in the country by 2030.

See more on page 80.

Copel Performance: Copel put into operation in 2023 its first ultra-fast charger in downtown Curitiba. It also announced the first investment of the Copel Ventures I investment fund in a smart management startup in electromobility, among other initiatives.

Target 9.4: By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.

Sector Target: By 2030, to increase the number of patents and licenses requested for every million Reais invested in R&D projects.

See more on page 82.

Copel Performance: Copel has 11 patents.

11. SUSTAINABLE CITIES AND COMMUNITIES

Target 11.1: By 2030, ensure everyone has access to safe, appropriate and affordable housing and basic services and urbanize slums.	
Sector Target: Reach less than 13% in real non-technical losses by 2030.	See more on page 91.
Copel Performance: The non-technical losses are calculated on the low voltage market of Copel DIS: the amount reached in 2023 was 1.9%, unchanged on the previous year.	
Sector Target: Step up initiatives linked to smart cities by 2030.	
Copel Performance: Copel already has 615,000 smart meters installed in homes, businesses, industries and rural properties.	See more on page 94.
Target 11.4: Step up efforts to protect and safeguard the world's cultural and natural heritage.	
Sector Target: Conduct socio-economic analytics in traditional communities impacted by the operations of the electricity sector until 2025 to subsidize the implementation of voluntary projects.	These initiatives can be viewed in the socio-environmental reports of the wholly-owned subsidiaries, available on the website.
Sector target: Support the maintenance of projects aimed at preserving tangible and intangible historical heritage until 2030 to ensure the efficient use of funds and the effectiveness of the initiatives.	
Copel Performance: Copel GeT and Copel DIS carry out projects for the preservation of tangible and intangible historical heritage.	

13. CLIMATE ACTION

Target 13.2: Integrate climate change measures into national policies, strategies and planning.	
Sector target: 15 power sector companies (generation, transmission, and distribution) with science-based targets approved by 2023.	See more on pages 103-104.
Copel Performance: Copel has indicators and decarbonization goals until 2030 in a plan approved by the Board of Directors, based on principles of the SBTi[1].	

[1] The Science Based Targets Initiative is a partnership between the CDP, the Global Compact, the World Resources Institute (WRI), and the World Wide Fund for Nature (WWF) that urges companies to adopt science-based greenhouse gas (GHG) reduction targets. In the specific case of energy, there is a guide produced by the coalition to assist in the setting of these goals.

GRI 2-5

Limited Assurance Report

Companhia Paranaense de Energia

Independent Auditor's Limited Assurance Report on Non-financial Information Included in the Integrated Report for the year ended December 31, 2023

Deloitte Touche Tohmatsu Auditores Independentes Ltda.

INDEPENDENT AUDITOR'S LIMITED ASSURANCE REPORT ON NON-FINANCIAL INFORMATION INCLUDED IN THE INTEGRATED REPORT FOR THE YEAR ENDED DECEMBER 31, 2023

To the Management and Shareholders of Companhia Paranaense de Energia

Introduction

We have been engaged by **Companhia Paranaense de Energia** ("Copel" or "Company") to submit our limited assurance report on the non-financial information included in the Company's Integrated Report, related to the year ended December 31, 2023 ("2023 Integrated Report").

Our limited assurance scope does not comprise prior-period information or any other information disclosed in conjunction with the 2023 Integrated Report, including any embedded images, audio files or videos.

Management's responsibilities

The Company's Management is responsible for:

- Selecting and setting appropriate criteria to prepare the information included in the 2023 Integrated Report;
- Preparing the information in accordance with the criteria and guidelines set out in the Global Reporting Initiative ("GRI Standards"), Sustainability Accounting Standards Board ("SASB") and technical orientation presented in OCPC 09 - Integrated Report ("OCPC 09"), in accordance with CVM Resolution No. 14, from December 9, 2020.
- Designing, implementing and maintaining internal controls over relevant information presented in the 2023 Integrated Report, that is free from material misstatement, whether due to fraud or error.

Independent auditor's responsibility

Our responsibility is to express a conclusion on the non-financial information included in the 2023 Integrated Report, based on our limited assurance engagement conducted in accordance with Technical Communication (CTO) nº 07/2022, issued by the Federal Accounting Council ("CFC"), and based on Brazilian standard NBC-TO-3000 - Assurance Engagements other than Audits or Reviews, issued by the CFC, which is equivalent to the international standard ISAE 3000 - Assurance Engagements other than Audits or Reviews of Historical Financial Information, issued by the International Auditing and Assurance Standards Board (IAASB). Those standards require that we comply with ethical and independence requirements and other related responsibilities, including as regards the adoption of the Brazilian Quality Control Standard (NBC PA 01) and, therefore, the implementation of a comprehensive quality control system, including documented policies and procedures on the compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Additionally, the aforementioned standards require that the work planned and executed with the objective of obtaining limited assurance of the non-financial information under the 2023 Integrated Report, taken as a whole, is free of material misstatement.

