GNA
GÁS NATURAL AÇU

SUSTAINABILITY Report 2022

CONTENTS

1 | INTRODUCTION 5

Sustainability 7
Materiality 9
Highlights for the year 11
Message from the Board 12

2 | ORGANIZATIONAL PROFILE 15

Purpose, vision and values 20
Operations 23
Shareholders 26
Recognitions 27

3 | BUSINESS STRATEGY 29

Operational performance 31
Business development 32
Research and development 34
Economic performance 35

4 | CORPORATE GOVERNANCE 37

Ethics and transparency 38
Governance structure 43
Risk assessment 45

5 | EALTHY AND PROSPEROUS RELATIONS 47

Human capital 49
Responsible purchasing 63

6 | RESPONSIBLE AND SHARED VALUE 67

Sustainable relationship 68
Social investments 76

7 | NATURAL RESOURCES CONSERVATION 81

Biodiversity 84
GHG emissions and air quality 89
Water management 91
Energy 93
Waste management 94
Noise 95

8 | SUMMARY OF INDICATORS 97

GRI annex 98
GRI content index 109

9 | CORPORATE INFORMATION/EDITORIAL STAFF 135

1 ano
de operação
GNA I 16.09.2022
GNA

FOREWORD

Sustainability 07

Materiality 09

Highlights for the year 11

Message from the Board 12

ABOUT THE REPORT

GRI 2-3 | 2-5

For the second consecutive year, GNA Gás Natural Açu has published its Sustainability Report – focused on 2022 – as a way to honor its commitment to transparency and accountability to all its stakeholders. The publication presents the progress made and challenges faced over the period in relation to both the operation of the GNA I (Plant, Terminal and Transmission Line) project and the construction of the GNA II (Plant and Transmission Line) project.

To this end, the report adheres to the guidelines of the Global Reporting Initiative (GRI) in their most up-to-date standard. It also incorporates indicators from the Sustainability Accounting Standards Board (SASB) and the company's own standards – defined and determined based on their relevance to operations. Economic and financial information was submitted to an independent audit; social and environmental information was not audited.

Questions and comments related to this document can be sent through the Speak with GNA channel: **0800 591 2094**.

→ Sustainability

GRI 2-24 I 2-29

GNA bases its business on the Integrated Management System (SGI) – which provides guidance to its business and is one of the key aspects of the company's Sustainability Policy. It encompasses quality, health, safety, environment and social responsibility, aiming at offering services that satisfy process quality specifications; protect people's health and safety; strengthen operational and process safety; make efficient use of environmental resources; and promote social responsibility practices. SGI audits are periodically conducted in order to assess adherence to the processes and the system based on the requirements established.

GNA adopted corporate risk management that is in sync with the control and monitoring now used in the construction of its projects. The goal is to improve governance and monitor possible threats that could potentially affect the viability of its business, health and safety, the environment, its own image and that of its shareholders. To do so, the company retained a specialized consulting firm that reviewed and classified the risks related to probability, impact and other parameters. The same methodology has been applied in the implementation of GNA II projects.

In addition, it has also adopted a Sustainability Strategy, guided by the purpose of developing energy and gas structuring projects that promote the development of people and create opportunities while respecting the environment.

Stakeholder Engagement Plan

The company carried out such interactions through community visits, in-person meetings within the communities, sharing communication material, maintaining space for dialogue (approximation and ombudsman) and offering a mechanism for complaints and reports. This exchange is promoted by the Social Responsibility team.

Stakeholder Engagement Plan.
Find out more in: Communities

Purpose:

Deploying structuring energy and gas projects that train people, create opportunities, and respect the environment.

GNA SUSTAINABILITY STRATEGY

Healthy and prosperous relations

Creating harmonious and inspiring relationships with our employees and partners

- Human capital
- Health & safety
- Diversity & Inclusion
- Sustainable supply chain

Responsible and shared value

Growing together with our community

- Human rights protection
- Community health & safety
- Local hiring and suppliers
- Local development

Natural resources conservation

Commitment to the protection and sustainable management of natural resources

- Biodiversity
- GHG emissions and air quality
- Water management
- Waste management

Enablers

Business ethics and transparency	Integrity and transparency in all our activities
Business model resilience	Innovative solutions and continuous improvement

SUSTAINABLE DEVELOPMENT GOALS

4 QUALITY EDUCATION | 5 GENDER EQUALITY | 7 AFFORDABLE AND CLEAN ENERGY | 8 DECENT WORK AND ECONOMIC GROWTH | 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE | 12 RESPONSIBLE CONSUMPTION AND PRODUCTION | 14 LIFE BELOW WATER | 15 LIFE ON LAND | 16 PEACE, JUSTICE AND STRONG INSTITUTIONS

→ Materiality

GRI 3-1 | 3-2 | 413-1

The content of this publication was based on the result of a process conducted in 2021 to prioritize material topics, with the support of an independent consulting firm. The work includes analyzing trends and critical aspects of sustainability for the future of the company and its operational sector.

To map the pressures, trends, risks and social, environmental and governance opportunities related to its business model, GNA sought to answer the question "What does sustainability have to do with our business?", which was divided into five blocks:

1. Macrotrends and expectations of society in relation to the role of companies
2. Stakeholders' vision
3. Specific environmental and social issues in the gas market
4. Specific environmental and social issues to Port of Açu
5. Specific environmental and social issues concerning its activities

The work began with a social & environmental diagnosis with input from stakeholders in GNA's area of influence and based on a research process to review sets of materials published by government and regulatory agencies, shareholders, sectoral entities, academia, investors and international and civil society organizations.

All of the company's operations were subjected to social and environmental impact assessments, and the projects were only developed after being submitted to three-phase licensing, including the submission of Environmental Impact Studies (EIAs) and public hearings. Based on the EIAs, the potential impacts of activities in the surrounding areas were identified and assessments of their importance were carried out.

- Government and regulators
- GNA Senior management
- Shareholders (bp, Prumo, Siemens, Siemens Energy and SPIC)
- Sectoral associations
- Academy and experts in the gas sector
- International organizations in the gas sector
- Investors
- Civil society organizations

As a result, the following material topics were selected, according to the following indicators – GRI, SASB and GNA – and the United Nations (UN) Sustainable Development Goals (SDGs), to which the company is committed.

Material Topics GRI 3-2	SDG	Report topic	Correlated GRI and SASB indicators	GNA Pillars
Business ethics and transparency		Business ethics and transparency	GRI 205-1 | 205-2 | 205-3 | 419-1	**Enablers**
Business model resilience		Business model resilience		**Enablers**
Labor management		People	GRI 401-1 | 401-2 | 401-3 | 404-1 | 404-3	**Healthy and prosperous relations**
Occupational health and safety		Health & wellness promotion and Safety	GRI 403-1 | 403-2 | 403-3 | 403-4 | 403-5 | 403-6 | 403-7 | 403-8 | 403-9 | 403-10 | SASB IF-EU-320a.1	**Healthy and prosperous relations**
Diversity and Inclusion		Diversity and Inclusion	GRI 405-1 | 406-1	**Healthy and prosperous relations**
Sustainable supply chain		Sustainable procurement		**Healthy and prosperous relations**
Community: local hiring		Local workforce hiring	GRI 202-2	**Responsible and shared value**
Community: health and safety		Communities' health and safety	GRI 413-1 | 413-2	**Responsible and shared value**
Community: human rights		Human rights	GRI 410-1 | 411-1 | 412-1 | 412-2 | 412-3	**Responsible and shared value**
Community: local development		Regional development	GRI 203-1 | 203-2	**Responsible and shared value**
Community: local suppliers		Procuring from local suppliers	GRI 204-1	**Responsible and shared value**
Biodiversity		Biodiversity	GRI 304-1 | 304-2 | 304-3 | 304-4 | SASB EM-MD-160a.1 EM-MD-160a.2 | EM-MD-160a.3 | EM-MD-160a.4	**Natural resources conservation**
Air quality		GHG emissions and air quality	GRI 305-6 | 305-7 | SASB EM-MD-120a.1 | IF-EU-120a.1	**Natural resources conservation**
GHG emissions		Greenhouse gases	GRI 305-1 | 305-2 | 305-3 | 305-4 | SASB EM-MD-110a.1 | EM-MD-110a.2 | IF-EU-110a.1 | IF-EU-110a.2 IF-EU-110a.3 | IF-EU-110a.4	**Natural resources conservation**
Water management		Water and effluents	GRI 303-1 | 303-2 | 303-3 | 303-5 | SASB IF-EU-140a.1 IF-EU-140a.2 | IF-EU-140a.3	**Natural resources conservation**
Waste management		Solid Waste	GRI 306-1 | 306-2 | 306-3 | 306-4 | 306-5	**Natural resources conservation**

Special DDS: 1 year of GNA Thermal Power Plant (TPP) commercial operation

HIGHLIGHTS FOR THE YEAR

Corporate

- Creation of the Ethics Committee.
- Creation of the Sustainable Procurement Committee.
- Launch of the Compliance Platform.
- Adherence to the Business Coalition for Racial and Gender Equity.
- Adherence to the Global Compact.

Operational

- Introduction of the first two Research and Development (R&D) projects.
- Laying of the cornerstone of GNA II TPP, marking the official start of construction.
- Signing of a Term of Commitment with Transportadora Associada de Gás (TAG) to prepare and carry out feasibility studies for the Goytacazes Gas Pipeline (GASOG).
- Signing of a Term of Commitment with Nova Transportadora do Sudeste S.A. (NTS), to prepare and carry out feasibility studies for the construction of the Fluminense Integration Gas Pipeline (GASINF).

Social & environmental

- Announcement of funding for the Marketplace Solar platform to encourage the development of renewable energy projects.
- New edition of the Internship Program.
- Holding of the 1st Symposium on Biodiversity.
- Start of the Empower Suppliers Program.
- Start of the II GNA Professional Qualification Program.
- GNA Professionals.

MESSAGE FROM THE BOARD

GRI 2-22

2022 was filled with tremendous challenges. We have been closely following the initial steps towards resuming post- pandemic economic activities. In the geopolitical landscape, international conflicts and recurring energy supply crises in Europe have accelerated movements towards energy transition, making clear to the world the urgency of investing in sources that guarantee energy security in line with the ESG agenda.

In this context, GNA has taken a leading role in consolidating its presence in the gas and energy sector. We have made significant process in constructing our second thermal gas plant, GNA II, maintaining high safety standards, generating thousands of jobs, and ensuring respect to people and the environment. We also celebrated the first year of commercial operation of GNA I, encompassing the Plant, Terminal and Transmission Line, without filing a single accident involving lost time injuries. Altogether, our projects are part of the largest and most efficient natural gas park in Latin America, boasting over 60% energy efficiency and generating safe and reliable energy for the country.

Moving on with our growth plans, we signed strategic partnerships that represent the first step towards connecting our project to the national gas network. We signed agreements with TAG and NTS to carry out technical feasibility studies on the construction of gas pipelines to connect Porto do Açu to the network. That is another important restructuring project for the country, and represents a considerable advance in the process of opening and expanding the gas market in Brazil. It will also attract new investments, create job opportunities and bring development to "Norte Fluminense", the northern region of Rio de Janeiro. Studies are ongoing and decision-making is expected to take place in 2023.

In addition to natural gas infrastructure projects, we have expanded our focus on renewable energy projects. We are financing the development of a platform to promote new businesses in solar energy in the State of Rio de Janeiro, connecting consumers who want to invest in distributed generation with suppliers throughout the business chain. We also kicked off our first two research & development projects. The first involves studies for hydrogen production from an unprecedented combination of residual and solar thermal energy within the context of energy transition. The second focuses on the development of software to optimize and mitigate risks in the delivery of natural gas cargo, considering a number of variables, including meteorological and oceanographic conditions. This is a growing need given the growth and competitiveness prospects of the market.

In the social arena, we continue to prioritize initiatives that are based on expanding access to knowledge and income generation as a vector to transform society. We rolled out our second Professional Qualification Program, offering more than 500 places in free technical courses aimed at the construction of GNA II and future stages of our projects. We reserved 25% of the available places for women and, exceeding our expectations, 41% of the applications were female. There are already several graduates working on our projects.

Advancing in the supply chain, we have expanded our efforts to train micro and small companies in the region that are or have the potential to become GNA suppliers. We launched the Empower Suppliers Program, which develops, in partnership with Sebrae/RJ, extensive consulting and training work for 70 local suppliers. To monitor and manage this topic, we created a sustainable procurement committee. Continuing our focus on shared value, we have ongoing investments in awareness raising, technical training and food security actions for rural farming families, fishing communities and public school students.

Reinforcing our commitment to the Sustainable Development Goals and the ESG agenda, we completed our Adherence to the Global Compact, acting on four priority platforms: climate change, anti-corruption, communication and engagement and action in favor of human rights. We also joined the Business Coalition for Racial and Gender Equity, a relevant topic for our company. In 2022, we boosted our practices with the launch of the first class of the mentoring program for women, in an effort to foster female leadership within our company. We are proud to state that 50% of our workforce is made up of women; 30% in leadership positions. We will continue our efforts to make them feel more and more welcomed and represented.

On the environmental front, we held our first GNA Biodiversity Symposium, providing dialogues with our stakeholders about the results of our management, monitoring and conservation initiatives for terrestrial and marine flora and fauna. We also reinforced our transparency with the launch of the ESG Portal, available on GNA's institutional website. It contains relevant information on our sustainability strategy, which expresses the guidelines that underpin our business and commitments in the social, environmental and governance areas, in addition to providing various documents for reference.

With solid performance in the present and a broad outlook towards the future, we focus on structuring gas projects and new energy sources, generating opportunities and local development. On this journey, we have a highly qualified, dedicated and united team, capable of transforming challenges into opportunities.

This is how we intend to continue to grow and contribute to building a sustainable and energy-filled future.

Enjoy the reading!

GUILHERME PENTEADO
ACTING CHIEF EXECUTIVE OFFICER AND REGULATORY OFFICER

GNA
GÁS NATURAL AÇU

ORGANIZATIONAL PROFILE

Purpose, Vision and Values 20

Operations 23

Shareholders 26

Recognitions 27

GNA I TPP

ORGANIZATIONAL PROFILE

GRI 2-1 I 2-6 I 2-8 I 2-23

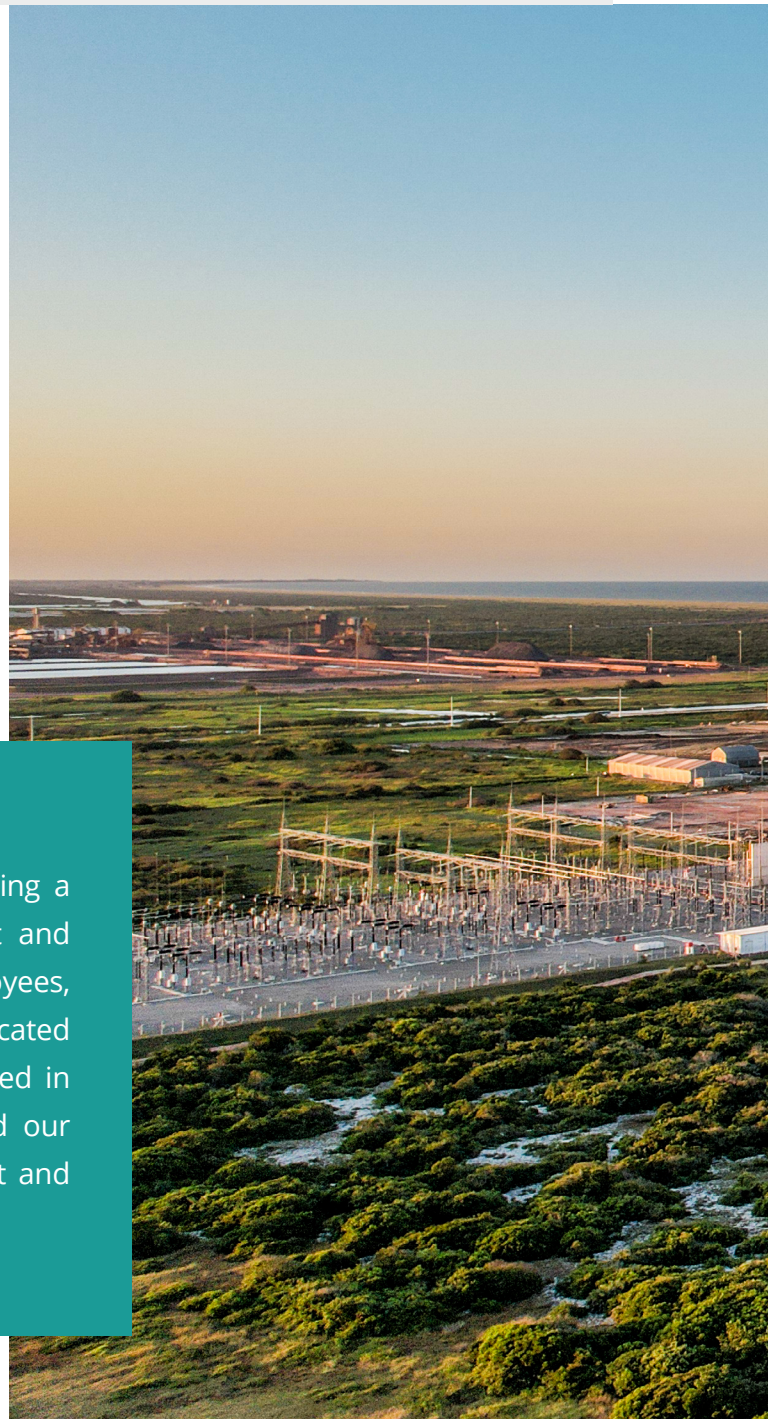
GNA – Gás Natural Açu, a joint venture formed by bp, Prumo Logística, Siemens and SPIC Brasil is a company focused on structuring and sustainable natural gas and energy projects, developing people, creating opportunities and respecting the environment.

Headquartered in the capital of Rio de Janeiro, it has built the largest natural gas thermoelectric park in Latin America, in Porto do Açu, located in São João da Barra (RJ). In the current phase, the project comprises the implementation of two gas-fired thermal power plants, GNA I and GNA II. The first began operating in September 2021, completing its first full year of activities in 2022, and the second is under construction. **Together, they will reach 3 GW of installed capacity – enough to serve around 14 million homes.**

To supply the plants, GNA has also built and operated a Liquefied Natural Gas (LNG) Regasification Terminal – the first for private use in Brazil – in operation since September 2021, where the FSRU BW Magna, a vessel responsible for storing and regasifying up to 28 million m3 per day, is docked. This volume is higher than the consumption needs of the two plants, enabling new business opportunities with natural gas. The projects are financed by BNDES (The National Bank for Economic and Social Development).

Shared Value

GNA strives toward playing a role in building a fairer society, preserving the environment and maintaining the well-being of its employees, suppliers, customers and the communities located around its operations. Business is conducted in connection with the collective interest and our management prioritizes ethical, transparent and responsible behavior.



1 year
of operation
of GNA I
with no accidents involving lost time injuries

1 year
of construction
of GNA II
with no accidents involving lost time injuries

Expressed by its values, the company seeks to contribute to building a fairer society, preserving the environment and maintaining the social well-being of its employees, suppliers, customers and communities surrounding its operations. Business is conducted in the collective interest and our management prioritizes ethical, transparent and responsible behavior.

It also adopts practices aligned with the ESG (Environmental, Social and Governance) agenda, is a signatory to the UN Global Compact, and is committed to contributing to achieving the UN's Sustainable Development Goals (SDGs).

Highlights

In 2022, GNA became part of four Global Compact action platforms:

- UN Global Compact Rede Brasil — **ACTION FOR HUMAN RIGHTS**
- UN Global Compact Rede Brasil — **ACTION FOR THE CLIMATE**
- UN Global Compact Rede Brasil — **ACTION AGAINST CORRUPTION**
- UN Global Compact Rede Brasil — **ACTION TO COMMUNICATE AND ENGAGE**

The company regularly participates in meetings between the members of these platforms, encouraging the exchange of experiences with other companies, alignment of campaigns and encouraging the adoption of good practices.

