Sustainability report

2021

geo Biogas & Tech

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About this report

1

GRI 102-45, 102-50, 102-52, 102-53, 102-54

As Brazil's leading biogas company, we have an important role to play in decarbonizing the planet, tackling climate change and helping other organizations join the movement.

By advancing the circular economy and applying lifecycle assessment principles, we have delivered on our commitment to sustainability, in particular the three pillars of ESG (environmental, social and governance).

On the following pages we describe our related initiatives and projects during the period from January 1 to December 31, 2021, in a report prepared in accordance with the Global Reporting Initiative (GRI) Standards. The disclosures we report are for the operations of Geo Biogas & Tech, and are our first step in compiling and disclosing ESG information.

Read on about our practices, the positive impacts from our platform, and how we harness synergies across innovation, environment preservation and improving energy efficiency.

We hope you enjoy the report.

Are you interested in learning more about this report? Then please contact our team by writing to contato.geo@geobiogas.tech!

Materiality

GRI 102-40, 102-42, 102-43, 102-44, 102-46, 102-47, 103-1

Geo has developed a materiality matrix to identify topics that are priorities for the business. These topics help to inform our decision-making and enable us to design strategies and initiatives that can make a difference in our value chain.

The Geo platform offers a wealth of opportunities, and in addition to improving our customers' and partners' operations, these opportunities can also be explored to advantage within our own organization. We now have a clear vision of what needs to be forefront in our communications and planning.

Our materiality matrix has been developed in accordance with the Global Reporting Initiative (GRI) guidelines and has been mapped to the United Nations (UN) Sustainable Development Goals (SDGs).

The materiality assessment consisted of four steps—identification, prioritization, analysis and validation—and yielded eight material topics (*see more below*).

The process drew inputs from internal and external stakeholders, including shareholders, business partners, employees, suppliers, customers and universities, through both interviews and an online survey.

The findings from the materiality assessment have allowed us to focus our efforts and attention on improvement initiatives, many of which have already been scoped out. We want to ensure these topics are prioritized within the company, and embedded in both our decision-making and our day-to-day activities.

Material topic	Description	GRI Disclosures	SDG
Corporate social and environmental responsibility	Having a positive impact on the environment and surrounding communities through responsible investment, philanthropy and good corporate citizenship.	203-1, 413-1	(10.2 and 10.3)
Innovation and Business Resilience	Investing in innovation to enhance our ability to adapt to new market trends and developments, and creating a circular business model.		(9.2 and 9.4)
Energy Efficiency	Expanding renewable energy use, reducing energy consumption and optimizing energy management during operation.	302-1, 302-3, 302-4	(7.1, 7.2)
Diversity, Inclusion & Equity	Promoting equity and inclusion in terms of color/race, gender, age, origin, disability and sexuality, and respecting different worldviews.	405-1, 405-2	(5.1, 5.4 and 5.5) and (10.2, 10.3 and 10.4)
Climate Strategy	Identifying and managing climate-related risks and opportunities that can affect our business model, and implementing climate commitments, targets and governance.	201-2	(13.a)
Attracting, Developing and Retaining Employees	Attracting and retaining talents, developing career plans, recognition, compensation, benefits, employee engagement and training, and efforts to reduce turnover.	401-1, 401-2, 401-3, 404-1, 404-2, 404-3	(8.3, 8.5 and 8.8)
Waste Management	Robust waste management systems to reduce the production of waste, ensure waste materials are compliantly disposed of, and increasingly capture value from waste.	306-1, 306-2, 306-3, 306-4 and 306-5	(12.4 and 12.5)
Ethics, Integrity & Compliance	Transparent reporting, anti-corruption compliance, disseminating our code of conduct and the ethical principles governing our organizational processes, and combating anti-competitive practices and bribery.	205-1, 205-2, 205-3	(16.5 and 16.6)

The year at a glance

GRI 102-10

ENVIRONMENTAL AGENDA

Since embarking on our journey, we have produced **more than 87.2 million Nm³** of biogas and **176 GWh** of green electricity.

In the last five years, we have also produced **280,000 Nm³** of biomethane.

In 2021 we biodigested more than **170,000 t** of solid waste and more than **1.4 million m³** of vinasse at our plants.

