# INTEGRATED ANNUAL SUSTAINABILITY REPORT



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# Message from Management

[GRI 102-14]

# Shaping our future

In 2021 we began laying the foundations of a new Company. We implemented a new management model, launching a deepreaching transformation organization-wide. Today, we have built a highly capable team that has deep turnaround expertise, is motivated by the challenges, and is highly engaged in the transformation process, addressing not only operational aspects but also our organizational culture.

When we accepted the challenge of leading Light's transformation, we knew the journey would be a long one without shortcuts. We're still just beginning this journey and recognize there is still much to be done. Even so, we can confidently say that in 2021 we made important strides and progress in the right direction.

We invested more than R\$ 460 million in anti-theft and collection efforts, approximately 60% more than in 2020. We will maintain the investment momentum in 2022, as these efforts are crucial to progress on our strategy, which includes modernizing equipment, loss-proofing our systems and training our crews. Throughout the year we continued our efforts to replace obsolete meters, ending the year with more than 63,000 units replaced. Light's loss-proofing strategy has continued to expand, with more than 40,500 normalizations in the year, and 5,800 normalizations in the last quarter of 2021. Total losses (12 months) were down by 209 GWh in the fourth quarter, while total losses on grid load remained constant since the beginning of the year despite the many challenges in our service area and the crew training and other measures that were being implemented.

And even with the complexity and economic challenges in Light's service area, collections improved by 1.4 p.p. in 2021, ending the year at 96.4%.

In terms of power-supply quality, our EODi and EOFi performance was the best in the last 20 years, comparable to the top electric utilities in Brazil (at respectively 6.34h and 3.44x), placing Light among the top five electric utilities in Brazil with more than 1 million customers. According to the Brazilian power sector regulator, ANEEL, Light achieved the most progress of any utility in the Power Supply Continuity ranking, climbing ten positions in 2021.

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In our Annual Report, we describe our business model, strategies and initiatives that have reaffirmed our commitment to sustainable development, the Global Compact principles and the UN Sustainable Development Goals (SDGs). We also highlight the Light Community Program's success in its goal to reestablish a presence in and reconnect to low-income communities. With local support from community associations and community leaders, the program is helping to drive social transformation.

Our community engagement team is already actively working in these areas, supporting our crews in achieving a balance between loss reduction and higher collections, on the one hand, and improving service to these communities, on the other, through a diverse set of customer relationship channels.

In generation, Light's revenue preservation and market risk management strategy proved to be effective and delivered strong results in 2021. Using a preventive approach, Light successfully mitigated the adverse effects from events that impacted our market in the year, among them the water crisis that began toward the end of the first half of the year, creating significant market price volatility and reducing the GSF to historically low levels. Light's market risk management strategy effectively hedged generation business results in 2021, avoiding potential losses as a result of the water crisis.

In the financial area, we successfully completed a number of transactions in 2021. Our follow-on offering in January was well received by the market, denoting confidence in our plan to achieve operational improvement and deliver results. The follow-on offering raised R\$ 1.34 billion in new funding. In liability management, we completed debt issuances in the local and international markets, raising a total of more than R\$ 5.5 billion that has helped to improve debt-service costs

and shorten maturities. We ended the year with a robust cash position to meet our obligations in 2022.

In 2021 we reaffirmed our focus on transparency, accountability, equity, and continuous engagement with stakeholders.

Light has been named to the Brazilian stock exchange's (B3) Corporate Sustainability Index (ISE B3) and Carbon Efficient Index (ICO2) for 2022. And we've also been selected to the B3 ISE index for the 15<sup>th</sup> consecutive year, and to the B3 ICO2 index for the second consecutive year.

In 2021 we updated our Materiality Matrix to reflect the topics that are material to Light from the company's and stakeholders' perspective. The materiality process was led by the ESG+ Committee, under the Board of Directors.

Based on the new Matrix, we selected 10 priority topics to inform our ESG strategy in 2022. Quality of Service and Operational Efficiency, Community Engagement, Health & Safety, People Management, Financial Health and the Capital Market, Improving the Customer Experience, New Business Models, Losses and Delinquency, Innovation & Technology, and Climate Change.

Lastly, we would be remiss not to report on the recently completed Periodic Rate-setting Review for our distribution business. This edition was carried out within a new regulatory model that factors in the challenges of complex service areas such as ours.

As a result of the review, the sum of Component B, Impaired Revenues and Losses will have a positive impact of approximately R\$ 770 million on distribution business EBITDA and cash, including an impact of R\$ 542 million in 2022 alone. The overall gain as a result of the Rate-setting Review over its five-year lifecycle is equivalent to a net present value of R\$ 2.8 billion.

The positive outcome from the Periodic Rate-setting Review will provide the financial health to continue implementing our management model with a full focus on achieving the consistent results in the distribution segment that are needed to sustain business performance.

In our Annual Report for 2021, we describe our business model, strategies and initiatives that have reaffirmed our commitment to sustainable development, the Global Compact principles and the UN Sustainable Development Goals (SDGs).

We continue to report "in accordance" with the Global Reporting Initiative (GRI) Standards and draw guidance from the Sustainability Accounting Standards Board (SASB) Standards and the International <IR> Framework published by the International Integrated Reporting Council (IIRC).

### Firmino Sampaio

Chairman of the Board of Directors

## Nonato Castro

() Light

## 2021 at a glance





We received an "A" MSCI ESG rating



Named to the ISE B3 index for the 15<sup>th</sup> consecutive year



Named for the second year to the ICO2 B3



# Key indicators



MANUFACTURED CAPITAL	2019	2020	2021
Power plant installed capacity (MW)	1,188	1,188	1,188
Distribution system installed capacity (MVA)	10,652	10,894	10,971
Sub-transmission and distribution lines (km)	84,783	85,359	89,841
Power outage frequency (no. of outages)	4.91	4.66	3.44
Average power outage duration (hours)	8.84	7.04	6.34
NATURAL CAPITAL	2019	2020	2021
Environmental expenditure (R\$ million)	25.8	59.5	120.9
Direct Greenhouse Gas (GHG) Emissions – Scope 1 (metric tons of CO2eq.)	13,929	11,450	11,103
Indirect GHG Emissions - Scope 2 (metric tons of CO2eq.)	200,392	165,771	299,344
Other indirect (Scope 3) GHG emissions (metric tons of CO2eq.)	13,521	22,242	15,573
HUMAN CAPITAL	2019	2020	2021
Hours of training per employee/year	36.7	51.0	21.1
Total recordable case frequency (TRCF)	3.27	2.22	2.71
Fines and penalties (R\$ million)	71.2	53.0	22.6









INTELLECTUAL CAPITAL	2019	2020	2021	
R&D investment (R\$ million)	29.1	21.9	23.2	
SOCIAL AND RELATIONSHIP CAPITAL	2019	2020	2021	
Perceived Quality Satisfaction Rate (ISQP) for Retail (%)	58.6	67.3	53.5	
Community investment - Energy Efficiency Program (PEE) (R\$ million)	4.8	6.7	5.1	
Nontechnical losses / Low-Voltage (LV) Market (%)	52.1	50.8	54.5	
Collection rate (%)	97.6	95.0	96.4	
FINANCIAL CAPITAL	2019	2020	2021	
Net revenue (R\$ million)	12,663	12,286	13,931	
Adjusted EBITDA (R\$ million)	1,962	2,495	1,909	
EBITDA margin (%)	15.5	14.9	13.7	
Net income (loss) (R\$ million)	1,328	692	398	
Net debt (R\$ million)	6,750	5,478	7,353	
Capital expenditure (including contributions) (R\$ million)	939	950	1,426	



# Profile

[GRI 102-1, GRI 102-2, GRI 102-4, GRI 102-5, GRI 102-7, GRI 102-10, GRI 102-45]

Light is a Brazilian electric utility company with operations in power generation, transmission, distribution and trading. Our operations are located in Rio de Janeiro, a southeastern state with a land area of 43,750 km<sup>2</sup> and a population of approximately 17.5 million people<sup>1</sup>. Light's service area includes 31 of the state's 92 municipalities, including the entire Metropolitan Area of Rio de Janeiro, in a state with Brazil's second largest GDP. We have 4.3 million active contracts, supplying electricity to around 11.6 million people via 87,706 km of transmission and distribution lines. Customer service is provided by 37 commercial offices, a touring office and a community-service station.



89,841 km sub-transmission and distribution lines (km)

Our generation assets—including the hydropower plants operated by Light Energia and our stakes in the Paracambi and Guanhães small hydro facilities and the Belo Monte Damhave a total installed capacity of 1,188 MW.

In the trading segment, Lightcom brokers electricity purchase and sale transactions in the free market.

Light has a workforce of 5,223 direct employees, including 154 people with disabilities, as well as 8,656 third-party employees and 13 interns.

Net revenue was R\$ 13.9 billion in 2021, while Adjusted EBITDA and net income were respectively R\$ 1.9 billion and R\$ 397.9 million.

5,223 direct employees

4.3 million

customers

## Current ownership structure



### DISTRIBUTION

**GENERATION** 

**TRADING & SERVICES** 

INSTITUTIONAL





## Holding Company

### Light S.A.

Light S.A. is listed on the B3 (Brasil Bolsa Balcão) Novo Mercado segment under the ticker symbol LIGT3 and on the US OTC market under the ticker symbol LGSXY. Our B3-listed shares were priced at year-end at R\$ 11.75 and their market capitalization was R\$ 4.4 billion. Light S.A. wholly owns Light SESA, Light Energia and Lightcom.

## Direct subsidiaries

### Light Serviços de Eletricidade S.A. (Light SESA)

Light SESA is the fourth-largest distribution utility in Brazil by revenue and the sixth-largest by distributed electricity in the captive market, according to the Brazilian power sector regulator ANEEL's Regulatory Market Tracking System.

The company has the second largest Regulatory Asset Base in the country and the fourth-largest underground power grid in the world, and operates in what is considered to be the second most complex service area in Brazil.

In 2021, Light SESA billed for 25,082 GWh of electricity, including billings for consumption by captive customers and for use of the grid.

### Light Energia S.A.

Light Energia's generation assets comprise five hydroelectric dams, one small hydropower dam and two pumped storage facilities, with a combined installed capacity of 873 MW.

### Piraí/RJ – Lajes Complex

- Fontes Nova, Nilo Peçanha and Pereira Passos hydroelectric dams
- Lajes small hydro dam
- Two pumped storage plants: Santa Cecília and Vigário

### Carmo/RJ

- Ilha dos Pombos Dam

### Santa Branca/SP

- Santa Branca Dam

Light Energia owns Lajes Energia S.A., a company engaged in the operation, maintenance and commercial monetization of the Lajes small hydro dam, with a rated capacity of 18 MW.

### Lightcom Comercializadora de Energia S.A.

Lightcom, a wholly-owned subsidiary of Light S.A., trades in electricity in the Free Contracting Environment (ACL) with customers and suppliers across Brazil. Lightcom's core business activity is direct power purchases and sales, but also includes electricity brokerage, consumer representation at the Electric Power Trading Chamber (CCEE), and consulting services for free and special consumers.

While serving as the primary platform for selling Light's generation output, Lightcom is not confined to purchasing Light Energia's available output and can source electricity from third-party generators to meet the needs of its diversified free and special customer base, including large industrial customers, retail customers and utilities.

The table below shows Lightcom's average power throughput volumes, including purchased electricity (conventional an incentive-backed) and average MW sold in the last three financial years. In 2021, 2020 and 2019, the average selling price was respectively R\$223.0/MWh, R\$184.10/MWh and R\$192.83/MWh.

### **Lightcom throughput**

	2021	2020	2019
Electricity sold (GWh)	5,843	5,506	5,821
Electricity purchased (GWh)	5,846	5,511	5,829
Average MW sold	667.1	626.8	664.5

### Light Conecta Ltda.

Light Conecta has a stake in the Itaocara Hydroelectric Dam (UHE Itaocara), a joint venture with CEMIG GT, which had a stake of 49% in the venture. However, we were unable to secure funding from shareholders to build the dam, and after failed attempts to sell the asset, the joint venture terminated its power purchase agreements and is currently working with ANEEL to agree to a reasonable solution for returning the concession.

UHE Itaocara has filed an administrative appeal with suspensive effects against ANEEL Resolution 2 647/2020, which imposed a fine of R\$ 43,777,197.50. The appeal is pending technical review and, if unsuccessful, will be referred to the ANEEL Executive Board for a decision. UHE Itaocara has asked that ANEEL either cancel the fine—given that a penalty has already been imposed for its failure to develop the project—or to reduce its amount.

### Light Soluções em Eletricidade Ltda.

Light Soluções provides private power-sector consulting services alongside Light SESA.

### **Light Institute**

The Light Institute engages in social and cultural programs supporting the economic and social development of communities.



## Associates<sup>2</sup>

### **Guanhães Energia S.A.**

Guanhães Energia owns and operates four small hydro dams—Dores de Guanhães (14MW), Senhora do Porto (12MW), Fortuna II (9MW) and Jacaré (9MW)—in the state of Minas Gerais, with a combined installed capacity of 44 MW.

In August 2015 these SHPs were successful in Auction A-3 and concluded a power purchase agreement with a term of 30 years commencing in January 2018, at a price of R\$ 205.50/MWh. All dams are currently operational.

In December 2021, Light and its subsidiary, Light Energia, entered into a share purchase and sale agreement with Brasal Energia to dispose of their interests in Guanhães Energia. The deal is subject to certain conditions precedent which are customary for transactions of this nature.

### Lightger S.A.

Lightger operates the Paracambi SHP, a small hydropower plant in commercial operation since 2012, with an installed capacity of 25.7 MW.

As with Guanhães, in December 2021 Light and its subsidiary, Light Energia, entered into a share purchase and sale agreement with Brasal Energia to dispose of their interests in Lightger. The deal is subject to certain conditions precedent which are customary for transactions of this nature.

<sup>&</sup>lt;sup>2</sup>Learn more about our associates in the Notes to the Financial Statements.

### Amazônia Energia Participações S.A.

Amazonia Energia has a 9.8% equity interest in, and a material influence on the management of, but without having joint control of, Norte Energia S.A. (NESA). NESA holds a concession for the operation of the Belo Monte Dam. Located on the Xingu River, in the state of Pará, the Belo Monte Dam is the largest 100% Brazilian hydroelectric dam. It has a total installed capacity of 11,233 MW and a guaranteed capacity of 4,571 MW, enough to power approximately 18 million homes.

The dam has been operational since April 2016, and all generator units have been commissioned for commercial operation, including 18 at the Main Powerhouse (Belo Monte site), with an installed capacity of 11,000 MW, and 6 at the Supplementary Powerhouse (Pimental site), with an installed capacity of 233.1 MW.

### **Axxiom Soluções Tecnológicas S.A.**

Axxiom Soluções Tecnológicas provides technology solutions and systems for operations management.

### **CURRENT GENERATION ASSETS** [GRI EU1]

Current hydropower plants	са
Fontes Nova	
Nilo Peçanha	
Pereira Passos	
Ilha dos Pombos	
Santa Branca	
Pumped storage	
Lajes small hydro dam	
Paracambi SHP	
Belo Monte	
Guanhaes	
Total	

\* Proportional to Light's equity stake





	Concession		Guaranteed	
	/ permit	Start of	capacity	Installed
% stake	expiration	operation	(MWm)*	apacity (MW)*
100%	2028	1940	99	132
100%	2028	1953	334	380
100%	2028	1962	49	100
100%	2028	1924	109	187
100%	2028	1999	30	56
			- 101	
100%	2026	2018	17	18
51%	2031	2012	10	13
2.49%	2045	2016	114	280
51%	2047	2018	12	22
-	-	-	672	1,188



# Our business model

Light's business model is underpinned by corporate governance and related management practices specially designed for our electric power distribution, generation, trading and services businesses.

In carrying out our activities, we use a business model that has been structured into six capitals in line with the International Integrated Reporting Framework: Manufactured, Natural, Intellectual, Social & Relationship, and Financial. Those capitals, collectively, enable us to create value for all stakeholders and achieve superior results.

The chart below illustrates the ways Light creates stakeholder value through our business model.

## Intangible Assets

The Human, Intellectual, and Social and Relationship capitals are considered intangible assets, as they have no physical form or market value. Intangible assets include activities such as training, education, innovation, processes and work procedures, communication campaigns, etc.

The intangible assets reported in our Financial Statements are primarily comprised of concession infrastructure assets (to which we have rights of use), which are a part of our Manufactured capital, and third-party software.

By adequately managing and assessing our performance on each of the capitals, including intangible assets, taking account of existing interrelationships and impacts, we create value both for Light and for our stakeholders. Value creation is measured in terms of key ESG indicators that capture both internal impacts (resource use, training hours and financial performance) and external impacts (such as air emissions, power quality and customer satisfaction). 12

### () Light

## Light Generation – Transmission – Distribution – Trading

### **100% RENEWABLE GENERATION ASSETS**



### **MANUFACTURED CAPITAL**

The infrastructure, facilities, materials and equipment needed for our operations.



### **NATURAL CAPITAL**

Resources and environmental processes that support us in providing goods and services, including water, land, forests and biodiversity.



### **HUMAN CAPITAL**

Individual skills, knowledge and capabilities; initiatives to increase alignment with our organizational culture and strategies; training, internal communication, talent retention, engagement and Company-wide integration to optimize processes.



### **INTELLECTUAL CAPITAL**

Tacit knowledge, organizational standards and procedures, corporate systems, patents and licenses, technologies, R&D. Intellectual Capital also includes the knowledge management processes that ensure knowledge is preserved for future generations.



### **SOCIAL AND RELATIONSHIP CAPITAL**

The relationships established with stakeholders and networks to share information and enhance individual and collective well-being. This capital includes relationships, partnerships, common values, and intangibles such as brand and reputation.



### **FINANCIAL CAPITAL**

The pool of funds that is available to the organization for use in the provision of services or investment, including return on investment, equity, debt or grants.

MISSION, VISION AND VALUES STRATEGIC GUIDELINES CORPORATE GOVERNANCE CAPITALS \$ Å Ĥ IJ Performance C | MANAGEMENT MODE RISKS & OPPORTUNITIES

OUTLOOK



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### **STAKEHOLDERS** AFFECTED

- Shareholders & Financial Market
- Customers
- Workforce
- Suppliers
- Regulator
- Trade Associations
- Communities
- Government
- Academia



### **MAIN IMPACTS** [GRI 102-15]

- Power quality
- Urban landscape impacts
- Natural resource use
- Waste
- Access to water
- GHG Emissions
- Job creation
- Workforce training
- Workforce and public safety
- Investments in R&D and innovation
- Partnerships
- Social and environmental responsibility initiatives
- Energy efficiency
- Customer satisfaction
- Legal claims
- Non-technical losses
- Tax revenues
- Delinquency

SHARED VALUE



### **STRATEGIC DRIVERS**

- A strong, lean company with concrete results
- Customer-centric
- A unified approach to losses and collection
- Long-term value creation
- People and a strong culture
- Technology-intensive

# About the report

This report is for the period from January 1 to December 31, 2021. The *Light Annual Report* provides our stakeholders with an account of the management approach, initiatives and performance in the year of Light S.A. and its wholly owned subsidiaries, which we refer to simply as "Light" in this Report. **[GRI 102-50, GRI 102-51, GRI 102-52]** 

Light's annual reports are produced by a multidisciplinary team, evaluated by our ESG+ Committee, and approved by our Board of Directors and Audit Board. [GRI 102-32]

The contents of the Report have been prepared in accordance with best practices in sustainability reporting, including:

- The Global Reporting Initiative (GRI) Standards: Comprehensive option, including all energy utilities sector disclosures applicable to the Company; [GRI 102-54]
- The International Integrated Reporting Framework;
- The ANEEL Social, Environmental and Economic Responsibility Reporting Requirements.
   The report also contains disclosures and metrics in line with the Sustainability Accounting Standards Board (SASB) Electric Utilities & Power Generators Standard.

This report should be read in conjunction with two other important annual publications about Light: Our <u>Reference</u> <u>Form</u>, which is required and regulated by the Brazilian Securities Commission (CVM), and the <u>Notes</u> to the Financial Statements, which are required and regulated by Law no. 6404/1976 (the "Corporations Act").

Our Financial Statements<sup>3</sup> conform to International Financial Reporting Standards (IFRS) and are audited by independent auditors Ernst & Young Auditores Independentes, together with our social and environmental disclosures. **[GRI 102-56]** 

## Engagement and materiality

Since 2009 Light has conducted a regular exercise of identifying topics that are material to Light both from our own perspective and from the perspective of our stakeholders. Our Materiality Matrix was revised in 2021 in a process led by the ESG+ Committee, and the new material topics are addressed in this report. **[GRI 102-46]**  In developing our first Materiality Matrix, we identified and prioritized our stakeholders in accordance with the following criteria, as outlined in the AA1000 Stakeholder Engagement Standard: responsibility, influence, proximity, dependency, representation and strategic interaction, and policies. We identified 13 main stakeholder groups: Academia, Trade Associations, Customers, Communities, Group Companies, Experts, Financiers, Suppliers, Media, NGOs, Partners, Government and Regulators. In this year's review of our Materiality Matrix, we maintained the same stakeholder groups. **[GRI 102-40, GRI 102-42]** 

Light regularly engages with stakeholders throughout the year using a variety of engagement methods, including: general stockholders' meetings, Board of Directors and Executive Board meetings, meetings with investors and analysts, the Consumer Board, customer service channels, management meetings, meetings with the industry regulator, meetings with resident associations, participation in industry forms, etc. **[GRI 102-43]** 



<sup>&</sup>lt;sup>3</sup>The Financial Statements contain financial information for Light Group companies. **[GRI 102-45]** 

In the first step of the materiality review, the ESG+ Committee incorporated two additional processes to the assessment methodology: online surveys of selected stakeholders, experts, and members of the Board of Directors and Executive Board; and an assessment of topics for relevance to the SASB-recommended disclosures for the Utilities & Power Generators industry.

The materiality assessment in 2021 began with the material topics of the previous Materiality Matrix, which were reviewed and validated by the ESG+ Committee.

The materiality assessment comprised three steps. In the identification step, we agreed on the assessment methodology, identified variables and sources to be considered, and prepared a long list of topics to be assessed.

In the prioritization step, we intersected internal and external perspectives with the long-list material topics, and assigned a score based on how often those topics were mentioned in the sources analyzed. This yielded our new Materiality Matrix.

The last step was validation, in which the prioritized topics were assessed for consistency, mapped to our strategic drivers, and presented to the Executive Board, the ESG+ Committee and, finally, to the Board of Directors for approval.

The diagram opposite illustrates Light's materiality review process. [GRI 102-46]

Analyzing and prioritizing material issues, and building the Materiality Matrix

Aligning the prioritized issues with our strategic drivers and with senior management



### **MATERIALITY REVIEW STEPS**

Information that influences enterprise value, people, the environment and the economy (Double Materiality)

Identification Identifying issues affecting Light's business environment, drawing on different information sources

### **Prioritization**

### Validation

### Steps

- Secure ESG+ Committee approval of the methodology
- Define internal and external sources to be included
- Agree with the ESG+ Committee on the list of topics to be assessed

### Steps

- External perspective: stakeholder interaction channels, annual report benchmarking, a survey of ESG and/or power-sector experts
- Internal perspective: risk matrix, strategic drivers, mapped impacts, SDGs<sup>4</sup>, SASB<sup>5</sup> Standards, Executive Board and ESG+ Committee surveys
- Determine topic frequency and relevance
- Build Matrix

### Steps

- Assess the Matrix for consistency
- Validate the Matrix with the ESG+ Committee
- Obtain Board of Directors Approval

<sup>4</sup>The 17 UN Sustainable Development Goals

<sup>5</sup> The Sustainability Accounting Standards Board sets standards to guide the disclosure of financially material sustainability information by companies to their investors

To gather external perspectives, we surveyed stakeholders on the topics they believe to be material, via 12 communication channels, including a direct survey. In addition, we benchmarked the sustainability reports of companies in the power sector; and we directly surveyed ESG experts, some with expertise in the power sector.

Some of the sources referenced in the materiality review included the following: Strategic Risk Matrix, strategic drivers, impacts on society, the Sustainable Development Goals, and SASB sector disclosures. We also directly interviewed the Executive Board and the ESG+ Committee.

### **METHODOLOGY 2021/22**

To gather external perspectives, we surveyed stakeholders on the topics they believe to be material, via 12 communication channels, including a direct survey





## Materiality Matrix

Although all issues identified in the matrix are material to Light to some degree, we selected priority issues the 10 topics in the upper-right quadrant of the Matrix—to be featured in this report. [GRI 102-46, GRI 102-47]



### **INTERNAL PERSPECTIVE**

### Identified priority issues



- 1. Quality of service and operational efficiency
- 2. Community relations
- **3.** Health and safety
- 4. People management
- **5.** Financial health and the capital market
- - 6. Improving the customer experience
  - 7. New business models
- 8. Losses and delinquency
- - 9. Innovation and technology
- **10.** Climate change

The disclosures contained in this report cover not only identified material topics, but also our management approach and performance across the Capitals. [GRI 103-1, GRI 103-2] The table below maps Light's material topics to the relevant GRI material topics and the stakeholders and Group businesses most affected. [GRI 102-44]

### MATERIAL TOPICS ADDRESSED IN THIS REPORT [GRI 102-44, GRI 102-46, GRI 102-47]

	Material topics	Description	<b>Relevant Capital</b>	<b>GRI Material Topics</b>	Affected stakeholders	Affected businesses
	Quality of service and operational efficiency	Delivering high-quality electricity supplied to end consumers (EOD and EOF) and deploying new technology across the grid. Improving operating performance, system reliability, process efficiency and cost savings.	Manufactured Social and Relationship	<ul> <li>System efficiency</li> <li>Availability and reliability</li> <li>Economic performance</li> <li>Indirect economic impacts</li> <li>Access</li> </ul>	- Customers - Community - Regulator - Investors	All
	Community relations	Community initiatives: creating jobs and income opportunities, raising awareness about energy efficiency, social and environmental initiatives, improving energy efficiency by changing out equipment.	Social and Relationship	<ul> <li>Local communities</li> <li>Indirect economic impacts</li> </ul>	- Customers - Community - Investors	All
÷	Health and safety	Health and safety practices covering our workforce and communities.	Social and Relationship	<ul> <li>Occupational health and safety</li> <li>Customer health and safety</li> </ul>	- Internal stakehold - Customers	ers All
ŶŶ	People management	Labor relations, knowledge management, development and motivation.	Human Intellectual	<ul> <li>Employment</li> <li>Labor relations</li> <li>Training and education</li> <li>Diversity and equal opportunity</li> </ul>	- Internal stakehold	ers All
	Financial health and the capital market	Commitment to shareholders and lenders, and ease of access to finance.	Financial	- Economic performance	- Investors - Shareholders	All
	Improving the customer experience	Delivering efficient customer service through a wide range of user-friendly channels.	Social and Relationship	<ul> <li>Marketing and labeling</li> <li>Customer privacy</li> <li>Customer health and safety</li> <li>Access</li> <li>Provision of information</li> </ul>	- Customers - Community	Light SESA
<b>AU</b>	New business models	Opportunities to modernize Brazil's power sector New distribution business models Energy transition New technologies and businesses in a low-carbon economy	Financial	- Economic performance	- Customers - Community - Suppliers - Regulator - Investors	All
\$	Losses and delinquency	Optimizing strategies to reduce non-technical losses Reducing delinquency	Social and Relationship	- System efficiency - Local communities	- Customers - Community - Regulator	Light SESA
<del>ر</del> گ	Innovation and technology	Investing R&D funds Research, development and innovation initiatives aligned with Light's strategy to improve performance, equipment and processes	Intellectual Manufactured	- Research and development	- Academia	All
P	Climate change	Assessing climate-related risks and opportunities Identifying financial impacts on the organization and designing our climate-change strategy	Natural	- Economic performance - Emissions - Environmental compliance	- Community - Regulator	All



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To learn more about the GRI disclosures related to each of these topics and where they are found in this report, see the GRI Content Index. [GRI 102-55]

Any restatements of information contained in a previous report are documented and explained in the current report.