The company is also a signatory to UN Women, a movement created to unite, strengthen and expand efforts to defend women's human rights through three priority areas of action: leadership and political participation, governance and global standards; economic empowerment; and prevention and elimination of violence against women and girls, peace and security and humanitarian action.

These commitments are expressed in a series of actions, many of which involve our internal employees, by encouraging volunteering for the benefit of various groups with which the company interacts.

At the end of the fiscal year, GNA had **124 direct employees, including 6 directors.** In the operation of its projects and in the construction of the GNA II UTE, it employed **2,725 third parties.**

→ Purpose, Vision and Values

Purpose

Deploying structuring energy and gas projects, that **develop people, create opportunities, and respect the environment.**

Vision

To be one of the largest private energy generation companies in Brazil and the largest gas and energy hub in South America, **contributing to the sustainable development of the region where we operate.**

RPPN (Private Natural Heritage Reserve) Caruara

Values

Respect for life
Non-negotiable asset

- People integrity
- Operational safety
- Risk management and accident prevention
- Discipline and compliance with standards and regulations
- Mutual care
- Respect to diversity

Commitment to sustainability

- We grow together
- We respect the environment and the society
- We make the future the purpose of our present
- Rational use of natural resources

Excellence in results

- Quality management
- Continuous improvement
- Operational discipline
- Innovative solutions
- Efficiency in managing resources and processes

Winning team spirit

- Proud to be part
- Everyone contributing with knowledge and experience
- Excellence
- Partnership
- “Have Fun”

We value people

- We train individuals
- We make our people proud
- We listen and support each other
- We attract and retain talent

Ethics, integrity and transparency

- Integrity and transparency in all our actions

→ Operations

LNG Terminal | **GNA I TPP** | **345 kV TL**

Energy generation

GNA I TPP

- Start of commercial operation: **September 16, 2021**
- Opening: **September 30, 2021**
- Location: **Port of Açu in São João da Barra (RJ)**
- Installed capacity: **1,338 MW (3 gas turbines and 1 steam turbine)**
- Investment: **R$ 5 billion**
- Creation of jobs throughout the works: **more than 12 thousand, without lost time injuries, accounting for more than 25 million man-hours of exposure to risk**

Highlights

- Largest natural gas plant in operation in the Southeast Region and second largest in Brazil, with enough energy to supply around 6 million homes.
- 1,338 MW, equivalent to 9% of all natural gas thermal generation capacity available today in the SIN (National Interconnected System).
- Combined cycle operation, which allows high energy efficiency (around 60%), resulting in lower gas consumption and relative Greenhouse Gas emissions, and guaranteeing the supply of electrical energy on a stable and safe basis, in order to support the reliable expansion of renewable sources in Brazil.
- The energy generated is connected to the national Interconnected System (SIN), at the Campos I Substation, through a 345 kV transmission line, approximately 52 kilometers long, contributing to national energy security.
- Investment, voluntarily, in the construction of a desalination plant, to use seawater in the energy generation process. That mitigates the demand for fresh water from other sources, such as aquifers in the São João da Barra region.

→ Operations

LNG Terminal | **GNA II TPP** | **500 kV TL**

Energy generation

GNA II TPP

- Start of works: **November 2021**
- Commercial operation forecast: **January 2025**
- Location: **Port of Açu in São João da Barra (RJ)**
- Installed capacity:: **1,672 MW (3 gas turbines and 1 steam turbine)**
- Investment: **around R$ 7 billion**
- Creation of jobs throughout the works: **forecast of 5 thousand direct jobs at the peak of construction and 10 thousand during the entire construction period**

Highlights

» Porto do Açu's second natural gas thermoelectric plant, it will be the largest and most efficient natural gas plant in Brazil – with the capacity to supply around 8 million homes – and will bring even more security and resilience to the national electricity sector.

» Alone, it is equivalent to 10% of all natural gas generation capacity available today in the SIN.

» Combined cycle operation with energy efficiency greater than 60%. The TPP will connect to the SIN, at the Campos 2 Substation, through a 500 kV transmission line, approximately 37 kilometers long.

→ Operations

Gas logistics

Liquefied Natural Gas (LNG) Regasification Terminal

» Built especially to serve the GNA project.

- Start of commercial operation: **September 16, 2021**
- Opening: **September 30, 20211**
- Location: **Port of Açu in São João da Barra (RJ)**
- Installed capacity: **up to 28 million m³/day**
- Terminal infrastructure investment: **R$ 380 million**

Highlights

» First terminal for private use in southeastern Brazil, where the floating storage and regasification unit (FSRU) BW Magna is docked, which will remain at the terminal during the term of the GNA I TPP and GNA II TPP contracts.

» Capacity to store and regasify up to 28 million m3 of natural gas per day – a volume greater than the consumption needs of the two plants, enabling new business opportunities with natural gas.

LNG Terminal

→ Shareholders

Integrated energy company with global operations and broad participation in the natural gas and energy trading segments. It has the knowledge to contribute to the operation and mitigation of risks at GNA, in addition to providing natural gas to supply thermal plants, acting as an innovative and integrative supplier.

Controlled by EIG Global Energy Partners and responsible for the development of Porto do Açu, it contributes to port infrastructure, development and integration of projects through a series of logistics solutions for companies from different economic segments.

Responsible for the engineering of thermoelectric plants, the supply of equipment, such as gas and steam turbines and the cooling tower, and the construction of thermal plants (CPE), in a consortium with Andrade Gutierrez. It is also responsible for the operation and maintenance (O&M) of the plants.

Siemens Energy is a brand licensed by Siemens AG.

Integrated technology company dedicated to businesses in digital industries, smart infrastructure, mobility, digitalization, medical technology and financial and real estate services.

It is a subsidiary of the State Power Investment Corporation of China, a global energy generation and related projects company, present in more than 60 countries and with installed capacity of more than 150 GW. It adds its experience in operation strategy and management of energy generation projects in Brazil.

→ Recognitions 2022

March 2022

Refinancing Deal of the Year

GNA was recognized with an international award for the unprecedented refinancing operation of GNA I TPP. The IJGlobal Awards 2021, from the Euromoney group, recognizes the **most sophisticated and innovative transactions in the Infrastructure and Energy segments**.

March 2022

Honorable mention

Granted by the city of Campos (RJ) to the Porto do Açu Humanitarian Actions Committee, formed by GNA and other companies, **for its contribution to municipal public health in combating the Covid-19 pandemic**.

July 2022

The 100 most influential

For the second consecutive year, Bernardo Perseke, CEO of GNA at the time, was elected one of the **100 most Influential in the energy sector in 2022**, by Full Energy, from Grupo Mídia.

September 2022

Project Finance & Infrastructure Awards

The unprecedented refinancing operation of GNA I TPP, with the issuance of R$1.8 billion in infrastructure debentures, was the winner of yet another sector award promoted by the global platform LatinFinance. GNA was the **winner in the Local Currency Financing of the Year category**.

November 2022

GPTW Seal

For the third consecutive year, GNA was **recognized as one of the best companies to work for in the country**, according to the global consultancy Great Place to Work (GPTW).

December 2022

Ranking RJ GPTW

The company was also awarded, **for the second consecutive year**, in the Rio de Janeiro ranking, ranking among the best to work for in the state.

GNA I TPP
FIRE WATER
EFLUENT
GNA
GÁS NATURAL AÇU

BUSINESS STRATEGY

Operational performance	31
Business development	32
Research and development	34
Economic performance	35

GNA TPP II

BUSINESS STRATEGY

GRI 3-3

The GNA I plant operated from September 2021 to February 2022, when its operation was stopped determined by the National System Operator (ONS) due to the improvement in reservoir levels – fulfilling its role of complementing the country's generation with safe and reliable energy in unfavorable hydrological conditions.

In addition to natural gas infrastructure projects and connections to the gas transportation network, GNA has expanded its focus on energy efficiency and renewable energy projects. In 2022, the first Research and Development (R&D) projects began.

→ Operational performance

GNA started 2022 with two fronts of evolution: the continuity of the commercial operation of GNA I TPP, of 1,338 MW, and the **launch of the Foundation Stone of GNA II TPP, of 1,672 MW**, which will be the largest and most efficient gas plant in Brazil with relevance to the security of the SIN.

GNA I TPP received authorization from the National Electric Energy Agency (Aneel) to begin commercial operations in September 2021. Due to the improvement in reservoir levels, in February 2022, the National Electric System Operator (ONS) ordered its shutdown. The plant must remain switched off for a longer period. This is because natural gas plants have the role of providing reliable generation, with safe energy, strengthening the country's development. Even with the thermal plant shut, GNA continues to receive a fixed monthly remuneration for being available to the ONS. **Over the nine months of generation, since the commissioning stage, 3,859 hours of operation were added**.

GNA II TPP is expected to enter commercial operation in 2025 and will remain connected for 40% of the year, in compliance with its contractual inflexibility. However, if there is a systemic need, it may be triggered outside this scope. **The company also has an additional 3.4 GW of licensed capacity, which allows the expansion of the thermoelectric park to reach up to 6.4 GW**.

The first disbursement to finance the construction of the new plant was granted by the National Bank for Economic and Social Development (BNDES), in the amount of R$2.4 billion. The amount is part of the financing contract signed with the institution in 2021, for a total amount of R$3.93 billion.

To supply the plants, an LNG Regasification Terminal is in operation, the first for private use in Brazil, where the FSRU BW MAGNA is docked, with capacity to store and regasify up to 28 million m3 of gas per day. This volume is greater than the consumption needs of the thermoelectric park, enabling new business opportunities based on natural gas. The expansion plans include the construction of land gas pipelines, integrating Porto do Açu into the gas pipeline network and a natural gas processing unit.

GNA II TPP Foundation Stone

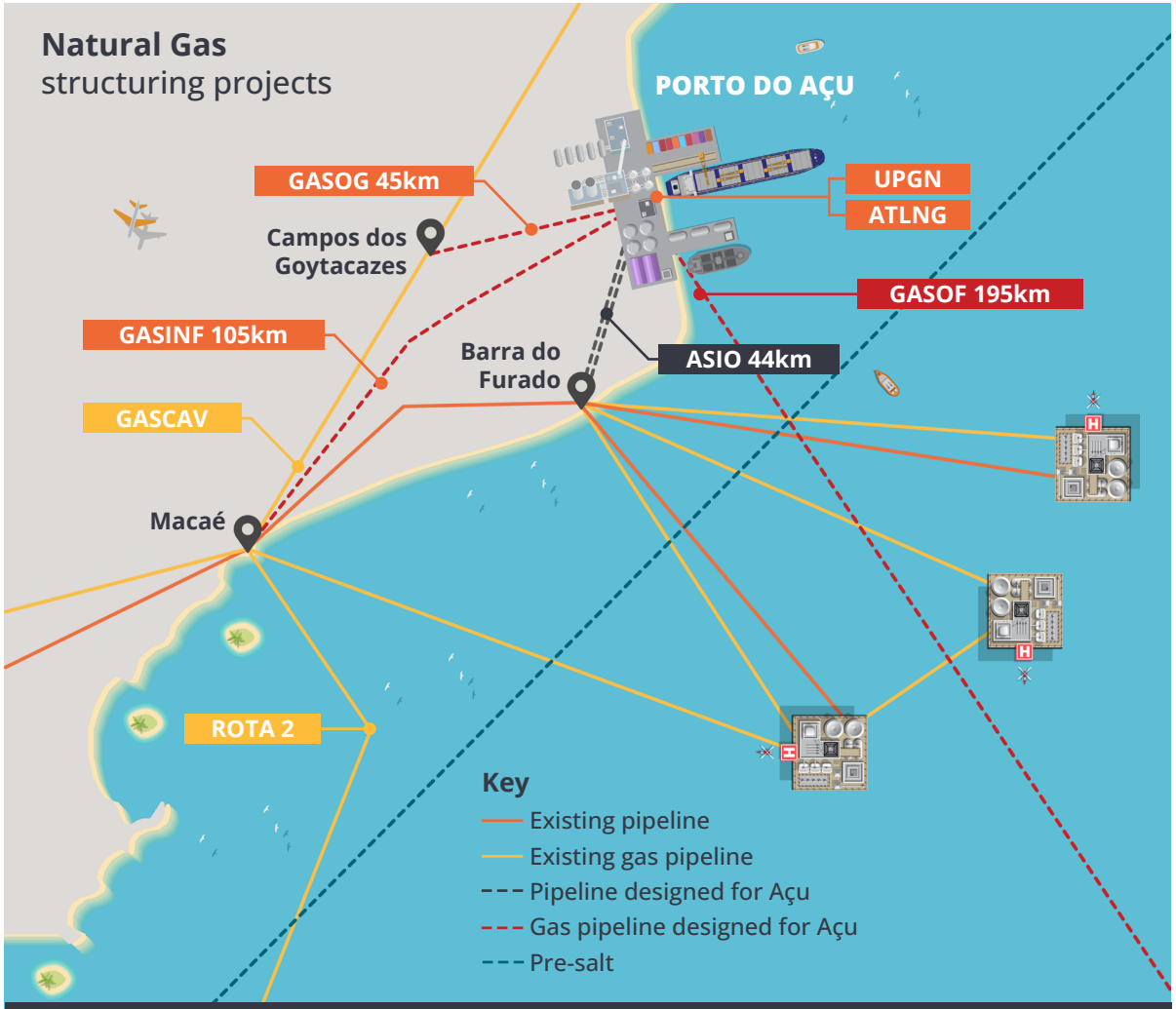
→ Business Development

2022 ended with positive prospects. In December, GNA signed two memorandums of understanding for connection projects connecting its Thermoelectric Park to the gas pipeline network. The first Term of Commitment was signed with Transportadora Associada de Gás S.A. – TAG to develop feasibility studies for the construction of the Goytacazes Gas Pipeline (GASOG), with connection to the Cabiúnas/Vitória Gas Pipeline (GASCAV).

The second was signed with Nova Transportadora do Sudeste S.A. (NTS), for feasibility studies of the North Fluminense Integration Gas Pipeline (GASINF), connecting the Thermoelectric Park to the Cabiúnas Terminal, in Macaé.

The gas pipeline is bidirectional and is being designed to receive from the FSRU, moored to the LNG Terminal, up to 10 million m³/day of natural gas, and deliver up to 12 million m³/day, with capacity for future expansions up to 18 million m³ /day, favoring the development of industries in the north of the state, mainly in Porto do Açu, in the municipality of São João da Barra.

GNA expects to define in 2023 which gas pipeline will be the first to come into operation, with the expectation that it will come into commercial operation in 2025.



Connection to the gas network could favor the development of industries in the North of the State of Rio de Janeiro, attracting new investments and promoting job creation. Furthermore, the project's potential connection to the national gas pipeline network will enable the creation of business opportunities for GNA from natural gas and the consolidation of the Gas and Energy Hub at Porto do Açu.

In line with its sustainability and business diversification strategy, GNA is studying other renewable energy projects, mainly solar energy.

Another project announced is the Marketplace Solar platform, for the development of renewable energy projects. The Solar Marketplace will be a digital tool that will integrate consumers who wish to invest in solar distributed generation, located in the State of Rio de Janeiro, with suppliers of equipment, land, materials and the entire chain necessary to make the project viable. The idea is for the platform to bring more visibility to projects, promoting business development and attracting investments to the State of Rio de Janeiro.

→ Research and development

GNA seeks innovative solutions to its business challenges, encouraging Research and Development (R&D) projects, aligned with its sustainable growth strategy and in compliance with Law No. 9,991/2000 R&D Aneel. In 2022, the first two initiatives were launched:

GNA I TPP

Hydrogen generation from waste energy in thermoelectric and photovoltaic generation circuits

Executing companies: **GNARUS and IATI Institute**

Realization: **in cooperation with EDF Norte Fluminense**

Scope: **development of a hybrid energy generation, transformation and control system, capable of producing electrical energy and hydrogen at the same time, through more than one energy source: waste heat and solar. Project carried out in partnership with EDF Norte Fluminense.**

Integrated modeling of thermoelectric plants and regasification terminal for the appointment of LNG cargoes under operational uncertainties

Executing companies: **PSR, with the participation of Argonáutica**

Realization: **GNA**

Scope: **development of a computational model for internal use by GNA to assist in decision-making, associated with the naming of LNG cargoes, considering aspects associated with gas and electricity and minimizing the risks involved. Argonáutica will improve the projections of metoceanographic conditions, already provided to the GNA, with the creation of scenarios and long-term projections used as input data in the computational model.**

→ Economic Performance

GRI 201-1

The direct economic value generated and distributed (EVG&D) on an accrual basis, including the basic components of the organization's global operations, is listed below.

Direct economic value generated and distributed
thousand R$

	2021		2022	
Added value to be distributed	**1,421,212**	**100%**	**1,270,131**	**100%**
Net revenue	1,421,212	100%	1,270,131	100%
Distributed economic value	**1,077,557**	**75.8%**	**1,725,785**	**135.9%**
Personnel (compensation and benefits	11,894	0.8%	13,921	1.1%
Taxes, fees and contributions	195,221	13.7%	270,879	21.3%
Third-party capital remuneration	524,151	36.9%	1,042,374	82.1%
Interest on equity and dividends	346,291	24.4%	398,611	31.4%
Retained economic value	**343,655**	**24.2%**	**-455,654**	**-35.9%**

GNA
GÁS NATURAL AÇU

CORPORATE GOVERNANCE

Ethics and transparency 38

Governance structure 43

Risk assessment 45

CORPORATE GOVERNANCE

GRI 3-3

→ Ethics and transparency

Aligned with the construction of a solid organizational culture, guided by transparency and integrity, GNA made improvements to its Compliance Program throughout 2022, which had been mapped by independent business consultancy, aiming at adapting to the market reference standard.

Compliance structure

GRI 2-23

The Compliance area created specific regulations, such as the Commercial Courtesies Standard and the Compliance Management Plan, aiming at increasing the security and standardization of internal processes.

In addition, GNA created its Ethics Committee and the respective Internal Regulation, which has among its responsibilities the analysis of infractions and violations of laws, Code of Conduct and other regulations, the recommendation of disciplinary and control measures and the evaluation of the matrix of compliance risks. The body is made up of internal representatives from the Compliance, Legal and Human Resources areas, and reports to the Board of Directors. Meetings take place every two months – the first of which was held in April 2022.

Standard created in 2022

Business Courtesies

Establishes guidelines to offer and receive Commercial Courtesies and payment of expenses in favor of Public Agents or third parties, which do not have a contractual provision, in order to respect the values adopted by GNA, Code of Conduct and other applicable legislation, reinforcing the commitment of the company with ethics, integrity, legality and transparency.

Standard revised in 2022

Donations and Sponsorships

It now has a specific form to request donations, in addition to the existing sponsorship form. The standard also establishes the requesting area is responsible for both conducting the processes and maintaining records on the Compliance Platform. The objective of this change in the standard is to ensure more transparency and reliability in processes.

Standard revised in 2022

Risk Assessment/Background check

Incorporated resources to adapt the process to best compliance practices The generation of reports was centralized in the Compliance area for all situations that require a background check, that is:

- Hiring third parties;
- Creation of partnerships and other operations, including consortiums, joint ventures, Special Purpose Entities (SPE) and corporate restructuring;
- Employee admission;
- Appointment of members of the Advisory Committee and Board of Directors; and
- Making donations and sponsorships.

Background check requests are now made using a specific form on the Compliance Platform, where there is a tutorial with filling instructions.

Standard revised in 2022

Interaction with Public Agents

It incorporated the creation of the routine to formalize registration in the Compliance Platform after interaction with public agents. Furthermore, it included a routine for the periodic update of the Relationship Map with Public Agents; topic to obtain and/or keep licenses mentioning that procedures established in applicable legislation should be complied with; and a topic on training/ awareness, communicating to employees the GNA guidelines for interaction with public agents in accordance with the Compliance area.