SOCIAL IMPACT

57

employees

46

new hires

New partnership with **Florescer Ação Social**

BUSINESS: FINANCIAL PERFORMANCE AND INNOVATION

R$ 19.4 million
in gross revenue

3 plants in operation, with an equivalent installed capacity of **41 MW**

R$ 4.3 million
in EBITDA

R$ 450+ million
developed

R$ 900,000
invested in research and development

Built a **new materiality matrix**, and mapped it to the Sustainable Development Goals

R$ 350 million
invested in our production plants from 2020 to 2021, with **10x as much projected for 2022**

400+
raw materials tested at the Geo Research Center

Message from our leadership

2

GRI 102-14

Our diversified suite of solutions has placed us at the forefront of decarbonization efforts. The ESG—environmental, social and governance—agenda provides an essential compass for organizations and is increasingly being factored into investment decisions. At Geo we help customers adapt their operations and meet their ESG targets, and are **prepared lead the significant transformations that are ahead in the market.**

Our process is innovative and the result of extensive research and development going back several years. Our journey first began in 2008, and we have since played a key role in structuring the biogas value chain in Brazil, with more than 87 million Nm^3 of biogas and 176.2 GWh of green electricity produced to date.

We operate in synergy with industries such as agribusiness and sugar and ethanol to advance the circular economy and mitigate greenhouse gas emissions, while also helping Brazil to meet the commitments it undertook during COP26 and to promote the ESG agenda. Our platform creates value from waste, especially biomass, by turning it into renewable fuel and electricity, green hydrocarbons and biofertilizers.

Through partnerships and our own investments, we have developed three biogas plants so far: Raízen Geo Biogás, one of the largest in the world, with an installed capacity to generate 135,000 MWh of electricity per year; Geo Elétrica Tamboara, commissioned in 2012 as the first large-scale biogas plant in Brazil, with a current installed capacity to produce 1,500 Nm^3 of biomethane; and Cocal Geo Biogás, the first plant in Brazil with a dedicated biomethane pipeline.

In 2021 our team nearly doubled with 46 new hires, and we continued to structure initiatives to make the workplace environment more inclusive and conducive to employee development. The new hires are part of our business expansion plan, which includes another five newbuild plants co-developed with customers and partners. Working with UISA, our new partner, we are developing a plant with a planned production capacity of 60 million Nm^3 equivalent of biogas per year.

In corporate governance, our management structure has grown increasingly mature, with all decisions informed by inputs from different business areas. In 2021 we set up our Board of Directors, which now meets every two months, and we created financial, sustainability and product approval committees as well as new policies and departments.

Investing in research and development has been both a strategic imperative and a commitment of ours since we began our journey. Now with a decade behind us, our Geo Research Center (CPG) has become a world-class anaerobic biodigestion lab, with 400 different raw materials tested to date. Our innovation pipeline has also developed Geo Connect, a system that remotely monitors our energy operations 24/7 and allows us to efficiently and timely adjust and maintain our operations, improving overall process efficiency.

With our expansion in Brazil, we also aspire to amplify our social impact on local communities. In 2021 we partnered with Florescer Ação Social to support social education, sports, cultural, professional training and income generation initiatives.

We are prepared for the challenges ahead, and excited to embrace the opportunities that our business platform offers. **Our process has already been successfully deployed at scale, and the positive impacts from turning waste into value remain key to our business success in Brazil**. My sincere thanks to everyone who has helped make our journey possible; a team of professionals who are devoted to making a difference each day. The source of our motivation clear: we're on a mission to drive meaningful change and to build traction in the #NetZeroNow movement.

Alessandro v. Arco Gardemann
CEO

About us

3

GRI 102-1, 102-2, 102-3, 102-4, 102-5, 102-6, 102-7

Geo Biogas & Tech has spearheaded development of the biogas value chain in Brazil, playing a core role in renewing the country's energy mix and helping Brazilian companies to align with ESG practices. Our well-established process, in commercial operation for over a decade, transforms and adds value to waste and biomass, looping these materials back into the production process.

Since we began our journey, our business platform has been sustained by investment in innovation and technology. Reflecting this, our Geo Research Center has fast developed into a world-class anaerobic biodigestion research lab (read more on page 42).

When we started our company, we knew that biogas would play a key part in advancing energy efficiency, the circular economy and lifecycle assessments across different industries.

And we remain firm in our mission to drive transformations in industry, helping companies to align with efforts against climate change. Geo supports organizations both by investing in biogas projects and as a participant in the Brazilian Biofuels Program (RenovaBio) and Decarbonization Credit (CBIO) initiative.

We put our values into practice with the support of our dedicated and highly engaged team: 57 people—48 men and 9 women—with wide-ranging expertise and skills. In 2021 we strengthened our people management function and implemented improvements in areas such as talent management, development and training, and culture, as we welcomed 46 new team members (read more on page 46).