To learn more about a particular topic, or if you have any questions about this report, please contact Light using the following channels: [GRI 102-53]



Address: Av. Marechal Floriano, 168, Centro, Rio de Janeiro/RJ – Brazil, CEP: 20080-002.

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To learn more about...

Our stakeholder surveys and materiality matrix;

Integrated Reporting;

**<u>GRI</u>** (English only);

Our Reference Form;

Light's Financial Statements.







# A new company in the making

## Market overview

The beginning of the year saw the rollout of Brazil's National COVID-19 Vaccination Program.

As vaccination rates progressed and the pandemic began to abate, the first half of the year was expected to see a strong economic recovery. These expectations were confirmed in some sectors, such as services, whereas other sectors—notably retail—recorded lower-than-projected growth as household spending slumped on the back of rising inflation and the resulting erosion of consumer buying power.

Gross domestic product (GDP) grew by 4.6%, buoyed by sectors like building and construction, industry and services. This, however, was below the 5% growth that market analysts had predicted mid-year. GDP growth of 4.6% reinstated the economy to 2019 (pre-pandemic) levels, but was below the growth levels seen in previous years and, in particular, the peak in 2014.



The services sector surged above pre-pandemic levels, fully recovering from the losses in 2020. Manufacturing GDP also ended the year on a positive note, but without fully recovering to the levels seen in 2019, which were themselves down on the previous year. The retail sector contracted in the fourth quarter, rather than growing as expected for the season, although it ended the year in growth. Several sectors saw three quarters of successive growth before contracting in the last quarter, struggling to recover to pre-2020 activity levels. This is possibly explained by, among other factors, inflation—Brazil's number one economic concern in 2021. As measured by the Broad Consumer Price Index (IPCA), 12-month inflation hit two-digit levels for the first time since 2015, ending the year at 10.06%. The surge was driven by food products and by two energy items that have put an enormous strain on the budgets of Brazilian consumers: fuel and electricity.

The extended drought—the worst in almost a century—was primarily responsible for the higher electricity bills in Brazil in 2021. Low reservoir levels led to historically low generation output, requiring electric utilities to purchase additional electricity—partly from thermal power plants—at higher rates. Higher rainfall in the last quarter helped to ease the crisis in the sector. But with continued weather uncertainties, the water crisis is likely to linger into 2022.

With higher-than-target inflation in the year, the Brazilian Monetary Policy Committee (COPOM) responded with successive interest rate hikes, with the basic interest rate (SELIC) ending the year at 9.25%, a 7.25 percentage-point increase compared to the rate as at December 2020. Higher interest rates resulted in capital-market volatility: the Ibovespa index, the main stock market index in Brazil, ended the year down 11.93%.

In Rio de Janeiro, economic activity revived to pre-pandemic levels, but with GDP coming short of prior-year levels, ending 2021 at 4.1% growth, led primarily by a strengthening building and construction industry (+ 6.2%) and a rebound in services (+4.4%). Despite the annualized recovery, the services sector contracted in the last quarter of the year compared to the earlier ones. The tourism industry recovered only partially from the pandemic, and delivered one of the highest percentage increases in new formal jobs. Oil and gas, the state's flagship industry, remained flat year on year.

With higher-than-national-average unemployment, and low per-capita tax revenues, Rio de Janeiro is faced with the challenge of rebuilding its economy amid a drawn-out financial crisis lasting since the beginning of the previous decade. The State entered into tax composition proceedings with the Federal Government in 2017, and continued to pursue these proceedings in 2021. The state's dire social and economic problems are reflected to a certain degree in its position in ANEEL's service area complexity ranking, which is used as a basis for passing on non-technical losses to electricity rates. The most recent list, published in 2021, ranks Light's service area as the 4<sup>th</sup> most complex in Brazil.

## Strategy

### [GRI 102-15]

Under a 100-day plan we completed early in the second quarter, we launched a new chapter at Light in 2021. We implemented changes across structures, processes and technologies, with the company now better poised to lead in tackling present and future challenges.

Our Board of Directors has been renovated and is now entirely composed of independent members—1/3 of whom are women—and has an established operational and financial strategy and long-term business plan.

We work to deliver strong and sustained results, which we build each day through the commitment of our entire workforce. To ensure our sustainability as a business, Light has developed a proprietary management model comprising a set of goals that are in turn translated into targets and business routines. 21

We have defined six strategic drivers:

- A strong, lean company with concrete results: Driving operational improvement to reduce costs and provisions for contingent liabilities, with a focus on process automation
- Customer-centric: Improving the customer experience, drawing on insights about customer needs
- A unified approach to losses and collection: Developing loss reduction strategies revolving around discipline and gaining back market share, supporting sustainable revenues
- Long-term value creation: Building competitive differentiators to sustain long-term results, by developing new products and services
- People and a strong culture: People trained and engaged around a high-performance, results-oriented culture
- Technology-intensive: Leveraging technology to drive real benefits for the company

One of the biggest challenges facing Light is reducing electricity theft. Our strategy involves a high level of discipline and efforts to expand our market with a focus on operations, including routine inspections, normalization and incorporation of new customers, replacement of obsolete equipment, deployment of new technologies, and consistent field-crew training and management.

The operational improvement plan for Light SESA, which has been designed taking account of the complexities of the business and the interdependencies between multiple fronts—including losses, collection, judicial contingencies, manageable costs/ expenses and liability management—is expected to yield results over a medium-term horizon, which goes to show how much still needs to be done. But only by effectively implementing these necessary improvements will we be able to achieve our target of sustainable operating cash flows.

Light has also continued to invest in power quality and consistently improving EODi and EOFi, in line with the bestperforming large distribution companies in Brazil.

### **OUTCOMES IN 2021**

The first outcome was an improved capital structure as a result of our follow-on offering, which raised R\$ 1.3 billion in proceeds. The successful offering demonstrated investor confidence in our strategy, allowing us to build a robust cash position so we are able to meet challenges from a position of financial strength.

Light revisited and perfected its commercial strategy, under a plan built on two major pillars: sustained loss reduction and a focus on execution, two differentiators of Light's management approach.

With 2/3 of non-technical losses occurring in specialapproach areas, Light is constantly searching for ways to improve our relationship with these customers. We have worked to reconnect to these communities by building partnerships and enduring relationships, restoring Light's presence in these areas. Customers in these communities will now have electricity bills that are affordable with their income, thanks to a Social Rate benefit coupled with a lower state tax rate that has already been approved by the Rio de Janeiro State Government.

As part of a customer service transformation, we are working to anticipate customers' needs by introducing innovative solutions, reviewing our processes and continuously improving our service channels, which will be increasingly technology-intensive.

Our field operations have continued to exceed expectations, with Light ranking as the 3<sup>rd</sup> best distribution company for EOFi and the 4<sup>th</sup> best for EODi<sup>6</sup>, in 2021, setting a new record despite the complexity of our service area. This illustrates how well-executed investment and a highly engaged and resultsdriven team are helping to transform our organization.

Customer claims are another important issue that directly affects contingencies. We work to improve operational quality and our relationship with customers to reduce the number of newly filed claims. We have also engaged with the different levels of the justice system to demonstrate what we have done and what is being changed for the benefit of our customers.

### **CREATING FUTURE VALUE**

At Light, value creation for the company and our shareholders is supported by four levers. The first is the 2022 Rate-Setting Review. The rate-setting model needs to reflect the complexity of our service area and the day-to-day challenges it represents. Light engages regularly with ANEEL and its technical department to discuss this.

The second lever is loss reduction. Loss reduction is a long-haul effort—expanding our market and incorporated power yields results largely in the long-term.

However, there are already many positive outcomes that we are pleased to report. Our teams are now more productive and better at identifying fraudulent connections, increasing the number of inspection hits and subsequent normalizations. To sustain these efforts and avoid losing ground, in 2021 we invested approximately R\$ 460 million in loss reduction and in optimizing collections, two fronts that are both addressed by fraud management.

The third lever is reducing contingencies. We achieved a 38.1% reduction in provision for contingencies by improving our case handling processes, power quality and customer service.

The last lever is cost and expense control. Even with our lower-thanregulatory PMSO (Personnel, Materials, Services and Other) expense levels, there is still room for further optimization. A redesigned management model and IT investments have delivered increased efficiencies and better results. And we will continue working to enhance cost control through our newly implemented Zero-Based Budgeting method.

<sup>&</sup>lt;sup>6</sup> Out of electric utilities with more than 1 million customers, based on ANEEL data.

### CASCADING STRATEGY [GRI 103-1, GRI 103-2, GRI 103-3]

Light's strategic drivers inform the CEO's strategic topics, which are then cascaded across the organization.

In 2021 we structured our management model in line with recognized best practices, including Management by Guidelines and Routine Management methods.

Our efforts to drive excellence span across all processes and are supported by a Quality and Management team and a network of management facilitators, who disseminate management know-how across the Light Group. Progress on targets and action plans is tracked at all levels of the organization using a dedicated software system.







### ASSESSING STRATEGIC AND OPERATIONAL PERFORMANCE

Through our Management by Guidelines process, strategic drivers have been translated into a system of Company-wide annual targets, including operational targets. All employees understand their role in helping Light to achieve business goals. This aligns functions and activities—vertically and horizontally—around strategic goals, helping to turn strategies into reality. After each target is set, we conduct an assessment to determine how it can be best achieved. This includes a drilldown exercise, cause analysis, prioritization and developing an action plan for managers.

Targets and action plans are entered into a software system called Actio. Monthly meetings are scheduled to track performance at all levels of the Company, from the CEO to teams on the ground. These meetings follow a pre-established routine to track performance against targets and progress on action plans, adjust course and address deviations.









### Short-term goals



### ESG TARGETS

As part of this process, we also address ESG aspects organization-wide. In 2021 we included ESG performance indicators—in addition to operational and financial metrics—as factors affecting the CEO's variable compensation. The CEO's Target Card now comprises the following factors and weights:

ESG Performance – CEO 2021	Weight	
Diversity & Inclusion Program	20%	
% women in leadership positions	20%	
% women in technical and operational positions	20%	
Reduction in office waste materials collected	20%	
% by which reforestation exceeds		
legal requirements	20%	

The metrics in the target card were extensively discussed to ensure they align with Light's priorities. As part of this, we developed a prioritization heat map based on the 17 United Nations (UN) Sustainable Development Goals (SDGs).

The heat map considers:

- **1.** Whether the SDG was previously addressed by the Company through policies or standards
- 2. Whether the SDG was previously addressed by any measurable metric
- **3.** Whether there were any standard practices or structured initiatives related to the SDG

Based on the answers to these three questions, we assigned weights and prioritized the topics addressed in 2021.

In 2022 the CEO Target Card will be based on our new Materiality Matrix, which identifies the critical topics we will address throughout the year.

To define the topics in the card, we conduct an assessment to identify topics and targets in which there are gaps or where we are underperforming, and select them as priorities requiring enhanced efforts at Light. After they are added to the CEO card, targets are then cascaded across the different levels of the organization.

A preliminary assessment identified the following issues needing to be addressed in the CEO ESG Target Card for 2022:

- Environmental management
- Minimizing natural resource use
- Diversity, equity and inclusion
- Operating in disadvantaged communities

### **NEXT STEPS TO ACHIEVING MANAGEMENT EXCELLENCE**

Light is pursuing an action plan to achieve management excellence over the next four years. The plan has been submitted to and approved by the Board of Directors. It outlines the processes we will implement each year, and what level of maturity each process is expected to achieve. Of course, building maturity will be a multi-year process following an incremental timeframe.

### **MANAGEMENT MATURITY STAGING**

Light has created a scoring system and an index—called the Management Maturity Index—that measures progress in building management process maturity at each of Light's business units. The maturity index is calculated using a checklist in which each process in the model has corresponding checklist items and scores.

On a monthly basis, managers perform a self-assessment using this checklist, which generates a score that is then fed into the Management Maturity Index. At the end of each year, Light conducts a cross-unit internal audit to assess maturity. This provides a comprehensive vision across the Group, and helps to sustain Company-wide momentum and engagement in achieving excellence.

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### **MANAGEMENT MATURITY STAGING**



### YEAR-ON-YEAR MANAGEMENT MATURITY INDEX TARGETS THROUGH 2024

Management Maturity	24	36
Index (IMG)	2021	2022
Score target	2021	



## Year 3 (2023)

70 2023 100 2024



# ESG as an organizational pillar

## ESG management

Our stakeholders are increasingly concerned about environmental, social and governance (ESG) issues, and Light has worked continuously to improve our practices across these three fronts.

Light's commitment to sustainability began in 2005 when we listed on the Brazilian stock exchange B3's Novo Mercado, and was further reinforced when we joined the United Nations Global Compact in 2007.

Our listing on B3 led us to implement enhanced governance standards, while our support for the Global Compact led us to adopt corporate social responsibility and sustainability policies across areas such as human rights, labor, the environment and anti-corruption. [GRI 102-12]



Light publishes Annual Reports prepared in accordance with the Global Reporting Initiative (GRI) Standards and the International <IR> Framework, and we report on our strategy on climate change through disclosures to the CDP<sup>7</sup>. In 2021 we ranked fifth in the ABRASCA Annual Reporting Awards.

In 2021 Light was named for the 15<sup>th</sup> consecutive year as a constituent of the B3 Corporate Sustainability Index (B3 ISE), which lists companies demonstrating superior corporate sustainability practices. And for the second consecutive year, we were named to the Carbon Efficient Index (B3 ICO2)—both indexes are valid for 2022.

<sup>7</sup> A nonprofit organization internationally recognized as an authority on corporate disclosures on greenhouse gas emissions and environmental and climate strategies.

Our listing in the B3 ISE and ICO2 B3 indexes demonstrates that we have successfully embedded ESG aspects in business management and strategy at Light. This reaffirms our focus on transparency, accountability, equity, and continuous engagement with stakeholders.

In recognition of our diversity efforts, in 2021 we received a Women on Board seal of approval, which recognizes companies that have at least two women on their boards. Light's Board of Directors currently has three women, more than the market average.

Internally, in addition to Collective Bargaining Agreements and our Profit-Sharing Plan, Light has undertaken a commitment to our industry's unions, under a Social Responsibility Agreement, to protect and defend the human rights recognized by the United Nations, the fundamental conventions of the International Labor Organization (ILO) and the principles established in labor legislation.

We support diversity and provide equal opportunity to men and women, providing a work environment that is free of discrimination in promotions to management positions and in compensation paid for equivalent work. In 2021 Light launched wide-ranging affirmative action through our Diversity, Equity & Inclusion Program, as detailed in Our Team. Employee training on human rights is provided as part of courses on ethics and sustainability. In 2021 we organized several related training activities, including online courses, workshops and even podcasts, with 978 employees—or 18.7% of our workforce—attending a total of 2,334 hours of training. [GRI 412-2]

### **SUSTAINABILITY STRATEGY**

As part of our Materiality Matrix review, we mapped our priority material topics to our strategic drivers, we identified the related ESG performance indicators within the Management by Guidelines process, and we created new performance indicators to cover topics not yet being addressed. This ensures that our prioritized material topics are addressed in our Management by Guidelines process and in our broader management model. **[GRI 103-3]** 

In executing our strategy, Light relies on a well-structured, agile governance model that reflects our now-diversified ownership structure. The modes of participation by stakeholders including shareholders, governments and regulators—in influencing Company strategy are described throughout the report, with examples including fora such as the General Meeting, the Consumer Board and public meetings. **[GRI EU19]** 



As a signatory of the Global Compact, Light has pledged to support the Sustainable Development Goals (SDGs) announced in 2015 by the United Nations (UN), which define a set of global priorities and aspirations for 2030. Of the 17 SDGs, 7 are strongly aligned with Light's strategy:

- Good health & well-being (SDG 3)
- Gender equality (SDG 5);
- Affordable and clean energy (SDG 7)
- Decent work and economic growth (SDG 8)
- Industry, innovation and infrastructure (SDG 9)
- Sustainable cities and communities (SDG 11)
- Climate action (SDG 13)
- Peace, justice and strong institutions (SDG 16)

The inter-linkages between the SDGs, our value chain and our business strategy are mapped out as part of periodic materiality exercises, in a process that demonstrates Light's commitment to creating shared value.

Throughout this report, where possible we flag the SDGs connected to the initiatives or practices being described.



Named to the ISE B3 index for the 15<sup>th</sup> consecutive year

Strategic drivers	Material Topics	Disclosures 2022		
Loss reduction with a unified approach to collections	Losses and delinquency Community relations	<ul> <li>Overall Losses/Grid Load</li> <li>Nontechnical Losses/Grid Load</li> <li>Community engagement program implementation</li> <li>Normalization progress – Community Program</li> <li>Target-audience participation and community initiatives</li> </ul>		
A strong, lean company with concrete results	Quality of service and operational efficiency	- EOD and EOF		
Customer-centric	Improving the customer experience	<ul> <li>Customer Satisfaction Rate</li> </ul>		
Long-term value creation	Financial health and the capital market New business models Climate change	<ul> <li>Consolidated EBITDA</li> <li>Free Cash Flow</li> <li>Debt Restructuring</li> <li>Segmented Power Sector Modernization Program + Community Photovoltaic Plants</li> <li>Decarbonization Program</li> </ul>		
People and a strong culture	People management Health and safety	<ul> <li>People Management Maturity</li> <li>Diversity Program</li> <li>Light Safety Index (ESL)</li> </ul>		



SDG











### **ESG ACTION PLAN**

In 2021 Light designed a new ESG Action Plan that has been approved by our all-director ESG+ Committee. We also set up an internal ESG Committee to track the performance indicators fed into Light's ESG Index, and discuss and monitor adjacent actions and initiatives related to our ESG Action Plan.

Some of the key initiatives under our 2021 Action Plan include the following:

- Engage suppliers around ESG issues by administering a self-assessment questionnaire and providing feedback and suggestions on good practices
- Develop corporate ESG-related policies including a Diversity Policy and a Policy on Engaging Independent Auditors
- Implement affirmative action related to diversity, building on our Diversity & Inclusion Program, which includes targets set in the CEO card
- Discuss ESG initiatives and social and environmental trends in periodic senior management meetings with the ESG+ Committee
- Develop an ESG training pathway for Light Academy, including workshops, videos and podcasts

We highlight that, as previously mentioned, our Materiality Matrix review in 2021 was directly advised by our ESG+ Committee.

## Governance

Corporate governance, one of the three pillars in ESG, describes the system by which organizations are managed and monitored to ensure healthy interaction is maintained between shareholders, the Board of Directors, the Executive Board, regulators, employees and other stakeholders. At Light, good

governance practices help to ensure the short-, medium- and long-term sustainability of the business by securing access to funding, improving the quality of corporate management, creating value—including economic value—and enhancing Light's reputation with society as a whole.





The diagram below illustrates Light's current corporate governance structure.

### **Audit Board**

The Audit Board exercises oversight of senior management activities and reviews the financial statements.

The Audit Committee (CAUDIT), Operations & Financial Committee (COFIN), the People & Governance Committee (CPG) and the ESG+ Committee (CESG+) assist the Board in conducting its duties efficiently, supporting it in dealing with specific matters in an advisory capacity, without decision-making authority. The Audit Committee is the only statutory committee.

### **Executive Board**

The Executive Board represents the company and has authority to manage business activities within the scope of duties established in the Bylaws

### **Consumer Board (independent and not subordinate)**

The Consumer Board provides a forum for discussion, exercises scrutiny in the collective interest of consumers and liaises between Light and representatives from the various rate classes in seeking amicable solutions to issues related to power supply, rates and the adequacy of services provided to end consumers.[GRI EU19]

### **Board Committees (CAUDIT, COFIN, CPG & CESG+)**

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### [GRI 102-18, GRI 102-22] [GRI 102-29, GRI 102-30]

The Light Corporate Governance Handbook outlines guidelines and practices designed to ensure we achieve value creation goals for the company and our shareholders. Transparent communication with the market and other stakeholders is ensured by:

- Building positive and transparent engagement with the market and investors, and providing clear information about the Company's strategic direction and performance
- Providing the conditions needed for effective business management by governance bodies and executives
- Formalizing and organizing interfaces to ensure legal and regulatory compliance in corporate and governance routines
- Providing timely and accurate disclosures of all material facts and information pertaining to Light, including its financial position, performance, share ownership and governance.

For more information about our governance practices, see our Corporate Governance Handbook.



### **BOARD OF DIRECTORS AND COMMITTEES** [GRI 102-22, GRI 102-24]

The chair of the Board of Directors is not an executive officer. [GRI 102-23]

The Board has a minimum of 20% independent members, as required by the *Novo Mercado* Listing Rules. Directors elected as described in article 141(4 and 5) of the Brazilian Corporations Act are deemed to be independent.

To learn more about requirements for independent members, go to our Investor Relations website.

The Board of Directors is composed of nine members, six men and three women. All directors currently qualify as independent members.

In performing their duties, Board members are expected to:

- Comprehensively familiarize themselves with the company, its business and all matters pertaining to the Board of Directors
- Raise any issues for discussion which are in the Company's interest, and make meaningful contributions
- Put the Company's interests above shareholder and Board members' interests
- Work as a team and express themselves properly
- Have a solid business background
- Build positive relationships and cooperation with other Board members

- Support short- and long-term planning
- Attend meetings and be available on request
- Prepare ahead of meetings
- Perform their duties mindfully, proactively and diligently

Light's current board members have expertise in the following areas: Energy, Trading, Logistics, Sustainability and ESG, Mobility, Retail, Telecommunications, Waste Management, Consumer Goods, Education, Corporate Finance and Investments, Audit, Aviation, Strategic Planning, Financial Management, Business Management, Legal and Policymaking.

The competencies and other requirements for members of the Board of Directors are described in our Reference Form filing with the Brazilian Securities Commission (CVM), which is also available on our Investor Relations website.

The Board of Directors is advised by four committees: the Statutory Audit Committee (CAUDIT), Operational & Financial Committee (COFIN), People & Governance Committee (CPG) and ESG+ Committee (CESG+).

All current members of Board of Directors advisory committees are members of management receiving no additional remuneration.

For further information about the composition, operation, members and responsibilities and duties of each advisory committee, see the relevant rules of procedure here. [GRI 102-19, GRI 102-26]

### **EXECUTIVE BOARD**

Members of the Executive Board are selected and hired on the basis of their competencies and the legal requirements for the position. [GRI 202-2]

Light's Bylaws describe the roles and responsibilities of the Executive Board, including those of the CEO and Chief Investor Relations Officer and other unspecified officers.

For information about the composition and competencies of the current Executive Board, go to http://ri.light.com.br/en/governance/management/

### **ASSESSING RISKS AND OPPORTUNITIES**

Board of Directors meetings are held ordinarily once per month and extraordinarily as necessary. At the frequency established in their respective rules of procedure, advisory committees, within their scope of activity, meet to discuss in depth the matters to be deliberated by the Board of Directors.

### **DISPUTE RESOLUTION** [GRI 102-25]

The Company, its shareholders, directors and members of the Audit Board are required to submit to the Market Arbitration Chamber any disputes arising between them regarding the application, validity, effectiveness, interpretation or violations of the Brazilian Corporations Act (Law no. 6 404/1976), Light's Bylaws, and the rules issued by the Brazilian National Monetary Council, the Brazilian Central Bank, and the Brazilian Securities Commission (CVM). This includes the rules on the overall operation of the capital market, the *Novo Mercado* Listing Rules, the*Novo Mercado* Listing Agreement, the Penalties Rules and the Arbitration Rules of the Market Arbitration Chamber.

Light's Related-Party Transactions Policy, which has been approved by the Board of Directors, contains guidelines on identifying and resolving conflicts of interest.

All related party transactions are required to be compliant with this policy, and the significant provisions of all contracts are required to be disclosed in notes to the Financial statements and in our Reference Form, as applicable, in accordance with Brazilian regulations.

In addition, Light's electric utility subsidiaries must comply with the rules contained in ANEEL Resolution 334/2008, which outlines the agency's pre- and post- transaction procedures for transactions between concession operators, licensees and authorized operators, and with related parties.

The most common related-party transactions in the ordinary course of business at Light include power purchases and sales, and actuarial contributions to pension funds sponsored by Light and our subsidiaries. These transactions are submitted to the appropriate governance bodies for review and approval, in accordance with our Bylaws and applicable policies. 32



## Good corporate governance practices at Light

In Accordance with CVM Directive 586, in 2021 we submitted a report to the Brazilian Securities Commission (CVM) on our governance practices, of which we highlight the following:

- Performance assessments on the Board of Directors, individual directors, the CEO and Board advisory committees are conducted either internally or externally by a consulting firm, as necessary, under the oversight of our Corporate Governance function
- Assessments on corporate governance, sustainability and compliance are conducted respectively by the: People & Governance Committee, ESG+ Committee and Audit Committee
- The Board of Directors, Board advisory committees and the Audit Board each have their own rules of procedure outlining responsibilities, duties and rules of operation
- Board of Directors meetings include exclusive sessions for directors
- Processes and programs are in place for monitoring and communicating the performance and impacts of our activities on society and the environment
- In our incentive structure, a decision-making process cannot be controlled and monitored by the same person

- The internal audit reports directly to the Board of Directors
- Light has a set of policies in place, including an Internal Data Protection Policy, Related-Party Transactions Policy, Board of Directors Nomination Policy, and Remuneration Policy
- The Statutory Audit Committee periodically reviews performance indicators, the schedule and progress of internal audit programs, and the company's risk and compliance monitoring, and reports its findings during meetings of the Board of Directors;
- The Executive Board is responsible for implementing risk management policies and systems and internal controls, and for managing the company's integrity/compliance program. It assesses the effectiveness of these mechanisms and provides recommendations to the Board of Directors on needed changes, as assessed and advised by the Audit Committee, to address the specific risks to which the Company is exposed.
- We have a policy containing requirements for approving related-party transactions, in compliance with our Bylaws and applicable regulations

- Our Policy on Disclosures and Securities Trading has been amended for compliance with CVM Resolution 44 (August 23, 2021)
- Our voluntary contribution policy prohibits contributions or donations to political parties or their officials
- In 2021 we reformulated our Corporate Governance Handbook and the Board of Directors' Rules of Procedure, and developed clear and objective rules of procedure for each of the Board advisory committees, in order to update our practices to reflect our current management model and best practices in corporate governance
- We created an ESG+ Committee tasked with prioritizing and monitoring issues under our ESG Agenda and Light's strategic positioning
- We revised the guidelines in the Board of Directors' Rules of Procedure on addressing conflicts of interest involving its decisions and/or members

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### **ASSESSING SOCIAL AND ENVIRONMENTAL ISSUES** [GRI 102-31]

Under the Light Corporate Governance Handbook and the Board of Directors' Rules of Procedure, sustainability-related matters are delegated to the ESG+ Committee, which operates under its own rules of procedure. [GRI 102-19]

The People & Governance Committee, in turn, is responsible for matters related to people and corporate governance.