Every time a compliance regulation is adjusted, employees receive a communication by email and, when a new process or routine is created, there is training and tutorial on the Compliance Platform.

Furthermore, the Compliance area sends monthly communications to the entire company on relevant matters or according to the needs of the moment. In 2022, the following topics were addressed in these communications:

- Launch of the Compliance Platform;
- Harassment and discrimination;
- Update of the Donation and Sponsorship Standard;
- Relations with Public Agents;
- Business Courtesies;
- GNA Electoral Booklet;
- Interaction with Public Agents Form;
- Background check;
- Conflict of interest; and
- Interaction with public agents.

The company's Sustainability Policy, in addition, addresses human rights by determining the following guidelines, among others:

Respect and safeguard human rights against any type of violence, harassment, exploitation and discrimination.

Restrict any forms of child labor, forced labor and/or labor similar to slave labor in its activities.

Establish practices to prevent and control any type of human rights violation in communities, at GNA and its contractors.

The document was the subject of training applied to employees, which included a video lesson and a questionnaire in which they had to get 80% of the questions correct.

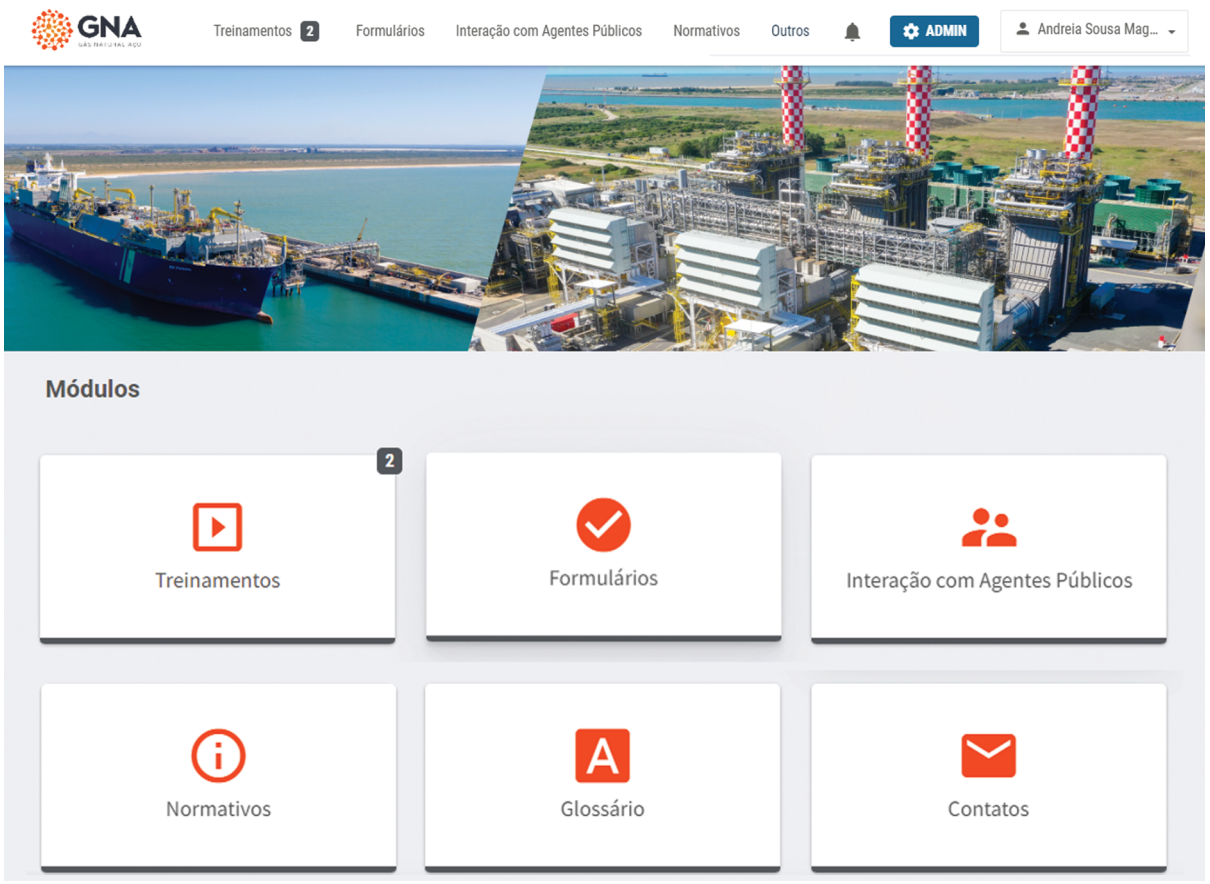
Port of Açu

Compliance Platform

GNA launched the Compliance Platform, which centralizes all activities in the area and generates corporate knowledge, mainly in relation to ethical conduct. The concentration of training activities, completion of specific forms, acceptance of documents, mapping of relationships, regulations, glossary, among others, streamlines the monitoring and control of activities by the Compliance area and access in the case of audits.

The system provides related regulations and training; the filling out of specific forms, such as offering or receiving commercial courtesies, conflict of interest and requesting background checks and donations and sponsorships, among others; monitoring and recording interactions with public agents; and acceptance of terms related to compliance (Code of Conduct, conflict of interest, information security, for example).

The system can monitor employee engagement in training and evaluate it, as well as record the time spent in transmissions.



In 2022, four training sessions were carried out:

March 2022	May 2022	October 2022	December 2022
Information Security and Personal Data Protection	Lecture on Harassment and Discrimination Prevention	Business Courtesies	Compliance Week

Compliance Week

Held from December 5th to 9th, online, ending on International Anti-Corruption Day, Compliance Week was highly attended by employees. The program included lectures with external guests, videos, case presentations and integrative participation with a prize draw. The themes presented were:

- Code of Conduct;
- Interaction with public agents;
- Conflict of interest;
- Importance of combating harassment and its impact on companies' reputation; and
- Background check.

Reporting Channel GRI 2-25 I 2-26

Irregular actions or behaviors that contradict the provisions of the Code of Conduct, laws, regulations or internal regulations of the company may be notified through the Reporting Channel It is available to all employees, third parties and any other related party, with guaranteed anonymity and confidentiality of contacts. The Compliance area analyzes all complaints, received by external and independent consultancy, and adopts the necessary measures to resolve the demands and avoid recurrences.

Plans for 2023

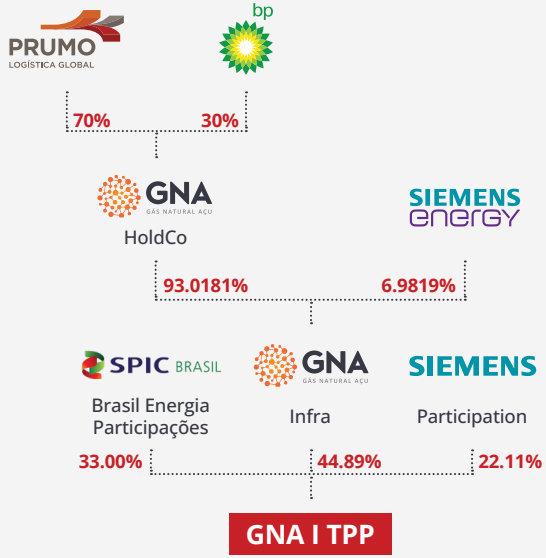
The Compliance Area developed a Strategic Plan for 2023 that includes the creation of the Internal Controls area, reinforcing its process structure. The intention is to implement internal controls, already diagnosed and prioritized, in addition to carrying out the following actions:

- Consolidate the review and update of the Code of Conduct;
- Launch anti-corruption and related party transaction policies and put training plans into practice;
- Monitor compliance risks;
- Continue the privacy risk assessment and data protection impact reports to comply with the General Data Protection Law (LGPD);
- Create control and risk matrix for prioritized processes and carry out internal control tests; and
- Continue with the commitment to obtain ISO 37301 Certification – Compliance Management Systems.

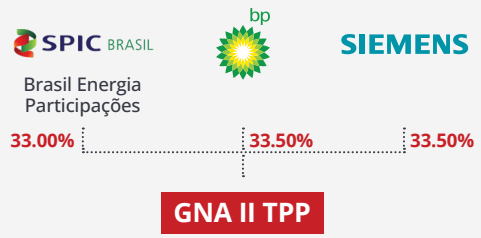
→ Governance structure

GRI 2-9 I 2-10 I 2-12 I 2-13 I 2-14 I 2-15 I 2-16

GNA shareholding structure



GNA II shareholding structure



With project control shared by shareholders, GNA maintains a robust shareholder structure, which encompasses leading companies in their areas of activity: bp, Prumo Logística, Siemens AG, Siemens Energy and SPIC Brasil.

Based on this constitution, the company's governance structure establishes specific bodies in each project, which respect the strategies defined within the scope of shareholder agreements and the specific policy that determines, among others, the duties of the members of the body.

Furthermore, since 2021, with a view to improving its governance, GNA has adopted strict corporate risk management.

Learn more in: Risk assessment

That minimizes potential conflicts of interest and abuses in transactions between related parties – which are subject to approval by the Board of Directors for discussion and deliberation on whether to proceed or not. Under the terms of the Bylaws of the GNA Group companies and Brazilian legislation, the members of the Board of Directors – appointed by the shareholders as established in the Shareholders' Agreement – must declare themselves prevented from discussing certain matters in which a conflict of interest is found. Transactions with related parties are, as a rule, submitted for their approval, so that they can decide whether or not to continue the operation.

The directors are responsible for defining the company's Purpose, Mission, Values and strategies, as well as approving policies and goals related to economic, environmental and social topics. After definition/approval by the body, senior executives are responsible for conducting the activities necessary to achieve these goals and the consequent practice of the purposes/missions. The Board of Directors meets ordinarily four times a year, without prejudice to other extraordinary meetings to monitor the company's matters, whenever required.

In addition to Shareholder Meetings and Boards of Directors, the GNA Group companies maintain Executive Boards. GNA I Geração de Energia S.A. TPP and GNA II Geração de Energia S.A. TPP also have an Advisory Committee, which reports directly to the Board of Directors regarding strategic issues of the projects. With monthly meetings, these committees support directors in decisions related to economic, environmental and social aspects after discussing the matters with executives. Depending on the relevance of the topics covered, specific working groups can be formed, with the participation of shareholder representatives, to further deepen and detail the discussions.

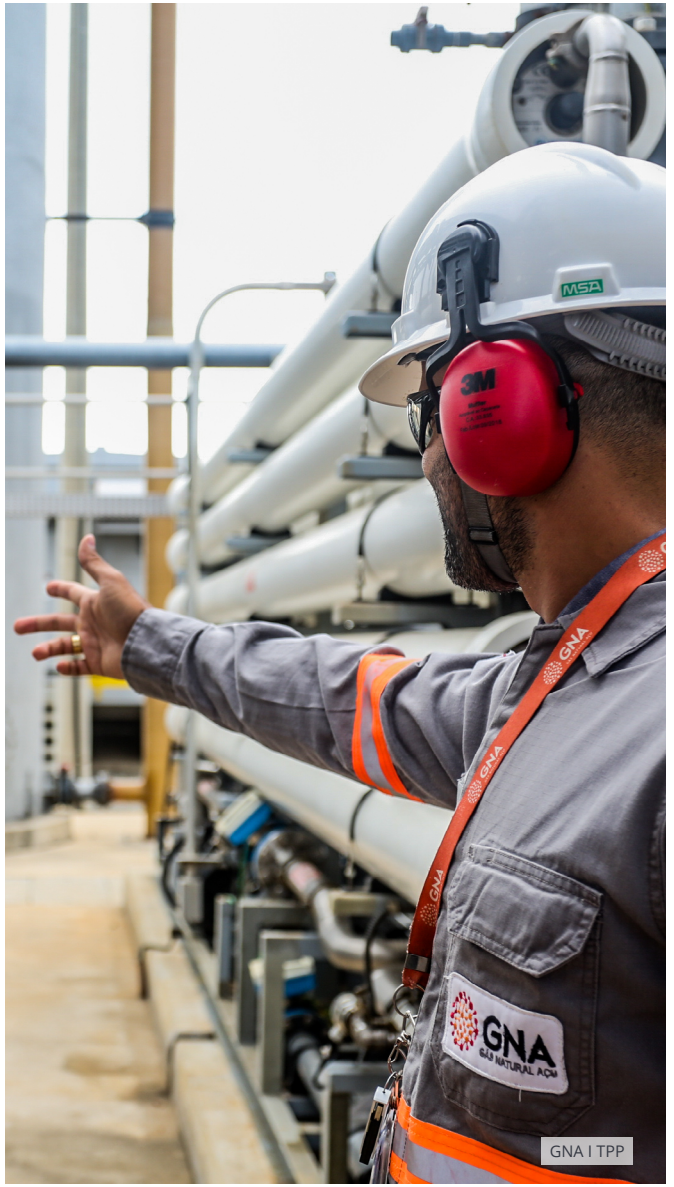
The Executive Board is responsible for managing the organization's impacts on the economy, the environment and people, as well as the executive management.

Composition of the Board of Directors of GNA HoldCo

GRI 2-9

Name	Term of Office
Rogério Sekeff Zampronha	05/30/2022 to 03/01/2024
Eugenio Leite de Figueiredo	03/01/2021 to 03/01/2024
José Maria de Mello Firmo	02/14/2022 to 03/01/2024
Mauro Lourenço de Andrade	11/23/2021 to 03/01/2024
Silvia Bisogni	03/01/2021 to 03/01/2024
Gareth Mark Jones	03/01/2021 to 03/01/2024

Note – They all perform executive functions and none of them are independent.



GNA I TPP

→ Risk assessment

GRI 2-25

The project management area (PMO) now encompasses corporate risk management, in order to improve the company's processes and governance. In June, the main corporate risks and respective action plans were presented. In addition to identifying and mitigating threats capable of impacting business, the company seeks to maximize opportunities for its own growth.

In this sense, it has specialized consultancy to review and classify risks in terms of probability, impact and other parameters. Several meetings were held to review and define an action plan for each risk and detail the information. All risks mapped in the analysis were classified and now have an associated person responsible.

In December, the Corporate Risk Standard was published, in order to define guidelines, methodology and the main terms related to the area, as well as establish the corporate risk classification adopted by the company.

Initially, project risks and their respective impacts were included in the GNA I Integrated Schedule, and the same methodology has been applied in the implementation of GNA II projects. Aiming at improving its governance and monitoring possible threats capable of impacting business viability, the health and safety of professionals, the environment, its own image and that of its shareholders, GNA began to adopt, at the end of 2021, corporate risk management, in synergy with the control and monitoring in place in the construction of its projects.

Through the Operational Risk Management Program, the company's biggest risks are mapped and recorded, as well as the ways in which they should be treated and controlled. The ten main risks have already been mapped, which undergo continuous monitoring and assessments, thus ensuring assertive control.

GNA I TPP

HEALTHY AND PROSPEROUS RELATIONS

Human capital 49

Sustainable supply chain 63

Rio de Janeiro Office

HEALTHY AND PROSPEROUS RELATIONS

At GNA, caring for the well-being of employees is a constant concern. The company is always reevaluating ways to make its work environment better and more welcoming. After a long period of remote work with many challenges and learning experiences, it adopted the hybrid work model and invested in moving to a new office, in Rio de Janeiro, with a personalized project, encouraging connection and comfort among employees.

In addition to an environment designed to promote a culture of integration and teamwork, the design of the new office considered the current situation experienced by the company and all the changes in people's relationships with work, resulting from the pandemic. The project follows the open space concept, with modern integrated environments to promote connection and exchanges between teams.

Porto do Açu

As a result of continuous work to strengthen culture and value people, **GNA was, for the third consecutive year, among the Best Companies to Work for in Rio de Janeiro, according to the global consultancy Great Place do Work (GPTW)**. The consultancy's 2022 Climate Survey had 89% employee participation, and GNA reached 81 points, being recognized as an excellent place to work. The company was also awarded, for the second consecutive year, in the Rio de Janeiro ranking, ranking among the best companies to work for in the state. To choose companies, GPTW analyzes practices linked to people management and organizational climate, in addition to the results of climate surveys completed by the company's employees.

→ Human Capital

GRI 2-8 I 3-3

At the end of 2022, GNA had 124 direct professionals, of which 50% were men and 50% were women.

Interns are hired through an integration agent, without a CLT (consolidated labor laws) employment relationship, just like non-employee directors. In the GNA II construction works, another 2,155 subcontractors were allocated to the GNA II TPP work fronts, as well as LT 500 kV.

For hired employees, the company offers a competitive remuneration system, which prioritizes internal equity, promotes meritocracy and aims to attract and retain diverse talents. Base salaries do not differ between men and women performing the same role. Variations may occur only due to the levels of seniority and maturity of the professionals.

To ensure its positioning in relation to the market and keep its practices up to date, the company carries out periodic salary surveys.

Porto do Açu

Employee information
by gender | GRI 2-7

	2020			2021			2022		
			Total			Total			Total
Permanent employees	63	57	**120**	55	59	**114**	62	62	**124**

Employee information
by region | GRI 2-7

	2020	2021	2022
Southeast	120	114	**122**

Benefits
GRI 401-2

- **Food vouchers**
- **Meal vouchers**
- **Christmas vouchers**
- **Extended maternity and paternity leaves**
- **Health and dental insurance plans**
- **Childcare assistance**
- **Hybrid work regime support**
- **Personal Support Program**
- **Gympass**
- **Life insurance**
- **Day off on birthday**

GRI Annex:
Data on new hires and employee turnover
GRI 401-1

Training and development

GRI 403-5

GNA trains its employees through mandatory training and the development of technical and/or behavioral skills. Subcontractors are trained by their respective companies, but most of GNA's HSE training is extended to them.

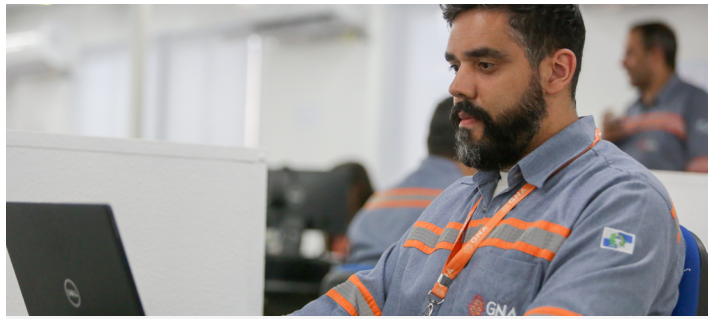
The Leadership Program (UP) also continued during the exercise, providing 16 hours of training and involving 34 direct leaders in four modules: Diversity (Inclusive leadership and unconscious bias), Communication, innovation and Remuneration.

Learn more in:
Health, Safety and Well-being

GRI Annex:
Data on training hours per employee
GRI 404-1

Internship Program 2022

The program lasts up to 24 months and includes job rotation, workshops and mentoring with more experienced professionals. In the 2022 edition, a partnership began with the Academia do Universitário, aiming at providing more resources for the development of interns. **12 of them were hired, with 50% of the hires being female and 56% self-declared as black or brown.**



Individual Development Plan (PDI)

The PDI aims to analyze the employee›s individual needs, being prepared by the employee and reviewed by the manager. The company uses the 70:20:10 methodology, considering that learning occurs as follows: **70% from personal experiences and professional experience, 20% from informal learning and interactions, and 10% from formal learning**. Based on the Individual Based on the Individual Development Plan, GNA can offer individual subsidies for training and development in accordance with company policy and/or corporate training.

Workshops and training

GNA offers corporate training applied by internal areas regarding the integration of new employees, development of skills, regulations and others common to the entire company or a group. **With an eye on the continuous development of its team, in 2022 it launched the GNA Academy, a corporate educational platform**. Another initiative that was maintained is Engrenagem, with four events during the year, in which employees shared their knowledge of the market and business with others.