Our identity GRI 102-16

Purpose

NET ZERO NOW!

Decarbonize the environment now by turning biomass and organic waste into clean energy and valuable resources.

Vision

We operate a global platform spanning green hydrocarbon technology, production, marketing and logistics, in a country with the highest agricultural potential and the most abundant source of organic waste in the world.


Values
#We're GEO
#We're innovators
#We're business intelligence
#We're an ownership mindset
#We're ONE
#We're ONE team
#We're engaged
#We're inclusive
#We're communi-cation
#We're ESG
#We're an effective solution
#We're technology

Competitive differentiators

With over a decade of operation, our business platform provides tailored solutions that are helping to further align our customers within the ESG agenda. Among the differentiators our portfolio has to offer, **three levers** in particular stand out:

1 Engineering and technology

With support from partners, approved suppliers and lenders, we deliver end-to-end projects, including conceptual to detailed design. We track CAPEX, manage the project schedule and construction, and provide support in securing environmental licenses

2 Operational supervision

Through our Geo Connect system (read more on page 42), we remotely monitor our plants 24/7. This includes a remote desk for assisted operation and real-time data-driven decision-making, a customer portal featuring procedures, manuals, operation checklists and routine management, production planning and control, audit and quality assurance, daily electricity and biogas production reports, and planned budget support (OPEX)

3 Commercial

We are well-positioned in the electricity and gas markets, with our commercial team working to support the expansion of our production capacity. In the biomethane segment, we sell our product to the plant fleet at a discount compared to diesel, and purchase gas at fixed prices

ESG

Our solutions

Business development

We work with our partners to develop, operate and manage biogas plants (*learn more here, or go to our website*)

Geo Gás

We market and distribute methane via pipelines, tank trucks and other modes of transport, directly connecting our production facilities to users—including manufacturing plants, large retail operations and fueling stations. (*learn more here, or go to our website*);

Investments

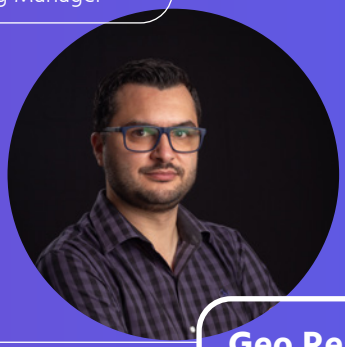
We build collaborative networks with our customers and investors, sharing risks and benefits. Brazil's biogas market is currently benefited by several government incentive programs, such as the National Zero Methane Program. The ESG movement is also creating new project finance opportunities (*learn more here, or go to our website*);

Engineering

Our expertise spans from the early stages of a project to its most complex stages (*learn more here, or go to our website*);

Fernando Veroneze
Engineering Manager

Alysson de Camargo
R&D and Process Engineering Manager



Geo Connect

We monitor and supervise the operation of our plants, and generate regular reporting. Our team of specialists provides ongoing support in managing the operation of our biogas plants, informed by more than 500 different real-time variables (read more on page 40)

Philipe Gabillaud
Production and Maintenance Coordinator

Geo Research Center

A world-class anaerobic biodigestion lab, our Geo Research Center is setting trends in innovation and technology. Created in 2011, the facility plays an important role in our development, ensuring that we are at the forefront of advancing the biogas value chain in Brazil (learn more on page 42).

Timeline

Geo Elétrica is **selected** in an ANEEL/COPEL **electricity tender.**

SPC Tamboara starts operation.

Geo sells a minority interest to GE (General Electric).

We secure funding for biogas projects from Financiadora de Estudos e Projetos (FINEP).

First pilot plant. With a **prototype biodigester** from Germany, we initiated our research toward producing biogas in Brazil.

We build our **first plant**: Geo Elétrica Tamboara.

2007

2008

Geo Energética is founded.

2010

2011

The Geo Research Center (CPG) is launched.

2012

2013

A component of the Cocal Geo Biogás project, the GasBrasiliano gas pipeline secures approval from the São Paulo State Public Utility Regulator (ARSESP).

New investors join Geo.

Our **visual identity** gets a **complete refresh**.

2015

The Raízen Geo Biogás joint venture is created.

2016

Raízen Geo Biogas wins the first biogas-to-grid auction in Brazil, with a firm contract to generate **96,000 MWh/year to 2046.**

We open Brazil's **first biomethane fueling station** in Tamboara.

2017

The biodigester at our Tamboara Plant begins processing new waste streams from agriculture.