A limited assurance engagement conducted in accordance with Brazilian standard NBC-TO-3000 (ISAE 3000) consists mainly of making inquiries of Management and other professionals of the Company involved in the preparation of the non-financial information, as well as applying analytical procedures to obtain evidence that enables us to reach a limited assurance conclusion on the information taken as a whole. A limited assurance engagement also requires the performance of additional procedures when the independent auditor becomes aware of matters that cause the auditor to believe that the information included in the 2023 Integrated Report, taken as a whole, might present material misstatements.

The procedures selected were based on our understanding of the aspects related to the compilation, materiality and presentation of the information included in the 2023 Integrated Report, and other circumstances of the engagement and our consideration of the areas and processes concerning the material information disclosed in the 2023 Integrated Report, in which material misstatements might exist. The procedures comprised, among others:

a) Engagement planning, considering the relevance of the topics, the volume of quantitative and qualitative information and the operating and internal control systems that served as the basis for preparing the information presented in the 2023 Integrated Report;

b) Understanding the calculation methodology and the procedures adopted for the compilation of KPIs through inquiries with the managers responsible for the preparation of the information;

c) Applying analytical procedures to quantitative information and making inquiries about the qualitative information and its correlation with the indicators disclosed in the information included in the 2023 Integrated Report; and

d) For cases in which non-financial data is correlated to financial indicators, comparing such KPI with the financial statements and/or accounting records.

The limited assurance work also included adherence to the guidelines and criteria of the GRI, SASB and OCPC 09 regarding the applicable requirements to the preparation of the information presented in the 2023 Integrated Report.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our limited assurance conclusion.

Scope and limitations

Procedures performed in limited assurance engagements vary in nature and timing and are less extensive than in reasonable assurance engagements. Consequently, the level of assurance obtained in a limited assurance engagement is substantially less than that which would have been obtained if a reasonable assurance engagement had been performed. If we had carried out a reasonable assurance work, we could have identified other matters and possible misstatements that may exist in the information contained in the 2023 Integrated Report. Accordingly, we do not express an opinion on this information.

Non-financial data are subject to more inherent limitations than financial data, due to the nature and diversity of the methods used to determine, calculate or estimate such data. Qualitative interpretations on materiality, relevance and accuracy of the data are subject to individual assumptions and judgments. In addition, we have not performed any work related to data disclosed for prior periods or future projections and goals.

The preparation and presentation of sustainability indicators followed the criteria of the GRI, SASB and OCPC 09, therefore, they are not intended to ensure compliance with social, economic, environmental, or engineering laws and regulations. The aforementioned standards provide the requirements for the presentation and disclosure of any non-compliance with such regulations when sanctions or significant fines occur. Our assurance report must be read and understood in this context, inherent to the selected criteria (GRI, SASB and OCPC 09).

Conclusion

Based on the procedures performed, described in this report and on the evidence obtained, nothing has come to our attention that leads us to believe that the non-financial information included in COPEL's Integrated Report for the year ended December 31, 2023, was not prepared, in all material respects, in accordance with GRI, SASB and OCPC 09 criteria and guidelines.

The accompanying 2023 Integrated Report have been translated into English for the convenience of readers outside Brazil.

São Paulo, May 21, 2024

DELOITTE TOUCHE TOHMATSU
DELOITTE TOUCHE TOHMATSU
Auditores Independentes Ltda.

Jonas Dal Ponte
Engagement Partner

Credits

Coordination

Companhia Paranaense de Energia – Copel

Deputy Governance, Risk and Compliance Office - DRC

Governance and Sustainability Division - SGS

Rua José Izidoro Biazetto, 158 – Bloco B – Mossunguê 81200-240
Curitiba – PR

Independent Auditors
Deloitte Touche Tohmatsu Auditores Independentes Ltda

Content, design and consulting

Contents
Michele Silva (coordination), Adriana Braz (editing) and Carmen Cagnoni (writing)

Disclosures consulting
Tatiana Lopes, Lívia Amaral and Nikaelly Sousa

Project and relationship management
Ana Souza and Isabela Ribeiro

Graphic design
Júlio Okabayashi

Layout
Lívia Koreda and Denise Ikuno

Infographic
Henrique Assale

Translation
LatAm Translations

Photos
Copel Archive

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