Diversity and inclusion

GRI 3-3

GNA values diversity and social inclusion, promoting equity and equal opportunities and seeking to ensure a work environment in which everyone feels safe and respected.

Expressly following the guidelines of its Sustainability Policy and Code of Conduct, the company does not tolerate discrimination of any nature.

The commitment is also formalized on the institutional website through the **Diversity Manifesto**.

In 2022, the company joined the Business Coalition for Racial and Gender Equity, an initiative of the Ethos Institute, the Center for the Study of Labor Relations and Inequalities (CEERT) and the Institute for Human Rights and Business (IHRB).

Furthermore, it is a signatory to the Women Empowerment Principles – WEPs, an initiative of UN Women and the UN Global Compact, whose aim is to promote gender equality and strengthen women's leadership in the work environment.

In September, the company held the 2nd Diversity & Inclusion Week. With in-person and online activities, such as the Empathy Laboratory, Diversity Thermometer and the Privilege Games, employees were able to reflect on their role in the fight for diversity and the importance of this issue in the corporate environment.

The topic of diversity and inclusion is also debated frequently among teams through internal actions, especially on representative occasions, and included a specific module in the Leadership Development Program.

Boosting female leadership

GNA's workforce is made up of 50% women and 50% men, with **32% of the female team in leadership positions**. As part of its progress on the topic, it started a female mentoring program, aiming to boost the leadership of employees through the development of women identified as potential.

Start of the II GNA Professional Qualification Program

Breaking down office barriers and encouraging gender equity and technical training in the community, partners and contractors, the II Professional Qualification Program was launched with an affirmative action that had 25% of vacancies allocated to women. Exceeding expectations, of the more than 800 registered, 41% were women – more than double the number of women registered in the first edition of the program, in 2018. This result made it possible to form two exclusively female classes: Power Electrician and Welder Control, proving the great interest of women in the program.

25%
of places
aimed at women

800
registered
41% of women

Among other initiatives, there was also a conversation with women from GNA projects about the female presence in the energy sector.

The company's practices include paying equal wages between men and women, supply chain activities with a gender perspective and zero tolerance against sexual harassment in the workplace.

Health, Safety and Well-being

GRI 3-3 I 403-1 I 403-2 I 403-3 I 403-4 I 403-7 I 403-8

The health and safety of everyone involved in GNA's projects are values for the company. The experience and good practices acquired in terms of health and safety with the construction of GNA I TPP contributed to the company being better prepared for the new venture underway.

> The first plant required a significant number of man-hours and exposure to risk, but was completed totaling **25 MILLION HOURS WORKED** without lost time injuries.

Until December, GNA II TPP accumulated around 2 million hours worked without lost time injuries. For most of the year, the workforce at GNA I TPP remained at 190 people, while GNA II TPP now has around a thousand workers, on a non-routine basis and with new stages in the work every day.

Occupational health and safety activities were replicated for the new works: GNA II TPP and 500 kV Transmission Line. Planned actions, such as emergency simulations, in-person and online training through the Academia GNA platform, practices such as Daily Safety Dialogues (DDS), risk analysis, field inspections and health and incident prevention campaigns were carried out at throughout the year, to increase employee awareness.

GNA began to manage projects more efficiently to control and closely monitor all initiatives. Prepared a calendar of training and campaigns integrated with the enterprise's partner companies.

15
training
with specialized consultants

114
class hours
of training

525
participants
from GNA and its contractors

All occupational health and safety indicators are calculated weekly and presented to the general manager, who presents the compiled data, also weekly, to the Board of Directors. Data is presented monthly to the Advisory Committee and quarterly to the Board of Directors. Indicators are rigorously monitored by the HSE area which, at the end of the year, formalizes a critical analysis, checks the aspects to be improved and defines an action strategy.

Field inspections are carried out and consolidated monthly, generating a heat map for each topic. Thus, it is possible to note whether there has been improvement in relation to compliance and the actions necessary to resolve anomalies.

GNA implemented the leadership inspection aiming at demonstrating leadership's commitment to health and safety.

Throughout 2022, 30 inspections were carried out by the leadership of GNA I and GNA II TPPs, to verify compliance with health, safety and environmental requirements.

With the help of specialized technical consultancy, and through electronic signature of specific software (Greenlegis), the company manages legal and other requirements applicable to aspects of quality, health, environment, social responsibility and safety of its activities, products and services. For the occupational health and safety system, it used as a basis the Performance Standards and guides of the International Finance Corporation (IFC) and the Environment, Health and Safety Guidelines (EHS Guidelines) of the World Bank Group. Additionally, although the organization does not yet hold ISO 9001, ISO 14001 and ISO 45001 certifications, its management system was structured using these requirements as reference. All workers are covered by the occupational health and safety management system.

GNA also carried out hazard and risk studies, in accordance with guidelines for the environmental licensing and financing processes of its projects, following national and international standards and good practices in the oil and gas industry. The organization adopts safe work practices such as task safety analysis, work permits, hazardous energy blocking, planned HSE inspections, HSE inspections with company leadership, HSE trainings with external experts, emergency response drills and bridging documents with contractors' management systems.

In industrial process safety, management tools follow the guidelines of institutions such as the Center for Chemical Process Safety, American Petroleum Institute (API) and International Association of Oil & Gas Producers (IOGP). This allows for detailed analysis of occurrences and reinforcement of accident prevention. Since the beginning of the company's operations, workers have used resources such as the right of refusal, which allows them not to start an activity or to interrupt it if they realize that the risk is not adequately controlled or they do not feel able or healthy to carry it out. Initially, all incidents that occur at the facilities must be reported, classified according to severity and informed to the Sustainability Management using the Preliminary Incident Notification (NPI) This practice contributes to the recording of essential information in the investigation of these events, as well as in the establishment of actions to prevent the recurrence of similar situations in the company's works and operations.

GNA II TPP emergency simulation

All establishments are covered by the Risk Management Plan (PGR) and the Occupational Health Medical Control Program (PCMSO). Both aim to systematize actions and define control and mitigation measures for different risks to which the workforce is exposed, allowing the Occupational Medicine team to assess occupational impacts based on the relationship between the degree of exposure and effects on health. There are also outpatient clinics and ambulances available 24 hours a day to deal with emergencies involving construction and operation workers at the company's projects.

Direct employees and those of contracted companies are consulted and communicated and participate in decisions regarding health and safety at work through campaigns, lectures, training and meetings; contribution to hazard and risk studies; dialogues on health, safety, environment and social responsibility; and participation in emergency drill assessments and HSE inspections. There are also committees that address health, safety, environmental and legal requirements. These committees are composed of all GNA contracted companies and hold weekly meetings to ensure the actions identified and discussed are handled correctly.

Several management tools contribute to identifying, evaluating and treating occupational risks in the construction and operation of industrial plants, among which the following stand out:

- HSE integration and defensive driving training for indoor mobility (by the end of 2021, more than 12,700 integration and 3,200 defensive driving trainings had been carried out)
- Task Risk Analysis and Work Permit;
- Control of dangerous energy, through a lockout/tagout system;
- Management of PPE/CPE;
- Periodic field inspections in order to identify unsafe conditions and risk behaviors that may contribute to the occurrence of incidents;
- Additional control measures for activities in confined spaces and at heights;
- Control of mandatory training as established by legal requirements or internal standards; and
- Access control to areas in operation.

GNA II TPP emergency simulation

Linked to employee safety and integrity, well-being is also a focus of the company's people management, which encourages balance between personal and professional lives. Throughout the year, as a result of monitoring the topic, the restructuring of the quality of life program began. This program will systematize a series of previously isolated actions, such as celebrating birthdays of the month, health monitoring programs and encouraging employees to do sports.

One of the initiatives already created involves employees' families: GNA Family Day, at the Porto do Açu office, when the company opened its doors to welcome guests of its professionals to show them the GNA I and GNA II TPPs and the Terminal. The Rio office promoted Children's Halloween, in October, to celebrate Children's Day with a costume party. The program included a magic show, a painting workshop, a visit by children to their parents' workplace and a virtual tour of the company's projects.

GNA Family Day

Variable compensation

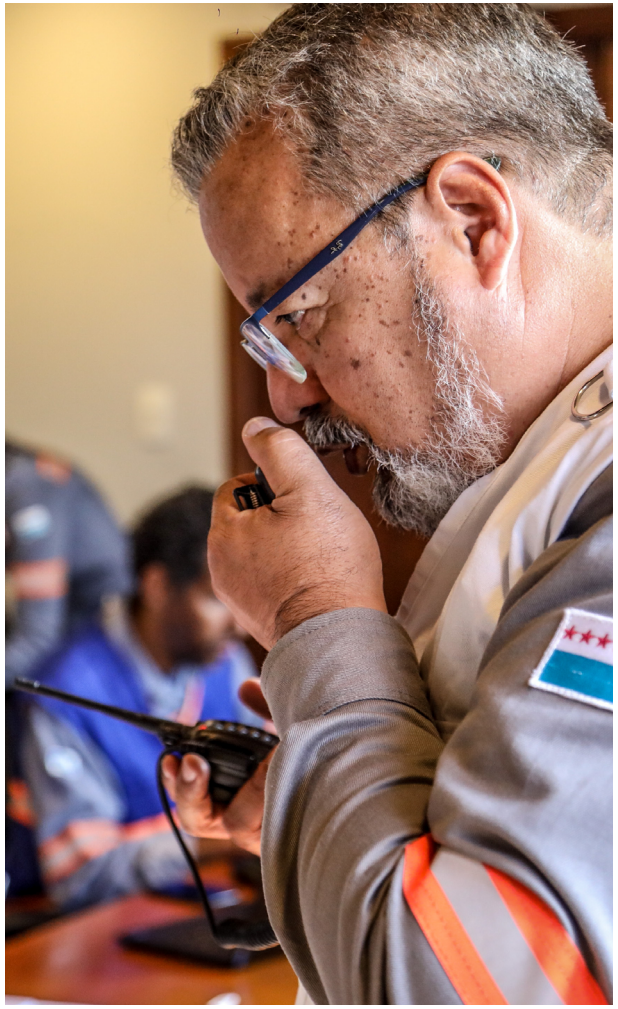
GNA links four proactive HSE indicators to variable remuneration:

1. » Number of planned safety and environmental inspections.
2. » Number of audits of HSE contractual annexes with contractors.
3. » Number of hours of health and safety training.
4. » Number of simulated emergency drills.

The Porto and Rio incident management team simulated the response to emergencies and crises for the construction phases of GNA II and operation of GNA I, to demonstrate the operationalization of emergency response plans and the integrated management of resources. During this period, emergency exercises were carried out, from tabletop to large-scale simulations, with the mobilization of external resources, including the participation of representatives from the Brazilian Navy, the Military Fire Brigade of the State of Rio de Janeiro, Civil Defense and of the Porto do Açu Mutual Aid Plan (PAM).

Furthermore, an application was implemented to manage all inspections and monitoring of emergency system equipment, such as fire extinguishers, monitoring panels and follow-up, among others.

At the beginning of 2023, a health and safety workshop is planned to present a summary of all activities carried out throughout the year, including lessons learned and planning for the new period.



PAM PLANO DE AUXÍLIO MÚTUO DO PORTO DO AÇU

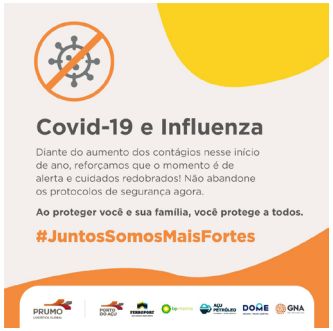
Calendar of safety, health and well-being campaigns

January

- **White January**, of mental health care, through the online Daily Safety Dialogue (DDS).

February

- **Conscious Carnival Campaign**, aimed at preventing Covid-19 and caring for Sexually Transmitted Infections (STIs).



March

- **Noise-Induced Hearing Loss**.
- **International Women's Day**: The women from the operation were invited to participate in a special breakfast with Isabela Rangel, lawyer and entrepreneur, and discussed the topic "The role of women as agents of transformation in society". Women from the community were invited to a chat on the same topic, with Isabela Rangel and Fernanda Maia, representative of Mulheres do Brasil, at the Pipeiras Community Association.
- **World Water Day.**

April

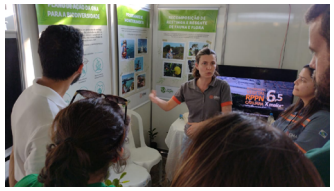
- **Restinga Protection Day**: some employees were invited to the special planting of seedlings at RPPN (Private Natural Heritage Reserve) Caruara.
- **Blue April**, autism awareness month.
- **Green April**, with a campaign to prevent work accidents and occupational diseases.
- **World Health and Safety at Work Day with Special DDS**, which brought together members of the board of directors from GNA, AG, Siemens and around 700 workers involved in the initial phase of construction of GNA II.
- **Influenza flu vaccination campaign.**

May

- **Headache Fight Day.**
- **International Biodiversity Day.**
- **World Day to Combat Arterial Hypertension.**
- **Forest Fire Prevention.**
- **Yellow May**, traffic accident prevention month.

June

- **Green June**, in celebration of World Environment Day, with beach cleaning activities and Environment Week.



Calendar of safety, health and well-being campaigns

July

- **Prevention of Work Accidents.**
- **National Accident Prevention Day:** together with partner companies, the hand protection campaign was launched, based on lessons learned in the construction of GNA I.

August

- **Lilac August**, to raise awareness for the end of violence against women.
- **Combating Smoking.**
- **Orange August**, combating fires.

September

- **Tree Day.**
- **Breath protection.**
- **Yellow September**, suicide prevention campaign.
- **World Beach Cleanup Day.**

October

- **Pink October**, breast cancer awareness month, live DDS.
- **Fauna Week.**
- **Chemical handling and storage.**
- **Internal Work Accident Prevention Week (Sipat):** at the Rio office, the program involved lectures on workplace safety, ergonomics, nutrition and health, as well as activities such as shiatsu and workplace gymnastics.

November

- **Sipat Integrated in Porto**, held together with partner companies, featured lectures and special actions, such as vaccination, blood donation, massage, posture blitz, etc.
- **Blue November**, for prostate cancer prevention and awareness, live DDS and in-company exams with a collection booth.

December

- **Red December**, STI prevention campaign.
- **Blood donation.**
- **"We work at heights with our feet on the ground" campaign**: lecture on working at heights.

Campaign for safe work at height

At the end of the year, for eight days, GNA promoted a campaign on "8 steps to safe work at height". **The event included Daily Safety Dialogues, inspections, lectures, demonstrations and training.**

→ Sustainable supply chain

GRI 3-3 I 2-6 I 204-1

GNA's supply chain is made up of around 400 direct suppliers of materials (office supplies, equipment for IT infrastructure, among others) and services, such as engineering, legal, communication, facilities and audits. There are also another 70 indirect suppliers, subcontractors of direct contractors. The base of activated suppliers is around 1,500. **In 2022, approximately R$200 million was allocated in payments from partners in processes that directly involved the Supply area.**

The learning acquired and the challenges overcome in the implementation of GNA I were fundamental in guiding and enabling the improvement of best practices in the Supply area, which will be used during the construction of GNA II. To implement the new thermoelectric plant, the company adapted its processes, optimized procedures and regulations, implemented an e-procurement platform – a digital solution for automating processes and purchasing management – and another for material registration. It has also sought to develop long-term contracts for the most varied service categories, in order to meet all the demands of its internal customers.

In relation to suppliers, GNA uses the highest evaluation standards in its competitive processes, aiming to select qualified companies, with experience and service capacity, that comply with all legal, financial, reputational, technical and commercial prerequisites. This process is called background check, provided for in internal policies and followed according to the characteristics of each procurement process, according to rules defined in the regulations.

400
direct suppliers

of materials
and services

1.500
companies

Base of activated
suppliers

R$ 200
million

in partner payments in processes that directly involved the Supply area

In 2022, the percentage of the purchasing budget used in important operational units with suppliers in its area of influence was 7%. The company establishes three levels of coverage for its area of influence: direct, encompassing the municipalities of São João da Barra and Campos dos Goytacazes; area of influence 1, encompassing Carapebus, Cardoso Moreira, Conceição de Macabu, Macaé, Quissamã, São Fidélis and São Francisco de Itabapoana, all in North Fluminense; and area of influence 2, encompassing the other municipalities in the State of Rio de Janeiro.

The company maintains regulations specifically for the topic of relationships with suppliers, including its Code of Conduct, the GNA-NOR. SUP.001 – Goods and Services Acquisition Standard, GNA-PRC.SUP.001 – Goods and Services Acquisition Procedure and GNA-PLA.SUP.001 – Local Acquisition Plan, which reflect the best legal and market practices, also considering the peculiarities of business and the characteristics of the supply chain.

Challenges in the supply chain

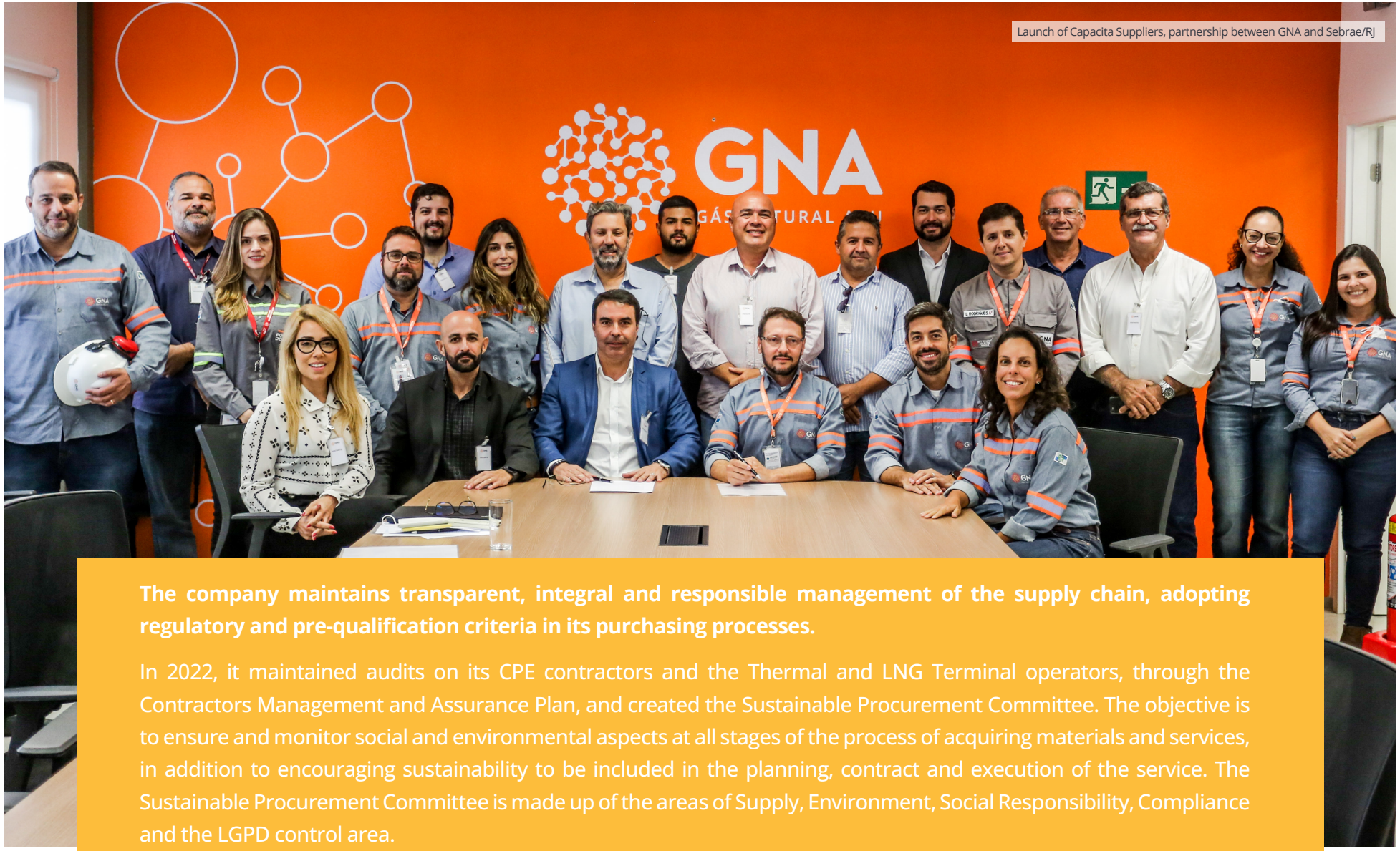
1. » Service within the deadline and quality expected from the internal customer
2. » Different supplier alternatives
3. » Carrying out purchases according to the areas budget
4. » Robust negotiations to get best result/ balance between financial gain and meeting technical scope

Supplier development was also on the company's agenda throughout the year. The Supply and Social Responsibility areas created the **Capacita Fornecedores Program in partnership with Sebrae**, which, in addition to developing local micro and small businesses to increase their revenues, seeks to expand service to the needs of GNA, the Açu Industrial and Port Complex and even other companies in the region.