Under Light's Bylaws, the Executive Board is responsible alongside the ESG+ Committee for monitoring progress against the Company's commitments on economic, environmental and social issues. [GRI 102-20]

The Chief Investor Relations Officer is responsible for tracking performance against our ESG strategy.

Significant economic, social and environmental issues are referred to the relevant committees, and monitored and evaluated by the Board of Directors. [GRI 102-33].

A total of 53 critical economic issues, 21 social issues and 27 environmental issues were discussed at Board of Directors meetings in 2021, and actions were proposed to mitigate existing risks. Around 48% of meeting hours were dedicated to social and environmental matters. [GRI 102-21, GRI 102-34]

Situations posing conflicts of interest or involving related-party transactions are addressed in accordance with applicable laws and regulations, the Board of Directors' Rules of Procedure, and our Related-Party Transactions Policy.

### ENHANCING AND ASSESSING **PERFORMANCE** [GRI 102-28]

The Corporate Governance function provides assistance in coordinating and organizing performance assessments of the Board of Directors as a body as well as assessments of individual Board members, advisory committees and the CEO.

In 2020 we engaged independent consultants to assess the performance of the Board of Directors, the chairman of the board, advisory committees and the CEO, and to report the results to the Board of Directors.

The assessment engagement comprised two steps: 1<sup>st</sup> Self-assessments by members of the Board of Directors and its committees

**2<sup>nd</sup>** An independent assessment by the consultants, based on the results from the self-assessment and interviews with all members of the Board

The results have been benchmarked against best practices.

The independent assessment covered five dimensions:

- Performance of Duties
- Composition and Structure
- Dynamics
- Supporting Processes and Structure
- Contributions

These dimensions fed into an assessment of the Board's maturity to inform an action plan outlining areas for improvement for the Board and each of its committees.



In the Composition and Structure dimension, the independent consultants assessed, among other aspects, the diversity of the Board's composition, and how each director's profile and skills could support improved ESG performance and our sustainability agenda.

The performance assessment for 2021 will be conducted when Board members have completed the first year of their term, and may be conducted either internally or by an independent firm. The assessment will also cover the performance of the governance bodies listed above and their individual members.

### **REMUNERATION POLICY**

[GRI 102-35, GRI 102-36]

Light's remuneration policy is consistent with benchmarked industry best practices, and aims to attract and retain talents who are competent, skilled, capable of supporting our business strategies, and results-driven.

We believe our remuneration policy should be transparent and sustainable, and foster a results-oriented culture. The policy has been designed to reward members of the Executive Board based on their performance, as measured against pre-set targets and performance indicators established for each fiscal year. Variable remuneration plays an important role in that it allows management to share in Light's success and value creation, fosters a long-term vision for sustainability, and aligns the interests of management and shareholders.

Remuneration proposals are currently approved in the Annual General Meeting and are published, before approval, in our Management Proposal and, following approval, in meeting minutes available on our Investor Relations *website*.

Our organizational structure includes a permanent People & Governance Committee, composed of representatives from the Board of Directors, which is dedicated to addressing matters related to management remuneration. This committee reviews and provides recommendations to the Board of Directors on remuneration policies and guidelines for statutory officers and members of the Board of Directors and Audit Board, based on performance targets set by the Board of Directors.

The Board of Directors reviews recommendations made by the People & Governance Committee and approves fixed and variable remuneration within the boundaries set by the Annual General Meeting.

Light's remuneration plans contain no clawback clauses for the event of misconduct or fraudulent management. However, Light has rules and procedures on ethical conduction that apply not only to our workforce but also to Board members and executives.

Further details about our Governance structure and mechanisms can be found on Light's Investor Relations website under <u>Business Model</u>.

Executives and employees are eligible to our Braslight private pension plan. Members of the Board of Directors are not entitled to pension plans, except for those who are employees or former employees of the Company. Detailed information on coverage of pension plan liabilities can be found at: www. braslight.com.br. **[GRI 201-3]** 

Stakeholders' views are not specifically taken into account in determining remuneration, although the Company uses customer satisfaction as one of the performance indicators affecting variable remuneration. [GRI 102-37]



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### **LIGHT'S REMUNERATION STRUCTURE**

### **A) Board of Directors**

Members of the Board of Directors receive fixed remuneration as monthly fees in consideration of the time they devote to supporting Light's business performance and growth. Payroll charges are deducted from their fixed remuneration.

In addition to fixed remuneration as described above, Board members receive additional, noncumulative remuneration for their participation in committees. Such additional remuneration is paid on a monthly basis regardless of whether they have performed committee duties in a given month.

The chair of the Board is eligible to a benefit package consistent with market practices, including health insurance, dental insurance, food allowance, life insurance and a housing allowance if they are transfered, in accordance with the Company's Remuneration Policy. The other members of the Board of Directors are eligible to mandatory reimbursement of travel and accommodation expenses required to carry out their duties, but are not eligible to any benefits such as health insurance, life insurance, post-employment benefits, etc.

The Board of Directors is not eligible to variable remuneration.

### **B) Statutory Executive Board**

Members of the Executive Board receive fixed and variable remuneration plus benefits. Their fixed remuneration consists of position-specific management fees in consideration of the time they devote to improving business performance.

Variable remuneration comprises a short-term and a long-term bonus that reflect the complexity of the position and are linked to performance against targets and indicators. This allows us to share risks and rewards and align our executives with business strategy.

On July 04, 2019 Light held an Extraordinary General Meeting to approve our Stock Option Plan for statutory directors and executives of the parent company and subsidiaries.

On an annual basis, we review the strategic drivers that define the CEO's Target Card—performance against these targets affects the CEO's short-term bonus. The Target Card is then translated into targets for other members of the Executive Board. These targets are designed to be aspirational and to accurately reflect improvement in results and each executive's level of responsibility and authority.

Benefits packages are competitive with market practices, and include health insurance, dental insurance, food allowance, pension plans, life insurance and a housing allowance if they are transfered, in accordance with the Company's Remuneration Policy.

### **C) Audit Board**

The remuneration of the Audit Board is agreed in the General Meeting. Pursuant to article 162(3) of Law no. 6 404/76, Audit Board remuneration may not be less than 10% of the average remuneration paid to executive officers, excluding benefits, committee fees and variable remuneration.

Members of the Audit Board receive only fixed remuneration that is consistent with market practices, in consideration of their contribution to improving business performance and growth. In addition, they are eligible to mandatory reimbursement of travel and accommodation expenses required to carry out their duties.

Payroll charges are deducted from the fixed remuneration of the Audit Board.

Under Light's Remuneration Policy, members of the Fiscal Board are not eligible to variable remuneration and receive no additional benefits, such as health insurance, life insurance, post-employment benefits, etc.

### **D) Employees**

Employee remuneration consists of their monthly salary, benefits and variable remuneration depending on performance against targets. Employee benefits include private pensions, food allowance, health insurance, life insurance, daycare allowance, social and psychological counseling, education assistance, scholarships at the Primeiro de Maio school, among other benefits.




## Environment

Light recognizes the importance of using natural resources efficiently and compliantly, and of preparing for the transition to a low-carbon economy. This is reflected in our approach to environmental management, our Environmental Policy, and our Environmental and Climate Commitments, across six topics: energy, technology, biodiversity, greenhouse gas (GHG) emissions, waste and water quality.

### **ENVIRONMENTAL MANAGEMENT SYSTEM**

In 2001 we launched an Environmental Management System (IMS) based on ISO 14001, through which we assess and monitor aspects and impacts from our operations to ensure they are compliant with environmental regulations and that environmental quality standards are upheld.

As well as ISO 14001 certification, our hydroelectric dams and appurtenant structures are certified to ISO 9001 (quality) and ISO 45001 (occupational health and safety), together forming our Integrated Management System. **[GRI 416-1]** 

In 2021 Light migrated to a new standard, ISO 45001, to further improve workplace safety levels and employee wellness.

As in the previous year, 80% of Light SESA's generation assets were certified to ISO 14001, and 100% of Light Energia's assets had certified IMS systems.

### ENERGY EFFICIENCY [GRI 302-3]

At Light we continuously monitor and measure utility consumption at our facilities, and organize initiatives to raise awareness among our employees, contractors and customers about the importance of everyone doing their part to improve process efficiency and use natural resources efficiently and responsibly.

Light's total electricity consumption in 2021 was 204.41 GWh, down 6.6% from the previous year, and our resulting energy intensity was 0.0088 kWh per R\$ of gross revenue.

### **CLIMATE CHANGE**

[GRI 201-2, GRI 305-1, GRI 305-2, GRI 305-3, GRI 305-4] [SASB IF-EU-110a.1, SASB IF-EU-110a.2]

Climate change directly affects our business model, as we are wholly reliant on water storage in our reservoirs to generate electricity, and our operations are required to manage the impacts from temperature fluctuations on electricity consumption.

Our annual results of operations can be affected by adverse hydrological conditions, electricity shortages, electricity rationing, distribution system overloads due to unexpected spikes in consumption and growth in non-technical losses.







### **Greenhouse gas emissions**

Our annual Greenhouse Gas Inventory reported 326,019.74 tCO2eq in emissions. For further details, see the Appendixes to this Report.

Greenhouse gas emissions intensity, a measure that is relative to gross revenue, was 0.01333 tCO2eq/R for Light SA. Emissions intensity refers to Scope 1 + 2.

Within Scope 1, our primary emissions of concern are SF6 (sulfur hexafluoride), a fugitive gas with high global warming potential, and increased emissions from mobile combustion, due to the in-sourcing of field services (a larger utility fleet).

Scope 2 comprises indirect emissions from purchased electricity and transmission and distribution losses. Scope 2 emissions are calculated by applying the average emission factor for all power plants within the National Grid, including hydroelectric, thermal and wind power facilities.

Scope 3 emissions are emissions from other indirect sources not owned or controlled by the organization, including thirdparty fleets, waste disposal and business travel. 37

### () Light

In 2021 Light's emissions rose by 63.4%, primarily reflecting an 80.6% increase in Scope 2 emissions, which accounted for 91.8% of total emissions. This increase reflects the National Grid's 105% higher emission factor in the year, linked to the increased dispatching of thermal power plants in 2021.

### **GREENHOUSE GAS EMISSIONS – 2021**



### **CARBON FOOTPRINT**

Light SESA and Light Energia had a carbon footprint of respectively 127.4 kg of CO2eq/MWh and 1.9 kg of CO2eq/ MWh in 2021.

The emissions with the highest weight in our carbon footprint are related to waste materials. At Light Energia, for example, most emissions are generated by aquatic plants, or macrophytes, which remain the primary source of our carbon footprint.

Light has continued to invest in projects to improve macrophyte management.

### WASTE MANAGEMENT [GRI 306-1, GRI 306-2]

In 2021 Light generated approximately 12,149.20 metric tons of waste, with 41% generated by Light Energia, primarily consisting of macrophytes, and 59% produced by Light SESA, mainly consisting of construction and tree trimming waste. Of this total, 4,484.6 metric tons were managed via reverse logistics and 1,909.87 metric tons were recycled.

Our power generation operations do not produce significant volumes of waste other than in one-off construction, maintenance or operation activities.

Our distribution systems also produce minimal waste. Hazardous waste is generated occasionally, primarily from minor leakage of insulating oil from transformers. Light's



substations have environmental control systems such as bonding and water-oil separators.

Hazardous waste materials are managed under a contract with a licensed contractor that ensures materials are disposed of compliantly. Within 90 days of delivering materials, Light requests a Disposal Certificate from the contractor to demonstrate that waste materials have been compliantly disposed of.

Waste disposal data is collected and monitored via the State Environmental Authority's (INEA) Waste Transportation Manifest System. Waste materials generated at Light facilities are documented in a system that records the type of waste, the storage method, and information on transportation and treatment.

Light's waste management practices can be summarized as follows:

- Contracts with licensed contractors to dispose of hazardous waste and tree trimming waste
- Waste record-keeping in the INEA Waste Transportation Manifest System
- Contractors required under contract to issue Waste Disposal Certificates
- Employee engagement and awareness raising about compliant disposal of waste materials generated at Light
- Preventive substation maintenance
- Environmental impact assessments to identify and mitigate environmental liabilities, including preliminary geoenvironmental assessments, confirmation and detailed assessments, risk assessments, and mitigation plans.

### WASTE REDUCTION PROGRAM

In 2021, waste reduction at Light's office buildings was included as a key performance indicator in the CEO's ESG Target Card.

After setting a target measured in terms of waste skip tonnage, Light identified the sites providing waste logistics and storage services and developed an action plan. All activities were agreed and coordinated with the contractor responsible for collecting and transporting organic waste, construction waste, recyclable materials and non-recyclable materials from waste bins and skips to waste management centers.

Waste materials are removed from Monday to Friday, and volumes are tracked by Light and the contractor on the basis of collection work orders delivered to the contract manager.

Waste manifests issued on the INEA website are sent to the contractor, which issues month-end reports with complete information, including the number of waste skips removed and waste volumes collected.

Concurrently, the Light Recycling team reports the quantities of recyclable materials collected at the company's facilities.

Supporting our waste reduction target in 2021, we implemented a range of initiatives to raise awareness about waste management and recycling, including:

- Communications on proper disposal of recyclable materials such as cardboard, mixed paper and white paper, which are sent to our Light Recycling program

- Training delivered to the Sodexo team on proper waste disposal at the Cascadura, Nova Iguaçu, Frei Caneca and Marechal sites
- Internal memorandums delivered to administrative and operational teams on compliant waste disposal
- Communications on minimizing the use of disposable cups, properly disposing of waste materials, waste segregation, and other topics,

In 2021 these initiatives resulted in a 3,237.63 metric-ton reduction in waste materials collected, and a 22% increase in waste materials sent for recycling.

### WATER CONSUMPTION [GRI 303-5]

Light's operations—including five hydroelectric complexes, 37 service offices, 40 different departments, and 108 substations—receive water supply from utilities such as Cedae, Zona Oeste Mais Saneamento, SAAETRI, SAAE, Águas do Imperador, SAEE Barra Mansa, thw City of Quatis, the City of Carmo, Águas do Rio and Iguá Saneamento, as well as in tank trucks. Water consumption is monitored on a daily basis to identify any losses or deviations.

Water usage fees are paid on the basis of either metered consumption or estimated consumption. Metered consumption is used where water meters are available. Light is charged a 1:1 match fee for sewage collection, i.e. we are charged for one cubic meter of sewage for every cubic meter of water we consume.



Where consumption is unmetered, a flow restrictor is used to limit consumption. Fees are charged on the basis of built-up area and number of water consumption points.

Light has implemented water savings measures such as replacing sanitary fixtures like aerators and flow control devices on taps and toilet flushes; better control of cistern inlets; purchasing water from tank trucks to reduce costs; and awareness raising campaigns.

We have also removed water supply connections at unmanned substations and other sites, instead supplying water in tank trucks to avoid moving to the second consumption range.

Light does not discharge wastewater into water bodies. All sewage is collected by sewer systems operated by the water utilities in each city where we operate.

### WATER REUSE

Light's headquarters building has a rainwater harvesting system that filters debris out of the rainwater before sending it to a large storage cistern, from which the filtered water is pumped to eight water tanks.

This site also has four cooling chillers serving eight buildings. The machinery is supplied with potable water which in the cooling process is evaporated, eliminating 100% of the water consumed without generating wastewater.

No harvested rainwater is used in Light's production process.

### **ENVIRONMENTAL INVESTMENTS**

In 2021 we invested R\$ 120.85 million in maintenance and safety; environmental education and projects; environmental licensing and compliance; Environmental Management System (EMS) implementation and maintenance; reforestation and slope stabilization; aquatic plant removal; and research and development (R&D)<sup>8</sup>.

Light SESA's environmental investments went toward improvements for environmental compliance at the Pavuna, Mackenzie, Meriti and São João substations, and at the Cascadura oil depot. In addition, in 2021 we funded environmental studies, audits for certification to ISO 14001, and assessments on compliant effluent discharge and waste disposal.

Also in 2021, Light implemented a sensor system at the Santo Antonio Substation that can detect insulating oil leaks from transformers and shut down the pumping system, an innovative solution that helped the site to secure its operation license.

At Light Energia, environmental investments in 2021 went primarily to maintenance and safety activities, including the Ilha dos Pombos spillway repairs and construction of the bypass tunnel at the Lajes Complex.

### **ENVIRONMENTAL IMPACTS ON THE SUPPLY CHAIN**

In 2021 we implemented a pilot project to assess the environmental impacts from our supply chain, including logistics warehouses, distribution centers and distribution system services.

### **2022 COMMITMENTS**

- Ensure our operations are compliant with applicable regulations, and certified
- Reduce water consumption by 7%
- Create performance indicators for our water reuse system
- Install separate water meters for our headquarters building and cooling towers.



<sup>&</sup>lt;sup>8</sup> Our R&D projects are described in detail at http://www.light.com.br/grupo-light/Sustentabilidade/compromisso-com-o-meio-ambiente\_biodiversidade.aspx

## Social and environmental initiatives

### [GRI 203-2, GRI 413-1]

As in 2020, restrictions imposed by government and health agencies during the COVID-19 pandemic prevented us from continuing most in-person activities as part of the Light Cultural Education Program, so we migrated it to a digital environment.

Due to the uncertainties around when in-person activities would resume, Light used the opportunity to remodel the Light Culture Center building—in a project that is already nearing completion—and to redesign the Light Electricity Museum exhibit, which now offers a new visitor experience, updated content and improved accessibility.

Migrating the Light Culture Education Program to a digital format had the effect of expanding participation, given the larger online audience. For this reason, many activities in this format will be maintained even after the pandemic. For example, online Light in Schools courses have made it easier to reach small towns in Rio de Janeiro, where not all students are able to visit the Light Culture Center in person.

Of course, nothing replaces an in-person visit to the Museum and the Light Culture Center, and the thrill of watching the *Quanta Energia* performances live. So we worked to minimize these drawbacks by implementing a number of measures, including:

- Online showing of a play entitled *Quanta Energia* [How much Energy];
- Production of diverse digital content such as the Power Consumption Simulator, the Energy Detectives Game, and a blog with articles on environmental education and efficient energy use;
- Light 360 graus [Light 360 Degrees] showing how energy is generated and distributed to homes;
- Launched a series on the SDG, which includes discussion of the UN 2030 Agenda and the 17 Sustainable Development Goals.

The 2021 Prêmio Light nas Escolas [Light in the Schools Award] is another item worth mentioning, which handed out awards to seven schools and eight teachers.

This award publicly recognizes the joint efforts of schools and teachers, and was reformulated to adjust to the non-faceto-face format. Award recipients were announced during an online event on September 23, 2021 that was widely reported in the media, especially in the cities where the winning schools are located, such as Rio de Janeiro, Duque de Caxias, Nilópolis, Sapucaia, and Pinheiral.



After this each winning school was visited by the Light Cultural Education Program, which delivered the awards and presented the Quanta Energia show in-person to students and the school community.

### **DIGITAL CONTENT PROVIDED**

**Electricity Consumption Simulator Electricity Detective Game** Blog Light 360 Graus ["Light 360 Degrees"] YouTube Playlists Light Culture Center Instagram page Light Culture Center Facebook page SDGs in the Spotlight - 2030 Agenda and the 17 SDGs

### **THEMATIC LINES**

Among the thematic lines for producing digital content for www.museulight.com.br and the @centroculturallight social networking pages (Instagram, Facebook and YouTube), we point out the following:

Environmental education, planet citizenship and 2030 Agenda



2 Electricity and efficient energy use, including renewable and non-renewable sources, consumption, habits, the PROCEL Mark and efficient devices and appliances

3 Self-care and caring for the planet

O'

4 Highlights of the Light collection









### Light in Schools by the numbers

11 courses

200 schools

229 teachers

22,900 people benefited



Stakeholders affected

Light Museum website: 23,591 visits

Instagram, Facebook and YouTube (@centroculturallight): 23,413 followers

### Quanta Energia presented to 2,610

**People** at Museu do Amanhã and the schools that received the Light in Schools award.

### **NEW POLICIES AND SPONSORED PROJECTS**

In 2021, Light management and its board of directors approved a new Sponsorship Policy, which is simpler and more objective, with new strategies that include publishing bid documents to select projects.

Starting in 2022, Light's social investments will go to sponsor social projects that help promote socioenvironmental and economic development in their areas of influence, in particular among those who live or work in low-income areas located within municipalities included in Light's service areas.

Regarding the 2021 challenges, the Covid-19 pandemic continued to impact the process to select sponsorees in the first half of the year, given the measures imposed by city and state health authorities. The only project sponsored, and even then only partially, was the São João Marcos Cultural Education project, where the spaces were conserved and maintained. We also continued to create digital products, providing online content.

Starting in the second half of 2021, increased vaccination and more flexible social isolation rules allowed Light to again sponsor social projects in culture and sports.

In 2021 Light set aside some R\$ 22.2 million for social projects, the majority from tax-deducted funds under the ICMS Culture and Sports Law. The main sponsorships were:

**Educativo Cultural São João Marcos:** this project is part of an ongoing program at the São João Marcos Archaeological and Environmental Park in Rio Claro (RJ), which in 2021 entered its 10<sup>th</sup> year. The project has become an important tool for cultural outreach, preservation of historical and natural heritage and local traditions, entrepreneurship, and providing income opportunities. This is part of the Light Cultural Education Program, replicating the concepts of energy efficiency and conscientious use to people in the interior of the state in an educational, fun, and easy-to-learn manner.

In 2021 the park gradually resumed in-person visits that could be scheduled online, respecting all of the safety protocols regarding the novel coronavirus. It performed test cultural events for 862 visitors.

To take advantage of the progress of vaccination among the elderly and education professionals, the project created the Heritage Education Program that focuses on these audiences. Eight visits to the park were organized for 152 people.

In addition to in-person activities, the project continued to create online education and cultural activities. Twenty-seven items of digital content were produced, including some in Brazilian sign language (Libras), and some with audio descriptions.

Among our education products are Mediated Distance Visits, Capsules of Knowledge, and a Virtual Education Tour for distinctive disclosure in partnership with teaching institutions, benefiting over 12,000 students in 50 schools in the Paraiba River Valley in 2021.

The digital content provided was viewed over 21,000 times during the year.

Circuito Equestre Vale do Café 2021 – Copa LISAH [LISAH Cup Coffee Valley Horseback Circuit: a twostep horseback competition in the municipality of **Miguel Pereira.** This project supports traditional agricultural fairs and helps generate direct and indirect revenue for the region's economy.

Museu do Amanhã [Museum of Tomorrow] – 2021 Annual Activity Plan: the museum is recognized in Brazil and internationally for supporting culture, science, technology and sustainability. Light is a cosponsor, cooperating with infrastructure management and activities in this space for 12 months.

This partnership also enables synergies between the Light Cultural Education Program and the Light Energy Museum. In this regard, we call attention to Children's Day celebrations on October 12, 2021, when *Quanta Energia* was performed in this space every day. In all, 1,538 people watched the 12 shows, always respecting COVID-19 health protocols.

Between September and December 2021, 99,014 people visited this space. There were ten live shows and over 27,000 spectators.

### **Responsible Energy - Summer in the Communities:**

This project focuses on sports and culture, and also encourages responsible energy use. It provides a significant cultural and sports event on weekends in the communities with the best energy consumption. Further details are available in the chapter on Community

**Rio Tennis Classic:** this project consisted of a tennis championship held at the Olympic Tennis Center between December 11 and 19, 2021. It includes 58 players from 11 countries - Brazil, Switzerland, Argentina, Japan, Colombia, Italy, Spain, Bolivia, Russia, the US and Peru, plus 16 Brazilian tennis players. It streamed live to over 20 countries using a closed TV sports channel.

### **Quatis 2021 Social and Cultural Christmas Project:**

a Christmas show open to the public in the municipality of Quatis, with Christmas lights, musical presentations, Christmas Carols, skits, dance presentations, and story-telling.

**Mendes Festival of Lights:** a project that installed Christmas lights in the town of Mendes, and offered a series of artistic and cultural presentations all over town. **19th Piraí Food Festival:** this is an important food festival in Piraí, and is one of the most important events in the region with music, crafts, and training in the culinary sector. In 2021 the event was online, with live transmissions of wellknown chefs working in the Show Kitchen, along with musical presentations on the cultural stage. The live Kitchen Show transmissions and music presentations were watched by 4,700 people.

Furthermore, a food contest gave out awards to local restaurants in the Appetizer, Main Dish, Dessert, and Smallbites categories.

This project trained 21 people in the Piraí Gastronomy Hub, and supported 14 local artisans who were able to show and sell their wares on the project showcase channels, benefiting 50 artisan and music workshops.



## Communication

Light communications has a number of goals, including transparent communication of the Company's initiatives in different areas to engage internal and external stakeholders. For this reason, in 2021 we created new agendas to attract media attention, such as investment in automation and new technologies for power distribution, which improved the quality of the service provided to customers.

Day-to-day media outreach helps to avoid negative coverage and enhance positive coverage of topics that are strategic to Light, such as distribution system investments, operational safety, construction of the bypass tunnel, initiatives to reduce losses and electricity theft, social rates benefiting low-income consumers, digital transformation, negotiation campaigns, and efficient electricity consumption.

Throughout the year, we publicly reiterated our stance of working with law enforcement in Rio de Janeiro to deter electricity theft, which is a crime under article 155 of the Brazilian Penal Code, for which offenders are subject to prison sentences of up to eight years. We also mention that actions to fight non-technical energy losses have received particular attention from the press, in particular *O Globo, Extra, Valor Econômico* and *Canal Energia*.