2018

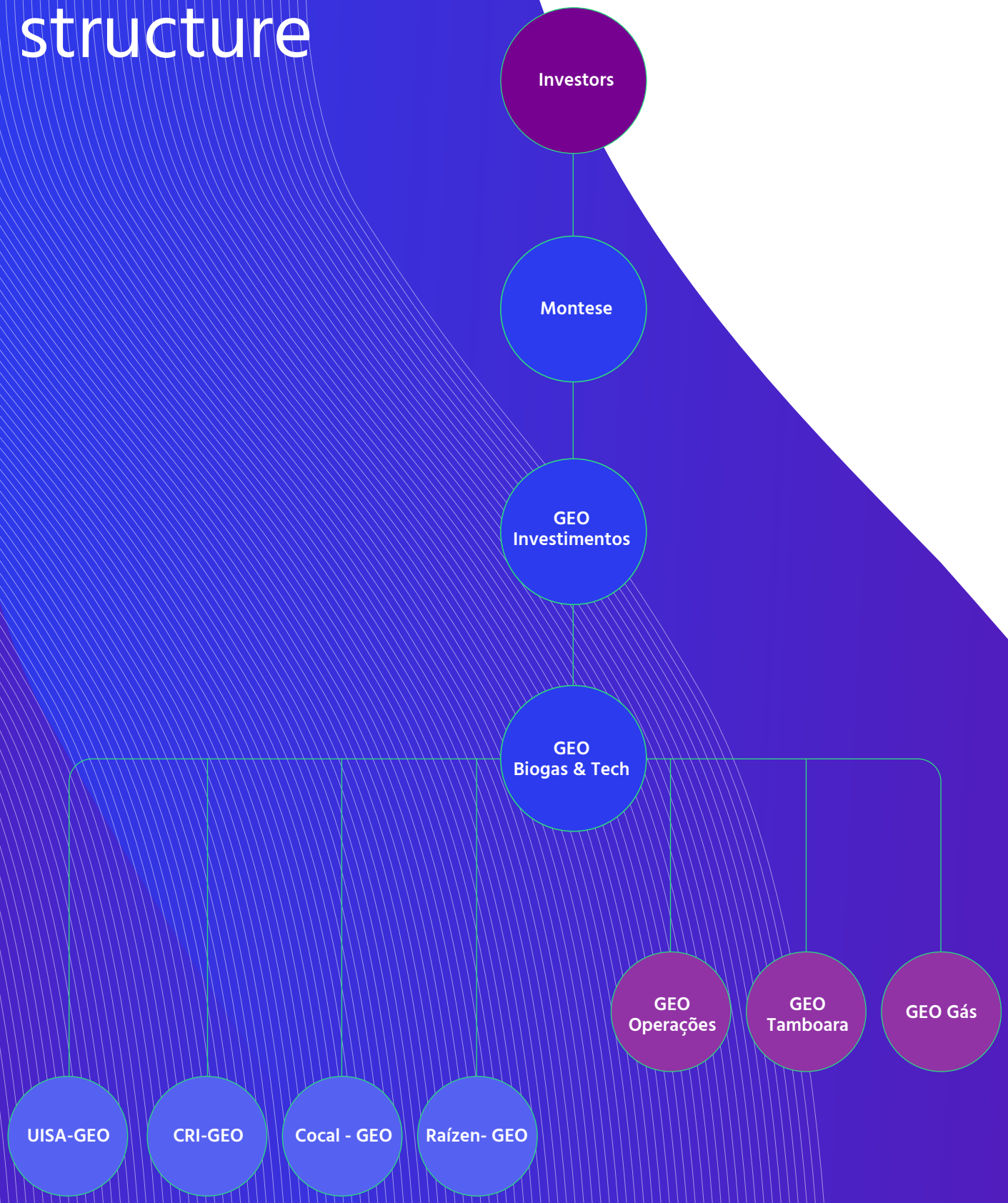
The Cocal Geo Biogás joint venture is launched with a flagship gas pipeline project to supply biomethane to GasBrasiliano.

2020

Raízen Geo Biogás - Bonfim, one of the largest biogas plants in the world, with an **installed capacity of 21 MW**, starts operation.