Programa CAPACITA FORNECEDORES

Capacita Fornecedores (Qualifying Suppliers) Program

Learn more in: Responsible and shared value



Launch of Capacita Suppliers, partnership between GNA and Sebrae/RJ

The company maintains transparent, integral and responsible management of the supply chain, adopting regulatory and pre-qualification criteria in its purchasing processes.

In 2022, it maintained audits on its CPE contractors and the Thermal and LNG Terminal operators, through the Contractors Management and Assurance Plan, and created the Sustainable Procurement Committee. The objective is to ensure and monitor social and environmental aspects at all stages of the process of acquiring materials and services, in addition to encouraging sustainability to be included in the planning, contract and execution of the service. The Sustainable Procurement Committee is made up of the areas of Supply, Environment, Social Responsibility, Compliance and the LGPD control area.

Fishing workshop

RESPONSIBLE AND SHARED VALUE

Sustainable relationship 68

Social investments 76

Girassol Esperança Community Garden

RESPONSIBLE AND SHARED VALUE

→ Sustainable relationship

GRI 2-28

With a commitment to solidifying healthy and prosperous relationships, GNA maintains relationships with various audiences, including its employees and those of outsourced companies, public institutions operating in its areas of influence, civil society entities, such as residents' and fishermen's associations and representative of professional categories and Non-Governmental Organizations (NGOs) and the academic community.

The highlights within these relationships in 2022 were:

Fishermen

» Workshops for fishermen and netters from colonies Z-01, Z-02 and Z-19, in partnership with Fundação Projeto Tamar and Reserva Caruara. The objective was to present the TED (Turtle Excluder Device), a fishing device that reduces the incidental capture of turtles without causing a loss in shrimp catches. The project shows that it is possible to maintain shrimp fishing without affecting sea turtles in the region, and also providing benefits to fishermen, as it reduces the capture of jellyfish and improves the quality of the fish.

TED
Learn more in: Biodiversity

» 1st Fisherman's Health Week in Fisherman's Colonies Z-1, Z-2 and Z-19, in partnership with the companies Porto do Açu, NFX, Ferroport and Vast. The action was an outcome of the demands presented by fishing leaders at the Fisheries Forum. To make fishermen aware of the importance of taking care of their health, the action included blood pressure and blood sugar measurements, as well as a chat about these problems, along with breakfast.

» Fisheries Forum, an event held every two months with the three fishing colonies and companies in Porto do Açu The main objective is to maintain a space for continuous dialogue with that audience, address issues related to navigation safety and define the actions that GNA and other companies in Porto can adopt to contribute to the improvement of fishing activity in the region.

Volunteering

» GNA carries out several volunteer activities mainly through partnerships, with outsourced companies or via AbrAçu, the Porto do Açu Volunteer Program, also adopted by the companies that are part of the complex. Among the various initiatives carried out are donation of basic food baskets, blood donation and a winter clothing campaign.

Campaigns - volunteering actions
Learn more in:
Health, Safety and Well-being

Institutional events

As the pandemic eased, GNA was once again present at sector events and institutional fairs, including:

March

- CEO forum to debate best practices and the challenges companies currently face, the importance of expanding diversity beyond the gender issue, and the maturity of ESG concepts.

June

- 7th edition of Termo Gen, discussion forum for thermoelectric generators.
- Argus Gas Trading Forum.
- Municipal Environmental Fair, organized by the Municipality of São João da Barra.

SJB Environmental Municipal Fair

July

- Seminar on Good Civil Defense Practices.

August

- Gas & Energy Week, participation in the panel "Enterprises expanding and optimizing the thermoelectric sector".

September

- Prumo Day, participation in the panel "Porto do Açu in the oil and gas production and logistics chain".
- Rio Oil & Gas, participating in three panels.

Rio Oil & Gas: GNA presentation

October

- Fair Mostre-se, from the Federal Fluminense Institute (IFF).
- 5th Fields Opportunities Fair, with a stand on the GNA and a Conversation Round about employability.

November

- Engineering Week at the Federal Fluminense Institute (IFF).
- Meeting of Metallurgical and Materials Engineering (EENGE), of the Estadual do Norte Fluminense Darcy Ribeiro (UENF), sponsorship and presentation of the lecture "GNA – Transforming gas into energy and dreams into reality".

24th EENGE - UENF

Porto do Açu

PARTICIPATION/ MEMBERSHIP IN ORGANIZATIONS

GRI 2-28

- Brazilian Association of Thermoelectric Generators (Abraget)
- Commercial Association of Rio de Janeiro (ACRJ)
- Brazilian Association of Independent Electricity Producers (Apine)
- Britcham – British Chamber of Commerce and Industry in Brazil
- Brazilian Institute of Oil and Gas (IBP)
- Federation of Industries of the State of Rio de Janeiro (Firjan)
- Global Compact – Rede Brasil

Communities

GRI 3-3 I 203-1 I 413-1 I 413-2

GNA values transparency in its communication with the communities with which it interacts.

Keeping them informed and updated regarding the main risks and impacts (both positive and negative) that the company can generate is among its practices. Annually, the company presents the main updates of its enterprises, programs and projects, so that communities can take advantage of the opportunities generated and know how to act in case of possible negative impacts. Among them, assessed in Environmental Impact Studies available on the company's website, are: soil loss and/or degradation; change in noise levels; contamination of soil and/or water resources; change in air quality; alteration of waterway channels and water availability; changes in aquatic communities; landscape alteration; loss of mineral production areas; increased proliferation of disease vector species; reduction of vegetation cover; increase in population nuisances; increased demand for public services; loss and restriction of productive activities and housing; deterioration in traffic conditions; increased exposure of workers to occupational risks; increased incidence of diseases; increased vessel circulation; and photo-pollution.

Fishing workshop

The company has regulations to support the management of these risks and impacts, including the Social Investment Plans, the Stakeholder Engagement Plan, the Local Acquisition Plan, the Local Hiring Plan, the Community Complaints Mechanism and the Emergency and the Land Management Standard. The Perception Survey is also carried out annually, collecting information on how communities see and understand the GNA and Porto do Açu, which makes it possible to review how we engage with communities and understand topics that are priority for them. One of the changes provided by the Perception Survey in the form of engagement, for example, is the preferred means of communication. One of the studies identified communities' preference for social media, which led the company to stop producing part of the printed material distributed in communities and start disseminating content via WhatsApp for contact focus groups and community leaders.

Social investment projects were designed and developed considering both material topics and priority themes and the communities' expectations in relation to the company.

Environmental Education Program (PEA)

Residents of São João da Barra and employees from GNA, Siemens Energy, BW, KN, as well as those involved in the operation and maintenance of GNA I TPP and the LNG Terminal participated in the new training class of Environmental Multiplier Agents of the Environmental Education Program (PEA). Four modules addressed the themes: environment and territory; public environmental management and environmental licensing; environmental management system and critical environmental education; and environmental citizenship. At the end of the training process, around 20 participants were able to multiply environmental concepts and practices in their work spaces and communities. As part of the PEA actions, the GNA Social Responsibility area presented the Participatory Socio-Environmental Diagnosis (DSAP), carried out in 2021. The study involved the participation of more than 100 people from ten communities and the Public Authorities of São João da Barra and Campos dos Goytacazes. The initiative made it possible to collect topics of interest to be addressed by the program in the communities.

ACTIONS PERFORMED

- Participatory Socio-Environmental Diagnosis (DSAP) with community groups.
- Educational workshops with communities.
- Training of Multiplier Agents for workers.

NEXT STEPS

- Pilot projects with communities.
- Educational materials on topics of interest.

Environment Week

For the 2022 campaign, the theme chosen was "Only one Earth", with communication focused on sharing information about actions to protect the environment. Thus, GNA developed its informative material on its monitoring, restinga recovery and flora rescue programs, information on environmental aspects of the operation and regarding waste and effluent management. The material developed was released at the São João da Barra Municipal Environmental Week Fair.

Also to support Environment Week actions in the community, GNA entered into a partnership with the São João da Barra Municipal Department of Environment and Public Services. The objective was to create a space for reflection and search for alternatives to deal with the main environmental problems and conflicts in communities surrounding school units. The João Flávio Batista Municipal School developed a vertical cistern project to store rainwater and irrigate the school›s garden and solve the problem of lack of water when the supply is interrupted. The initiative was presented by 9th grade students at the State Fair of Science, Technology and Innovation in Rio de Janeiro and was awarded in the Science category in Elementary School II 8th and 9th grade.

Planting in RPPN (Private Natural Heritage Reserve) Caruara: Restinga Day

Planting in RPPN (Private Natural Heritage Reserve) Caruara: Restinga Day

Community meetings

Through community meetings, which bring together representatives of the community and the Public Power, GNA reinforces the transparency of its actions and work. Before starting any project, the company explains the project, its stages, benefits and impacts. Community meetings are held at the end of the year to present the status and progress of the works and the socio-environmental actions carried out and those planned for the next period.

On December 20th, GNA held the fourth edition of the Community Meeting to update its activities throughout 2022. Around 50 people participated in the event, which was broadcast online, in addition to support points to streamline monitoring, in different locations in São João da Barra. During the meeting, questions were presented and answered about the evolution of the company›s projects, future business, in addition to socio-environmental projects, such as the II Professional Qualification Program, Capacita Suppliers, the Emergency Response Plan and the Action and Monitoring Plans, and Biodiversity Assessment.

Permanent dialogue channels are maintained with the community. Through Fale com a GNA, it is possible to send complaints, suggestions and comments about corporate performance on different channels.

Suggestion boxes in:

- **Amparo**: Imperio do Pão Bakery
- **Barcelos**: Drugstore Única Farma
- **Barra do Açu**: Tucano Supermarket
- **Cajueiro**: Mini Mercado E.A. Machado
- **Carvão**: Gomes & Sousa Bakery
- **Mato Escuro**: Carreirinha Supermarket
- **Pipeiras**: Residents' association

0800 591 2094

Free call. Monday to Friday, from 8am to 8pm, via operator. Outside these hours via answering machine.

GNA Dialogue Space

Address: **Rua Ilda Moreira Gomes, no. 281, Cajueiro – São João da Barra.**
Opening hours: **Tuesday and Thursday, from 9am to 5pm.**

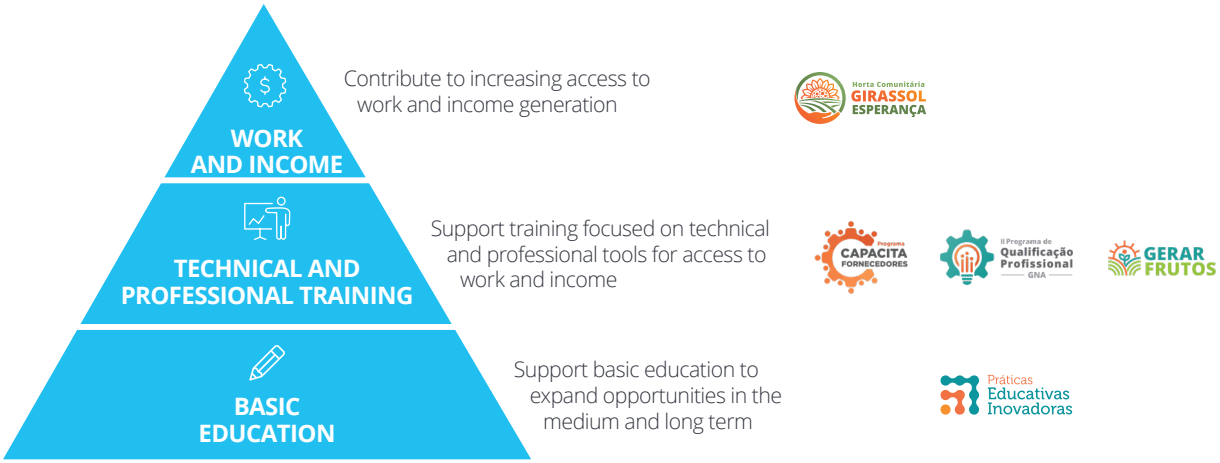
canalconfidencial.com.br/dialogocomacomunidade

gna@canalconfidencial.com.br

→ Social Investments

To collect information on the social, economic, environmental and institutional aspects of its area of influence, GNA carried out a participatory assessment of community needs, which allowed developing a social investment strategy that adheres to local reality and interests, also considering the risks, impacts and their needs.

The strategy was developed to maximize the positive impacts of GNA's operation, positively participating in local social challenges. Based on this exercise, the company prioritizes three lines of investment to contribute to social advances: Generation of work and income, Technical and professional training and Basic Education.



GENDER DIVERSITY
as a transversal topic

OPPORTUNITY
Create actions that promote women's access to work and income

TOOLS
Provide women with the same opportunities and tools

VALUES
Talk to new generations about values focused on gender equality and diversity

Generation of work and income

The company seeks to increase local hiring and contribute to income generation in surrounding communities. In 2022, the Girassol Esperança Vegetable Garden project was completed, which will now continue with the families of students at the Escola Técnica Agrícola Antônio Sarlo (Eteeas), in partnership with the Universidade Estadual do Norte Fluminense Darcy Ribeiro (UENF). The company contributed to generating income for 15 families, promoting agricultural development through the technical support and alternative income generation project in Campos. The initiative involves the development of a community vegetable garden, in which families can grow food with the support of students and teachers, for their own consumption and/or sale. Project participants keep the Girassol Esperança Vegetable Garden for food production (generating food security) and participate in fairs organized by ETEEAS, where they sell surplus products (generating income).

over 4 thousand
tons of food
were produces throughout the year

15 families
benefitted

Technical and professional training

The company expands the offer of training tools so that people from surrounding communities can increase job and income opportunities, whether at GNA or in the market. The projects being carried out in this line of training are the Capacita Fornecedores Program, the Professional Qualification Program and the Gerar Frutos Program.

Capacita Fornecedores is conducted in partnership with Sebrae Rio to develop local micro and small companies in the GNA value chain, based on the adoption of effective management practices aimed at improving their competitiveness and economic and financial sustainability. In total, 70 micro and small businesses (whether GNA suppliers or not) were selected to participate in the initiative. Of these, 15 (eight from São João da Barra and seven from Campos) have individualized monitoring and mentoring. The other 55 companies can participate in the process through workshops or open classes. The program lasts 18 months, alternating face-to-face and online meetings. GNA and Sebrae Rio subsidize 90% of the training. The priority sectors to participate in Capacita Fornecedores are food, construction, clothing, hotels, technology, administrative and environmental services and consultancy.

Capacita Fornecedores
Learn more in:
Sustainable supply chain

Another initiative is the **Gerar Frutos (Bear Fruit) program, which aims to train 30 rural producer families in the Pipeiras District, in São João da Barra.** In partnership with the Technical Assistance and Rural Extension Company of Rio de Janeiro – Emater-Rio, the program offers agricultural technical assistance, multidisciplinary assistance, such as environmental and financial education, food security and drainage, in order to increase productivity for these families.

The second edition of the Professional Qualification Program was launched in September 2022, in partnership with the City of São João da Barra, Firjan Senai and Instituto Federal Fluminense (IFF) – Campus São João da Barra. 448 places were offered free of charge for six professional technical courses in 20 groups. The company sought to encourage female registrations through affirmative action, which reserved at least 25% of places for that group. However, female demand for the course was above target, and of the more than 800 registrations, the female portion represented 41%, enabling the formation of two exclusive classes for women. The courses are offered in five locations and taught in two shifts, in order to streamline student logistics and, thus, prevent dropouts.

448
free places

6
courses

41%
Female enrollments

2
exclusive female classes

800
enrollments

5
different locations

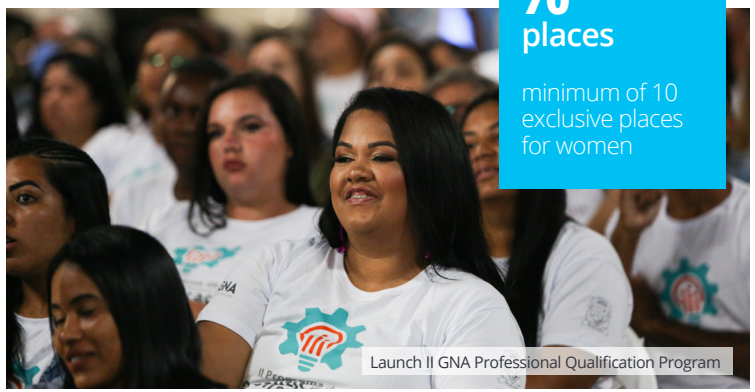
Il Programa de Qualificação Profissional GNA

NEXT STEPS

In 2023, the Professional Qualification Program will include a Horas de Voo (Flight Hours) component, recycling and improving graduates of the qualification program. The priority are the people from São João da Barra, preferably women, workers demobilized from the GNA I project and trained in the first Program. The objective is to increase hiring for vacancies in the welding and electrical areas, promoting the development of the professional careers of these participants in the first Professional Qualification Program. Classes will be mostly practical, aligned with the technical needs of GNA projects.

70
places

minimum of 10 exclusive places for women



Launch II GNA Professional Qualification Program

Support for Basic Education

GNA works together with the Department of Education of São João da Barra and the Instituto Federal Fluminense, to support local educational institutions with tools to support innovative educational practices. The program includes four pillars, as shown in the illustration alongside.

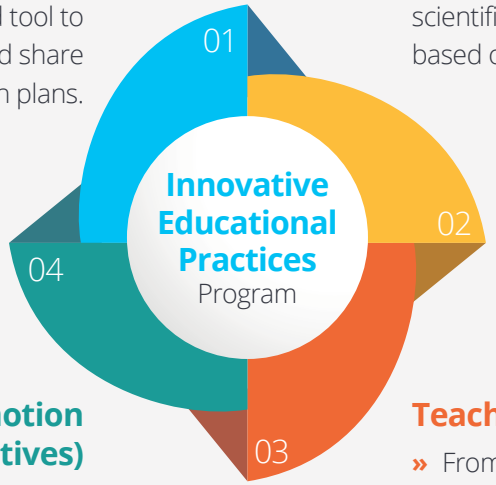
GNA is promoting a program to improve the learning process of students in the second segment of Elementary School in the São João da Barra public network through the application of strategies and technological innovation within the teaching process. **The initiative benefits around 1,200 students and 120 teachers and coordinators.**

Bp, one of GNA›s shareholders, opened registrations for the Exchange Program aimed at students aged 15 to 17 from São João da Barra. The registration deadline was scheduled for the beginning of January 2023. Scholarships will be offered in the United States, Egypt, China, India and Europe. The program combines virtual (three months) and in-person (four weeks) learning.

Práticas Educativas Inovadoras

Class sharing system

Process and tool to create and share innovative lesson plans.



Science Experiment Kits

Kits with materials and instruction for 136 scientific experiments, with methodology based on learning by discovery.

Promotion (incentives)

Encouraging teacher engagement through awards that recognize best practices.