In 2022 the focus is to continue to disclose information about the new Light and its commitment to sustainable results. The idea is to show how the Company is organizing its activities to fight losses, improve operating performance, and continue to invest in customer service channels across its service area.

### **2022 COMMITMENTS**

Based on its new Sponsorship Policy, Light reinforces its commitment to sustainability and fosters the social development of its service area. For this reason we plan to issue our first public call for social projects.

The Light Cultural Education Program will be renewed with Energy Efficiency Programs and will innovate with items such as reopening a fully modernized Light Energy Museum, implementing the new Light in the schools project, in a hybrid model with teacher training courses. This program should resume in an in-person format shortly.

Finally, the company completed the first step to revitalize its Historical Archives, which in 2022 will include an assessment and valuation of some 600,000 items.





### MISSÃO

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Light

ROVER ENERGIA E SERVICOS COM EXCELENCIA E DE FORMA SUSTEMAVEL CONTRIBUINDO PA SA O BEMIESTAR E O DESENVOLVIMENTO DA SOCIEDADE



# Risk management and compliance

### [GRI 102-11]

Light's Integrated Risk Management System has recently been reformulated based on the 2017 update to the Committee of Sponsoring Organizations of the Treadway Commission's (COSO) Enterprise Risk Management (ERM) framework and ISO 31000:2018 – Risk Management.

The COSO framework for corporate risk management and fraud deterrence has helped us significantly to align our risk management processes with our strategy and our efforts to improve operational efficiency.

Based on these two frameworks—COSO and ISO 31000:2018—Light has developed its own Risk Management Policy, using the risk classification established in ANEEL Resolution 787/2017.







Liquidity risk

**Financial risk** 

### **STRATEGIC RISKS**

Light is exposed to 17 strategic risks, as determined through an assessment of 105 risk factors that have been identified to date. Of those 17 risks, 10 were addressed in 2020 and 7 in 2021. We identified 88 mitigation responses and developed 98 action plans agreed with the relevant departments, in order to improve the risk response of risk owners. In 2022 Light's 17 strategic risks will be revisited and monitored.

Supplementing our Risk Management Policy, Light's **Strategic** Risk Management Standard details the five steps in our integrated risk management process: Identification, Assessment, Management, Monitoring and Communication.

Regulatory risk



Strategic risk



Reputational risk



Social and environmental risk







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Under the standard, Key Risk Indicators (KRIs) are agreed with risk owners and then organized into dashboards to provide a visual snapshot of the extent to which targets and goals are being met.

Compliance and ESG (Environmental, Social and Governance) aspects and issues are considered and addressed across all strategic risks.

Light continued to address and monitor risks throughout 2021, documenting all events with the potential to materialize risks and then implementing measures to mitigate those risks and tracking related indicators.

### **RISK MAPPING AT LIGHT**

- 1<sup>st</sup> Light identifies risk factors as comprehensively as possible based on information published in the Reference Form
- 2<sup>nd</sup> We elicit the views of Light executives on previously identified risks and potential emerging risks
- 3<sup>rd</sup> The list of strategic risks is updated and submitted to the Executive Board and the Board of Directors
- 4<sup>th</sup> Strategic risks are drilled down into corporate risks, which are more detailed and directly related to Light's operations and business processes

### **Practical approach**



### **Identification**

- Identify risks
- Standardize and unify the risk language

### - Classify prioritiz

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### Assessme

- Assess and like

ent	Management	Monitoring	Communication
impacts elihood v and ze risks	<ul> <li>Design risk response plans</li> <li>Create a risk portfolio</li> </ul>	<ul> <li>Build metrics and key risk indicators</li> <li>Follow up on response plans</li> </ul>	<ul> <li>Report results to senior management</li> <li>Provide stakeholders with timely communications</li> </ul>
ticality aps	<ul> <li>Risk inventory and fact sheet</li> </ul>	<ul> <li>Key Risk Indicators (KRIs)</li> <li>Risk dashboards</li> </ul>	<ul> <li>Managerial reports and presentations</li> </ul>

**ESG & Compliance Aspects** 

The priority, strategic risks addressed in 2021 were:

- Reportable Injuries
- Power Quality
- Market Disruption
- Water Shortages
- Environmental Risks
- Information Technology
- Equity Interests and Corporate Issues

### **CORPORATE RISKS**

Light monitors 53 processes in the value chain for corporate risks. Using our current approach, in 2021 we analyzed 17 processes and identified 106 corporate risks: 87 operational, 12 compliance and 7 financial risks. In 2022 we will map out the 21 remaining processes across the value chain, and their related corporate risks and controls. At Light, corporate risks are classified as either Financial, Operational or Compliance risks, regrouping the ANEEL risk list. The risk assessment step involves identifying and quantifying potential impacts on the company, including legal and regulatory penalties, financial and operational impacts, and reputational damage.

The likelihood of the risk is also assessed based on the prior history and frequency of the risk materializing. Risk criticality is then determined as the combination of the likelihood and the magnitude of impacts.

### **CORPORATE RISK ASSESSMENT**

### **RISK ASSESSMENT**



IMPACT Financial Compliance Operational Reputational



LIKELIHOOD Possibility of occurrence Historical frequency



**INHERENT RISK** Risk without accounting for mitigation measures in place



**VULNERABILITY** Determined through an assessment of the sufficiency of mitigation measures

### **Risk criticality levels**

48

### **RISK CLASSIFICATION**



### **FINANCIAL**

Events which could affect our liquidity and/or undermine our capital structure



**RESIDUAL RISK** Residual risk after response and control measures





### **OPERATIONAL**

Unexpected events while executing processes or activities, such as human error and equipment and/or system failure

### COMPLIANCE

Events related to legal, regulatory or institutional matters

### **INTERNAL CONTROLS AND RISK MANAGEMENT SOFTWARE**

To further improve risk management processes and internal controls, in 2021 Light began implementation of a Risk Management and Internal Controls software system, which we expect to complete within the first half of 2022. This system automates the different tasks involved in assessing, managing, monitoring and communicating strategic and corporate risks, supporting improved integration and more effective communication between risk management functions and other business functions at Light.

### **COMPLIANCE AT LIGHT**

In April 2021 we published a **Compliance Handbook** to help ensure our executives, direct employees, contractors and business partners comply with anti-corruption regulations, act impartially, and understand the Company's internal standards and policies.

Throughout 2021, the Compliance & Forensics department implemented improvements to the integrity assessment process for business partners. The methodology was reformulated and suppliers are now assessed on eight criteria:

- Ownership structure
- Industry
- Background
- Negative media
- Dealings with government officials and conflicts of interest
- Integrity program maturity
- Maturity of controls over dealings with third parties
- Perceived compliance risk

We also implemented measures addressing those functions that are most exposed to interactions with government officials. This included controls and training for 86 employees regularly interacting with government officials.

We continued to screen suppliers against the National Register of Compliant and Block-listed Companies (CEIS), the National Company Block List (CNEP) and the Block-Listed Private Nonprofit Organizations List (CEPIM). This helps to identify potential violations committed by suppliers that have active contracts with Light.





In 2021 we also continued to identify and monitor employees meeting the definition of politically exposed persons, in order to mitigate any risk of corruption or conflicts of interests in their work relationships.

To support greater compliance with Brazil's newly enacted General Data Protection Regulation (BR GDPR), throughout the year took important actions as part of our Data Privacy Program. Our primary fronts of action in 2021 are listed below:

### Communication

Actions to ensure all employees are familiar with our Data Privacy Program and follow its basic principles. Communications topics included our policy on handling personal data, privacy officers, penalties under the BR GDPR, changes introduced at Light for compliance with the BR GDPR, and precautions to prevent personal data breaches.

### - Training

In October 2021 we provided training on the Light Privacy Journey. A total of 381 employees have been trained so far, including 174 managers.

### - Reporting to senior management

On a monthly basis the Data Privacy Program reports to senior management via the Ethics, Audit & Privacy Committee, which advises on governance and privacy matters and makes decisions on critical measures.

### - Dealing with data subjects

People who interact with Light—including customers, former customers, employees, former employees, visitors to the Light Museum, and contractors—may request confirmation of, access to, and correction or deletion of personal data stored in our databases, via the Data Privacy section of our website. To do so, data subjects complete a Personal Data Subject Request Form and wait 15 days to receive a response, as set out in the BR GDPR.

### - Program Standards

in 2021 we developed and disseminated a set of standards to support implementation of our Data Privacy Program and communicate the related guidelines to employees and contractors. These included: Instructions on Responding to Privacy Breaches, Developing Data Protection Impact Reports, and Record Keeping on Personal Data Processing.

### - Business partner risk assessments

The goal in these privacy risk assessments is to determine whether business partners providing services to Light are adequately protecting, processing and securing the personal information and data of our customers and employees. The assessment is performed using a General Data Protection Regulation Compliance Form.





# Ethical conduct

[GRI 102-16, GRI 102-17, GRI 103-2]

Light's relationships with stakeholders are governed by our Code of Ethics and Business Conduct. The Code outlines and formalizes the rights and duties that we observe in our relationships with governments, society, customers, shareholders, directors, employees, contractors, suppliers, unions, trade associations and other stakeholders.

The Light Code of Ethics & Business Conduct was built around our organizational ethos, which is underpinned by ethics, truth and transparency, but also drew important elements from our Compliance Program and inputs from the Ethics Committee. Concerns raised via our whistleblowing channels provide further inputs that help to keep the Code of Ethics up to date and aligned with Light's ethics culture.

To ensure Light's employees are at all times engaged around implementing the Light Code of Ethics & Business Conduct, in 2021 we: [GRI 205-2, GRI 412-2]

- Issued communications about workplace harassment, our whistleblowing hotline, ethics in dealing with business partners and accepting gifts
- Ran a campaign to encourage employees to use our corporate hotline to report concerns
- Trained 54 department heads, managers and coordinators, and 104 other employees, about the Brazilian Anti-Bribery Act
- Provided online courses including titles such as "Our Ethics", "The Ethical Way of Doing Things," "4 Minutes of Ethics" and "Anti-Corruption", delivering a total of 146 hours of training to 246 employees throughout the year
- Presented the key guidelines in our Code of Ethics & Business Conduct to a total of 231 new hires



## () Light

### **INVESTIGATING WHISTLEBLOWING REPORTS**

[GRI 205-3, GRI 406-1]

All reports about suspected misconduct are investigated. The results of the investigation are categorized as either "Substantiated" or "Not substantiated", and by origin and by type, to provide an overview of those areas with the greatest exposure to compliance risks. Appropriate action was taken for all substantiated reports in 2021. None of the reports received in the year were related to substantiated cases of corruption or discrimination.

### LIGHT ETHICS GUIDELINES

### **CODE OF ETHICS AND BUSINESS CONDUCT**

- Aligned with our mission, vision, values and organizational principles
- Incorporates aspects of Brazil's Anti-bribery Act
- Addresses matters related to conflicts of interest
- Supports our commitment to sustainable development and to our workforce by acting against any form of prejudice or discrimination



### **REPORTS RECEIVED AND INVESTIGATED IN 2021**

### **ETHICS COMMITTEE**

- Advises on decisions related to violations of our Code of Ethics & Business Conduct
- Receives and responds to questions about the interpretation of and situations not covered by our Code of Ethics & Business Conduct
- Ensures our Code of Ethics is kept current and relevant
- Addresses situations not covered by our Code of Ethics
- Suggests actions to disseminate and foster Light's ethics culture

### **ETHICS, AUDIT & PRIVACY COMMITTEE**

- Decides on all matters submitted to it by the Ethics Committee
- Decides on disciplinary action and penalties for violations reported by the Ethics Committee

### **A NEW ETHICS COMMITTEE** STRUCTURE

Light's Ethics Committee governance structure now has two levels. The first—department heads and managers—addresses day-to-day matters and acts in a consulting capacity with respect to matters submitted for consideration. The second—the CEO and executive officers—makes final decisions on cases and decides on actions to address them. This structure enhances independence and governance in decision-making.

### **REPORTING CHANNELS**

Available to employees, business partners, suppliers, customers and the general public

- Phone 0800 777 0783;
- Website canaldedenuncias.light.com.br;
- Mailbox 521 CEP: 06.320-971.

Our reporting channels provide a secure, confidential and, optionally, anonymous reporting service. Each report (except when submitted by snail mail) is assigned a number that can be used to track its progress through the report handling process. All reports are addressed by investigations that are managed end-to-end by the Audit, Risk & Compliance department. Depending on the subject matter, reports may be referred to the Ethics Committee. Reporting channels are managed by an independent, world-leading firm.

### **ACTION TAKEN IN RESPONSE TO ANY VIOLATIONS OF OUR CODE OF ETHICS & BUSINESS CONDUCT**

### **Company employees**

- The report is received by the Audit, Risk & Compliance department and—unless it is off-scope or contains insufficient data—the report is investigated and the findings are submitted to the Ethics Committee for review and a decision.
- Both levels of the Ethics Committee review the report and the findings from the investigation, and decide on action to be taken.
- Based on the Ethics Committee's opinion, disciplinary action may be taken, including a warning, suspension or termination, for or without cause.

### Contractors

- Reports of misconduct involving contractor employees are addressed in a similar manner to reports involving direct employees.
- In these cases, the Ethics Committee's decision is shared with the contractor.
- Disciplinary action may include removal of the employee involved from the team providing services to Light or acceptance of disciplinary action suggested by the company.

In 2021 we revised and disseminated to all employees our standards on handling reports on misconduct.

Partner integrity assessments: the process was updated and reformulated to mitigate the risk of misconduct, corruption and conflicts of interest.



# Our management model – a cornerstone underpinning performance

## Our team

At Light we recognize the important role our employees and contractors play in driving business success and sustainability. That is why we implement programs and initiatives to recognize our workforce and retain the top talents in the market.

### **WORKFORCE PROFILE**







## Light Management Model

Light aspires to be the no. 1 electric utility company in Brazil. This is the Future Light we want to be: a strong, lean company that delivers tangible results, has a robust culture, is customer-centric, and innovates to create value for stakeholders.

The Light Management Model fosters a high-performance culture in which people are aligned with the business and rewarded for achieving goals with method, discipline and a focus on results. Process excellence is a key competitive differentiator that allows Light to respond proactively to change in order to deliver positive results for the benefit of stakeholders around us.

Recognizing this, in 2021 we implemented a **Management Excellence Program** (PEG) with three major fronts that aim to ensure results are not only achieved but are sustainable:

- Management by guidelines, which cascades the CEO's business goals across the team, ensuring employees understand how what they do helps the company to achieve its overall goals. Each employee owns their own targets, and is aware of their individual contribution to overall performance. This is a **management strategy** designed to develop processes that improve results, creating a positive change in Light's organizational culture.
- An efficient structure that maps out or models optimal approaches to working, enhancing team management and efficiency.
- Matrix expense management to optimize our use of financial resources. This helps us to identify opportunities to contain and eliminate unnecessary costs while encouraging

a sense of ownership in our employees, helping to build a more efficient and prosperous company.

Also in 2021, we launched our journey to implement Routine Management (GERROT) at Light with a kickoff meeting in which the entire leadership team worked together to develop business descriptions of all departments in the organization. GERROT, like our Management by Guidelines Program (PGD), is one of the core pillars of the Light Management Model. This method helps employees to sustain optimal results in the processes they are responsible for. Some of the key benefits of this approach include:

- Sustained results
- Guidance for routine activities
- Individual understanding of responsibilities
- Optimized standardization
- Better troubleshooting to fix process issues
- Improved quality and lower costs

In this transformation journey, we aim to create value by designing new physical spaces, systems and processes, while still valuing what we have achieved in our 116 years of history as a company.

Each year we have developed greater maturity, but we recognize we need to continue to evolve so that by year-end 2026 we have attained excellence in our approach to workforce management. An example of our progress so far is our Diversity, Equity & Inclusion Program, which is aligned with good ESG practices and the Sustainable Development Goals (SDGs).

### **ORGANIZATIONAL ETHOS**

[GRI 102-16]

### Mission

To supply high-quality electricity and services in a sustainable manner, contributing to the well-being and development of society.

### Vision

To be the industry's leading electric utility, recognized for delivering superior returns, efficient management and quality of service.



## Diversity, Equity & Inclusion Program

In 2021 Light developed a Diversity, Equity & Inclusion Program (EMPODERA) that uses a structured approach to creating a more diversified and inclusive workplace environment. Diversity and inclusion have a strategic importance for the Company and are included in our CEO's Target Card<sup>9</sup>, which is translated into individual targets for our Chief HR and Corporate Management Officer and our Head of People and Culture. The Program works toward multi-annual targets to achieve incremental maturity over the next four years.

The EMPODERA Program is currently focused on five priority diversity groups: Gender, Race, People with Disabilities, Sexual Orientation and Generational Diversity. Through the Program, Light aims to:

- **1.** Promoting gender equity through affirmative action to retain women in our workforce and increase the number of women in management and operational positions.
- **2.** Improving accessibility for people with disabilities through work plans and position and process maps, as well as strategies to raise awareness among our Leadership team
- **3.** Building a cross-generational workforce through strategies to provide equal opportunity and attract and develop

employees aged 60 and over

- 4. Providing equal opportunity through actions to attract, develop, retain and promote people who self-identify as black or mixed-race
- 5. Providing equal opportunity and fair treatment for LGBTQIA+ people, addressing any gaps and implementing affirmative action to build an inclusive culture within the organization

In addition to these priority groups, the EMPODERA program also pursues a variety of other strategies around Diversity, Equity & Inclusion. These include:

Inclusive mindset: engaging employees around developing an inclusive mindset

**Retention**: building more diverse demographics within Light through initiatives to improve retention of people with varied profiles

**Networking**: expanding affinity groups to connect members of internal and external committees so they can network with and learn from each other

**Recruiting:** identifying innovative recruiting sources and implementing good practices to attract diverse profiles



**Career progression**: offering all employees equal opportunity and support for career progression In 2021, the first year of the program, our goal was to implement the program effectively with a focus on Gender Equity—increasing the number of women in leadership and operational positions.

To foster an inclusive mindset, we provided 711 hours of training to 4.4% of our employees on diversity, equity and inclusion, including:

- Four workshops with all executives—including our CEO, executive officers and department heads—providing a deep dive into diversity, equity and inclusion trends and raising discussion about the importance of these issues
- Six workshops for middle managers to raise awareness about unconscious bias and develop inclusion competencies so our leadership team is equipped to work in multicultural and diverse workplace environments
- An EMPODERA training pathway to build the skills and mindsets needed to perform day-to-day tasks and engage around the Company's purpose; This training pathway is available on our digital Light Academy platform

<sup>&</sup>lt;sup>9</sup> In 2021 Light created target cards for the CEO and down to the team. One of these cards contains a set of ESG targets, including diversity, equity and inclusion. We currently have a total of 376 cards, with approximately 1,800 individual indicators.

## Organizational Development

Implementation of our Light Management Model in 2021 was followed by a series of training activities for our leadership team and other employees. We also developed a training pathway for field technicians and crew supervisors to improve quality and safety in fieldwork.

In addition, we provided regulatory and operational training to partner companies in the commercial segment, delivered at our own Training Centers by company instructors. This will improve the quality of field services provided by Light crews.

Training categories include:

- Statutory: mandatory training on regulatory standards (NRs);
- **Operational:** technical training on specific field tasks;
- Skill-specific: training to develop specific skills.

In all, Light provided 285 training courses that delivered 114,458 hours of training to 4,074 employees. Contractors were provided with in-person and online training on the Light Academy portal about commercial processes and safety—a total of 206,331 hours of training provided to 6,515 people.

### PERFORMANCE MANAGEMENT AT LIGHT [GRI 404-3]

Performance assessments at Light will be integral to our Management by Competencies approach. As part of this, our Performance by Competencies Assessment model will be redesigned and newly implemented in 2022. The Performance Management process also includes career and succession assessments and planning, a process that is currently being scoped out.

### **KNOWLEDGE MANAGEMENT** [GRI 404-2, GRI EU14]

In knowledge management, Light works to keep employees up to date and aligned with trends in the power sector, with a focus on safety and operational excellence. Our internal technical instructors develop and update procedures, instructions and handouts.

In addition to online and in-person training, we promoted knowledge retention:

**Front 1** – Training for contractors, designed to ensure technical knowledge is standardized across direct and outsourced employees

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**Front 2** – Through the Light Facilitator Program, a group of technical professionals that support us in developing operational training strategies that allow the Light Academy to choose the method best suited for training field crews.

In 2021, Light also provided online training development pathways for onboarding employees and members of the leadership team. All new employees are required to attend three mandatory training pathways:

"Our Energy" Bronze Pathway: core knowledge and skills aligned with Light's needs and culture, including titles such as "Ethics", "Diversity: why it matters", "Results orientation" and "Life Program";

"Our Energy" Silver Pathway: develops skills in information management, performance, results and compliance, in line with Light's training needs, including titles such as "Telecommuting: how to stay productive and manage your time", "4 Minutes of High Performance" and "Knowledge: a competitive differentiator;

"Our Energy" Gold Pathway: equips employees with the knowledge and skills they need to deliver business results, while strengthening our culture and driving innovation; training titles include "*Results-oriented innovation*" and "A change culture".

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### **2022 COMMITMENTS**

**Corporate University** – Repositioning Light Academy—our training and development function—as a Corporate University. This will be a strategic framework program that centralizes our development activities for employees and other stakeholders, such as customers, suppliers and business partners. The knowledge participants acquire can then be applied effectively to meet organizational objectives. The Corporate University will be organized as a group of five schools, each specializing in subject matter-specific content and expertise: "Our Energy" School; Technical & Operational School; Health & Safety School; Sustainability & Partner Development School; and Leadership & Management School.

**Leadership Development** – Building and delivering the first Leadership Development Pathway activities.

**Internship Program** – Creating new opportunities for including young talents who realigned with Light's strategic objectives.

**Development, Career & Remuneration Plan** –Training employees on Light's culture and strategies to support employee development and career progression, and on remuneration and consequence management. The plan also addresses the concept of "emotional salary" as a strategy for improving quality of life and creating positive impact on the business, including increased engagement, commitment and productivity. **Succession Planning** – Identifying and mapping out development initiatives for potential successors to leadership positions that are crucial to the sustainability of the business.

**Performance Management** – Implementing an Assessment by Competencies model for employees in leadership and management positions.

**Routine Management (GERROT)** – Continued implementation of GERROT, including the development of department-specific critical process flow diagrams showing each critical task, for which Standard Operational Procedures are then developed. This standardizes execution of activities and supports continuous learning within the organization.



## Relationships with business partners: suppliers and contractors

### [GRI 102-9]

Light works to build relationships of partnership with all suppliers, supporting ethics, transparency and the sustainable growth of all players in the power sector. To achieve this we have implemented a set of key practices in managing our suppliers. As a first step, suppliers are classified based on the criticality of the products and services they provide, enabling better decision-making.

Critical material and equipment suppliers are those supplying products required for our core business activities, including electrical conductors, transformers and metering equipment.

Critical service suppliers are defined as those providing services such as expansion, maintenance, emergency response, connections, power recovery and meter readings.

Critical corporate services include IT services and equipment, facilities maintenance, fleets, health insurance, logistics operators and legal services.

In generation, critical suppliers are those engaged in dam construction, repairs and maintenance.

### **SUPPLIER SUSTAINABILITY**

Before suppliers are onboarded, they are required to accept the terms of our Code of Ethics & Business Conduct and Social Responsibility Agreement, which prohibits any form of discrimination, slave or forced labor, child labor, occupational health and safety risks, or harm to the environment. This ensures that our suppliers are compliant with requirements on human rights, labor practices and reducing impacts on society, including environmental impacts. [GRI 308-1, GRI 408-1, GRI 409-1, GRI 414-1]

When suppliers are onboarded, their contracts contain provisions clearly stating the requirement that they observe the Group's corporate principles and rules on social and environmental responsibility and health and safety.

We have a well-established Supplier Qualification System (SQF). During the COVID-19 pandemic, we closely monitored the financial health of our critical suppliers and found that, despite the economic crisis, they were not at a significant financial risk Those found to be at risk are being monitored by our Supplier Qualification Committee. At year-end, 86.7% of our portfolio of critical contracts had been assessed for risks, helping to ensure the sustainability of our wider supply chain.



Throughout the year, Light also implemented efforts to expand our supplier base and thus ensure more competitive bidding.

In addition, we continued our Supplier Assessment Program, in which contract managers and related departments assess supplier performance on criteria such as compliance in performing contract services, results, schedule performance, occupational safety management, quality of materials, and other performance metrics.

Supplier Assessments help to engage contract managers and suppliers in working toward targets aligned with our operational strategy, ensuring that business partners are fully aligned with the Company's purpose. Throughout the year we held meetings to discuss any underperforming indicators (< or = 6.9) in quarterly assessments.

In addition, in 2021 we began to assess suppliers using ESG Maturity Ratings, as part of our efforts to ensure we do business with companies that incorporate good ESG practices in their management approach. In a two-step assessment process, 61% of our suppliers responded to an assessment questionnaire they received from Light. Their responses were fed into two ratings: an individual rating and an average rating, which this year stood at 9.2. Participating suppliers receive feedback with their final rating and a handbook of good practices to address any identified gaps.

Alongside our supplier assessments on ESG aspects, Light also tracks indicators related to worker health and safety.

### **PARTNER EXCELLENCE PROGRAM**

In 2021, Light structured a four-year Supplier Development Program beginning in the first quarter of 2022. The program will recognize suppliers that demonstrate outstanding Health & Safety, Administrative & Financial, Technical & Operational and People Management performance, as a way to promote best management practices aligned with the Company's technical, operational and ethics standards.

The program was developed based on market benchmarking, internal surveys, risk assessments and a set of indicators to measure alignment with Light's strategy.

As part of the program, Light will create a committee to address related matters and conduct audits in the field, helping to strengthen synergy between our different departments and partner companies, and increase manager engagement. Also in 2021, Light introduced a Social Media Best Practice Guide across the Group, emphasizing the critical importance of Ethics to the sustainability of the business.

### **MATERIAL AND SERVICE QUALITY**

To ensure that materials and services meet our requirements, we have procedures that include:

- Supplier proposal reviews and technical validation by the requesting department during the procurement process
- Material receipt or job inspections on a sampling basis, in which suppliers are notified of any nonconformities with specified requirements
- Monthly assessments of compliance with labor and tax obligations
- Social and environmental guestionnaires

In addition to technical qualification, material and equipment suppliers must submit their products for testing, including field testing when necessary, against Light's standards and Brazilian regulatory standards (NBR). The testing process, which is overseen by the Quality team, should preferably be completed before initiating commercial discussions. Contracts with service companies include, among other provisions, requirements on minimum hours of training depending on the task. Supplier employees are only allowed on Light's premises if they demonstrate that they have the minimum required technical training.

### **AUDITS**

In 2021 a total of 154 contractors provided services to Light across different activities linked to our operations: disconnections, re-connections, maintenance, construction, customer service, facilities<sup>10</sup>, security and IT.