2021

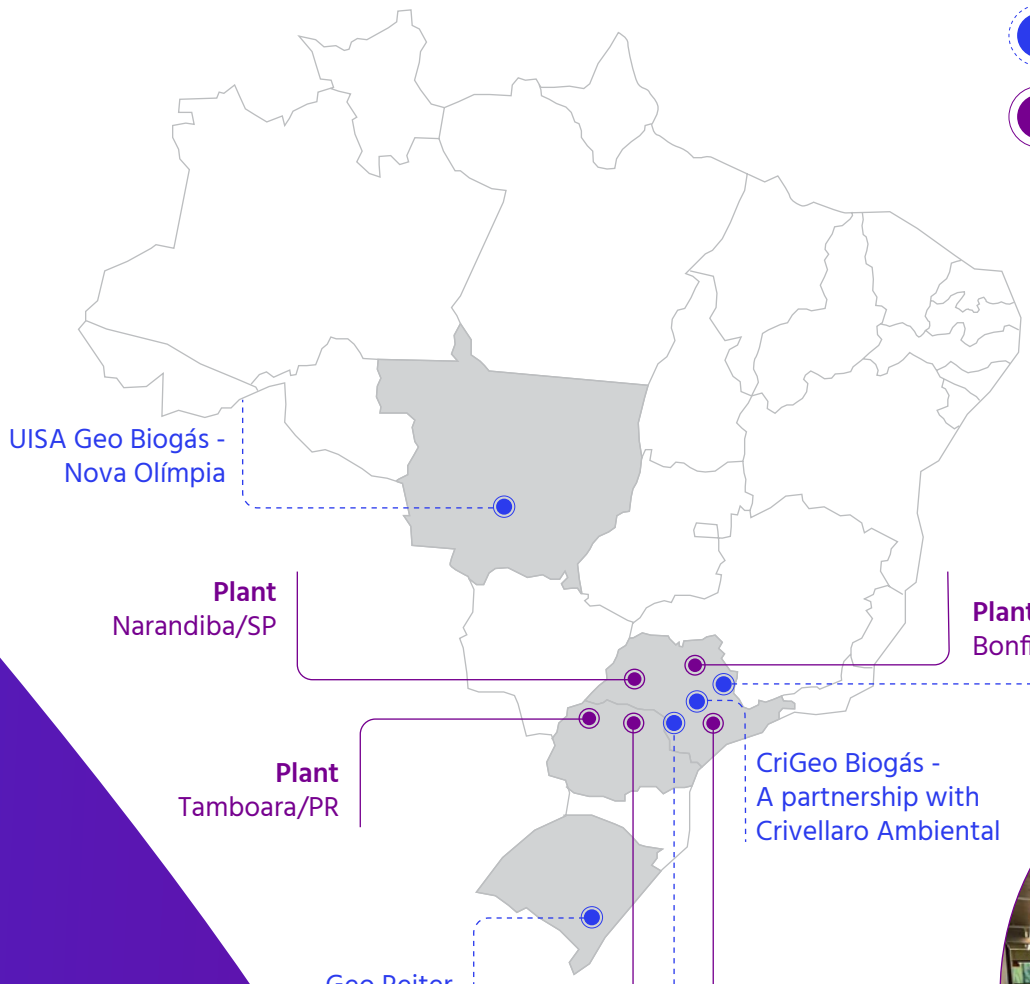
Ownership structure



Our geographic presence

Geo is currently present in five cities in two Brazilian states. We are headquartered in São Paulo (SP), and have an office and research Center in Londrina (PR). Geo also operates three plants in Tamboara (PR), Bonfim (SP) and Narandiba (SP).

In 2022 we are pursuing an ambitious expansion plan that includes an additional three newbuild production plants in Mato Grosso, São Paulo and Rio Grande do Sul.



GEO ELÉTRICA TAMBOARA

Geo Elétrica Tamboara, in Paraná, was the first large-scale commercial biogas production plant to be built in Brazil, an important milestone for bioenergy development in the country. The plant has been operational since 2012, in a partnership with Coopcana. With an installed capacity of 10 MW, the facility processes filter cake, vinasse and sugarcane trash, among other agricultural waste streams.

The plant produces 1,500 Nm^3 of biomethane per day, and is being expanded to produce up to 25,000 Nm^3/day, equivalent to approximately 23,000 liters of diesel. The site has two vertical biodigesters with a capacity of 5,000 m^3 each, and three horizontal biodigesters, two with a capacity of 18,000 m^3 and one with a capacity of 5,000 m^3.

Geo Elétrica Tamboara processes waste from a sugar and ethanol mill—including filter cake, vinasse and other agricultural waste—to produce biogas. The filter cake is stored in a silo during the year, where its composition is kept constant; the vinasse fed from the plant is stored in a buffer pond.

The filter cake and vinasse are fed continuously into the vertical biodigesters, while the digestate is removed and sent to a separation system, where solids are separated out for use as fertilizer. These are continuously fed with vinasse, and the digestate from this stage is sent to the field for use as a liquid fertilizer.