Teacher training

- From kits with materials for scientific experiments.
- About system use
- Regarding innovative educational practices.

RPPN (Private Natural Heritage Reserve) Caruara

NATURAL RESOURCES CONSERVATION

Biodiversity 84

GHG emissions and air quality 89

Water management 91

Energy 93

Waste management 94

Noise 95

RPPN (Private Natural Heritage Reserve) Caruara

NATURAL RESOURCES CONSERVATION

The company's commitment to environmental conservation is expressed in a series of good practices adopted in relation to biodiversity, GHG emissions and quality of air, water and tributaries, waste and noise.

Environmental campaigns 2022

Beach cleaning action

» In honor of World Oceans Day (June 8) and part of the Environment Week actions, it was attended by employees from GNA and partner companies from Porto do Açu, consultancies and terminal operators. 140 kilos of waste were collected. The beach cleaning effort came together on World Cleanup Day, a movement that brings together volunteers and organizations to tackle the trash problem. The initiative is linked to the Ocean Decade and the UN SDGs.

Green June

» Employees took a walk through the Caruara Reserve and a boat trip through the Iquipari Lagoon. During the activity, the group had the opportunity to visit Caruara's new headquarters, a space dedicated to visits and research, as well as actions to protect and monitor sea turtles.

Fauna Week

» From October 4th to the 10th, the company shared interesting facts about the wildlife of the region where it is located and the importance of animals for the balance of the ecosystem, through cards distributed in the communities.

Biodiversity Symposium

At the end of the year, GNA held the 1st Biodiversity Symposium, at the headquarters of the Caruara Private Natural Heritage Reserve (RJ). The event brought together representatives from other companies in Porto do Açu, specialist consultants who work with GNA and researchers from universities in the region, as well as representatives from municipal and state environmental agencies. The objective was to present and discuss the results of the environmental monitoring programs carried out by the company and to present the geographic information system developed over the last year, which brings dashboards and information about the biodiversity monitoring carried out, as well as discussing perspectives on the actions of the BAP and other PBA programs. The Symposium became part of the biodiversity agenda and will be annual.

Themes presented

- Biodiversity Action Plan (BAP);
- Prospecting for populations of flora species endangered with extinction in the region of São João da Barra (RJ);
- São João da Barra coastal lagoons;
- Monitoring the biota and quality of water and sediments in coastal lagoons in São João da Barra;
- Monitoring of fauna in the RPPN Caruara and sites surrounding the GNA; and
- Sea turtle conservation actions.

2022

1º Simpósio de Biodiversidade da GNA

Conectando ideias, resultados e perspectivas futuras

→ Biodiversity

GRI 3-3 I 304-1 I 304-3 I EM-MD-160a.1 I EM-MD-160a.2

GNA I TPP, GNA II TPP (under construction) and TGNL are located in the Special Sector of Porto do Açu, in São João da Barra (RJ); the LT 345 kV and the LT 500 kV (under construction) depart from the same sector towards the municipality of Campos dos Goytacazes (RJ). None of the projects (100%) are located in a Conservation Unit or Permanent Protection Area. However, some of them is part of the restinga ecosystem, considered a priority for conservation.

The company is responsible for 120.5 ha of areas undergoing restoration processes, already started or scheduled to start in 2023. They are:

Planting 100% completed and in the maintenance phase

- LNGT: 35.60 ha (2nd year)
- GNA I TPP: 4.47 ha (2nd year)
- GNA I TPP construction site: 0.16 ha (2nd year)
- LNGT Firebreaks: 6.30 ha (1st year)
- 345 kV TL: 9.92 ha (1st year)
- Macrodrainage: 1.26 ha (1st year)

Planting scheduled for 2023

- Construction Site Phase 3: 0.60 ha
- GNA II TPP: 11.55 ha
- 500 kV TL: 31.50 ha
- Complementary 500 kV TL: 19.24 ha

All planting areas are located within the Caruara Private Natural Heritage Reserve and follow the methods and indicators of Inea Resolution No. 143/2017, which defines a minimum maintenance period of four years after planting to approve the measures used. The areas are outside the Directly Affected Area (ADA) of the project.

GNA also maintains other specific monitoring provided for in its Biodiversity Action Plan (BAP). Its commitment, then, goes beyond licensing obligations, with the implementation of 20 impact mitigation and biodiversity conservation measures.

Mitigation measures

Access https://esg.gna.com.br/estrategia-de-sustentabilidade/preservacao-dos-recursos-naturais

In 2022, the actions were all continued – some were improved and more targeted and those of adaptive management, aimed at operating in the operation, were prioritized. The results for all monitored groups and ecological indices are in accordance with expectations for the region. The variations presented, in most cases, are natural to the localities or are related to external factors and not to the GNA processes.

The BAP, which goes beyond the licensing requirement, will be updated in 2023, incorporating the maturity and experience of GNA I TPP and already preparing for the mitigation actions necessary for GNA II TPP. The document foresees the change of trigger species in the region's critical environment, which will only be possible due to the development of BAP actions in recent years and the generation of results, mainly in 2022, which allowed a new assessment, with more robust and primary data from the region.

To verify compliance with all measures and plans established by the BAP and the Basic Environmental Plans (PBA), monitoring reports on license conditions and financing requirements are prepared, and audits are carried out by the licensing environmental body and external audits by an independent consultancy to assess compliance with international performance standards required by funding, such as Performance Standard 6 (Biodiversity Conservation and Sustainable Management of Living Natural Resources).

Furthermore, assessments are carried out after all environmental monitoring campaigns by consultancies in conjunction with the internal environmental team to verify the need for adaptive management* regarding the methods established for each program.

**** The assumption of adaptive management is that ecosystem management must involve a learning process, which helps to adapt methodologies and practices to how these systems are being managed and monitored. Source: Guidance Note 6 (Conservation of Biodiversity and Sustainable Management of Living Natural Resources).***

In addition to the Basic Environmental Plans, the company has standards that specifically address biodiversity:

GNA-NOR.SUS.007
Biodiversity Protection and Conservation Standard;

GNA-PLA.SUS.018
Restinga Recovery and Conservation Plan;

GNA-PRC.SUS.044
Germplasm Rescue Procedure;

GNA-PRC.SUS.040
Procedure for Control of Exotic and/or Invasive Plant Species;

GNA-PLA.SUS.009
GNA Firebreak Implementation and Maintenance Plan;

GNA-PRC.SUS.032
Terrestrial Fauna Monitoring Procedure, including the fauna associated with the lagoons;

GNA-PRC.SUS.043
Synanthropic, domestic and wild Fauna Management Procedure;

GNA-PLA.SUS.017
Avifauna Monitoring Plan;

GNA-PLA.SUS.008
Marine Monitoring Plan; and

GNA-PLA.SUS-013
Marine Bioinvasion Monitoring Plan.

Avifauna monitoring

The company studies the cumulative impacts between GNA I and GNA II, with the purpose of adopting best practices to manage and minimize them. An example is the monitoring of birdlife associated with the transmission line.

GNA has signaling devices (anti-collision) installed on the LT 345 kV to prevent bird collisions. The year 2022 was marked by extensive adaptive management to monitor bird interactions with this LT. Monitoring includes checking possible changes in migratory flow, types of flight, the presence of new species or other situations that require a review of the program in relation to bird collisions with transmission line structures. The monitoring method adopted in this line will also be applied to the future LT 500 kV.

The GNA emergency brigade maintains daily rounds at the LNG Regasification Terminal (TGNL), to monitor any bird interactions or reproductive movements. The objective is to prevent colonies of migratory seabirds from forming on site, given the risks to both the specimens and the operation of the Terminal. However, there is an action plan if it becomes established: the birds will no longer be scared away and the company›s commitment will be to protect the eggs and nestlings.

Wildlife management

The company promoted specific training for wildlife management, rescue and first care of oiled wildlife. They were directed to the Environment and Brigade team. The objective was to update all professionals who are most likely to deal with situations involving animals.

For the day-to-day activities of the GNA I and GNA II TPP projects, 102 animals were registered (the majority, 94, divided between sighting/ presence/crowding) during 2022 and there was no vegetation suppression activity. For LT 500 kV, suppression began in October and should be completed around March 2023. At the time of writing this report, 80 animals had been managed to suppress LT 500 kV.

Sea turtle conservation

The Sea Turtle Conservation Project, started in 2021 with the Fundação Projeto Tamar, continued throughout the year, when workshops were held in three fishing colonies, in the regions of Farol de São Tomé (Campos dos Goytacazes), Atafona (São João da Barra) and Gargaú (São Francisco do Itabapoana). The objective was to teach fishermen and netters how to build the Sea Turtle Excluding Device (TED), which prevents the incidental capture of these animals during fishing. More than 40 fishermen participated in this initiative.

The workshops prioritized practical and participatory activities to assemble the TED, in which fishermen and researchers were able to work together, sharing knowledge. The fishermen also watched a presentation on the origin of TED, its legal framework and the relevant aspects during the assembly of the device so that it works correctly. To be used as a model for building new devices, the GNA provided a TED for each community, which will be available to fishermen at the fishing colony in Farol de São Tomé, at the Caruara Reserve headquarters and at the fishing colony in Gargaú.

In less than one year, the Sea Turtle Conservation Project managed to gain the trust of fishermen, who, upon noticing a turtle trapped in the nets, called the Fundação Projeto Tamar to rescue it. Through these TED project actions, 14 turtles were rescued and tagged in 2022.

Even with the completion of the TED project, GNA participates in the Marine Turtle Monitoring Program (PMTM), which covers 62 kilometers of beach in the region of São João da Barra and Campos dos Goytacazes, covering the entire Port of Açu and also carried out by Fundação Projeto Tamar. Therefore, actions can be made within the scope of this program in the region. In addition to non-reproductive events, the initiative also monitors the reproductive period and includes actions to release babies into the sea, together with communities, in environmental education and species conservation actions.

Restinga restoration

All restinga restoration projects related to vegetation suppressed in the installation phase of GNA I projects had their planting stages completed in 2022. They cover the thermal areas, construction site, LNG Terminal, macrodrainage and LT 345 kV. **Over the last three years, 41,224 seedlings were planted in an area of more than 57 hectares – 5.3 times larger than the space occupied by GNA I projects – in RPPN Caruara, a conservation unit located in Porto do Açu.** With the planting of forest restoration completed, GNA will carry out maintenance and monitoring for at least four years.

The restinga restoration projects related to GNA II TPP are scheduled to begin in 2023. However, the suppression of vegetation for the new thermal plant, located in an already anthropized area, was minimal. The forest restoration will also include the construction site and the LT 500 kV. Planting is planned in an area of more than 62 hectares, totaling 120 hectares of restoration, considering the GNA I and GNA II projects.

Endangered species

For one of the endangered species of flora, *Melanopsidium nigrum*, with a relatively high mortality rate, GNA had a partnership with the Genetic Improvement Laboratory of the Universidade Estadual do Norte Fluminense Darcy Ribeiro (UENF) to verify better transplantation and vegetative propagation techniques. The initiative gave rise to a scientific article published in a high-impact international journal, showing the first results of this project, which will be continued in 2023.

Scientific paper

Access https://esg.gna.com.br/documentos-balizadores

GRI Annex

Data on species included on the IUCN red list and national conservation lists with habitats in areas affected by the organization's operations.
GRI 304-4

→ GHG emissions and air quality

GRI 3-3

The GNA I TPP is made up of three gas turbines and a steam turbine which, together, will be responsible for generating 1338 MW in a combined cycle. That allows greater energy use through the combination of combustion systems (gas turbines and generators) and the three heat recovery and steam generation boilers (HRSG – Heat Recovery Steam Generators) to power the steam turbines, contributing to increased efficiency in power generation. The SGT6-8000H model gas turbines are considered the most efficient of their type ever installed in Brazil, while the SST6-5000 steam turbine will be responsible for generating approximately 34.8% of the total energy generated at GNA I TPP. Therefore, approximately 465 MW will be generated without additional gas burning, which results in fewer gas emissions into the atmosphere.

To determine air quality, GNA has a continuous emissions monitoring system, excluding atmospheric pollutants (Continuous Emissions Monitoring System – CEMS) at the GNA I and II TPP. CEMS measures and monitors the concentrations of nitrogen oxides (NOx), carbon monoxide (CO) and oxygen (O_2) in gas turbine exhaust.

Until the moment of discontinuing the dispatch of GNA I TPP, at the beginning of 2022, the results of the analysis of monitoring data showed that there was no change in air quality during the period in which the plant operated, between September 2021 and February 2022, confirming the predictions of studies carried out for environmental licensing and financing of GNA projects. In addition to observing the air quality index of gases emitted by the plant, GNA monitors the levels of particulate matter and inhalable particles due to the works at GNA II TPP.

To minimize dust, GNA keeps the internal roads moistened with reused water, coming from the sanitary sewage treatment station, in line with the provisions of NBR 13.969:1997 and with the environmental licensing, approved by the State Institute of the Environment (Inea). In addition, signs are placed instructing drivers to reduce vehicle speed and keep cargo truck beds covered with tarpaulins while traveling on the roads.

The company carried out its second GHG Emissions Inventory – certified by a verification body accredited by a competent entity – and maintains monitoring through its own system to account for scope 1, 2 and 3 emissions. Due to the short period of activation of the thermoelectric plant in the year, it is not possible to draw any conclusions about the inventory indexes.

São João da Barra

The company conducted an external performance evaluation process, in which it received a score of 9.4 for the topic "Control of GHG Emissions". **Furthermore, the GNA I plant has the best indicator of GHG emissions/MWh of energy generated in Brazil.**

GRI Annex
Data on direct emissions, indirect emissions and other GHG emissions, in addition to NOX, SOX and other significant emissions.
GRI 305-1 I 305-2 I 305-3 I 305-7

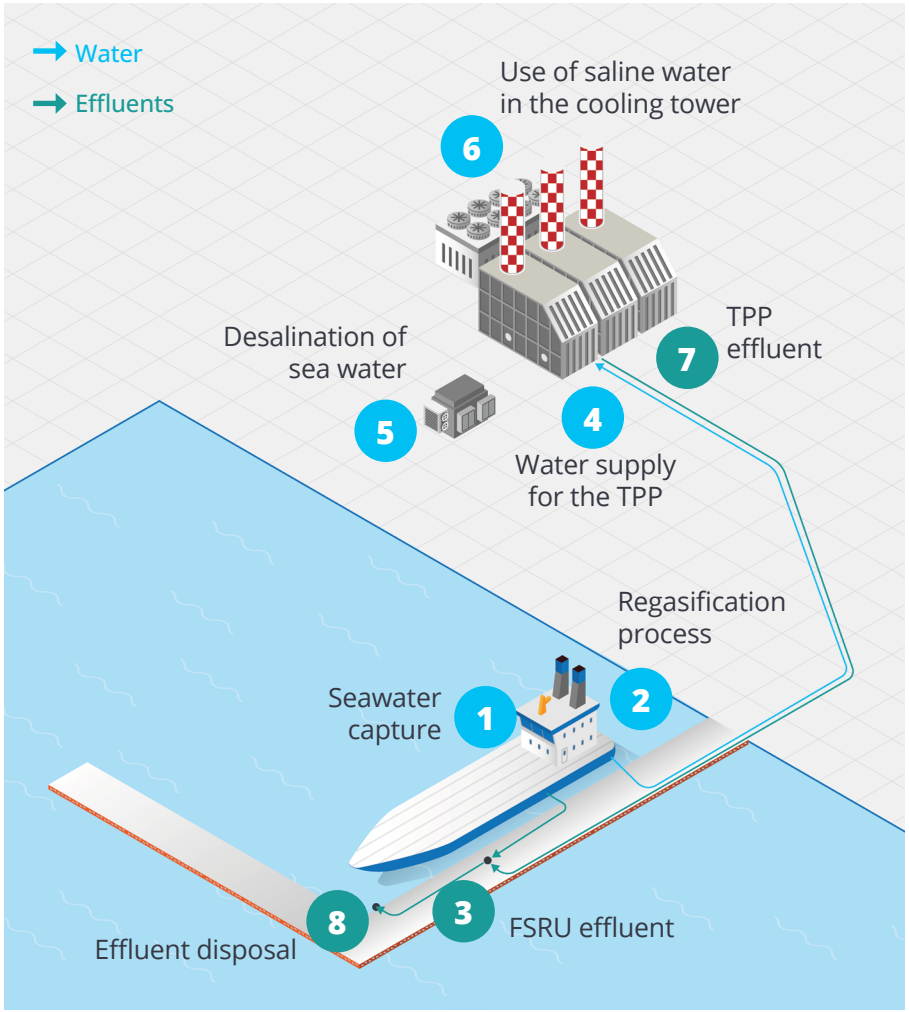
→ Water management

GRI 3-3 I 303-1 I IF-EU-140a.2 I IF-EU-140a.3 I

The GNA Sustainability Policy establishes the encouragement, development and use of environmental innovations that promote the rational use of water resources and energy efficiency and the promotion of operational efficiency through the proper management of waste, effluents and GHG emissions.

The company adopts, in its operations, a consumption source that does not put pressure on available water resources. GNA I TPP has a salt tower for the cooling system and a desalination plant to produce drinking and industrial water, that is, capture is mostly from alternative sources. The water captured by the floating storage and regasification unit (FSRU),to be used in the LNG regasification process is directed to GNA I TPP. Upon arriving at the thermal plant, the resource is divided into two fractions: the first, which represents the largest volume of water is sent to the cooling tower basin to be used in the steam turbine condenser, without the need to remove salinity; the smallest fraction is directed to the desalination system and subsequently destined for the demineralization process, in which the remaining salts are removed for use in heat recovery and steam generation boilers. At the end of the process, the saline water returns to the terminal, where it is mixed with the rest of the water used in the regasification process in the FSRU for disposal at sea. The mixture of thermal effluents from the plant and the FSRU generates a final effluent with a temperature close to the temperature of the captured seawater, which reduces the impact of effluent disposal in the marine environment. Still, the use of water from deep tubular wells is necessary in cases of failures and maintenance shutdowns in the desalination process.

Schematic diagram of the rational use of water



The company also moistens the project's internal roads with reused water, coming from the sanitary sewage treatment plant. It also promotes audits of the distribution system of Águas Industriais do Açu, responsible for the service at Porto do Açu, which maintains groundwater monitoring studies and supply strategies.

As a form of control, it monitors the quality of the effluent and, if it finds that it does not comply with the discharge conditions and standards established by law, it carries out an investigation to correct the treatment. In addition, the company maintains the Marine Monitoring Program, whose objective is to monitor waters, marine sediments and marine biota in relation to the impact caused by the discharge of effluents, at points established inside and outside the TGNL, on the north jetty and in the navigation channel of Porto do Açu.

The quality of the water distributed is checked as defined in specific legislation, carried out by requesting control at the source and during transportation, and control carried out internally, with sample collection and monthly tests carried out by an accredited laboratory. The potability analysis is carried out in accordance with Ordinance nº 888/2.

In September 2022, the cafeteria's tap water showed concentrations of chlorate, chloride and total dissolved solids above the limits established by the respective standard. To correct these anomalies, a UV filter was installed before the PWTech purification system, active carbon filters at the drinking water points, in addition to a 25 m³ reservoir next to the ETA, which works as a contact/neutralization box.

In November 2022, the results obtained for the variables residual chlorine and total manganese presented limits outside those permitted by Ordinance GM/MS No. 888/2021 in the water sample leaving the Water Treatment Plant (WTP). As an action plan, the chlorine dosage at the treatment exit was increased, and, in order to correct the manganese values, the backwashing time of the multimedia filters was increased to 15 minutes, aiming to retain solid particles in suspension immediately after oxidation.