During the year we performed audits on strategically selected companies in four-monthly cycles, conducting a total of three audits throughout 2021. In addition to these practices, our supplier database is purged on a quarterly basis to address inconsistencies such as active contractors for completed work, duplicate records, inconsistencies in employee lists, and other issues.

### **DIALOG WITH BUSINESS PARTNERS**

Light has an Ombudsman and two functions dedicated to engaging with suppliers and contractors to identify their needs and expectations. One of these functions, within the Procurement department, handles the pre-contractual stage and contract management for materials and services suppliers that do not provide outsourced workers; the other function, linked to the HR department, manages suppliers providing outsourced workers registered in the Company's corporate system.

<sup>&</sup>lt;sup>10</sup> The term "facilities" is currently being used to refer to the department managing outsourced services.

### **A COMMITMENT TO OUR SUPPLIERS**

Light has a formal policy on identifying hazards and managing occupational health and safety risks, covering all employees and outsourced workers. All contractors are required by contract to closely adhere our Basic Health and Safety Guidelines, and we assess compliance with these guidelines through periodic occupational safety audits and inspections.

### LABOR AND HUMAN RIGHTS PRACTICES

To ensure compliance with good labor practices and respect for human rights, Light conducts on-site audits of employee documentation at our contractors and provides whistleblowing channels to report any misconduct. The Quality department uses a dedicated checklist for contractor inspections. These topics are also addressed in monthly and annual supplier meetings.

All supplier contracts include clauses requiring suppliers to provide nutrition (as required by Brazil's Workers' Nutrition Program), Christmas bonuses or hampers, and transportation tickets.

Services and materials suppliers are subject to a different set of inspection requirements, but which include compliance with labor, environmental protection and human rights obligations stipulated in their contracts.

Services providers undergo regular audits by independent auditors if they have workers working on Light's premises. For materials suppliers, performance is assessed on the basis of

whether the equipment they supply meets Light's specifications and standards.

Security-related activities are entirely outsourced. Light requires a complete training program, including training on the principles of human rights as set out in our Code of Ethics. All security personnel attend mandatory, 45-minute training sessions on human rights and diversity. They also receive training on a proprietary online platform called Universidade Prosegur, and are issued certificates when they have completed training. [GRI 410-1]

Through the wide range of workforce and supplier selection practices described above, 100% of Light's operations are assessed on human rights impacts. However, we do not conduct specific assessments on human rights. [GRI 412-1]

Light also has practices designed to improve capacity building for outsourced workers, health and safety conditions, Light's reputation, and the quality of service we provide to customers. These practices include:

- **Contractor fleets:** monitoring and inspecting contractor fleets to assess their working condition, length of use, and safety;
- Outsourced workers: ensuring all outsourced workers have the qualifications, skills and training required by applicable regulations for their field tasks, and that all workers registered in our Corporate System have badges with employee numbers readily visible to customers. In addition, we monitor the operational and regulatory training provided by our suppliers to ensure their

employees are equipped to perform their tasks, as well as monitoring the expiry dates of workers' occupational health certificates;

- Warehouses: we perform monthly inspections on warehouses managed by contractors to assess storage conditions and whether the facilities are compliant with Light's safety standards;
- Accommodations: we conduct monthly inspections on workers' accommodations to assure they offer adequate health and hygiene additions.

### **2022 COMMITMENTS**

- Continue our supplier development and training process for core materials and services suppliers, ensuring they are aligned with Light's values.
- Implement our Partner Excellence Program.

# Health and safety

[GRI 403-3, GRI EU21]

Light provides an essential service that cannot be interrupted. Because of this, the COVID-19 pandemic remained one of our biggest challenges throughout 2021. Our field crews continued to perform their tasks as usual throughout the pandemic. In November, our administrative employees returned to on-site work, but under enhanced oversight.

The timing of employees' return to work was determined by the high vaccination rate. By then, almost 66% of people in Rio de Janeiro had been vaccinated, and new cases and hospitalizations for severe illness were declining<sup>11</sup>.

Employees gradually returned to work depending on their vaccination status, age, and whether they were in the at-risk group. We organized the return to work in three waves, with the first two waves further subdivided into two groups each. The employees included in each wave were determined on the basis of whether they were fully vaccinated based on Rio de Janeiro's vaccination calendar. This was to ensure the health and safety of all employees returning to work.

### **SAFETY CULTURE** [GRI 403-7]

Light's Vida Program, which since 2012 has helped to foster a safety culture and safety mindsets, is an ongoing journey as part of a major action plan. In 2021, amid the lingering coronavirus pandemic, we intensified our efforts to keep our operations and people safe. This included the following awareness, training and process improvement initiatives:

- Individual Recognition Campaign: 387 employees in our workforce were recognized for demonstrating outstanding safety practices.
- Vida Safety Meetings (DAV): weekly, live-streamed safety meetings about accident prevention measures at the workplace, whether at the Company or at home, and the impacts from the pandemic and COVID-19 safety.



<sup>11</sup> The Omicron variant emerged in November 2021 but its effects were only felt in January 2022, and therefore not within the reporting period. The safety measures implemented for this new wave will be described in our next report.

- **Restructured Safety Alert Discussions**: the methodology was upgraded to a digital format so the program is accessible to employees. Field crews and instructors participated in facilitating the discussions. Through this initiative, we provided 18 safety alerts about prevention, incidents and safe behavior in the field.



### **COVID-19 RESPONSE**

In 2021 we maintained and enhanced the COVID-19 response measures as part of our VIDA Program to protect the safety of our workforce. Employees with suspected or confirmed COVID-19 received advice and support from our health team, helping them to take care of both their physical and their mental health.

The COVID-19 prevention protocols introduced in 2020 were maintained throughout 2021, in line with the recommendations issued by the World Health Organization (WHO) and the Brazilian Ministry of Health.

Employees in the at-risk group—including pregnant women and people who are over 60 years old, have chronic respiratory illnesses, are immunocompromised, or have hypertension, diabetes or other illnesses creating an added risk for COVID-19—were placed on leave from the workplace until case numbers, hospitalizations and deaths declined in Rio de Janeiro and wider Brazil. The criteria for determining the at-risk group were amended in the second half of the year.

### **COVID-19** safety measures:

- All entrances to our premises were equipped with digital thermometers for temperature screening
- Employees with a body temperature higher than 37.5°C were barred from entering the premises and referred immediately to the health team for monitoring
- Employees were issued masks, and mask wearing was enforced throughout the work shift
- 70% alcohol gel was provided for hand cleansing, and cleaning products to disinfect workstations and vehicles
- Employees in certain positions were instructed to telecommute until case numbers declined and vaccination rates increased at Light





## Other measures as part of our COVID-19 response

- **COVID-19 Crisis Committee:** this committee was created by the Executive Board in March 2020 and maintained in 2021, comprising members in different departments and positions. The primary purpose of the committee is to implement containment measures, monitor pandemic developments and support and provide inputs into decisions on prevention strategies and the emergency response.
- Visual communication, signage and markings: to help raise employee awareness, we distributed posters with information about occupational and COVID-19 safety, and provided social distancing signage and floor markings.
- **Early vaccination campaign:** Light's annual H1N1 vaccination campaign, which is typically in May, was brought forward to April, vaccinating 3,218 employees.
- Minimum exposure arrangements: to help protect employees who continued to work on site, such as our field crews and operation center personnel, we optimized task routines and implemented measures such as staggering mealtimes, work shifts and arrivals to work.

- Suspension of in-person meetings: in-person meetings were allowed only for urgent, selected matters, and provided they were held in open environments with people socially distanced and wearing masks or face shields. Other meetings were held using Light-approved digital platforms.
- Safety measures cascaded to contractors: contractor managers were instructed in remote meetings and workshops about the need for effective COVID-19 prevention measures.
- Business travel suspended: all business travel by executives and technical staff was canceled. Exceptions were discussed case by case at different governance levels.
- Adapted training formats: Light gradually resumed inperson training, but with measures in place to protect employee health. On top of measures such as mask wearing, distributing alcohol gel, and enhanced cleaning and ventilation, we limited the number of students per class to maintain social distancing.

- Room and equipment cleaning: We engaged a specialized company to periodically disinfect the rooms and equipment at five regional centers and all distribution, transmission and generation operations centers, where employees needed to work on-site.
- Ongoing support from our Occupational Health **department:** our occupational health team provided support to, monitored, and requested RT-PCR tests to confirm or rule out infection for all suspected cases or close contacts. This allowed us to better assess employees' health status and ensure a safe return to in-person work.

### **OCCUPATIONAL SAFETY MANAGEMENT** [GRI 403-1]

The following sections describe how we manage occupational safety at our facilities.

### HAZARD IDENTIFICATION AND RISK ASSESSMENT [GRI 403-2]

In 2021 we developed and implemented a Risk Management Program (PGR) at our Occupational Safety department. This involved an assessment to define the methodology best suited to the Company, formalizing this methodology, preparing a Hazard & Risk Inventory, and developing an occupational risk management process.

Approaches to assessing and identifying risks are designed by Light employees who have the expertise and independence to use their judgment in selecting methods that are best suited for the Company's needs. This is done using department-specific preliminary risk analysis forms.

This is followed by a thorough review of the information to identify hazards in each task and the risks they pose to workers. Administrative, engineering and technological collective and personal protection measures are then recommended, using the layered<sup>12</sup> and hierarchical approach. Light also draws guidance from NBR ISO 31010. Risk assessment results support continuous improvement of our occupational safety processes.

## INVESTIGATING WORKPLACE INCIDENTS AND RECOMMENDING CORRECTIVE ACTION

At Light, all incidents, whether involving injuries or only property damage (near misses) are investigated and assessed by a committee composed of the manager in charge of the site where the employee is based, members of the Occupational Safety team, the parties involved, their direct supervisors, and members of the Internal Accident Prevention Committee (CIPA), where applicable. We have a procedure governing the entire accident investigation process to ensure that lessons are learned from each incident.

### FORMAL HEALTH AND SAFETY COMMITTEES [GRI 403-4]

Light has four committees supporting occupational safety management. Each of these committees has employee representatives who share in decisions about planned activities.

Meetings are held on a monthly basis, and decisions are taken with the effective participation, and by a consensus, of committee members. Where there is dissent, the chairperson of the relevant committee has a casting vote. These committees include the:



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- Permanent Accident Prevention Committee (CPPA) with representatives from unions, the Occupational Safety Department and members of the leadership team
- Distribution, Commercial and Generation Division
   Safety Committee with representatives from the
   Executive Board and Occupational Safety Department
   These committees are responsible for overseeing safety
   management and recommending campaigns and
   preventive and corrective action.

Light also has an Internal Accident Prevention Committee (CIPA) composed of 260 employees as well as members of contractor CIPAs.

Information and guidance about occupational safety is communicated to our employees through a wide range of communication channels, but primarily via CIPA and committee meetings, periodic meetings with immediate managers, training, and managerial reports on safety indicators.

### **OCCUPATIONAL SAFETY TRAINING** [GRI 403-5]

In addition to investing resources in improving processes and procedures, Light invests in training and raising awareness among the entire workforce, with a goal of strengthening our safety culture, reducing incidents and improving quality of life for employees. All employees are trained on the risks inherent

<sup>&</sup>lt;sup>12</sup> The layered approach is one of several approaches in Risk Management theory.

to their tasks and on emergency response. In addition to formal training, field crews additionally receive instruction on lifesaving topics.

Task-specific training is also provided, including training on:

- Work at heights greater than 2 m techniques for working and conducting rescues at heights
- Confined space work techniques for working and conducting rescues in confined spaces
- Work on electrical installations electrical safety

Light is committed to protecting life, and any identified exposure to risks without effective controls is addressed in all discussions and never overlooked. At Light, all employees have a right to refuse to perform unsafe tasks. This right is formally established in our Code of Ethics and Business Conduct, and is widely communicated and exercised. If a serious risk is identified, employees may refuse to perform the task to protect their integrity.

The right of refusal helps to prevent employee exposure to hazards without effective controls, especially situations posing a risk of serious harm to our field crews. In addition, any unforeseen circumstances are assessed by supervisors, who then implement the protective measures required in each case.

Light ensures compliance with all regulatory requirements, and keeps abreast of regulatory developments and their implications for the Company, such as Brazil's recently amended Labor Regulations (NRs) 01 and 05.

### **HEALTH AND SAFETY AUDITS**

Occupational health and safety audits, known at Light as Contractor Performance Assessments, are ongoing. In 2021, 25 companies were assessed on 33 control items, including safety inspections, timeliness and quality of accident investigation reports, compliance with action plans, and training.

Individual monthly assessments are conducted on the 5<sup>th</sup> of the following month, and each contractor receives feedback on its performance. The audit results have a weight of 40% in suppliers' operational performance assessments.

In addition to the 33 safety items that are continuously audited, we monitor contractors' in-field safety practices by conducting scheduled inspections involving Light's occupational safety teams and inspection agents from each contractor's safety department. Besides these inspections, we regularly conduct Safety Blitzes (OPV), or surprise inspections conducted on a selected company on a random day, in which Light's occupational safety team inspect 100% of the supplier's processes.

Periodic inspection results are fed into a proactive indicator called the Light Safety Index (ISL). We ended 2021 with an ISL of 98.40% conformity among analyzed samples, based on 4,200 inspections. The ISL index is within the range considered safe, down by just 0.10% from 98.50% in 2020. 66

Non-conformities were identified at virtually all companies that underwent performance assessments and monitoring in 2021, but each supplier developed action plans outlining both preventative and corrective measures to prevent recurrence.

In 2021, Light implemented a new approach to monitoring progress on preventative and corrective action plans. All contractors now receive a list of nonconformities identified in the field or at their bases, including a link to the Inspection Form. The form contains a list of actions that have been agreed. On a monthly basis, the Occupational Safety department checks whether the manager has reported those actions as having been completed.

### **OUR SAFETY PERFORMANCE** [SASB IF-EU-320A.1]

After three consecutive years with no fatalities, in 2021 we regret to report a serious injury resulting in the death of a contractor. The incident occurred during live-line work. Although the team was well trained and had the right tools and safety equipment for the job, and the weather was favorable, the contractor sustained a fatal electric shock.

The injury frequency rate, which expresses how often incidents occur, ended the year at 2.71, 22% higher than in 2020.

The severity rate in 2020 was 75, whereas in 2021<sup>13</sup> it went up sharply to 305, primarily due to the one fatal accident. Even so, the curve for this indicator in 2021 shows a prevalence of low severity accidents.

### **Occupational Injury**

Frequency Rate	2019	2020	2021	
FR	3.27	2.22	2.71	
SR	130	75	305	







<sup>13</sup> According to applicable legislation, one death is equivalent to 6,000 lost days.





### **IMPROVEMENTS IN 2021**

- Light prepared work instructions and a primer for relationship agents who read meters and deliver bills so that they may perform their activities safely and with quality. Furthermore, we investigated adapting the backpacks, uniforms and shoes worn by these professionals to increase their ergonomic comfort.
- Studies were also performed to improve and adjust the *modus operandi*, how portable ladders are secured, and how lifelines are anchored for linemen, increasing team safety, comfort and productivity.

### **OCCUPATIONAL ABSENTEEISM RATE**

An analysis of the reasons for health-related absenteeism allowed Light to manage this based on concrete data and adopt effective measures to reduce absenteeism in the Company. In 2021 the figure was 3.04.

Throughout 2021 the Occupational Health team saw an increase in the severity of psychiatric complaints which, in addition to different psychosocial factors, resulted in implementing a preventive mental health map.

Light also mapped recurring musculoskeletal complaints and invited these individuals to participate in a Posture Program offered by the company health plan. Those on leave were called in for a physical and document inspection.

Finally, we would like to mention the health education measures developed during the year on the main problems that lead to medical leaves and lost days.

### **COMMUNITY SAFETY**

Caring for the safety of the population during our activities is part of Light's routine efforts. In 2021 there were 23 incidents. Throughout the year Light inspected and monitored field activities searching for possible hazards created by processes and installations. Any hazardous situation is submitted to the area in charge for mitigation and communicated to the local community. Furthermore, in a complementary effort, Light develops awareness among school and communities of the danger of the power grid, and reinforces the importance of adopting personal safety measures.

### Accidents involving

2019	2020	2021
10	7	17
8	5	6
	<b>2019</b> 10 8	2019       2020         10       7         8       5

The increase in the number of accidents among the population between 2020 and 2021 is primarily the result of a larger number of accidents resulting from the contact between objects and live wires. This type of accident increased 117% compared to the past two years. 2021 also saw an increase in the number of accidents caused by clandestine hookups and/or the theft of copper cables.



### **PROMOTING HEALTH AND WELL-BEING** [GRI 403-6]

Light promotes health and well-being measures far beyond what is legally required and those related to workplace activities, as we believe that caring for our workforce is important not only for our members, but is essential for continuity of the business.

In light of this, it is worth calling attention to initiatives like:

- Nutritional Reeducation Program
- A Program to Help People Stop Smoking;
- Yellow September suicide prevention
- Pink October and Blue November prevention and early diagnosis of breast and prostate cancer
- Orange December skin cancer prevention

There are also campaigns using in-company communication channels, such as e-mail marketing, Light Online; On Light Platform and in-house TV channels addressing themes related to health, well-being, and disease prevention. In addition, online educational campaigns are offered by the health teams in a format that is fun and easy to understand, and may include interactions with experts.

Light Social Services provides on-call services for those working in its offices and operational areas, supporting employees and advising them on the healthcare resources available. These include an outpatient clinic at the Light main office for any situation, regardless of whether or not it is work-related. 68

In May 2021 Light promoted a campaign of periodic tests to check the health of its professionals and make sure everything was up-to-date. These tests are important to identify problems such as high blood pressure and diabetes, and the increased prevalence of mental illnesses such as anxiety and depression.

The data available and the health indicators taken from analyses of medical leaves, and the healthcare plans enables creating an epidemiological profile of Light workers, helping identify risk factors and enable defining strategies to mitigate or eliminate them.

All Light initiatives are constantly reviewed to facilitate access to healthcare services to all workers.

### **QUALITY OF LIFE PROGRAM**

The Quality of Live program combines a number of initiatives to help Light employees have a better life and be happier within and outside of work. Some of the key initiatives in the year include:

### Mental Health Program

Metal health is a permanent component of the actions developed by Occupational Safety, health, and Quality of Life. Instructions on how to care for one's mind so as not to fall ill were disclosed in the form of psycho-educational lectures prepared by qualified professionals and available online and during the Life Program meetings and dialogs. The lectures were given by guest professionals and addressed a number of topics, such as how to identify diseases such as depression and anxiety, signs of alcohol and drug abuse, burnout, and personality disorders, among others. Therapeutic and behavioral resources for prevention were suggested, as well as how to get help within the organization.

Light also published informative materials on this theme on its in-house communication channels. Many employees sought out Workplace Health and Social Services in 2021, in search of help for themselves or family members. All were seen, supported and, whenever necessary, referred to specialists.

### Vida Ativa Program

The *Vida Ativa* Program stands out for its achievements in promoting nutritional reeducation of workers. One group, made up exclusively of operational employees, started the course in 2020 and finished it in 2021.

Programs were available in-person at the Frei Caneca Unit for operational staff, and online for all Light employees.

Program participants were supported by a multidisciplinary team and received individual guidance from a nutritionist and physical trainer, along with psychological support wherever social services and medical support were required.

A technical review by independent consultants responsible for the activity revealed that the Active life Program at Light delivered better results than similar programs in other companies, possibly because of the continuous follow-up of the Light health and quality of life team.



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In 2021 the company organized online lectures on healthy nutrition for all interested employees.

### **Online psychoeducational lectures**

In all there were 48 online lectures, one a week as part of a continuous activity, with an average of 70 participants per event, totaling 3,360. These lectures addressed emotional health, pandemic orientation, financial education, and healthcare topics such as women's health, men's health, heart disease prevention, and healthy nutrition, among others.

### **Social services for employees**

With the worsening COVID-19 pandemic the number of employees seeking services increased, beyond those normally seen. Services were provided in-person or online, and included guidance for employees and their families. On average 760 employees were seen, totaling 9,200 incidents of service a year.

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### **COMMITMENTS AND TARGETS FOR 2022**

### **Occupational safety**

- Implement a program to manage occupational risks at Light.
- Promote changes related to working at heights for all lowvoltage linesmen, in particular procedures for securing portable ladders and anchoring life lines.
- Review internal guidelines to make them simpler and easier to apply in day-to-day operations.
- Keep an updated List of Risks and Hazards.
- Structure processes to implement the RMP.
- Enhance occupational safety management initiatives, providing related advice to our different business functions
- Create and monitor action plans against incidents.

### Health

- Implement new indicators for workplace absenteeism, expanding the calculation of related data across the organization.
- Provide health education for employees from time to time, addressing relevant themes based on the absenteeism profile at Light, and the current epidemiological situation in the city/state/country regarding health and quality of life.
- Vaccinate 3,700 or more employees against the Influenza virus.
- Enforce Covid-19 protocols across the company, complying with WHO and Ministry of Health determinations.

### **Quality of life**

- Expand communication of health and quality of life information for operating groups as part of their health education, and encourage them to participate in scheduled activities.
- Maintain the quality and efficacy of the Mental Health Program.
- Expand the scope of the nutrition reeducation activities.
- Provide instructions on responsible motherhood and fatherhood for future parents, and increase adherence to the Healthy Baby Program.
- Resume the *lluminar* (Light) program, that was suspended in 2021 due to the pandemic.







# Commercial strategy

## Market [GRI 102-6] [SASB IF-EU-000.B]

Total consumption in 2021 was 25,082 GWh, 2.4% less than in the same period in 2020. The contraction reflects the combined effect from a slow economic recovery in our service area throughout the year and lower-than-historical-average temperatures in the period.

As power consumption is closely linked to temperature, residential consumption dropped 2.3% compared to 2020, ending the year at 8,145 GWh billed.

### **MARKET GROWTH**





Commercial consumption changed only slightly (+0.2%) to 6,878 GWh. This segment has been the most severely affected by the pandemic since 2020, and the recovery was slower than the national average throughout 2021. The slow economic recovery in our service area has continued to affect consumption.

Industrial consumption increased 7.1% compared to the previous year. This is the result of a better recovery in steel manufacturing, which increased during the year.



## Customer experience

In 2021, our main efforts in customer relationship management were targeted to improving the customer experience across different service channels. With this in mind we worked to reduce pain points at our service offices by providing online services, eliminating waiting lines and increasing convenience. The outcome of this measure was over 60% reduction in the Average Waiting Time (AWT) at service offices.

Another challenge overcome was to enable WhatsApp services, ending the year with 15 services offered automatically. We should point out that Light is the energy distributor with the largest number of AI-enabled services on its app, including a copy of the electric bill, checking the amount owed and arranging for installment payments, negotiation campaigns and records updating. In all over 2.5 million different units of service were provided via this channel in 2021.

Light was recognized as the best distributor in the country in terms of how it handles complaints and responds to customers who complain on its Customer Complaint channel.

The Light ombudsman is able to solve most complaints made in this channel with no need to resort to a higher authority, in this case ANEEL. This has reduced the number of complaints being escalated to the industry regulator. In addition, we met our target of resolving more than 73.50% of cases on

the Consumidor.gov platform, and met the timeframe set for delivering projects in this area.

### **CUSTOMER SERVICE**

In 2021 we enhanced our focus on the customer experience with the creation of our Atende Resolve program—an extensive review of all customer service processes followed by intensive process digitization. The first processes to be digitized were account transfers, appeals on Fraud Inspection Reports (TOI), new connections, consumption variance, power outages and contract termination. In 2022 another eight processes will be reviewed. The Atende Resolve program involved a total investment of R\$ 2.3 million.

Commercial offices received investments linked to our new management model, including office remodeling, team training, and scheduled customer service sessions. In our digital channels, we incorporated new automated services.

During the year, work began on modernizing Light's ARU with technologies that will provide greater ease of navigation and help to retain 55% to 65% of callers by reducing call waiting times.



Developing new services and new ARU interaction trees will provide an improved customer experience, such as by allowing customers to address two different needs in a single call. This way, customers will be able to resolve most of their issues without having to talk to a human agent.

Other new features in the reformulated ARU include:

- A multi-channel feature that integrates the call center with our virtual back-office and social media
- Voice-to-text data mining that can detect contentious calls and refer them to the quality team
- Customer voice recognition, avoiding the need for customers to manually select menu items on their smart phone touchscreen

The overall investment in the reformulated, omnichannel ARU was R\$ 36 million, in what has become a significant customer service milestone at Light.
### **DIGITAL TRANSFORMATION AT LIGHT**

In 2021 we expanded our automated customer service chatbot. The project was developed by a multidisciplinary team of representatives from the IT, customer service and customer experience functions. The team reviewed the existing system and then implemented improvements and new features and services, helping to further improve the customer journey using the chatbot.

We ended 2021 with 99.3% of all customer service cases handled via digital channels, including our Virtual Service Office, app, WhatsApp and social media.

### **CUSTOMER SERVICE FOR PEOPLE WITH SPECIAL NEEDS** [GRI EU 24] [SASB IF-EU-240A.4]

Light has practices in place to address language, cultural, low literacy and disability-related barriers to accessing and safely using electricity and customer support services. We have worked to develop intuitive and self-explanatory solutions so that customers of all profiles are able to use them, and to ensure that processes have a similar look and feel across service channels. This helps customers to familiarize themselves more quickly with the process on any channel.

# Virtual Office 73.0% Арр 18.1%

**SERVICE CHANNELS** 



- 0.9% Backoffice (email)
- 0.7% Service Office

Our customer service agents are trained to deal with customers of different profiles, respecting their diversity and each customer's background, origin, habits, and manner of speech. To ensure agents can efficiently handle calls involving lifeor-death situations, for example, we provide training that simulates real-world situations so that agents are prepared to provide a prompt and efficient response.

For people with physical disabilities, our service offices have access ramps to their entrances and self-service kiosks, as well as adapted restrooms.

For customers with visual disabilities, we offer electricity bills in Braille that can be requested via any of our service channels. In addition, seven of our service offices have tactile signage and floor markings.

Customers with hearing and speech disabilities have a dedicated 24/7, toll-free number (0800 285 2453) that uses a special chat-style decoding system.

### CUSTOMER SATISFACTION [GRI 102-43, GRI 102-44]

Light's Perceived Quality Satisfaction Rate (ISQP) in 2021 was 53.5, down from 67.3 in 2020. In 2021 we created a multidisciplinary working group to gain insight into the impacts of perceived quality and develop a corporate action plan to improve satisfaction rates.<sup>14</sup>

### **CUSTOMER COMPLAINTS**

The number of complaints rose year on year in 2021, from 30,334 to 34,769 complaints filed with the Ombudsman and from 8,737 to 10,991 complaints filed with ANEEL. One of the primary reasons for the increase was the lockdown during the novel coronavirus pandemic, which drastically reduced the baseline complaint figures in 2020.