The biogas output goes through a process to remove sulfur before it is fed to generator sets as a fuel to produce electricity. Some of the biogas is purified to remove CO_2 and produce biomethane.

annual performance

93,000+ t of waste
and 310,000+ m^3 of vinasse biodigested

15 million Nm^3 of biogas

32,000 m^3 or
130MWheq of biomethane

30,000+ MWh of electricity

RAÍZEN GEO BIOGÁS – BONFIM

Raízen Geo Biogás, one of the largest biogas plants in the world, is located at our Bonfim site. The facility was developed through a joint venture between Raízen and Geo, created in 2018. The plant started operation in 2020, processing vinasse and filter cake from the sugar and ethanol industry to produce biogas.

Raízen Geo Biogás has a potential power output of up to 135,000 MWh per year, and a processing capacity of several million metric tons of crushed sugarcane. The plant has two vertical biodigesters with a capacity of 8,000 m^3 each, and a horizontal biodigester with a capacity of 18,000 m^3.

annual performance

54,000+ t of waste
and 1.2 million m^3 of vinasse biodigested
56 million Nm^3 of biogas
130,000+ MWh of electricity

COCAL GEO BIOGÁS – NARANDIBA

Located in São Paulo at our Narandiba site, Cocal Geo Biogás is the first biogas plant in Brazil to have a dedicated biomethane pipeline, providing important logistics advantages.

With two 8,000 m^3 vertical biodigesters and four 18,000 m^3 horizontal biodigesters, the plant has an installed capacity to generate 5 MW of electricity plus 25,000 Nm^3/d of biomethane. The facility currently processes vinasse, filter cake and sugarcane trash generated by millions of metric tons of crushed sugarcane annually.

annual performance

21,000+ t of waste
and 143,000+ m^3 of vinasse biodigested
8+ million Nm^3 of biogas
33,000 MWh of electricity

EXPANSION PROJECTS

To accommodate future growth in demand, we have a pipeline of expansion projects that are scheduled to be completed by 2023. We are currently co-developing five plants with customers and partners, including a facility being developed as part of our partnership with UISA.

With investments exceeding R$ 200 million, the UISA Geo Biogás plant will help develop the biogas value chain in Brazil's Midwest. Once completed, the facility will generate an estimated 60 million Nm^3 equivalent of biogas per year.

Our role in decarbonizing the planet

Our mission is to decarbonize the planet by turning waste that would otherwise be disposed of into organic fertilizer and clean, renewable and competitively priced electricity. Over the years we have perfected a well-engineered and effective process that has positioned us as a leader in the development of Brazil's biogas value chain.

Working alongside our customers and partners, we are helping organizations in different industries to integrate ESG into their business, by providing solutions that help them mitigate environmental impacts and advance the circular economy.

We believe that biogas initiatives can be the solution of choice for many economic segments to respond to the drive for decarbonization.

Our process helps organizations turn materials that would otherwise go to waste into value-added energy products in a process that is revolutionizing Brazil's energy sector and expanding supply of renewable fuels.