LNG Terminal

In 2022, the company conducted an external performance evaluation process in which it received a score of 9.7 for the topic of "Water Resources Management" and a score of 8.0 for the topic of "Liquid Effluent Management". **The benchmarking assessment also indicates that GNA performs above its peers in this area.area.**

GRI Annex
data relating to water capture and consumption..
GRI 303-3 I 303-5

→ Energy

GRI 302-1 I 302-2

The works of GNA II TPP started to use energy from the National Interconnected System (SIN), which represents an improvement in relation to the work of GNA I, in which generators with diesel fuel were used. With the installation of GNA II, the company's offices and operational units also began to consume energy from the SIN, through which the GNA I is connected. As a safety precaution, in case of breakdowns, the company relies on emergency generators.

In 2022, energy consumption within the organization totaled 87,602, and consumption outside the company was 2,360.19 GJ (GNA I) and 106,955.17 (including GNA II).*

** This indicator presents energy consumption outside the organization, considering upstream and downstream categories.*

1 KWh = 3.6 MJ and 1 joule (J) = 0.239 cal

Source of conversion factors used: https://www.gov.br/anp/pt-br/centrais-de-conteudo/publicacoes/anuarioestatistico/arquivos-anuario-estatistico-2020/anuario-2020-fatores-conversao.pdf

GNA I TPP

→ Waste management

GRI 3-3 I 306-2

The company detected points of improvement in the disposal of waste for the current GNA II work. Regarding solids, it built a sorting plant, whose recyclable material is compacted and assembled into bales. At Christmas, the value of this material was donated to basic food baskets that were delivered to the surrounding communities. The plant collects waste from GNA I and II and the terminal. Waste from transmission lines is managed by the contracted contractor.

Furthermore, disposable plastic cups were replaced by permanent use bottles. Each employee involved in the construction of GNA II TPP, Operation of GNA I TPP and the administrative office received one. This initiative was carried out based on the estimated consumption of plastic cups at the peak construction of GNA I TPP (2019), which was 56 thousand per day, on average, with each employee using up to ten disposable cups per day. This action began during Environment Week, together with partner companies, and continues for new employees.

Organic waste was sent to landfill. However, efforts focused on changing their destination, and they will be sent to compost in 2023.

Hazardous solid waste continued to be stored properly and sent for blending/co-processing. Used lubricating oil is sold for re-refining.

Since August, all rubble generated during the construction of GNA II has been crushed and processed. Guided and engaged, employees segregate waste as soon as the rubble is generated. Only the material mixed with construction hardware is sent to the landfill.

GRI Annex
Data on the generation and disposal of waste.
GRI 306-3 I 306-4 I 306-5

Porto do Açu

→ Noise

Sound pressure monitoring occurs quarterly at 12 points located within the Porto do Açu area and within the limits of the area of direct influence. Sound level equipment is installed to capture noise for 24 hours at specific points. This monitoring has been carried out since 2019 and by the end of 2022 no negative impact on the communities had been identified.

The company is committed to carrying out a new modeling study aimed at the operation of the GNA I TPP and the GNA II TPP.

RPPN (Private Natural Heritage Reserve) Caruara

INDICATORS

GRI Annex 98

GRI Content Index 109

Corporate Information/Editorial Staff 135

→ New hires and employee turnover

GRI 401-1

New hires
by age group

	2020	%	2021	%	2022	%
Less than 30 years old	3	30.0%	6	40.0%	**11**	**39.3%**
From 30 to 50 years old	6	60.0%	9	60.0%	**14**	**50.0%**
Over 50 years old	1	10.0%	-	0.0%	**3**	**10.7%**
Total	10	100%	15	100%	**28**	**100%**

New hires
by gender

	2020	%	2021	%	2022	%
Women	2	20.0%	6	40.0%	**13**	**46.4%**
Men	8	80.0%	9	60.0%	**15**	**53.6%**
Total	10	100%	15	100%	**28**	**100%**

New hires
by region

	2020	%	2021	%	2022	%
Rio de Janeiro	6	60.0%	13	86.7%	**24**	**85.7%**
São João da barra	4	40.0%	2	13.3%	**4**	**14.3%**
Total	10	100%	15	100%	**28**	**100%**

The GNA II TPP indicators began to be mapped in November 2021. Therefore, values for 2021 did not have a significant impact on total operations. Therefore, the reporting of indicators for this operation were only included in 2022.

Turnover [1,2]
by age group

	2020	%	2021	%	2022	%
Less than 30 years old	2	1.6%	5	4.2%	**2**	**1.6%**
From 30 to 50 years old	9	7.3%	14	11.9%	**19**	**15.3%**
Over 50 years old	1	0.8%	4	3.4%	**2**	**1.6%**
Total	12	9.8%	23	19.5%	**23**	**18.5%**

Turnover [1,2]
by gender

	2020	%	2021	%	2022	%
Women	3	2.4%	4	3.4%	**11**	**8.9%**
Men	9	7.3%	19	16.1%	**12**	**9.7%**
Total	12	9.8%	23	19.5%	**23**	**18.5%**

Turnover [1,2]
by region [3]

	2020	%	2021	%	2022	%
São João da Barra	1	0.8%	5	4.2%	**4**	**3.2%**
Rio de Janeiro	11	8.9%	18	15.3%	**19**	**15.3%**
Total	12	9.8%	23	19.5%	**23**	**18.5%**

[1]To calculate the percentage, the number of dismissals divided by the total number of employees was considered.

[2]The GNA II TPP indicators began to be mapped in November 2021. Therefore, values for 2021 did not have a significant impact on total operations. Therefore, the reporting of indicators for this operation were only included in 2022.

[3]GNA operates only in the Southeast Region, specifically in the State of Rio de Janeiro.

→ Hours of training

GRI 404-1

Average hours of training per employee

by gender

	2021		2022		Δ 2021/2022	
	Total number of hours	Average number of hours	Total number of hours	Average number of hours	Total number of hours	Average number of hours
Men	1,007.5	8.8	1,430.0	11.7	41.9%	32.6%
Women	789.0	6.9	2,250.5	18.4	185.2%	166.5%
Total hours of training	1,796.5	15.8	3,680.5	30.2	104.9%	91.4%

Average hours of training per employee

by employee category

	2021		2022		Δ 2021/2022	
	Total number of hours	Average number of hours	Total number of hours	Average number of hours	Total number of hours	Average number of hours
Upper management	9.5	0.1	56.5	0.5	494.7%	455.7%
Management	207.5	1.8	419.0	3.4	101.9%	88.7%
Coordination	192.5	1.7	241.0	2.0	25.2%	17.0%
Workers	1,387.0	12.2	2,964.0	24.3	113.7%	99.7%
Total hours of training	1,796.5	15.8	3,680.5	30.2	104.9%	91.4%

→ Power consumption [1,2]

GRI 302-1

Power consumption

GJ

	2021	2022	Δ 2022/2021[3]
Non-renewable fuels [4]	**15,097,461.1**	**3,920,879.8**	**-74.0%**
Gasoline (automotive)	-	1,196.1	-
Marine diesel oil [5]	15,097,461.1	10,818.3	-99.9%
Natural Gas	-	3,907,751.3	-
Acetylene	-	2.2	-
Diesel	-	1,111.8	-
Purchased electricity [4,6,7]	**116,665.0**	**87,602.0**	**-24.9%**
Electricity sold	**0**	**2,064,300.8**	**-**
Total	**15,214,126.1**	**6,072,782.5**	**-60.1%**

[1]The GNA II TPP indicators began to be mapped in November 2021. Therefore, values for 2021 did not have a significant impact on total operations. Therefore, the reporting of indicators for this operation were only included in 2022.

[2]There is no energy consumption from fossil fuels.

[3]The variation in 2022 in relation to 2021 was calculated considering GNA II data.

[4]Data from GNA II TPP are not available.

[5]In 2021 the thermal plant was operational; so, there was a sent out. In 2022, there was only operation in January and February and, for this reason, there was a decrease in the consumption of marine diesel oil from one year to the next.

[6]The greater consumption of electricity acquired in 2021 was largely due to the greater load intensity during the commissioning tests of GNA I TPP.

[7]After the Commercial Operation Date (COD) on September 16, 2021, there was an increase of 16,210 GJ in the consumption of purchased electricity.

→ Water capture

GRI 303-3

Total water capture [1,2]

per ML[4]

	2021	2022 without GNA II	2022 with GNA II	Δ 2022/2021[3]
Sea water	38,068.8	5,136.0	5,152.5	-86.5%
Third-party water (public supply)	38,000.0	5,094.7	5,094.7	-86.6%
Total water capture	68.8	**41.3**	**57.8**	-16.0%

[1]There was no water abstraction in areas with water stress.

[2]The GNA II TPP indicators began to be mapped in November 2021. Therefore, values for 2021 did not have a significant impact on total operations. Therefore, the reporting of indicators for this operation were only included in 2022.

[3]The variation in 2022/2021 was calculated considering the inclusion of GNA II data.

[4]Megaliter = 1 million liters

Water consumption (ML)[1]

GRI 303-5

	2021	2022 without GNA II	2022 with GNA II
Total water consumption	38,068.77	5,135.96	5,152.51
Water consumption in areas with water stress	0	0	0

[1]The GNA II TPP indicators began to be mapped in November 2021. Therefore, values for 2021 did not have a significant impact on total operations. Therefore, the reporting of indicators for this operation were only included in 2022.

The GNA I TPP was in operation for less than two months, while in 2021 it was in operation for three and a half months, which explains the decrease in consumption. On the other hand, the GNA II work impacts on an increase in water consumption.

Although global indicators identify the region where Porto do Açu is located as a region with moderate risk of water stress, these indicators do not include specific local groundwater data. Porto do Açu is located in the area covered by the Emborê Aquifer, which has high natural quality and water availability according to the groundwater map of the State of Rio de Janeiro.

→ Species included on the IUCN Red List and national conservation lists with habitats in areas affected by the organization's operations

GRI 304-4

Affected species
by categories

	Flora		Fauna
	IUCN/2015	MMA/2022	IUCN/MMA/2022
Critically Endangered - CR	0	0	0
Endangered - EN	1	2	5
Vulnerable - VU	1	3	10
Nearly threatened - NT	0	0	12
Least concern - LC	0	0	75

→ Direct emissions (Scope 1) of Greenhouse Gases

GRI 305-1

Type of emissions

Tons of CO_2e per year

	2021	2022 without GNA II	2022 with GNA II	Δ 2022/2021*
(Direct emissions) Scope 1	860,309.3	223,237.1	223,237.1	-74.1%
Biogenic CO_2 emissions	129.2	23.95	23.95	-81.5%

* The variation in 2022 in relation to 2021 was calculated considering GNA II data

The GNA II TPP indicators began to be mapped in November 2021. Therefore, values for 2021 did not have a significant impact on total operations. Therefore, the reporting of indicators for this operation were only included in 2022.

The gases included in the calculation are CO2, CH4, N2O, HFCs, PFCs, SF6 and NF3.

There is no base year, since the operation does not take place during the same time. In 2021, it was three and a half months, and in 2022, less than two months.

Source of GWP AR-6. GHG Protocol.

→ Indirect emissions (Scope 2) of Greenhouse Gases from energy acquisition

GRI 305-2

Type of emissions

Tons of CO_2e per year

	2021	2022 without GNA II	2022 with GNA II	Δ 2022/2021*
(Indirect emissions) Scope 2	554.9	840.0	840.0	51.4%

* The variation in 2022 in relation to 2021 was calculated considering GNA II data. The GNA II TPP indicators began to be mapped in November 2021. Therefore, values for 2021 did not have a significant impact on total operations. Therefore, the reporting of indicators for this operation were only included in 2022

The total indirect GHG emissions (Scope 2) from energy acquisition in metric tons of CO2 equivalent calculated on a market basis is 839.95

→ Other indirect emissions (Scope 3) of Greenhouse Gases

GRI 305-3

Type of emissions

Tons of CO_2e per year

	2021	2022 without GNA II	2022 with GNA II	Δ 2022/2021*
(Other indirect emissions) Scope 3	939.7	512.6	7499.1	698.0%
Biogenic CO_2 emissions	66.4	12.2	230.4	247.3%

* The variation in 2022 in relation to 2021 was calculated considering GNA II data

The GNA II TPP indicators began to be mapped in November 2021. Therefore, values for 2021 did not have a significant impact on total operations. Therefore, the reporting of indicators for this operation were only included in 2022

Activities related to fuel and energy not included in scopes 1 and 2: purchased goods and services, employee commuting (home-to-work), waste generated in operations, transportation and distribution (upstream) and business trips.

→ Emissions of NOx, SOx and other significant GHG emissions GRI 305-7

Significant GHG emissions

Tons

	2021	2022 sem GNA II	2022 com GNA II	Δ 2022/2021*
NOx	1,294.5	301.3	301.3	-76.7%
Carbon monoxide (CO)	27.7	14.4	14.4	-48.1%

* The variation in 2022 in relation to 2021 was calculated considering GNA II data. The GNA II TPP indicators began to be mapped in November 2021. Therefore, values for 2021 did not have a significant impact on total operations. Therefore, the reporting of indicators for this operation were only included in 2022

The total indirect GHG emissions (Scope 2) from energy acquisition in metric tons of CO2 equivalent calculated on a market basis is 839.95

→ Generated waste

GRI 306-3

Waste generated by waste composition

Metric tons

	2018	2019	2020	2021	2022 without GNA II	2022 with GNA II	Δ 2022/2021*	Breakdown of waste composition for the year 2022
Hazardous waste (Class I)	-	-	-	-	10.9	52.2	3.8	Contaminated, infectious, lamps, pharmaceutical, contaminated drum, batteries and explosives
Non-hazardous waste (Class II)	-	-	-	-	75.2	1,881.8	24.0	Plastic, paper, metal, organic, non-recyclable, wood, glass, electronic and vegetable oil
Total	**765.6**	**5,498.4**	**2,841.9**	**949.0**	**86.1**	**1,934.0**	**1.0**	

* The variation was calculated considering 2022 values that include GNA II data.

The GNA II TPP indicators began to be mapped in November 2021. Therefore, values for 2021 did not have a significant impact on total operations. The reporting of indicators for this operation was only included in 2022.

→ Waste not intended for final disposal

GRI 306-4

Waste not intended for disposal, by waste composition and retrieval operations

Tons

	2018			2019			2020			2021			2022 without GNA II			2022 with GNA II		
	RDO	RFO	Total	RDO	RFO	Total	RDO	RFO	Total	RDO	RFO	Total	RDO	RFO	Total	RDO	RFO	Total
Hazardous waste (Class I)	9.6	0.0	9.6	87.8	0.0	87.8	140.1	0.0	140.1	41.8	0.0	41.8	0.0	10.9	10.9	0.0	51.8	51.8
Decontamination and reuse	0.0		0.0	1.3		1.3	2.4		2.4	0.7		0.7		0.0	0.0		0.0	0.0
Blending for co-processing	9.6		9.6	86.5		86.5	137.5		137.5	40.6		40.6		10.9	10.9		51.8	51.8
Decontamination and recycling	0.0		0.0	0.0		0.0	0.1		0.1	0.5		0.5		0.0	0.0		0.0	0.0
Recycling	0.0		0.0	0.5		0.5	0.1		0.1	0.3		0.3		0.0	0.0		0.0	0.0
Non-hazardous waste (Class II)	0.0	0.0	0.0	2,482.5	0.0	2,482.5	1,079.0	0.0	1,079.0	404.6	0.0	404.6	0.0	22.3	22.3	0.0	1,343.4	1,343.4
Energy recovery	58.6		58.6	1,459.7		1.459.7	540.1		540.1	194.8		194.8		9.9	9.9		274.2	274.2
Recycling	34.5		34.5	1,022.8		1.022.8	538.9		538.9	209.7		209.7		10.4	10.4		312.4	312.4
Beneficiation			0.0			0.0			0.0			0.00		2.1	2.1		756.9	756.9
Overall Total	9.6	0.0	9.6	2,570.3	0.0	2,570.3	1,219.0	0.0	1,219.0	446.4	0.0	446.4	0.0	33.2	33.2	0.0	1,395.2	1,395.2

RDO: Recovery within the organization I RFO: Recovery outside the organization

The variation was calculated considering 2022 values that include GNA II data.

The GNA II TPP indicators began to be mapped in November 2021. Therefore, values for 2021 did not have a significant impact on total operations. The reporting of indicators for this operation was only included in 2022.

→ WWaste intended for final disposal

GRI 306-5

Waste not intended for disposal, by waste composition and disposal operations

Tons

	2018			2019			2020			2021			2022 without GNA II			2022 with GNA II		
	DDO	DFO	Total	DDO	DFO	Total	DDO	DFO	Total	DDO	DFO	Total	DDO	DFO	Total	DDO	DFO	Total
Hazardous waste (Class I)	0.1	0.0	0.1	1.0	0.0	1.0	0.7	0.0	0.7	0.5		0.5	0.0	0.0	0.0	0.0	0.1	0.1
Autoclaving	0.1		0.1	1.0		1.0	0.7		0.7	0.5		0.5		0.0	0.0		0.1	0.1
Non-hazardous waste (Class II)	662.9	0.0	662.9	2,927.6	0.0	2,927.6	1,493.4	0.0	1,493.4	502.3		502.3	0.0	52.9	52.9	0.0	538.4	538.4
Landfill	662.9		662.9	2,927.6		2,927.6	1,493.4		1,493.4	502.3		502.3		52.9	52.9		538.4	538.4
Overall Total	662.9	0.0	662.9	2,928.7	0.0	2,928.7	1,494.1	0.0	1,494.1	502.8		0.0	0.0	52.9	52.9	0.0	538.6	538.7

DDO: Disposal within the organization I DFO: Disposal outside the organization

The GNA II TPP indicators began to be mapped in November 2021. Therefore, values for 2021 did not have a significant impact on total operations. The reporting of indicators for this operation was only included in 2022.

GRI CONTENT INDEX

→ Default content

The organization and its reporting practices

Disclosure			Page/Response	Omission		
				Omitted requirements	Reason	Explanation
GRI 2: Default contents 2021	2-1	Organization data	16			
	2-2	Entities included in sustainability reporting	Among the entities included, there are the subsidiaries GNA I TPP Geração de Energia S.A. and GNA II TPP Geração de Energia S.A. There is no difference between the entities included in its financial report. The company is a joint venture between Prumo Logística, BP, Siemens and SPIC Brasil, without the need to adjust information to participants. There were no mergers, acquisitions and disposals of entities or parts of entities, nor is there any differentiation along material topics.			
	2-3	Reporting period, frequency and focal point	6			
	2-4	Information reformulations		a	Not applicable.	No reformulation was made.
	2-5	External verification	6	a, b	Not applicable.	There was no external verification.

→ Default content

Activities and workers

Disclosure			Page/Response	Omission		
				Omitted requirements	Reason	Explanation
GRI 2: Default contents 2021	2-6	Activities, value chain and business relationships	16			
	2-7	Employees	50 The employee count is done at the end of the reference period (December).			
	2-8	Workers who aren't employees	16, 49			

→ Default content

Governance

Disclosure			Page/Response	Omission		
				Omitted requirements	Reason	Explanation
GRI 2: Default contents 2021	2-9	Governance structure and composition	43	c vi, c vii, c viii	Confidentiality.	GNA does not participate in the nomination process, therefore, it does not have access to such information.
	2-10	Appointment and selection of the highest governance body	43	a, b i, b iii, b iv	Confidentiality.	GNA does not participate in the nomination process, therefore, it does not have access to such information.
	2-11	Chairman of the highest governance body	The chairman of the highest governance body is not a senior executive of the organization.			
	2-12	Responsibilities of the highest governance body in controlling impact management	43			
	2-13	Delegation of responsibility for impact management	43			
	2-14	Responsibilities of the highest governance body in sustainability reporting	43			

Governance - continued

Disclosure			Page/Response	Omission		
				Omitted requirements	Reason	Explanation
GRI 2: Default contents 2021	2-15	Conflict of interest	43			
	2-16	Critical manifestations	43 Communications with the Board of Directors are made through emails addressed to its members through the company›s Corporate Governance, as well as made directly by the company›s senior executives.			
	2-17	Collective knowledge of the highest governance body	There are no measures to develop the collective knowledge, skills and experience of the highest governance body on sustainable development.			
	2-18	Performance assessment of the highest governance body	There is no evaluation process by the Board of Directors.			