However, if compared to 2019, the number of complaints decreased by 20.4%, reflecting: improvements to our Commercial SAP system for addressing complaints filed with Light's Ombudsman and ANEEL; technical training provided to the team; improved customer communications; the restructuring of specific Ombudsman cells; and access to services that were previously only accessible to other departments.



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<sup>&</sup>lt;sup>14</sup> The Perceived Quality Satisfaction Rate (ISQP) is determined in a survey commissioned by the Brazilian Association of Electrical Utilities (ABRADEE), first conducted in 1999. It measures the perceived satisfaction of residential customers in the retail segment with products and services provided.

# Energy efficiency

#### [GRI 302-4, GRI 302-5, GRI EU7] [SASB IF-EU-420a.3]

Under ANEEL regulations, distribution utilities are required to invest a minimum percentage of Net Operating Income (NOR) in ANEEL-regulated energy efficiency programs (PEEs).

Brazilian electric utilities are required to invest a minimum of 0.5% of net operating revenue in PEEs; of this percentage, 0.28% must be toward energy efficiency projects, 0.12% must be contributed to the Energy Development Account (CDE), and 0.1% must be contributed to the PROCEL program.

In 2021 new regulations reduced the percentage of PEE funding channeled to projects from 0.4% to 0.28%. This required us to review our strategic plan and revise our 7<sup>th</sup> Call for Projects (CPP 01/2020), which had an allocation of R\$ 80 million for customers in our service area.

Another regulatory change in 2021, which Light has already implemented in our 8<sup>th</sup> Call for Projects (CPP 01/2021), is the provision of non-repayable funds to Commercial and Services customers, provided they have Social Assistance Charity Certification (CEBAS).

In 2021 our total PEE investment was R\$ 75.06 million, including R\$ 55.85 million invested in energy efficiency projects and R\$ 19.2 million contributed to the CDE. We also invested R\$ 6.04 million in third-party funds and R\$ 14.84 million provided by customers as match investment in projects.

Energy efficiency projects completed in 2021 generated electricity savings of approximately 7.40 GWh per year and peak shaving of 1.54 MW.<sup>15</sup>

The total financial benefit, as measured in terms of Avoided Demand Cost (ADC) and Avoided Energy Cost (AEC), was R\$ 4.78 million. This represents the total annual savings for the grid from energy efficiency initiatives completed in 2021.





<sup>&</sup>lt;sup>15</sup> The stated investment amount is for all projects that were ongoing in 2021. Energy efficiency improvements, in turn, are only for projects completed in 2021, as project outcomes can only be measured and verified following completion.

### **PEE IMPLEMENTATION IN 2021**

In 2021 Light implemented medium- and long-term investment plans with both Company funds and funds allocated within the ANEEL-regulated PEE program, including improved service to low-income customers, energy efficiency initiatives such as replacing equipment with more efficient models, and energy efficiency education activities. Residents in our service area, especially those in low-income communities, were encouraged to implement changes in their living and electricity consumption habits.

These initiatives underscored the need to raise consumer awareness about the importance of energy efficiency, and to find ways and tools to enhance communications across society, and especially in Light's service area, given its unique social and economic landscape.

Our strategy in 2021 was to continue to implement projects that were approved in previous calls for projects, and to organize the 8<sup>th</sup> Call for Project Proposals with a focus on Light's largest markets, namely the Residential and Commercial & Services markets.

### **PROJECTS IN THE YEAR**

In 2021 we allocated PEE funding to 49 projects. A total of 36 selected energy efficiency projects are in progress across a wide range of areas, such as photovoltaic generation systems, drive systems, and solar water heating, air conditioning, and lighting systems.

In addition to projects approved via Calls for Project Proposals, we implemented energy efficiency programs of our own in the Education, Low Income and Residential (Bonus) categories, benefiting customers in Light's service area.

Light's PEE program supports innovation both through Low Income programs and through Calls for Project Proposals, in which proposals are assigned a higher score if they include the deployment of new technologies, such as renewable generation. This provides an incentive for participants to incorporate innovative technologies in their project proposals.

The specifications for new Low Income projects now include residential solar power kits for use in low-income communities in Light's service area.

### **PROJECTS IN PROGRESS**

### Energy Efficiency at the Brazilian Institute for Metrology, Quality and Technology (INMETRO), approved in Light's 6<sup>th</sup> Call for PEE Project Proposals (CPP)

This project will retrofit the lighting system and cooling system drive motors at INMETRO's offices in Xerém. Light's PEE delivers direct and indirect quality-of-life benefits for society, including electricity savings, increased nighttime security, reduced waste, and responsible electricity consumption and environmental preservation practices.

The energy efficiency initiatives currently in progress include the replacement of two drive motors; installation and automation of a control gear panel to improve efficiency and reduce consumption; and replacement of more than 8,000 indoor and outdoor light bulbs with more energy-efficient models.

Using LED lighting technology and more efficient drive system equipment will deliver total electricity savings of 692.37 MWh per year and peak shaving of 104.70 kW. This project involves a total planned investment of R\$ 1.8 million.

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### Energy Efficiency Project, Rio de Janeiro Regional Electoral Court (TRE/RJ), approved in the Light's 6<sup>th</sup> CPP

This project will retrofit lighting and air conditioning systems and install a photovoltaic solar system to supply part of the TRE/RJ's electricity requirement.

A total of 15 air-conditioners will be replaced with more efficient PROCEL-rated equipment, and more than 2,000 indoor and outdoor light bulbs will be replaced with more energyefficient models at five TRE/RJ locations. The project will also include installation of a 179.1 kWp distributed photovoltaic generation system.

Using LED lighting technology and more efficient air conditioning equipment, coupled with distributed photovoltaic generation, will deliver total electricity savings of 458.02 MWh per year and peak shaving of 39.13 kW. The project is expected to involve an investment of R\$ 1.8 million.

TRE/RJ is currently in its second wave of energy efficiency initiatives funded by Light's PEE program. The first wave was approved as part of Light's 1<sup>st</sup> CPP in 2016. This wave replaced more than 3,000 inefficient indoor and outdoor light bulbs with energy-efficient LED models.

### **Energy Efficiency Project, Farmanguinhos** (Fiocruz Drug Technology Institute)

This project is currently under development and is scheduled to be completed in October 2022. The project includes lighting and air conditioning retrofits that are currently 60% and 85% complete, respectively.

### **Energy Efficiency Project (Fiocruz/** Avenida Brasil Unit, Manguinhos).

This project was put on hold due to the COVID-19 pandemic as BioManguinhos/Fiocruz focused its efforts on research and production of vaccines against the novel coronavirus. The high demand from the Brazilian Ministry of Health required an all-out focus on accelerating vaccine production, and the project became a secondary concern. In 2021 alone, the facility produced and delivered more than 150 million doses of the AstraZeneca/Oxford vaccine. We are currently unable to estimate when the project will be resumed, as we will require permission from Fiocruz to perform load balancing tests on the system.

#### **Photovoltaic generation projects**

The pandemic resulted in project delays due to a shortage of crystalline silicon, the raw material used to produce solar panels. As a result, most projects have been delayed. Once completed, however, these projects will have a combined installed capacity of 2,864.96 kWp, generating a total of 3,283.42 MWh/year.

Despite the challenges in the year, we successfully completed an energy efficiency project at the São Sebastião Administrative Center (CASS), replacing more than 22,000 indoor and outdoor

light bulbs across blocks I and II with energy-efficient models. In addition, we completed a 74.3 kW distributed photovoltaic generation system and upgraded the site's air conditioning system, in a total investment of more than R\$ 5.6 million.

The photovoltaic projects completed in the year within Light's PEE program have a total installed capacity of 181.92 KWp and produce a total output of 247,67 MWh per year.

### **LOW-INCOME COMMUNITY PROJECTS**

Light has two long-standing programs for low-income communities—the Efficient Community program and the Light Recycling program.

In 2021, Light presented to ANEEL the unique characteristics and challenges of its service area, including high violence rates and socioeconomic risks. We explained to ANEEL that the overarching goal of these programs is to educate and encourage people to reduce their electricity consumption, especially in low-income communities.

ANEEL accepted and approved the use of PEE funding for two pilot innovation programs geared specifically to low-income stakeholders: Energia de Responsa ("Responsible Energy") - Light Station/Summer Season Project; and Renewables -Floating Photovoltaic Solar Farms.



### **2022 COMMITMENTS**

Our PEE commitments for 2022 include continued progress on innovation initiatives and projects benefiting communities in Light's service area, including our most disadvantaged and low-income stakeholders. A larger amount of investment will be allocated to these customers in 2022 in the following years, with a goal of bringing energy efficiency and education activities to the most disadvantaged areas with special needs.

### **ENERGY EFFICIENCY PROJECTS COMPLETED IN** 2021

- \_ Lighting, air conditioning and photovoltaic generation systems at the São Sebastião Administrative Center (CASS) and the Rio de Janeiro Office of the Federal Police, both approved in our 4<sup>th</sup> Call for Project Proposals (CPP).
- \_ Lighting system at the Lower Federal Court of Rio de Janeiro, approved in the 3<sup>rd</sup> CPP.
- \_ 7th Energy Efficiency Program Nabagement.
- \_ Lighting and drive systems at the National Cancer Institute (INCA), approved in the 5<sup>th</sup> CPP.
- **\_** Lighting, solar water heating and other energy efficiency initiatives at the Federal University of Rio de Janeiro (UERJ), Wave II, approved in the 5<sup>th</sup> CPP.

### Community initiatives

[GRI 203-1, GRI 203-2, GRI 413-1, GRI EU23] [SASB IF-EU-240a.4]

One of the biggest challenges facing Light is reducing nontechnical losses, which consume roughly half of the electricity delivered to the low-voltage market. Around two-thirds of these losses occur in Special-Approach Areas that are alternately governed by criminal gangs and militias.

In this context, Light launched a Communities Program in a bid to mitigate these losses. With support from community leaders, this program works to reestablish our relationship with residents in these areas in order to normalize electricity supply to customers, and increase collections. In addition to projects to modernize the distribution system, Light has launched social initiatives providing job and income opportunities.

We have also introduced programs to help make electricity bills affordable for residents once they have normalized their connections.

In communities selected for the pilot project, we mapped out the social and economic profiles of households and their consumption habits, and then defined which initiatives would be most likely to meet residents' expectations. [GRI EU19] Normalized customers are given a grace period of 12 months in which electricity bills are capped at 220 kWh even if their

consumption exceeds this limit. Light believes this helps customers to get used to paying for the electricity they consume. Customers have one year to adjust their personal finances and prepare to start paying for exactly the amount of electricity they consume.

Light has also encouraged customers to sign up for the Social Rate (TSEE) scheme and has offered discounts on customers' outstanding electricity bills. Operations bases have been set up in low-income communities where residents can ask questions and get support on business days.

This program reached 4,000 customers in the communities below, which had monthly losses of around 60%. - Dom Bosco and Mirante, in Pilar, Duque de Caxias; Chapéu Mangueira and Babilônia, in Leme, Rio de Janeiro;

- Trio do Ouro, in São João de Meriti.

State Law no. 9,449/21, which reduces state taxes for lowconsumption households, has helped to make electricity bills affordable for low-income customers. State tax rates are reduced from 31% to 12% for people living in disadvantaged communities and who consume no more than 450 kWh/ month, provided they are registered with the ANEEL Special



Rate Program. This initiative is designed to encourage customers to normalize their connections.

Another highlight in the year was our initiative to help low-income customers install solar panels. This initiative is supported by the Brazil Energy Program (BEP), funded by the UK government as part of the UK-Brazil Prosperity Program<sup>16</sup>. The community selected to host the program was Dom Bosco, in the district of Pilar, in the municipality of Duque de Caxias. The project will test innovative technologies to help lowincome households save on their electricity bills by installing solar panels, batteries, smart meters and smartphone apps for monitoring consumption. The project is primarily focused on women who are heads of households, and other vulnerable groups.

### **REGISTRATION FOR SOCIAL RATES**

In 2021 we created a working group to conduct a survey to identify Light customers who are eligible but have not yet signed up for the Social Rate benefit. The database for the survey was furnished by ANEEL. The goal of the survey was to identify the installation numbers of eligible customers in the database, and invite them to sign up for the Social Rate. The six-month initiative—from March to August—had a success rate of approximately 20% in locating the customers identified in the ANEEL database, generating an estimated Monthly Revenue Difference (DMR) of R\$ 213,000 per month in 2021, or a total of approximately R\$ 1.3 million in the year.

In addition to initiatives to expand Social Rate registrations, Light also engaged with and trained staff at Social Assistance Referral Centers (CRAS) and Social Assistance Departments in the 31 municipalities within our service area. The primary goal in this initiative was to standardize registrations and answer questions about eligibility for the Social Rate. This has made the process of awarding social rates to eligible customers more efficient by automating the registration process.

As a result, the number of customers registered for the Social Rate increased from 473,608 as at December 2020 to 537,197 as at December 2021.

### **COMMUNITY ENERGY EFFICIENCY INITIATIVES**

Our total investment in the Efficient Community and Light Recycling programs in 2021 was respectively R\$ 2.02 million and R\$ 1.06 million. The funding is derived from our ANEELregulated Energy Efficiency Program.

Through the Efficient Community program, we donate energyefficient lamps and refrigerators, raise awareness about energy efficiency and electrical safety, and organize community events to register families to be eligible for social electricity rates.

During the year, we were required to discontinue our light bulb and refrigerator replacement initiative as we restructured the Efficient Community program. Our social and economic mapping activities continued, however, in order to identify community demands and needs and plan better targeted initiatives in these locations.

The scope of the program has not changed except for the inclusion of communication activities led by third-party social managers who have been engaged to advertise the normalization program, the Social Rate benefit, and social rate locks for residents in these areas.

Our Light Recycling program, which allows residents to exchange recyclable materials for discounts on their electricity invoices, continued as planned in 2021 and met its collection, expansion and communication targets.



Three new drop-off eco-stations were opened in the year, two of them in partnership with the municipal governments of Sapucaia and Nova Iguaçu. The third drop-off station was opened in Ilha do Governador, Rio de Janeiro, in a partnership with supermarket chain Assaí.

No drop-off stations were closed in the year, despite the challenges created in the first quarter due to the COVID-19 Pandemic.

During the year we launched a Light Recycling app that allows customers to view their bonuses, recycling volumes and drop-off station operating hours. In 2021 Light granted R\$ 695,844.14 in discounts on the electricity bills of participating customers and charities.

As part of our strategy to expand the program, Light established a number of important partnerships in the year, including with Fluminense Football Club, the supermarket chain Assaí, the Sugarloaf Cable Car, and Hospital Vicente Moretti, as well as a number of gated communities and hotels.

In relation to on-site waste disposal, even with 85% of our administrative staff working from home, the Light Recycling program continued to communicate its initiatives as a way to encourage employees to recycle their day-to-day waste.

In 2021, the 56 metric tons of waste materials collected at Light and sent for recycling generated a bonus of R\$ 20,000, which was converted into discounts for charities registered with the Light Recycling program.

### **ENERGIA DE RESPONSA** ("RESPONSIBLE ENERGY"): A PILOT ENERGY EFFICIENCY PROJECT

Light's Responsible Energy project is designed to raise awareness and educate communities about responsible electricity consumption. In an investment of approximately R\$ 3 million, the program was implemented in 16 communities during the summer season, when consumption typically increases due to the warmer weather.

Communities participated in a competition to win prizes such as tablets, smart phones, motorcycles, and even a car. The community with the highest energy savings in a given period won the contest.

Activities within the program included a *futsal* competition among teams from participating communities, musical activities, such as a band contest, a competition to see which community could achieve the highest energy savings during the project period, a raffle, and a closing show.

Light also intensified communication initiatives in communities, especially those benefited by initiatives within the Responsible Energy program.

### **2022 COMMITMENTS**

In 2022 we plan to continue initiatives to engage more closely with community leaders within our service area. Our goal is to provide high-quality services as well as information about energy efficiency and responsible electricity consumption, so that residents in these communities can afford their electricity bills.

Another of our commitments for 2022 is to expand Communities Program initiatives to other locations where average monthly losses are as high as 85%, including the following: Ladeira dos Tabajaras, Complexo do Lins, Comunidade do Lixão, Comunidade Tubiacanga, Morro da Baiana, Comunidade da Rocinha and Comunidade da Conquista.

In addition, we will continue advertising the Social Rate benefit, expanding the Light Recycling program through new partnerships, and raising awareness about the importance of waste segregation and environmental protection.

### PROGRESS ON LOSS REDUCTION IN LOCAL COMMUNITIES

- **a. Community perspective:** we engaged closely with community leaders and mapped out a total of 4,766 households, including their social and economic profile, there individual needs, there property, and their consumer habits.
- **b. Job and income opportunities:** people living in these communities were hired to perform commercial and technical services or to work as facilitators and engagement agents, building trust and creating income opportunities in these areas.
- c. Civic engagement: we created channels for dialog with benefited communities through workshops and door-to-door visits from social managers, bringing information and new knowledge to these customers.
- **d. Organization-wide engagement:** we created a Communities Committee with representatives from all departments involved in developing community projects and in customer normalization, helping to streamline related processes.
- e. Communication: Light has used both targeted and mass communication with stakeholders about the challenges involved in serving lowincome communities. The platforms we use for these communications include social media, localcirculation newspapers and the broader media.

### Loss reduction

#### [GRI EU12]

One of the biggest challenges facing Light is loss reduction, which goes hand-in-hand with collection efforts. Rio de Janeiro has been historically challenging for government and private entities alike, and Light is no exception, especially given the recurring problem of electricity theft. Even in areas where we have unrestricted access, which we refer to as Conventional-Approach Areas, loss rates are as high as 43%. Because of this, Light has been required to rebuild its distribution infrastructure to make it more robust and less prone to electricity theft.

In this context, addressing non-technical losses has required incremental investment. In 2021, Light invested R\$ 460.8 million in loss reduction and collection efforts, 40.6% more than the investment in 2020, largely in loss-proofing and customer normalization. This year's investment is also 57% higher than the average expenditure over the past five years.

Light recognizes that discipline in execution is critical to achieving successful outcomes from these investments. A highly experienced team of professionals, some drawn from the market and others from within Light, supported by a robust management model, is currently spearheading our loss reduction efforts.

#### LOSS REDUCTION STRATEGY





One of the core levers in these efforts is loss-proofing our systems, for both retail and large customers. During the year, we revisited our loss-proofing technologies and their outcomes, reformulated our contracts with the suppliers involved, and implementedt metering controls to ensure sustainable recoveries. In the retail segment, more than 40,500 customers were loss-proofed in 2021.

There is also an opportunity to loss-proof large customers, which account for approximately 60% of our revenues. This group comprises three segments: High Voltage (HV), Medium Voltage (MV), Indirect Low Voltage (ILV) and 200A. Light has set a target to implement off-premises, loss-proofed metering at 100% of large customers within three years.

Obsolete meters are also being replaced, making our infrastructure yet more robust. Meters are first replaced at three-phase installations, which have the highest consumption. In 2021 we replaced a total of 63,000 meters.

It is important to note, however, that loss-proofing is a timeconsuming process involving multiple customer visits and drafting Fraud Inspection Reports (TOI). However, our efforts have recently been better targeted based on customers' ability to pay their bills, helping to improve inspection productivity and reduce legal contingencies.

We have also recruited experienced professionals, revised our training program for field crews, and purchased needed equipment. Productivity and hit rates have since doubled, and we have been able to detect new types of fraud that we were previously unaware of, such as taps embedded in concrete. While these efforts have improved productivity, our average ticket has decreased. This means our recovery efforts have been more successful, increasing not only billed electricity but also collection rates.

Improving our metering and invoicing processes has also been a focus of our efforts, as they are both a source of administrative losses. We have significantly improved our management approach to these processes. In 2021 we reached our lowest number of unread customers and reading errors to date.

The last pillar in our loss reduction efforts is normalizing illegally connected customers in both Conventional-Approach and Special-Approach Areas.

In Conventional-Approach Areas, Light has used prospector teams to identify large customers and gated communities for normalization. Technology can aid us in these efforts, and we have launched several pilots to identify clusters of illegal connections using satellite imagery and artificial intelligence.

To support normalizations in Special-Approach Areas, we created a program, called the Light Community Program, designed to rebuild our relationship with customers in these areas by looking at issues from customers' perspective. This is an ongoing effort in partnership with community leaders and with the prior consent of residents, paving the way for a new and healthy relationship between Light and our customers. Our approach to these locations involves a combination of social 82

programs and rate adjustments, with the newly approved state tax rate reduction providing an important contribution to this strategy. See the chapter *Community Initiatives* for further details.

For Light, loss reduction is a cyclical battle, but the results are starting to show and the prospects of turning the current situation around are promising.

Total 12-month losses as at December 2021 were 9,105 GWh. Non-technical losses (12-month) were 6,763 GWh in 2021— 53% in Special-Approach and 47% in Conventional-Approach Areas.

Total losses on grid load closed the year at 26.63%, 7.33 p.p. above the 19.30% regulatory pass-through cap defined by ANEEL in its Rate-Setting Review (RTP) in March 2017, as adjusted by the benchmark market and ratified by the regulator in the rate adjustment (IRT) in March 2021.

Among the activities under our loss reduction plan—which was revised at the beginning of 2021—recurring energy recovery efforts remained the most effective in the year.

### **CHANGES IN TOTAL LOSSES (GWh)**

12 MONTHS



#### CHANGES IN NON-TECHNICAL LOSSES/LOW VOLTAGE MARKET 12 MONTHS





#### **TOTAL LOSSES/GRID LOAD**

12 MONTHS



### NON-TECHNICAL LOSSES (GWh)

12 MONTHS



### Improving collections

Our total collection rate (12 months) was 96.4% as of December 2021, up 1.4 percentage points from 95.0% as of December 2020.

Our positive performance reflects improved collection rates in the Retail and Government segments as a result of increased collection effort, including blacklisting and proactive customer outreach via our machine learning-enabled ARU and SMS and WhatsApp messaging. A wider range of payment methods including credit cards, PIX, Pic Pay and AME—improved collections in the Retail segment. We also perfected our approach to negotiating with Government customers in the period.

In addition, Light launched a debt renegotiation campaign in October 2021, offering discounts of up to 95% on electricity invoices, as well as credit card payments in installments. More than 40,000 customers, especially residential customers, who had at least one invoice more than 6 months overdue opted in and settled their overdue bills.

#### **COLLECTION RATE BY SEGMENT (%)**

12 MONTHS [INCLUDING OVERDUE REN INSTALLMENT PAYMENTS]



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# Distribution

In 2021 we exceeded our EOD, EOF and Financial Compensation targets despite the COVID-19 pandemic, delivering our best performance in the last 20 years, as seen in our year-end results. In addition, this year saw the lowest number of individual customers and groups of customers above the regulatory limit. We also completed all items in our maintenance and automation plans, successfully executing 100% of investments and reducing failure rates.

Sections of our network that are densely canopied have required a large volume of tree trimming effort. Optimally managing these services by balancing the number of customers affected, the severity of tree branch interference and available crews has posed a major challenge. This has required us to improve our controls and monitoring for increased accuracy.

Another major challenge is the impact from low voltage networks on EOD, EOF and Financial Compensation, as these networks are more spread out and expensive to maintain than medium-voltage networks. To address this challenge, Light has created action plans and invested in pilot projects to deploy new network mapping technology. These include our:



# Excellence in quality of service

- Summer plan measures to mitigate impacts on unscheduled outage duration and frequency during the critical summer season, from December to March;
- Recurrence plan for devices with recurrent issues in a given period.

In addition, our Center-South, Baixada, West and East Emergency Centers (CREs) and Operation Centers have been centralized into a single Integrated Operations Center (COI).

### **IMPROVED QUALITY OF SERVICE**

[GRI EU6, GRI EU28, GRI EU29] [SASB IF-EU-550a.2]

Even amid the pandemic, we maintained our focus on preventive activities and promptly responding to emergencies. We successfully structured investment management plans; we conducted preventative and corrective maintenance with well-defined schedules and targets to support continuous improvement of EODi and EOFi performance; and we pinpoint targeted our resources and prioritized investments and services as an increasingly lean and robust organization.

Moreover, we invested in automation and computer intelligence technologies to deliver on our drivers<sup>17</sup>, including interactive dashboards, artificial intelligence, and real-time messages providing a 360° view and a better understanding of our operations.

EODi (HOURS)

12 MONTHS

EODi in the high-voltage segment fell by 10%, while highvoltage EOF dropped significantly by 25%. Failure rates were reduced by 20% at substations and to zero for our underground transmission lines. Light's focus on prevention is reflected in our maintenance plan adherence rate (120%), and in our extensive use of thermographic inspections to quickly troubleshoot anomalies.



<sup>17</sup> High-impact variables that, following analysis, are used to plan operation, maintenance and investment activities.

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As with our high-voltage network, our approach to the underground network is highly focused on prevention and promptly responding to incidents. Underground EOD fell by 1%, while underground EOF dropped significantly by 17%. Failure rates fell by 48%. Light's emphasis on prevention is reflected in a maintenance plan adherence rate of 110%.



Light posted an EODi of 6.34 hours and an EOFi of 3.44x in 2021, a reduction of respectively 9.9% and 26.2% compared to the previous year. Light has continued to deliver strong operational results, ranking as the 3<sup>rd</sup> best distribution company for EOFi and the 4<sup>th</sup> best for EODi in 2021, our best performance in the last 20 years.

EODi and EOFi rates have remained below the ANEELestablished limits under our concession agreement. EODi was 29% (-2.56h) below the limit of 8.90 hours and EOFi was 40% (-2.29x) below the limit of 5.73x in the year.

### **DEPLOYING NEW TECHNOLOGIES**

In 2021 we purchased five tree branch chippers to optimize our tree trimming operations. The new equipment has improved productivity and reduced operating costs in transporting and disposing of tree trimming waste, ultimately improving quality of power supply. We expect to see further reductions in outages, which often are caused by tree branches touching power lines.

Light also purchased network protection software designed to improve productivity and reliability, taking Light to a new level in distribution network reliability.

In 2021 we tested fault detectors that can be used to remotely map the low-voltage network without having to rely on customer reports, reducing nuisance dispatching and allowing for a prompt response. In 2022 we plan to expand the use of this equipment to shorten response times and, as a result, improve our EOD and EOF indicators. Our decision to centralize our regional operation centers into a single COI has already helped to decrease low voltage transformer response times by 40%.

In relation to the underground network, we continued our automation project to connect the main equipment in the transformer vault to the communication system, supporting real-time monitoring of important transformer variables and enabling remote operation of switches located at strategic points in the underground circuits from the COI.

In relation to the high-voltage network, Light installed reinforced transformers and rural substations to reduce the Frequency of transformer burnouts.