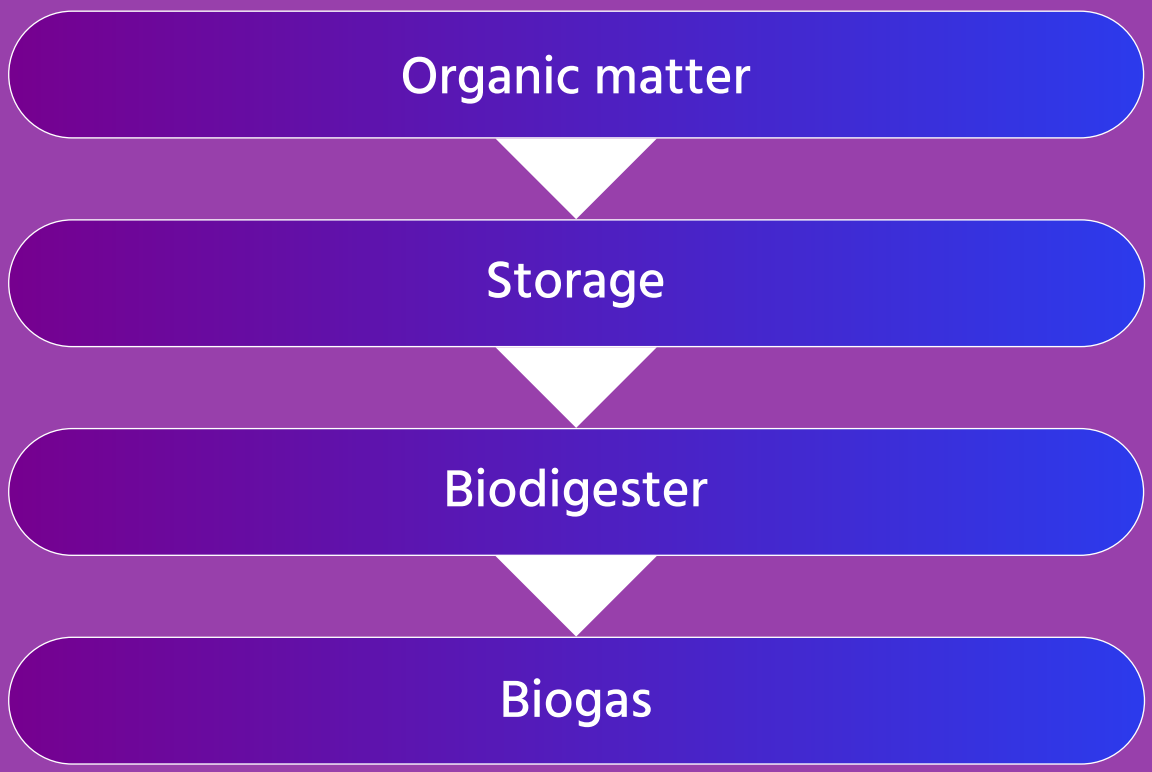
Why biogas?

Geo's history is intertwined with the development of biogas in Brazil. We have designed processes and solutions that have positioned us as a leader in our sector. Yet many challenges still remain to further mainstream biofuels in Brazilian companies' operations and in Brazilians' everyday lives.

Biogas is produced by the biological breakdown of organic matter in the absence of oxygen, under suitable pH, temperature, nutrient and moisture conditions.

Waste materials, which in our process are raw materials, are first placed in storage and then biodigested. Biogas is composed of carbon dioxide (CO_2) and methane (CH_4), as well as trace amounts of sulfuric acid, ammonia and hydrogen.

PRODUCTION PROCESS - STEP BY STEP



Brazil has the world's highest potential for biogas production

SOURCES OF BIOGAS

SUGAR AND ETHANOL

- Filter cake: waste from filtering sugarcane juice
- Vinasse: a byproduct from ethanol production, produced at the beer distillation stage
- Sugarcane bagasse
- Sugarcane trash

AGRI-INDUSTRY

- Poultry, pig and cattle manure and other agricultural and food industry waste

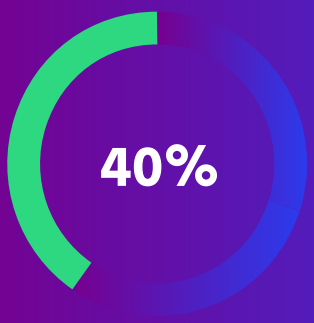
SANITATION

- Municipal solid waste and sewage

BENEFITS

- Lower greenhouse gas emissions
- A storable energy source
- Flexible: biomethane and electricity
- Renewable and dispatchable energy
- Distributed generation
- A 100% self-contained system.

Investing in biogas can help to meet **40%** of Brazil's electricity demand, or up to **70%** of its diesel demand (significantly reducing emissions compared to fossil fuels).



Electricity demand

Diesel demand

POTENTIAL

Brazil is well-poised to lead in global biogas production with its abundance of agricultural waste sources, including vinasse, sugarcane bagasse, filter cake and sugarcane trash, as well as municipal solid waste.