Governance - continued

Disclosure			Page/Response	Omission		
				Omitted requirements	Reason	Explanation
GRI 2: Default contents 2021	2-19	Remuneration Policies		a, b	Information not available.	The members of the Board of Directors are not remunerated by the Company, but directly by its shareholders.
	2-20	Processes to determine remuneration	There are no independent members on the Board of Directors.	a ii, a iii, b	Information not available.	Information not made available to the Company.
	2-21	Annual total compensation ratio		a, b, c	Confidentiality.	The company understands it is confidential information
	2-22	Information about the sustainable development strategy	12			

→ Default content

Strategies, policies and practices

Disclosure			Page/Response	Omission		
				Omitted requirements	Reason	Explanation
GRI 2: Default contents 2021	2-23	Commitments	16, 38			
	2-24	Internalization of commitments	7			
	2-25	Processes to remediate negative impacts	42, 45			
	2-26	Mechanisms to search for information and manifestations	42 The Compliance area is always available and has an email address:compliance@gna.com.br for clarification, guidance or questions for any employee. The GNA Code of Conduct is also available on the website www.gna.com.br for any individual who has a relationship with GNA.			
	2-27	Compliance with legislation	There were no cases of non-compliance with laws and regulations.			
	2-28	Participation in associations	68, 71			

→ Default content

Engagement with stakeholders

Disclosure			Page/Response	Omission		
				Omitted requirements	Reason	Explanation
GRI 2: Default contents 2021	2-29	Approach to Stakeholder Engagement	7			
	2-30	Collective bargaining agreements	100% of employees covered by collective bargaining agreement.			

→ Material Topics

Divulgação			Página/Resposta	Omissão		
				Requisitos omitidos	Motivo	Explicação
GRI 3: Material Topics 2021	3-1	Process to determine material topics	9			
	3-2	List of material topics	9			

→ Material Topics

Communities

Disclosure			Page/Response	Omission		
				Omitted requirements	Reason	Explanation
GRI 3: Material Topics 2021	3-3	Management of material topics	72			
GRI 202: Market Presence 2016	202-2	Ratio of locally hired board members	75% of the board members of important operational units are hired from the local community, that is, the State of Rio de Janeiro with its branches: GNA I TPP – RJ Branch and SJB Headquarters.			
GRI 411: Rights of Indigenous Peoples 2016	411-1	Cases of violation of indigenous peoples rights	GNA projects do not affect traditional and/or indigenous communities.			
GRI 413: Local Communities 2016	413-1	Operations with engagement, impact assessments and development programs aimed at the local community	9, 72			
	413-2	Operations with actual and potential significant negative impacts on local communities	72			

→ Material Topics

Supplier management

Disclosure			Page/Response	Omission		
				Omitted requirements	Reason	Explanation
GRI 3: Material Topics 2021	3-3	Management of material topics	63			
GRI 204: Procurement Practices 2016	204-1	Proportion of spending on local suppliers	63			

→ Material Topics

Ethical and transparent business

Disclosure			Page/Response	Omission		
				Omitted requirements	Reason	Explanation
GRI 3: Material Topics 2021	3-3	Management of material topics	38			
GRI 205: Anti-corruption 2016	205-1	Operations assessed for risks related to corruption	In 2022, the total number of operations evaluated was not consolidated. However, all analyses included the assessment of risks related to corruption.			
	205-2	Communication and training on anti-corruption policies and procedures	100% of the members of the governance body and 1005 of the employees were informed about the anti-corruption policies and procedures adopted by GNA. Furthermore, 100% of the executive body, members of the governance body and employees received training to combat corruption.			
SASB: Oil & Gas - Midstream 2018	EM-MD-520a.1	Total amount of monetary losses as a result of lawsuits associated with federal pipelines and storage regulations	There have been no monetary losses associated with pipelines as a result of lawsuits related to federal legislation and/or regulations.			

→ Material Topics

Water and effluents

Disclosure			Page/Response	Omission		
				Omitted requirements	Reason	Explanation
GRI 3: Material Topics 2021	3-3	Management of material topics	91			
GRI 303: Water and Effluents 2018	303-1	Interactions with water as a shared resource	91			
	303-3	Water removal	92, 102			
	303-5	Water consumption	92, 102			
SASB: Electric Utilities 2018	IF-EU-140a.1	1) Total water withdrawn, (2) total water consumed, percentage of each in regions with high or extremely high baseline water stress	Water taken from all sources: 5152.51 thousand m^3. Sea water: 5094.71 Freshwater: 57.8 Water consumed in operations: 16.55 thousand m^3.			
	IF-EU-140a.2	Number of incidents of non-compliance associated with the quantity and/or quality of water licenses, standards and regulations	91			
	IF-EU-140a.3	Description of management risks and discussion of strategies and practices to mitigate said risks	91			

→ Material Topics

Biodiversity

Disclosure			Page/Response	Omission		
				Omitted requirements	Reason	Explanation
GRI 3: Material Topics 2021	3-3	Management of material topics	84			
GRI 304: Biodiversity 2016	304-1	Owned, leased or managed operating units within or adjacent to environmental protection areas and areas of high biodiversity value located outside environmental protection areas	84			
	304-3	Protected or restored habitats	84			
	304-4	Species included on the IUCN Red List and national conservation lists with habitats in areas affected by the organization's operations	88, 103			

Biodiversity - continued

Disclosure			Page/Response	Omission		
				Omitted requirements	Reason	Explanation
SASB: Oil & Gas - Midstream 2018	EM-MD-160a.2	Percentage of land owned, leased and/or operated within areas of protected conservation status or habitat of endangered species	84			
	EM-MD-160a.3	Land area disturbed, percentage of impacted area restored	The areas of native vegetation authorized for suppression totalize 29.05 ha. It is worth noting that the restoration in restinga environments carried out by GNA within the RPPN Caruara totals 120.5 ha. GNA has restoration projects for the restinga environment that vary from 1 to 10 times the total amount suppressed, depending on the suppressed vegetation physiognomy and its stage of regeneration prior to vegetation suppression. GNA's restinga restoration projects take place within the Fazenda Caruara Private Natural Heritage Reserve (RPPN Caruara) and have different proportions according to the type of restinga authorized for suppression. It is worth noting that the quantity reported above includes the total area removed considering areas with native vegetation and pasture. The total, considering only the area removed from native vegetation, for 2019 was 6.61 ha, for 2020, 2.04 ha and for 2021 3.95 ha.			
	EM-MD-160a.4	Aggregate number and volume of hydrocarbon spills, volume in the Arctic, volume in exceptionally sensitive areas, and volume recovered	There were no hydrocarbon spills.			
	EM-MD-540a.2	Percentage of natural gas pipelines and hazardous liquid pipelines inspected	The company's gas pipeline network was 100% inspected and commissioned by the company Acciona and it is an operational routine for the gas pipeline to be inspected by Kn.			

→ Material Topics

GHG emissions and air quality

Disclosure			Page/Response	Omission		
				Omitted requirements	Reason	Explanation
GRI 3: Material Topics 2021	3-3	Management of material topics	89			
GRI 305: Emissions 2016	305-1	Direct greenhouse gas emissions (Scope 1)	90, 104			
	305-2	Indirect greenhouse gas emissions (Scope 2)	90, 104			
	305-3	Other indirect greenhouse gas emissions (Scope 3)	90, 105			
	305-4	Intensity of greenhouse gas emissions	The GHG emissions intensity rate was 0.347 tCO_2e/MWh. The specific metric (the denominator) chosen by the organization to calculate this index is electrical energy generation (MWh).			
	305-6	Emissions of ozone-depleting substances (ODS)	GNA does not produce ODS in its operational process.			
	305-7	NO_X, SOx and other significant GHG emissions	90, 105			

GHG emissions and air quality - continued

Disclosure			Page/Response	Omission		
				Omitted requirements	Reason	Explanation
	EM-MD-110a.1	Gross global Scope 1 emissions, percentage methane, percentage covered by emissions limitations regulations	Gross global Scope 1 Greenhouse Gas (GHG) emissions were 223,237.14. There is no emission limitation regulation in Brazil. In 2021, GNA I TPP operated for three and a half months and, in 2022, for less than two months.			
SASB: Oil & Gas - Midstream 2018	EM-MD-110a.2	Discussion of the long- and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against these targets	GNA has the best GHG index for plants in Brazil and seeks to develop, through R&D projects, initiatives that aim to improve energy efficiency and reduce emissions. The organization is not involved in green energy markets			
	EM-MD-120a.1	GHG emissions of the following pollutants: Nox (excluding N20), SOx, volatile organic compounds (VOCs) and particles (PM10)	301.25 hydrogen oxide (Nox) were emitted. The data comes from the Continuous Emissions Monitoring System – CEMS of the GNA I TPP.			

GHG emissions and air quality - continued

Disclosure			Page/Response	Omission		
				Omitted requirements	Reason	Explanation
SASB: Electric Utilities 2018	IF-EU-110a.1	(1) Gross global scope 1 emissions, percentage covered by (2) emissions limitation and (3) emissions reporting standards	Gross global emissions of Scope 1 Greenhouse Gases (GHG) totaled 223,237.14			
	IF-EU-110a.2	Greenhouse gas (GHG) emissions associated with energy deliveries	Gross global GHG emissions associated with electrical energy supplied to retail customers, resulting from own energy generation and purchased energy, totaled 197,962.29.			
	IF-EU-110a.3	Discussion of long- and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	GNA has the best GHG index for plants in Brazil and seeks to develop, through R&D projects, initiatives that aim to improve energy efficiency and reduce emissions. The organization is not involved in green energy markets			
	IF-EU-110a.4	(1) Number of customers served in markets subject to renewable portfolio standards (RPS) and (2) percentage achievement of the RPS target per market	The organization does not operate in markets subject to renewable portfolio standards (RPS).			
	IF-EU-120a.1	GHG emissions of the following pollutants: (1) NOx (excluding N2O), (2) SOx, (3) particulate matter (PM10), (4) lead (Pb), and (5) mercury (Hg); percentage of each in or near densely populated areas	301.25 hydrogen oxide (Nox) were emitted. The data comes from the Continuous Emissions Monitoring System – CEMS of the GNA I TPP.			

→ Material Topics

Waste

Disclosure			Page/Response	Omission		
				Omitted requirements	Reason	Explanation
GRI 3: Material Topics 2021	3-3	Management of material topics	94			
GRI 306: Waste 2020	306-1	Waste generation and significant waste-related impacts	Preventive and corrective maintenance activities, inputs and outputs that cause or could cause real and potential impacts, resulting from waste generated.			
	306-2	Management of significant waste-related impacts	94			
	306-3	Generated waste	94, 106			
	306-4	Waste not intended for final disposal	94, 107			
	306-5	Waste intended for final disposal	94, 108			
SASB: Electric Utilities 2018	IF-EU-150a.1	Amount of coal combustion waste (CCR) generated, percentage recycled	GNA does not have a coal operation.			
	IF-EU-150a.2	Total number of coal combustion residues (CCR), broken down by hazard potential classification and structural integrity assessment	GNA does not have a coal operation.			

→ Material Topics

Personnel

Disclosure			Page/Response	Omission		
				Omitted requirements	Reason	Explanation
GRI 3: Material Topics 2021	3-3	Management of material topics	49			
GRI 401: Employment 2016	401-1	New hires and employee turnover	50, 98			
	401-2	Benefits offered to full-time employees that are not offered to temporary or part-time employees	50			
GRI 404: Training and Education 2016	404-1	Average hours of training per year, per employee	51, 100			

→ Material Topics

Promoting health, well-being and safety

Disclosure			Page/Response	Omission		
				Omitted requirements	Reason	Explanation
GRI 3: Material Topics 2021	3-3	Management of material topics	54			
GRI 403: Occupational Health and Safety 2018	403-1	Occupational health and safety management system	54			
	403-2	Hazard identification, risk assessment and incident investigation	54			
	403-3	Occupational health services	54			
	403-4	Participation of workers, consultation and communication to workers regarding health and safety at work	54			
	403-5	Training workers in occupational health and safety	54			

Promoting health, well-being and safety - continued

Disclosure			Page/Response	Omission		
				Omitted requirements	Reason	Explanation
GRI 403: Occupational Health and Safety 2018	403-6	Promoting workers health	GNA, in addition to the benefits it provides to employees, also promotes structured actions aimed at the health of workers, who carry out internal programs such as simulations, training and campaigns (Lilac August, Yellow September, to combat smoking, Pink October, Blue November and vaccination). It also establishes policies and actions to encourage an internal culture of well-being. During the pandemic, the company relied on consultancy from Hospital Albert Einstein to adopt the best practices to manage contamination risks, including periodic virtual chat sessions.			
	403-7	Prevention and mitigation of occupational health and safety impacts directly linked to business relationships	54			
	403-8	Workers covered by an occupational health and safety management system	54			

Promoting health, well-being and safety - continued

Disclosure			Page/Response	Omission		
				Omitted requirements	Reason	Explanation
SASB: Oil & Gas - Midstream 2018	EM-MD-540a.1	Number of reportable pipeline incidents, significant percentage	During the year there were no reportable accidents or incidents in the pipelines that resulted in the unintentional release of hydrocarbons. In 2022, Tier 4 process incident indicators for gas pipelines were consolidated and are under approval; Tier 1, Tier 2 and Tier 3 have already been defined.			
	EM-MD-540a.3	Number of accident releases and non-accident releases (NARs) from rail transport	GNA does not provide rail transport.			
SASB: Electric Utilities 2018	IF-EU-320a.1	(1) Serious Incident Rate (TRIR), (2) Fatality Rate, (3) Near Miss Frequency Rate (NMFR)	The TRIR for the last 12 months was 0.89. Rates were calculated based on OSHA›s 200,000 hours worked. The work-related fatality rate in 2022 was zero. There were no fatalities in GNA projects. The TRIR for the last 12 months was 0.39. Rates were calculated based on OSHA›s 200,000 hours worked. The scope includes all employees and only the recording of incidents within the occupational scope, that is, related to work.			

→ Material Topics

Diversity and Inclusion

Disclosure			Page/Response	Omission		
				Omitted requirements	Reason	Explanation
GRI 3: Material Topics 2021	3-3	Management of material topics	52			
GRI 406: Non-discrimination 2016	406-1	Cases of discrimination and corrective measures taken	There were no complaints related to discrimination during the year.			

Resilient business model

Disclosure			Location	Omission		
				Requirement(s) Omitted	Reason	Explanation
GRI 3: Material Topics 2021	3-3	Management of material topics	30			

→ Extra Indicators

Disclosure			Page/Response	Omission		
				Omitted requirements	Reason	Explanation
GRI 201: Economic Performance 2016	201-1	Direct economic value generated and distributed	35			
GRI 203: Indirect Economic Impacts 2016	203-1	Investments in infrastructure and service support	72			
	203-2	Significant indirect economic impacts	Since 2019, GNA has been monitoring the value of acquisitions in its areas of influence, as well as the number of suppliers in these areas, in order to expand the positive impact on local development, intensifying acquisitions in the area of influence, whenever possible. The topic was identified as material for the company›s sustainability strategy, developed in 2021. Considering only the year 2021, around R$80 million in goods and services were purchased in the State of Rio de Janeiro, with more than R$12 million from suppliers in its area of direct influence. In the total supply chain, 41% of the suppliers used by the company are local. Thus, it is possible to state the company contributes to the strengthening of local suppliers.			

→ Extra Indicators

Disclosure			Page/Response	Omission		
				Omitted requirements	Reason	Explanation
GRI 302: Energy 2016	302-1	Energy consumption within the organization	93, 101			
	302-2	Energy consumption outside the organization	93			
GRI 410: Security Practices 2016	410-1	Security personnel trained on human rights policies or procedures	During the year, 52 people were trained, which represents 100% of the entire security staff.			
SASB: Oil & Gas - Midstream 2018	EM-MD-160a.1	Description of environmental management policies and practices for active operations	84			
	EM-MD-540a.4	Discussion of management systems used to integrate a culture of safety and emergency preparedness across the value chain and throughout project life cycles	GNA defined emergency preparedness as a management element and uses safe work practices using references such as IOGP, CCPS and AICHE. In addition, GNA prepares and carries out a training calendar, including simulations, in order to be prepared in case of an emergency.			

→ Extra Indicators

Disclosure			Page/Response	Omission		
				Omitted requirements	Reason	Explanation
SASB: Electric Utilities 2018	IF-EU-240a.1	Average retail electricity rate for (1) residential, (2) commercial, and (3) industrial customers	The indicator does not apply to power generators. The average consumer tariff comes from the distributors, the generators sell energy to the distributors who pass it on to final consumers.			
	IF-EU-240a.2	Monthly bill for residential electricity customer with (1) 500 kWh and (2) 1,000 kWh of energy delivered per month	The indicator does not apply to energy generators, as is the case with GNA.			
	IF-EU-240a.3	Number of customers with residential electricity, disconnected due to non-payment, reconnected within 30 days, in percentage	The indicator does not apply to energy generators, as is the case with GNA.			
	IF-EU-240a.4	Discussion of external impacts on access to electrical energy, including economic conditions of the service territory	GNA I TPP, as a generator that operates in the regulated energy market, does not have contracts with retail consumers, but only with distributors.			
	IF-EU-420a.1	Percentage of electricity distributors' revenues from structures that (1) are decoupled and (2) contain mechanisms to adjust lost revenues	It does not apply to energy generators such as GNA I TPP, which only have contracts with distributors and not with end consumers.			
	IF-EU-420a.2	Percentage of electrical load served by smart grid technology	Does not apply to GNA I TPP, which is a generation agent that does not serve end consumers.			

→ Extra Indicators

Disclosure			Page/Response	Omission		
				Omitted requirements	Reason	Explanation
SASB: Electric Utilities 2018	IF-EU-420a.3	Customer electricity savings due to efficiency measures, by market	GNA I TPP is an energy generator that does not serve end consumers (it has a contract with distributors and delivers energy at transmission level - voltage 345 kV). We therefore understand that the question does not apply. In this context, a broad approach could consider reducing internal consumption and losses in the restricted interest system, but throughout 2022 no action with that specific focus was developed.			
	IF-EU-540a.1	Total number of nuclear power units commission, broken down by US Nuclear Regulation (NRC) Action Matrix Column	GNA does not have a nuclear operation.			
	IF-EU-540a.2	Description of nuclear energy management efforts for safety and emergency preparedness	GNA does not have a nuclear operation.			
	IF-EU-550a.1	Number of incidents due to non-compliance with physical and/ or cybersecurity standards or regulations	There were no incidents due to non-compliance with physical and/or cyber security standards or regulations.			
	IF-EU-550a.2	(1) Average Interruption Duration (SAIDI), (2) Average Interruption Frequency (SAIFI), (3) Customer Average Interruption Duration (CAIDI), including days of major events	The indicator does not apply to power generators.			
	IF-EU-420a.2	Percentage of electrical load served by smart grid technology	Does not apply to GNA I TPP, which is a generation agent that does not serve end consumers.			

INFORMATION CORPORATE/BUSINESS HOURS

Supervision:

GNA Sustainability and Communication team

GRI indicator consulting:

blendON

Writing, editing and proofreading:

KMZ Conteúdo

Graphic design and layout

Agência AZVDO

Images

GNA Archive

Gás Natural Açu – GNA:

Rio de Janeiro
Rua Professor Álvaro Rodrigues, 352 – 11° andar
Botafogo
Rio de Janeiro (RJ)
ZIP code: 22280-040
Phone: (21) 2102-7900

Porto do Açu
Fazenda Saco Dantas, s/nº
Porto do Açu
São João da Barra (RJ)
ZIP code: 28200-000
Phone: (21) 2102-7450

GNA

GÁS NATURAL AÇU

www.gna.com.br