### **OVERHEAD SYSTEM IMPROVEMENTS**

Light invested heavily in communication systems for remotely operated equipment, enhancing distribution system monitoring, protection and selectivity. In addition, we implemented 31 km of power line reinforcement and installed 610 pieces of protection equipment, including reclosers, self-healing systems, fuse switches, reclosing fuse switches, sectionalizers and other equipment. We also inspected 2,373 sections and circuits, and carried out 160,357 tree trimming operations and 607 transformer replacements. 87

### **UNDERGROUND SYSTEM IMPROVEMENTS**

We reallocated our own crews to address defects identified in underground vaults, which previously were responded to by contractors and took a toll on our operating expenditure. With this change, are own crews have proven to be more productive than our former contractor crews.

In 2021 we performed more than 20,000 inspections across our underground infrastructure, including transformer vaults and manholes.

We carried out approximately 1,800 maintenance operations; replaced more than 300 pieces of equipment, including power transformers, switching points (switches and BTX busbars) and network protectors; and performed more than 1,000 tests on insulating oil from underground transformers.

We expanded preventive renewals of Medium Voltage (MV) circuits, completing a total of 32 km of revitalized power lines. In the Low-Voltage (LV) network, we rebuilt approximately 53 km of power lines.

In MV system diagnostics, we performed very low frequency (VLF) testing on nearly 115 network system circuits, representing approximately 52% of feeders within this system.

Light also invested heavily in infrastructure works, including more than 300 structural repairs to underground transformer vaults. In automation, we developed a project to connect equipment to the automation systems within transformer vaults at strategic points of the radial system feeders, supporting online monitoring and remote operation of switches in more than 56 transformer vaults.

### **HIGH-VOLTAGE INITIATIVES**

In 2021 we carried out 2,792 preventive maintenance operations at substations, and 1,007 on transmission lines, as well as addressing 479 thermal anomalies detected via predictive thermographic inspections using handheld or dronemounted thermal imaging cameras. Total incidents involving High-Voltage systems decreased by 9% in the year. Outages lasting more than three minutes were down by 24%, helping us to set a new record for EODi and EOFi.

### **INVESTMENTS**

In 2021 we invested R\$ 577 million in network improvements and equipment to maximize quality. We also purchased software and equipment to improve productivity, such as tree branch chippers that have made our tree trimming operations more productive, providing direct operational benefits.

We have also consistently and sustainably expanded our regulatory asset base through investments.

Light invested a total of R\$ 106.9 million in High-Voltage systems, which largely went to reconfiguring the Nova Iguaçu Terminal transmission line, at a cost of R\$ 13.1 million; installing underground transmission line conductor cables, at a cost of R\$ 10.1 million; and retrofitting automation systems, at a cost of R\$ 9.5 million.

We invested more than R\$ 75 million in underground systems, including R\$ 50 million in overhauling assets such as power transformers, switches and network protectors; replacing medium and low voltage cables; and performing structural repairs in transformer vaults.

The primary benefits from these investments include improved continuity indicators, asset preservation and increased operational safety.





### **2022 COMMITMENTS**

We expect to further reduce our EOD and EOF indicators as part of our efforts to become the no. 1 electric utility company in Brazil. Even amid a lingering pandemic, we've now acquired more experience and have teams who are determined, aligned with and committed to achieving our 2022 targets.

In terms of quality of power supply, Light is working to sustain the best EOD, EOF and Financial Compensation levels in our industry under the new rules established in ANEEL Resolution 1000/21, as well as to minimize the number of individual customers and groups of customers above the regulatory limit.

Better power quality performance will result in an improved Xq factor in our electricity rates, which in turn will positively affect our revenues and our relationship with ANEEL, customers and the market.



### Innovation

#### [GRI EU8]

In 2021 Light invested R\$ 23.2 million in R&D projects, including R\$ 19.7 million at Light SESA and R\$ 3.5 million at Light Energia. This expenditure included research projects to develop new products or services as well as expenses on R&D program management. In 2022 we plan to invest R\$ 33 million via Light SESA and R\$ 5 million via Light Energia.

Throughout the year we completed 26 projects, of which 12 underwent accounting and financial audits and assessments by ANEEL. These projects generated economic benefits worth approximately R\$ 2.2 million for Light, including tax incentives under Lei do Bem (Law no. 11 196/05), workforce training and newly purchased equipment. Other economic benefits from the uptake of newly developed products are still being identified.

Further projects completed during the year are being prepared for accounting and financial audits in the first quarter of 2022.

### **REGULATORY FRAMEWORK**

In 2021 we met our main regulatory obligations, including the required number of internal and external audits.

During the year, Executive Order 998/20, subsequently enacted as Law no. 14 210, created a new mandatory contribution to the Energy Development Account (CDE). The new law requires the R&D account balance accrued up to August 2020 to be transferred to the CDE, excluding projects that have already been committed. However, the transfer procedures were only established by ANEEL in April 2021, affecting our ability to prospect for new projects.

### **COVID-19 IMPACTS**

Conducting research and development activities while observing the health protocols recommended by the World Health Organization (WHO) and the Brazilian Ministry of Health amid the COVID-19 pandemic, remained a challenge in 2021, as interactions between project teams and Light staff were subject to restrictions on their timing, frequency and venues, and were often replaced entirely by videoconferencing. These restrictions affected testing and field validation, travel and attendance at conferences.



### **KEY ONGOING PROJECTS**

Among our ongoing projects, we highlight our project for "Development of e-carsharing solutions: infrastructure and charging systems for e-carsharing and micro-mobility," supporting a low carbon economy." This project is developing a system and app for managing the shared use of Light's fleet of electric vehicles.

In 2021, our R&D department adjusted the scope of the project as follows:

- Advance a private e-carsharing model designed for Light's fleet
- Develop a smart phone app-based management system
- Secure technical validation to purchase vehicle charging stations

The main projects in Light's R&D pipeline and the investment involved are detailed below.



Main R&D projects	2020 (R\$)
Development of e-carsharing solutions: infrastructure and	
charging systems for e-carsharing and micro-mobility	766,889.07
Assessment of impacts from distributed photovoltaic generation	
systems on power quality in distribution networks	1,158,341.39
A smart system for correcting geographic databases using	
artificial intelligence and computer vision	1,465,833.62
Photovoltaic generation, battery storage, smart metering and relations with	
customers in disadvantaged communities within Light's service area	19,599.46
An Intelligence Center for special-approach areas with unified project	
management and initiatives supported by artificial intelligence	

The R&D department has also played a key role in developing innovative solutions for non-technical loss reduction that take account of the interests and cultural characteristics of communities in at-risk areas and/or where there are armed conflicts, with the goal of improving Light's operations in these areas.

A case in point is a project titled, Meter reading and fraud detection using thermal imaging and magnetic field analytics powered by artificial intelligence and computer vision, which will deploy artificial intelligence for automated meter reading using an app installed on meter readers' smart phones. In addition, the app can identify electromagnetic and thermal sources, potentially indicating issues related to non-technical losses. This tool provides high—96%—accuracy in automated meter reading using artificial intelligence, and has received positive feedback from meter readers about operations improvements in terms of reduced meter-reading errors and faster meter-reading.

Another standout project in the year, titled *Substation maintenance supported by augmented reality*, has developed a system for remotely supporting maintenance on electric equipment using augmented reality. The next step will be to migrate the system to Light's corporate production environment.

Two projects completed in 2021, and which are currently preparing reports and documentation for an ANEEL audit, are especially noteworthy:





 Live line corrosion detection system – Pilot Run: four inspection robots have been delivered for commercial operation in corrosion detection applications, with the project already generating royalties. In addition, a utility model application has been filed for an improved traction system and an automatic metering calibration and conditioning system.



### Projects completed in the year

Project Name	Deliverable	Type of Deliverable
Pilot run - Development of a load switch condition control system methodology and pilot	A device for preventively detecting switch faults, supporting improved allocation of maintenance crews and early fault detection.	Component
Smart fraud report handling system (SIDF)	A system with an algorithm that helps to locate and estimate the value of reported fraudulent connections. The practical result from this initiative is a higher average ticket in recoveries based on reports made via the app.	Software
Modeling performance indicators for a power-sector company: an analysis using accounting, economic and financial languages	Creating a system of performance indicators based on ANEEL-listed indicators, to assess the performance of distribution utilities in Brazil.	Methodology
Random Forest-based fraud detection system	Software supported by a random forest algorithm capable of analyzing historical data and automatically creating rules to identify customers with potentially fraudulent connections or with consumption anomalies suggesting irregularities.	Software
Determination of transformer load limits using thermodynamic and three-dimensional (3D) models	A tool for determining power transformer load limits using thermodynamic models, based on the limits established in standards and using finite element three-dimensional analysis.	Software
Developing advanced machine learning-based analytical models to detect fraud patterns or anomalies among telemetered customers	A machine learning tool and methodology to increase hit rates in selecting potentially fraudulent customer connections in the indirectly metered, low-voltage 200A segment.	Software
A managerial tool for planning distribution system maintenance and predicting impacts on EOD, EOF and financial compensation	A software tool for ranking OPEX and CAPEX plans based on impacts on continuity indicators (EOD and EOF) and other commercial quality metrics.	Software
Embedded fraud identification by overlaying image layers	Equipment designed to detect power supply irregularities in circuits embedded in walls, with outputs displayed as images.	Component
Market placement – An environmentally friendly solution for containing transformer oil leakage	Market placement of an environmentally friendly water-oil separator device for containing transformer oil.	Component
On-site monitoring of the grounding resistance and impedance of energized high-voltage substations	A remote, autonomous monitoring system capable of estimating the resistance, impedance and potential (including step and touch voltages) of grounding grids at energized substations, supporting an accurate determination of the operational status of grounding grids and critical regions.	System

In 2021 Light also worked to develop innovative digital transformation initiatives including customer service digitization and new digital services for at-risk communities, where physical access is difficult and hazardous, often affecting distribution system maintenance and operation.

### **2022 COMMITMENTS**

In 2022 we plan to launch a call for external R&D project proposals, with a significant amount of funding allocated to investments in projects to intensify the deployment of new technologies and reduce losses using a unified approach to collections that puts customers at the center and creates longterm value.

Light also plans to prospect for new projects with partners in the North, Northeast and Center-West of the state; ensure regulatory compliance by securing approval of funding invested in ANEEL-regulated projects; and prepare technologies and products developed within R&D projects for deployment and application in new business.

Another challenge in 2022 will be understanding ANEEL's new R&D Manual (PROPDI), which will become effective in January 2023. The amended manual will require electric utilities to implement a number of changes that put innovation at the center of their strategies. The new edition of the manual shifts away from academic projects and focuses on strategic projects to drive innovation and new product development. It also aims to address the complex issues facing the power sector.

# Technology

Light is changing its mindset about how to improve and fasttrack the development of new solutions. Our ongoing digital transformation is focused on more efficient products—which need to be cheaper and faster—and a better customer experience, which needs to be more user-friendly, efficient, accurate and better at addressing diverse customer needs. In addition, understanding the customer journey has become crucial in developing increasingly customized products and services.

Throughout 2021 we made continued progress in robotization via our chatbot service, becoming the top company in the power sector for services available via our WhatsApp-based chatbot. We also automated processes and internal routines across different departments.

Our Technology department has laid the analytics and data management foundations for our efforts to become a datadriven company<sup>18</sup>. This will allow data scientists on the ground to build parametric and statistical models supporting more accurate decision-making and increased operational efficiency.

Digital decoupling efforts are also ongoing and will prepare Light to implement and integrate new platforms using a more agile, secure and transparent approach. This will enable our platforms to be event-, data- and micro services-driven, integrating legacy and digital systems in an agile, resilient, high-performing and secure process.

#### **OUR DIGITAL TRANSFORMATION PROGRAM**

Light's digital transformation program involved a wide range of initiatives in 2021, including a reformulation of three processes on our digital channels (account transfers, Fraud Inspection Reports (TOI) and new connections) and implementation of 15 Lia chatbot services, helping to standardize and optimize processes and improve the user experience.

Our Technology department also structured a cloud-based corporate architecture as a backbone for Light's Digital Transformation Program.

Learn more about some of our technology milestones in 2021:

 A new cloud-based geo-referenced distribution database miner supporting faster extraction of data to reduce time frames from 15 to 2 days, as well as improving control of the data consolidation process and providing a continuous view of data formation in the Regulatory Asset Base (BRR);

<sup>&</sup>lt;sup>18</sup> Processes driven by data.

### () Light

- A new version of RI Topos (a loss reduction computer intelligence system), supporting the selection of loss targets and improving the power balance process;
- Improved telemetering links and invoicing monitoring for 6,800 free customers, ensuring regulatory compliance;
- Segregation of the automated telemetering system for more robust grid operation and control of field equipment.

### **EVOLUTION AND PERFORMANCE OF LEGACY PLATFORMS**

We have also laid the groundwork to implement the Azure cloud computing platform, supporting integration of our WFM Mobility Program with SAP and GDIS, among other platforms. As part of this, we created 40 new microservices within the cloud architecture ecosystem. In addition, we set the foundation for our Mind – Analytics project, which will support the development of business cases on the platform.

In process automation and robotization, we developed several proofs of concept during the year to assess feasibility across three different processes. Among the new additions in 2021 was a new solution for the electrical damage compensation process.

Learn about other initiatives below:

- Software updates on primary network connectivity equipment at the data center, and an infrastructure environment upgrade (SAP and Telemetry);

- Increased backup capacity at five substations with improved availability and an added redundant link;
- GDI system improvements supporting integration with our document management system (GED). Images captured in the field are now automatically stored without operator action;
- Improvements to GDIS server environment reliability by doubling processing capacity and creating new backup servers to ensure higher availability;
- Email server migration to a cloud-based system and implementation of employee collaboration via Teams;
- Replacement of analog telephone exchange systems with IP systems (three sites);
- Completion of a network and data center assessment to identify opportunities for improvement in Light's IT environment;
- Telemetry link upgrades in response to an ANEEL resolution requiring metering to be completed within specified time frames;
- Expansion of Internet link capacity to accommodate digital and cloud systems.

Initiatives in 2021 progressed as planned, but with some activities continuing into 2022, including the following:

- Progress on our digital decoupling effort, including

implementation of a new multispeed technology operating model (agile and waterfall);

- Reducing obsolescence with the implementation of a new crew management solution that will supersede one of our legacy platforms (GDIS SCAN) in 2022. Implementation of Azure/Openshift Red Hat will support the migration of legacy systems. In 2021, approximately 1,000 obsolete laptop and desktop computers and four backbone radios were replaced to further improve performance. We also replaced obsolete server storage equipment with new drives;
- Further progress on our Mobility Program and its analytics module. Project go-live is slated for 2022;
- Increasing the level of maturity of our Technology department, including in cybersecurity; in 2021 we launched a task force to reduce known vulnerabilities in the environment by approximately 25%. Our "move to cloud" journey will provide a platform for building maturity, together with security management.

### A NEW MINDSET IN DEVELOPING **SOLUTIONS AND PRODUCTS**

In 2021 Light launched a set of projects that are applying a hybrid (agile/waterfall) methodology to develop Minimum Viable Products (MVPs), which includes incremental deliverables, continuous improvement, and product ownership by business functions and the technology team.

Some of the projects using this methodology include: *Atende* Resolve, our National Incentive (Cashback) Program, the Light Digital (Chatbot) Program, new connection request management, and environmental preservation management.

### **BECOMING A DATA-DRIVEN ENTERPRISE**

Our newly-launched Mind Program is preparing Light for an analytics journey to build maturity and deploy technologies that can generate insights, support decision-making, and create competitive advantage.

In 2021 we laid the groundwork and implemented a technology platform that will support the development of business cases with the involvement of data scientists, data engineers, business analysts and specialists, using a decentralized and agile approach.

The Mind Program has a roadmap that provides a businessmanagement perspective based on data available in a data lake. This will support a shift to a model in which predictive

tools like machine learning are used to anticipate the movements of key actors in Light's business ecosystem including customers, partners, suppliers and shareholders in order to maximize value creation for the Company and enhance the customer experience.

### **OTHER HIGHLIGHTS IN THE YEAR**

- We implemented a new maintenance planning system (IBM Maximo) featuring better tools to improve efficiency in planning and executing distribution system maintenance.
- We remodeled and modernized the infrastructure in Block 1 and at our Marechal Floriano service office.
- In a collaboration with our dam engineering team, we implemented a system to monitor dam structures and superstructures based on remote and/or on-site inspections. The system is used to digitize dam safety processes and provide early detection of anomalies.



### **2022 COMMITMENTS**

Light plans to achieve further progress in Robotic Process Automation (RPA), digital channel improvements and SAP system optimization. We also plan to further develop the architecture platform to support future project launches that will require integration (digital decoupling).

In addition to these initiatives, the following are planned:

- WFM go-live in two phases and delivery of new business cases by our Mind analytics project;
- Stabilization and optimization of business-critical legacy solutions;
- Timely and enhanced compliance with ANEEL Regulatory Resolution 1,000 (December 07, 2021);
- Initial steps for compliance with new power sector cybersecurity regulations published in 2021 by the National Grid Operator (ONS), the National Council for Energy Policy (CNPE) and ANEEL.





# The regulatory agenda and value creation

### Regulatory overview

ANEEL Regulatory Resolution 952, published November 23, 2021, outlines the methodology to be used by electric utilities in assessing, and the criteria for recognition of, the economic and financial imbalance caused by the loss of market and increased delinquency during the COVID-19 pandemic.

### **GENERATION SCALING FACTOR** (GSF) AGREEMENT

Law no. 13 203/2015 establishes requirements on renegotiating hydrological risk in generation operations. Law no. 14 052, enacted September 09, 2020, amended Law no. 13 203/2015 and its related regulations. Regulatory Resolution 895/2020 created a framework to compensate the owners of hydroelectric dams participating in the Energy Reallocation



Mechanism (MRE) for the effects from: the displacement of hydroelectric generation as a result of accelerating guaranteed capacity for hydroelectric projects prioritized for development by the National Council for Energy Policy (CNPE); for the outof-merit-order dispatching of thermal power plants; and for electricity imports unsupported by guaranteed capacity, pursuant to Law no. 14 052/2020.

On September 17, 2021 Light Energia submitted a letter to ANEEL requesting an extension of its powerplant concessions pursuant to Resolution 895/2020, along with a statement of acceptance of the concession extension and a waiver of any further legal action. ANEEL responded with Technical Opinion 892/2020 providing indicative new concession terms for Light Energia's power plants, under case no. 48500.006512/2021-16.

The case has been submitted to the ANEEL Executive Board for a decision prior to signing an amendment to the Concession Agreement with the new concession terms.

### **DISTRIBUTED GENERATION**

On December 16, 2021 the Chamber of Deputies passed Bill of Law no. 5 829/2019 (now enacted as Law no. 14 300/2022), establishing a legal framework for distributed mini- and microgeneration in Brazil, and providing guidelines on considering the costs and benefits of distributed generation and a transition period for the purpose of existing tariff subsidies. The approved bill affords greater legal and regulatory certainty to mini- and micro-generators by providing access to distribution grids and a grace period for transitioning from the legacy rules to the new regulations.

### **REGULATORY LOSSES**

On April 10, 2020 ANEEL launched Public Consultation no. 29/2020 to gather inputs for the development of an improved regulatory approach to non-technical losses and impaired revenues. ANEEL is proposing new econometric models for determining regulatory losses, with metrics that take account of the following service-area attributes: the proportion of subnormal households, household density, violence rates and GDP *per capita*. In addition, a variable for measuring the distribution company's operating efficiency has been introduced in the new model. ANEEL is also proposing an alternative approach to treating high-risk areas.

Under Regulatory Resolution 958/2021, ANEEL approved a number of improvements to the methods for determining losses and impaired revenues.

### WATER SHORTAGE

Another development in the regulatory landscape was the publication of Executive Order no. 1 078 (December 13, 2021) on financial relief for distribution companies due to the imbalance caused by the extended drought.

The Executive Order allows distributors to take out loans and use the Energy Development Account (CDE) to amortize them. This was one of several measures taken by the Federal Government amid the water crisis, which led to country-wide constraints on hydropower generation. These, in turn, were exacerbated by the higher post-pandemic fossil fuel prices.

These combined factors significantly increased generation costs in Brazil, and ultimately increased electricity costs for end consumers. The Federal Government measures are designed to mitigate the mismatch between revenues from electricity rates and expenses on generation. 96

The Executive Order allows distributors to take out loans in order to cover the added costs. These loans are obtained from a bank syndicate organized by the Brazilian Development Bank (BNDES), and are amortized with the proceeds from special surcharges on electricity bills, which are collected into the CDE.

The new rules also allow for the creation of a special dryseason rate tier to cover the exceptional costs arising from water shortages. Such exceptional rate tiers would be applied to all but low-income customers registered with the Social Rate (TSEE) scheme.

The proceeds from the loans would be used toward mitigating the Rate Tier Account deficit, which is expected to remain until April 2022. The surcharge for electricity imports and the Voluntary Emissions Reduction Incentive Program were in force from September to December 2021, encouraging consumers to reduce their consumption by providing rate discounts.



# The industry landscape and challenges in purchasing electricity

The hydrological situation of the National Grid showed little improvement in 2021 compared to 2020. On the contrary, streamflow rates were the lowest in the last 90 years. This affected Light SESA's spot-market<sup>19</sup> (MCP) performance in the Electric Power Trading Chamber (CCEE), reflecting the significantly higher expenses on hydrological risk and thermal generation. These effects were partly mitigated by a special water shortage rate tier and by a loan in connection with the COVID-19 Pandemic.

In 2021, our first challenge was to manage our higher stocks of purchased electricity due to an unexpected load reduction as a result of a slow economic recovery and a second wave of COVID-19.

The overstock was mitigated when the water crisis set in, leading to higher spot-market prices and providing a value-add opportunity from the sale of surplus electricity in the second half of the year. This opportunity was subsequently endorsed by ANEEL in a late decision on an appeal regarding overstocks in 2016 and 2017.

To take advantage of the unusually high Difference Settlement Price (PLD) on spot sales throughout most of the year, Light decided to remain overstocked—by more than 105%—as

this could subsequently be economically beneficial for the distribution business.

In 2022 we expect to begin the year with a higher stock than the regulatory target, as load levels in Light's service area have yet to fully recover to pre-pandemic levels. Additional complicators include the rapid expansion of distributed generation and customer migration to the free market.

However, Light will be able to use regulatory mechanisms (the Surplus Sale Mechanism (MVE) and the Surplus and Deficit Settlement Mechanism (MCSD)) to ensure that we end the year within regulatory contract stock levels.

### **CHANGES IN PMIX PRICES**

The Pmix price was estimated at R\$ 275.82/MWh as at December 2021, up 17% on 2020. To reduce our average Pmix, we continued to focus on effective contracting management and securing optimal opportunities in the Regulated Market (ACR).

Average contract price R\$/MWh Norte Flu Physical Capacity Quotas

2021
367.36
116.00

CCEAR Availability	265.42	373.77
CCEAR Quantity	175.81	183.02
Itaipu	341.25	349.53
Eletronuclear Quotas	277.73	230.17
PROINFA	400.71	497.00

With our Norte Fluminense contract due to expire in December 2024, Light continued to implement the strategy we initiated in 2019. We purchased electricity in ACR auctions to gradually phase out the Norte Fluminense contract while reducing our average Pmix Price. In 2021 we bid in three ACR auctions for power supply from January 2025 and 2026: LEN A-4, LEE A-4 and LEN A-5. In each of these auctions, average prices were less than Light's Pmix price, and therefore lower than the price under the current Norte Fluminense contract.

Auction purchases		Updated price		
n 2021	MWm	(R\$/MWh)		
EN A-4	74.72	174.62		
_EE A-4	74.94	160.00		
EN A-5	61.41	246.47		

#### **Outstanding volume pending**

replacement (MWm)	Dec '20	Dec '21
	275.63	6457

<sup>&</sup>lt;sup>19</sup> The spot market is used to settle electricity-balance differences among agents. If a given company purchases more electricity than it needs in a given month, the surplus is settled at the Difference Settlement Price (PLD).

### New business

As part of our business transformation, Light has decided to no longer invest in assets that are not integral to our Company strategy. In 2021 we took further steps in this direction with the conclusion of an agreement to dispose of Light's equity interests in Guanhães and LightGer projects.

Besides the challenges that come with any M&A transaction, the COVID-19 pandemic and the economic downturn required greater resilience and we relied on the negotiation abilities of the M&A teams involved to successfully complete the transactions. The parties are currently working on meeting the conditions precedent and hope to conclude the transaction within 2022.

In relation to those companies in which we retain an equity interest, we have closely monitored their day-to-day operations through the governance bodies of which we are members, helping to create value through efficiency, synergies and cost reduction. Light's approach is to be constantly alert to opportunities in the market for all Group companies.

### **INDUSTRY LANDSCAPE, RISKS AND OPPORTUNITIES** [GRI 102-15]

Brazil's power sector is also experiencing a major energy shift driven primarily by the ESG agenda and technological innovation. This has led, for example, to an expansion of renewable generation, especially wind and solar.

In this fast-changing landscape, Light engages in projects that can create new business opportunities over the coming years. We seek to understand market dynamics using a multifaceted approach that includes, for example, efforts to shape policymaking in the industry in a fair and balanced manner. A case in point were the discussions on Bill of Law no. 5 829/2019 (now enacted as Law no. 14 300/2022), creating a Distributed Generation Framework in Brazil.

Another highlight in 2021 was ANEEL's approval of a distributed generation pilot project at Light Energia's hydroelectric reservoirs, with funding from the Energy Efficiency Program. The power output from the project will be supplied to thousands of families living in communities within Light's service area.

There are currently three major global trends in the power sector: decarbonization (less fossil fuels); decentralization (with more electricity being generated near loads); and digitization (to increase efficiencies, reduce costs and support new forms of interaction between agents and consumers).

Key power-sector trends:

- Increasingly decentralized generation
- Consumers morphing into "prosumers<sup>20</sup>", interacting more with the system and seeking to improve energy efficiency and cost savings
- More flexible operations, given the intermittent output of some renewable sources
- Smart grids and smart meters creating new opportunities to drive cost savings and develop new services for the powersector ecosystem

In Brazil, Public Consultation 33, organized by the Ministry of Mining & Energy in 2017, launched a discussion about the modernization of the country's power sector. There has since been an ongoing, industry-wide debate around the development of solutions to deliver electricity to customers at more competitive rates while sustainably expanding the system by opening the market and efficiently allocating costs and risks. Achieving these objectives, however: will require:

- Assured supply: all consumers—including free and captive consumers—should have access to electricity were, when

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and in the amount required;

- Project fundability: ensuring projects are economically and financially feasible is an imperative to expanding the grid;
- Consumer freedom: consumers should have the information and freedom to choose their electricity services, including their supplier;
- Credible pricing: prices should be transparent and consistent with the grid's operating condition, and should be reproducible and predictable for power-sector agents;
- Environmental sustainability: responsible use of natural resources;
- Competitiveness and innovation: the model should drive competitiveness and innovation across each link in the power-sector value chain through the use of market-ready solutions;
- New technology uptake: the legal and regulatory framework should be technology-agnostic;
- Integration with other industries: the model should help to capture synergies with other economic sectors;
- Universal access: the model should allow consumers to access electricity efficiently.

The main levers are:

- **1.** Market opening: reducing the consumption threshold for access to the free market to less than 1,000 kW, following implementation of improvements in the price formation process and in the operation of the spot market, and subsequent to or concurrently with the segregation of physical capacity from rated power;
- **2.** Price formation: a competitive market is economically efficient because it maximizes aggregate consumer and producer surpluses and, since consumers and producers are responsive to pricing, an adequate price signal in a competitive market is essential to driving this efficiency;

In the Brazilian power sector, prices are determined by costs, and specifically by Marginal Operating Costs (CMO). Supply-side price formation offers an alternative as it can improve economic efficiency and demand responsiveness to supply, and vice versa, through more dynamic and decentralize interaction between industry agents;

**3.** Energy Reallocation Mechanism (MRE): discussions on improving the MRE are being advanced in the context of efforts by the Ministry of Mining & Energy (MME) and its agencies to structurally solve the Generation Scaling Factor (GSF) problem. In the Brazilian National Congress, the approach taken to solving the problem has been to address its past effects. This has resulted in unprecedented judicialization that has hampered the operation of the spot market:

However, a solution is evidently needed to prevent recurrence of a problem of this magnitude, and discussions are underway to develop a method of adjusting guaranteed capacity to the grid's operating conditions, and to implement the previously described improvements to MRE, which underlines the importance of following implementation of the action plan;

- **4.** New technologies: a focus on new technologies that are likely to affect power generation and consumption in Brazil over the coming years. Some of the technologies being considered include battery storage solutions, hybrid pumped storage and hydrogen plants, offshore wind farms, distributed generation, electric vehicles, demand-side energy management, energy efficiency, and auxiliary services. For each of these sources and technologies, work is being done to identify current barriers to uptake and what can be done to incorporate these sources into Brazil's energy mix;
- **5.** Optimized charges and subsidies: a focus on subsidies funded by the Energy Development Account (CDE) and sector charges such as System Services Charges (ESS) and Reserve Energy Charges (EER), the Inspection Fee for Electricity Services (TFSEE), Financial Compensation for the Use of Hydro Resources (CFURH), R&D charges and Energy Efficiency charges;
- **6.** Auction framework: we are assessing the current auction framework to inform proposed contracting improvements that can help to better meet the needs of the grid;

- 7. Sustainable distribution: a global shift toward decentralized generation systems, digitization (so that electricity is produced, transmitted and consumed more efficiently), electric mobility and increased individual choice, combined with a prevalence of renewable sources in the electricity mix, are driving improvements in the distribution segment;
- **8.** Expiring concessions: the concessions for 20 distribution companies that were privatized after 1995 are due to expire beginning in 2025. Under these distributors' current concession agreements, the concession term may be extended at the discretion of the concession authority, provided such an extension is requested at least 36 months in advance of expiration. The concession authority is required to decide on the extension at least 18 months prior to expiration.

In this context, it is important to build an understanding of the best approach to protecting the interests of consumers, investors, society and the country, so that current concession holders can strategically position themselves during the discussions to formulate the relevant legal and regulatory framework.

The levers in the power-sector modernization process are interconnected, i.e. impacts from opening the market are connected to the need for structural measures to ensure the sustainability of the distribution segment, which includes addressing legacy agreements and designing the regulatory framework for consumers that opt out of migrating, or are unable to migrate, to the free market.

Light has engaged in related public consultations and in interactions organized by stakeholders to present the Company's stance on these matters.

Some examples of opportunities that could arise as the changes currently being discussed are implemented are:

- Retail trading: free-market expansion and more flexible rules for consumers. In order to serve these new consumers, trading companies will need to develop solutions across technology, digitization, new green-labeled products, hedging, customer experience and customer loyalty, value-added services, etc.
- Distributed generation: understanding consumer characteristics and how best to serve them in each region while optimally leveraging local renewable resource, and implementing the newly approved regulations.
- Centralized renewable generation: With the expansion of the free market and the mainstreaming of ESG thinking, having a renewable generation portfolio becomes an even greater competitive advantage.

Light is alert to these developments and opportunities, and is developing ways to position the Group within the energytransition landscape that will form over the coming years.





### Generation

Light Energia's generation assets comprise five hydroelectric plants and one small hydro plant with an aggregate installed capacity of 872.54 MW, located in the states of Rio de Janeiro and São Paulo, as follows: Fontes Nova, Nilo Peçanha, Pereira Passos, Ilha dos Pombos, Santa Branca and Lajes. These plants produce hydroelectric power from the kinetic energy contained in water flowing through the Paraíba do Sul, Piraí and Ribeirão das Lajes rivers.

Our hydro assets also include two pumped storage plants—Santa Cecília and Vigário—and other appurtenant structures, including reservoirs, dams, channels, dikes, spillways, tunnels, penstocks and water intakes.

### **OVERVIEW OF THE PARAÍBA DO SUL, PIRAÍ** AND RIBEIRÃO DAS LAJES DAM SYSTEM







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#### WATER STEWARDSHIP [GRI 303-

1, GRI 303-2] [SASB IF-EU-140A.3]

Water is our primary natural capital as a raw material required to generate electricity. Accordingly, Light has an environmental management program in place for the protection of ecosystems and water quality in the Lajes Complex.

In 2021, river discharge rates in the Paraíba do Sul River basin were lower than the historical average, but without compromising the operation of Light's hydropower dams, which continued to discharge water into the Guandu River basin at the rates required under joint ANA/DAEE/IGAM/INEA Resolution no. 1382 (December 07, 2015).

### **INITIATIVES TO ENSURE SAFETY DURING CONSTRUCTION:**

- Monthly *Vida* Committee meetings
- Safety inspections
- Safety Blitzes
- Safety Leadership (Liderança pela Vida)
- Toolbox Talks
- Digital Toolbox Talks
- CIPA meetings
- **\_** COVID-19 safety precautions as detailed in the chapter Health & Safety of this report.

### **DAM SAFETY**

A Dam Safety Plan (PSB) is required under the National Dam Safety Policy (PNSB) and article 6(II) of Law no. 12 334/2010 to assist the dam owner in managing the structural and operational integrity of the dam.

The plan contains key technical data on the dam's structure, construction, operation, maintenance, classification, control measures, monitoring, and inspection reports, and serves primarily as a tool for planning and managing dam safety.

Our PSB was introduced in 2017, within the timeframe established under ANEEL Resolution 696/2015. Within our Dam Safety Plan, in 2021 we:

- Updated and submitted to ANEEL a Dam Safety Form specifying the regulatory classifications of our dams, using the process established by ANEEL
- Conducted regular safety inspections as required under the National Dam Safety Policy (PNSB)
- Updated emergency action plans
- Completed implementation of dam safety management software
- Continued to install dam warning systems for the self-rescue zones of the Santa Branca and Lajes Complex dams





### THE LAJES COMPLEX BYPASS TUNNEL

The bypass tunnel will transfer water from the Vigário to the Ponte Coberta reservoir to allow maintenance work to be conducted on the Nilo Peçanha intake system, which is currently not possible since discharge rates into the Guandu system cannot be reduced as they provide water supply to the Metropolitan Area of Rio de Janeiro. The project will allow water to flow into the Guandu River via the bypass tunnel to provide continued water supply in the event that the current intake system needs to be partially or fully shut down.

An alternative intake system between the reservoirs will create a reliable option for ensuring a minimum streamflow of 120 m<sup>3</sup> through the Guandu, downstream from the Pereira Passos dam, to provide water supply to the Metropolitan Area of Rio de Janeiro (the Guandu Water Treatment Plant and other downstream users) with the same water quality as supplied to the current water treatment system.

In 2021 the detailed design for the works was approved, including technical, project management and quality specifications. Toward the end of 2021, Light began erecting the temporary site facilities and conducting preliminary works.

The environmental licensing process progressed with the issuance of environmental permits for wildlife removal and clearing. The environmental regulator has also approved the environmental programs for the project, including several programs to protect threatened (vulnerable) fauna and flora species.

Environmental programs are being implemented in line with the construction schedule, with most programs already ongoing, including the:

- Social Communication and Environmental Education
  Program
- Surface and Groundwater Water Quality Monitoring Program
- Wildlife-related programs
- Vegetation-related programs
- Disturbed Land Rehabilitation Program (DLRP)

To enhance the positive impacts from construction of the bypass tunnel, light has conducted an assessment to form a set of environmental objectives and targets for the project and align them with the Sustainable Development Goals (SDGs). We hope to demonstrate our efforts to not only mitigate and neutralize impacts, but also to improve well-being and water security for the nearly 10 million people living in the Metropolitan Area of Rio de Janeiro.

Light's governance structure is prepared to respond to stakeholder demands arising during the course of the project, and to proactively address social and environmental challenges emerging throughout the project.

### **ILHA DOS POMBOS SPILLWAY**

The Ilha dos Pombos spillway works will improve the reliability, continuity, operating efficiency and structural safety of the dam, in line with requirements under Brazil's National Dam Safety Policy (PNSB).

The spillway works progressed as planned throughout the year, with no significant deviations from the baseline.

The floodgates within span M (M1, M2 and M3) were completed and commissioned toward the end of September 2021. The works at spans L and K proceeded as planned, ending the year at respectively 83% and 27% completion.

SOCIAL BONDS

In August 2021 Light issued social bonds<sup>21</sup> totaling R\$ 400 million, with a secondparty opinion issued by Bureau Veritas Certification Brasil, in accordance with the June 2021 edition of the Social Bonds Principles, published by the International Capital Markets Association. The proceeds will be used toward the construction of a bypass tunnel to transfer water from the Vigário to the Ponte Coberta reservoir, and toward repair work on the Nilo Peçanha intake system.



### UPGRADES TO THE VIGÁRIO AND SANTA CECÍLIA PUMPED STORAGE FACILITIES AND THE LAJES DAM

We completed the upgrades planned for 2021 at the Santa Cecília pumped storage facility, delivering motor-pump sets 1, 2 and 3. We also completed all planned activities as part of the Lajes dam upgrade.

At the Vigário pumped storage facility, Light completed the upgrade of motor-pump set 3, while the motor-pump 2 upgrade is at 95% completion and is expected to be fully completed in January 2022. At this facility we also changed out the impeller in motor-pump 2

<sup>&</sup>lt;sup>21</sup> Like green bonds, social bonds are debt securities sold to investors, i.e. they represent the debt payable by public or private entities with interest. The proceeds from social bonds are earmarked for specific projects aiming to deliver social improvements.

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### **OTHER INITIATIVES IN 2021**

- Manage and improve the Availability Factors (AF) of generator units at the Fontes Nova, Nilo Peçanha and Santa Branca dams, and ensure AF values remain within prescribed limits at the Ilha dos Pombos Dam. The goal is to optimize upgrades and scheduled maintenance to reduce generator failure and scheduled shutdowns.
- Initiate the overhaul of the unit 14 generator and turbine at the Nilo Peçanha Dam
- Complete the installation of a second trash rack cleaning machine at the Ilha dos Pombos intake channel to mitigate the impacts from aquatic plants on power plant performance
- Flood management: on December 17 and 18, 2021 there was major flooding in the Piraí River Basin. Light's structures and procedures were largely successful in attenuating the flood, although some riverside communities in the municipalities of Barra do Piraí and Piraí were affected, with Light providing immediate support to the Civil Defense authorities to mitigate social impacts

### **COMMITMENTS AND TARGETS FOR 2022**

- Complete the construction and commissioning of the floodgates at spans K and L of the Ilha dos Pombos dam, and complete the spillway upgrade project
- Continue the bypass tunnel works at the Lajes Complex
- Continue to manage Availability Factors (AF) for improved performance throughout the year





# Reducing legal claims

[GRI 419-1]

In labor claims, the biggest challenge in 2021 was supporting and advising our Human Resources department on keeping the workforce safe, both those working from home and those working on-site in essential activities during the COVID-19 pandemic, as well as addressing other routine matters, such as union negotiations.

Another major challenge, which we also met successfully, was reducing liabilities, contingencies and provisions during the pandemic, which led to the closure of the Regional Labor Court throughout most of the year.

Our Legal department also helped to structure the Ethics Committee, primarily with a view to deterring violations of our Code of Ethics and Business Conduct.

In civil litigation, our biggest challenge was containing new claims and reducing our stock of legal proceedings. We began 2021 with 79,100 claims, and ended the year with 74,900, a



reduction attributable to improved grounds for our defense in legal claims, collaboration with operations departments and partner law firms, and programs implemented by the Legal department to reduce liabilities and disseminate a culture in which the number of closed cases always outpaces the number of new cases each year.

In corporate litigation, involving contracts, corporate law, corporate governance, regulatory matters, and environmental matters, in 2021 the Legal department provided advice on several strategic projects, including on the negotiations toward the disposal of assets as part of our efforts to divest from noncore assets, and on structured transactions to raise funding in the financial market to support new investments and improve Light's and our subsidiaries' debt profile.

Also in corporate litigation, we concluded important negotiations and contracts in both the distribution segment such as new telemetering contracts—and in the generation

### () Light

segment, including the contract for the bypass tunnel works, which kicked off in the second half of 2021. The end-to-end contracting workflow was also revised and a new Group-wide contracting model was developed in the year.

As another significant contribution, we successfully concluded the Seventh Amendment to the Light SESA Concession Agreement with ANEEL, reintroducing provisions that allow us to renew the concession, and reformulating the overall quality indicators—EODi and EOFi—for the distribution business.

On the regulatory front, Light worked with the Brazilian Association of Electrical Utilities (ABRADEE) to secure a favorable decision that suspended the limitations on collecting 1% public lighting fees, the prohibition of offsets and the exemption from paying these fees, an important step in defending the rights of distribution companies, now acknowledged by ANEEL under Regulatory Resolution 888/2020.



# Reducing contingencies

On the labor front, we continued to review case law, legislative developments and the financial position of contractors in order to reduce contingencies and inform potential settlements in cases likely to be lost.

The principal matters involved in labor claims are related to joint liability in worker claims against contractors, overtime, rest periods, salary parity and bonuses for hazardous work.

In 2021 we were party to 351 labor claims brought by our own and third-party employees, of which 34 were adjudicated within the year. Another 398 claims from previous years were adjudicated in 2021. In 2022 we plan to preventively consult with employees and contractors to help reduce labor claims.

Also in 2021, Light received eight administrative claims relating to human rights impacts, including five relating to safety practices and three relating to other matters, such as freedom of association, working hours, and reduction of benefits.

In civil litigation, Light's legal department reviews processes, workflows and strategies to help customers feel that their demands have been satisfactorily met and lose interest in bringing claims in court.

The department's approach revolves around three pillars:

- Preventive action and improvement of operational processes;

- Thorough and timely evidence-gathering and case-building to achieve favorable outcomes in defending claims;
- Improving Light's reputation both with the courts and with customers.

The primary matters involved in these claims include complaints related to anti-theft efforts, invoice amounts and unscheduled outages.

Our targets for 2022 are to:

- Reduce cash disbursements in paying awards and settlements;
- Further reduce our stock of legal claims;
- Increase our case success rate.

In addition to helping Light ensure compliance with applicable laws and regulations, in 2022 the Legal department will also engage in regulatory discussions related to two important matters: maintaining the economic and financial balance of Light SESA's concession agreement amid the lingering effects from the COVID-19 pandemic; and handling claims arising from the water shortage.



# Regulatory fines

Light paid a fine of R\$ 534,072.87 on October 29, 2021 in connection with Notice no. 0017/2021-SFE (Case no. 48500.005178/2020), resulting from an audit on our action plan to address commercial issues.

The audit was conducted from February 1 to 10, 2021 to assess Light's quality of service, and specifically aspects such as invoicing, responding to service requests, compensation for exceeding reconnection deadlines in rural areas, and undue disconnections.





# Financial management: financial health and resource optimization

### Results of operations

Light S.A. recorded net income of R\$ 398 million in 2021, down 42% on the previous year. The reduction, primarily in the generation business, was driven by worsening hydrological conditions during the year, which led to a lower GSF and a higher PLD price, and consequently higher expense on purchased electricity. The reduction was partly offset by our strategy of seasonalizing guaranteed capacity and a proactive hydrological hedging strategy.

Adjusted EBITDA was R\$ 1.9 billion in 2021, down 23% on 2020. The contraction is primarily explained by our recognition in 2020 of the settlement of a lawsuit against Furnas (R\$ 394 million) and the recognition of GSF intangible assets (R\$434 million), a total effect of R\$828 million.



Net operating revenue, not including construction revenue, was a total of R\$ 13.9 billion in 2021, an improvement of 13% on 2020 despite a slow market recovery. The revenue growth reflects the rate-setting review in March 2021 (with an average effect of 6.75%), the implementation of higher rate tiers and changes in the CVA account, which is used to offset Component A costs.

Net revenue in the trading business was a total of R\$ 1.3 billion in 2021, a significant increase of 28.4% on 2020. The increase reflects our adoption of stringent criteria in credit analysis and counterparty selection, based on sound market assessments, as well as intra-year trades.
Consolidated operating costs and expenses, excluding construction costs, ended the year at R\$ 12.7 billion, up 22% on 2020. The increase is explained by higher expenses on electricity purchases from the Norte Fluminense Thermal Power Plant and CCCE expense.

Net debt at December 31, 2021 was R\$ 7.4 billion, up 34% from R\$ 5.5 billion in 2020. Net Debt to EBITDA ended 2021 at 3.48x, higher than in 2020 (1.73x). It is important to note that, for debt covenant purposes, EBITDA excludes non-cash effects such as equity income, provisions, indemnifiable concession assets and other operating revenue/expense.

Light is currently within its covenant limit of 3.75 times under most debt contracts.

The EBITDA-to-interest coverage ratio was 3.17x at year-end, above the covenant limit of 2.0x under most agreements. It is important to note that proceeds received from the "COVID Account" in 2020 began to be amortized throughout 2021.

For details on our results of operations for financial year 2021, see our Annual Report (which is published concurrently with our Financial Statements) and our quarterly Earnings Releases. Access our corporate documents.

## Selected Financial Information (R\$ MM)

**Gross Operating Revenue** Deductions Net Operating Revenue **Operating Expense** PMSO Personnel Material Outsourced Services Other Purchased Electricity Depreciation Provisions Provisions - Voluntary Severance Program ADA Extraordinary ADA ADA - Renova **Adjusted EBITDA\*** Financial Income/Loss Other Operating Income/Expense Income before Taxes and Equity Income Income Tax/Social Contribution Deferred Income Tax/ Social Contribution Equity Income Net Income Note: Excluding construction revenue/costs

2021	2020
22,327.0	19,454.4
(8,396.4)	(7,168.7)
13,930.7	12,285.7
(12,699.7)	(10,381.9)
(815.2)	(883.6)
(421.3)	(424.5)
(23.5)	(29.0)
(431.5)	(477.6)
61.1	47.5
(10,427.4)	(7,995.3)
(678.1)	(590.9)
(181.6)	(293.4)
(597.4)	(618.7)
-	
-	-
1,909.0	2,494.7
(1,330.2)	(733.7)
(40.0)	(94.3)
(139.3)	1,075.8
4.3	(760.1)
580.6	404.4
(47.6)	(28.2)
397.9	691.9

Trading

Services

**Total** 

Other and eliminations

Net Margin (%)

Adjusted EBITDA by Segment (R\$ MM)	2021	2020	
Distribution	1,231.7	1,363.6	
Generation	551.2	1,088.9	
Trading	150.5	59.3	
Services	-	-	
Other and eliminations	(24.3)	(17.1)	
Total	1,909.0	2,494.7	
EBITDA Margin (%)	13.7%	20.3%	
Net Income/Loss by Segment (R\$ MM)	2021	2020	
Distribution	243.6	274.8	
Generation	103.0	421.8	

102.8

(51.5)

397.9

2.9%

-

38.0

(53.7)

691.9

5.6%

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# Investment

Capital expenditure in 2021 was a total of R\$ 1.4 billion, 50.0% higher than in the previous year.

In the Distribution business, significant investments included new connections, underground system maintenance, and transmission capacity expansion, which primarily accounted for an increase of 38.3% in the Engineering line item. In the Commercial line item, the 40.6% increase in investments reflects intensified loss-proofing and customer normalization activity in the quarter.

In generation, investments increased by 76.6% on the previous year. The increase reflects expenditure on power plant pumping system upgrades and asset replacements, as well as expenditure on the spillway works at the Ilha dos Pombos dam and construction of the Lajes Complex Bypass tunnel, which involved a total investment of R\$ 102.4 million in the year. A total of R\$ 154.5 million has been invested since these projects commenced.

Investments under the Non-Electric Assets line item increased by R\$ 82.2 million, largely in Technology in connection with a systems and infrastructure upgrade.

The investment was made under a contractual obligation as a result of Light abandoning the Itaocara hydroelectric power plant project.

# Consolidated Capital Expenditure (R\$N

Electric Assets (Distribution) Engineering Commercial Non-Electric Assets Generation (Light Energia & Lajes) **Total** Contributions **Total Capital Expenditure** (including contributions)



			Change
/IM)	2020	2021	2021/2020
	745.1	1,017.2	36.5%
	402.3	556.4	38.3%
	327.8	460.8	40.6%
	103.9	186.7	79.7%
	99.8	176.3	76.6%
	948.8	1,380.2	45.5%
	1.3	45.5	3429.3%
	950.1	1,425.7	50.0%

# 🟈 Light



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A free-translation from Portuguese into English of Auditors' Report on non-financial statements (Annual Sustainability Report and Greenhouse Gases Inventory) originally prepared in Portuguese and in Brazilian currency (R\$).

Independent Auditors' Limited Assurance Report on the Light S.A.'s Annual Sustainability Report and Greenhouse Gases Inventory based on GRI – Standards (In accordance – "Comprehensive"), and the Brazilian GHG Protocol Program.

To the Management and Shareholder of **Light S.A.** Rio de Janeiro – RJ

#### Introduction

We were engaged by Light S.A. management to present our limited assurance report on the information contained in the Annual Sustainability Report ("Report") based on Global Reporting Initiative ("GRI") – Standards and the Greenhouse Gases Inventory (GHG Inventory), for the twelve-month period ended December 31, 2021.

#### Light S.A.'s management responsibilities

Light S.A.'s management is responsible for preparing and presenting appropriately the information contained in Report in accordance with criteria, assumptions and requirements of the GRI guidelines (In accordance – "Comprehensive"), as well as the GHG Inventory in line with the specifications of the Brazilian GHG Protocol Program and for the internal controls as management determines is necessary to enable the preparation of information free from material misstatement, whether due to fraud or error.

#### Independent auditors' responsibility

Our responsibility is to express a conclusion on the Light S.A.'s Report information and GHG Inventory, based on the limited assurance work conducted in accordance with Technical Notice of Ibracon № 07/2012, approved by the Brazil's National Association of State Boards of Accountancy (CFC) in light of NBC TO 3000 (Assurance Work Other Than Audit or Review), issued by the CFC, which is equivalent to international standard ISAE 3000, issued by the International Federation of Accountants, applicable to non-historical information. These standards call for compliance with ethic requirements, including independence and work carried out to obtain limited assurance that the Report and the GHG Inventory is free of material misstatement.

A limited assurance work conducted in accordance with NBC TO 3000 (ISAE 3000) consists mainly of inquires of management and other professionals from Light S.A. who were involved in the preparation of the Report and GHG Inventory, as well as of the application of additional procedures deemed necessary to obtain evidence which enables us to conclude on the limited assurance on the Report and GHG Inventory. A limited assurance work also requires additional procedures, as the independent auditor becomes aware of matters that lead him to believe that the Report and GHG Inventory information may contain material misstatement.

The selected procedures relied on our understanding of the aspects concerning the compilation and presentation of the Report and the GHG Inventory information in accordance with criteria, assumptions and own methodologies from Light S.A. The procedures comprised:

- (a) the planning of the work, considering the materiality, the volume of quantitative and qualitative information and the operating and internal control systems which supported the preparation of the Report and the GHG Inventory;
- (b) the understanding of the calculation methodology and the procedures for preparation and compilation of the Report and the GHG Inventory through interviews with management in charge of preparing the information;

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- (c) the application of analytical procedures on quantitative information and sample verification of certain evidence supporting the data used for the preparation of the Report and the GHG Inventory;
- (d) comparison of the financial indicators with the financial statements and/or accounting records.

The procedures applied in this limited assurance work also comprised compliance with the guidelines of the structure for development of the GRI Standards applicable in the preparation of the information contained in the Report, and Specifications of the Brazilian GHG Protocol Program for the Greenhouse Gases Inventory for the period from January 1, 2021 to December 31, 2021.

We believe that the evidence obtained in our work was enough and appropriate to provide a basis for our limited conclusion.

#### Scope and limitations

The procedures applied in a limited assurance work are substantially less in scope than those applied in an assurance work aimed at issuing an opinion on the Report and GHG Inventory information. As a consequence, we are not in a position to obtain assurance that we are aware of all matters which would be identified in an assurance work aimed at issuing an opinion. Had we carried out a work to issue an opinion, we could have identified other matters or misstatements in the Report and GHG Inventory information. Accordingly, we did not express an opinion on this information. In addition, Light S.A.'s internal controls were not part of our limited assurance scope.

The non-financial data is subject to further inherent limitations than financial data, given the nature and diversity of methods used to determine, calculate or estimate such data. Qualitative interpretations of materiality, significance and accuracy of data are subject the individual assumptions and judgments. Also, we did not carry out any work on data reported for prior periods nor in relation to future projections and goals.

#### Conclusion

Based on the procedures performed and herein described, nothing came to our attention that makes us believe that the indicator presented on the Report and the GHG Inventory, for the twelve-month period ended December 31, 2021, was not prepared, in all material respects, in accordance with criteria, assumptions and methodologies for the preparation of the indicators based on requirements of the Global Reporting Initiative – Standards (In accordance – "Comprehensive") and Specifications of the Brazilian GHG Protocol Program.

Rio de Janeiro (RJ), April 26<sup>th</sup>, 2022.

ERNST & YOUNG Auditores Independentes S.S CRC 2SP015199/0-6

Leonardo Masseli Dutra Expert group: Technical Reviewer

Flávio A. Machado Partner - CRC – 1MG 065.899/O-2

# **OVERALL COORDINATION**

## **INVESTOR RELATIONS**

Rodrigo Vilela Carlos Cotrim Regiane Monteiro de Abreu Vinicius Lima Dias Taynara Carou de Azevedo Camila Cordeiro Rodriguez Rafael Campos Marinho

# CREDITS

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