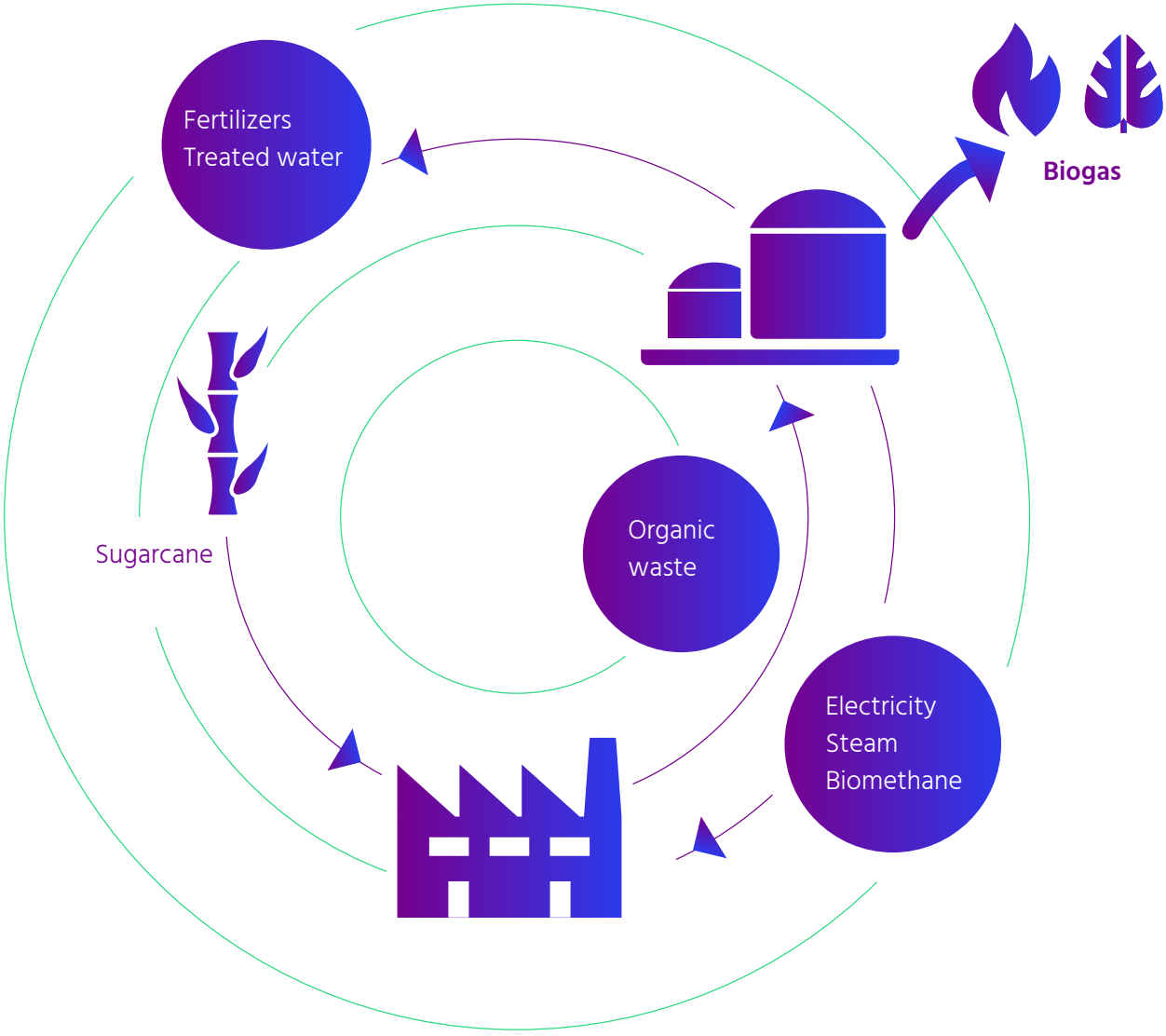
According to a report from the Brazilian Association of Urban Cleaning and Special Waste Management Companies (ABRELP), environmentally compliant waste disposal in Brazil could reduce CO_2 equivalent emissions by 29 million metric tons per year, and generate 280 MW of electricity, enough to supply power to approximately 1.5 million people.

According to the Brazilian Biogas Association (ABIOGÁS), the recent expansion in investments and projects, especially in the sugar and ethanol industry, has added important momentum in the sector. The biogas value chain ended 2021 with 30% year-on-year growth.

CIRCULAR ECONOMY

Our process helps to advance the circular economy by turning waste materials—especially biomass from the sugar and ethanol industry—into value-added energy products. This can generate positive impacts across a wide range of industries, including sanitation, agribusiness and the sugar and ethanol industry.

The circular economy has gained strong momentum in recent years, with projects being developed and synergies captured to achieve process efficiencies as well as economic gains. The circular economy is intermeshed with Geo's core business and DNA. There is still a long way ahead, and we know we have an important role to play in helping companies make their operations circular and better manage resources.



LIFECYCLE ASSESSMENT (LCA)

Have you ever stopped to measure how sustainable your business is? Did you know that there are now tools available to do just that? Benchmarking the environmental performance of different products can inform environmentally feasible solutions for your process and ensure the continued success of your business.

Lifecycle Assessment (LCA) is an internationally recognized methodology, standardized under ISO 14040. It is used in many countries to inform public policies, and in the private sector to develop products, processes and business strategies, and to communicate products' environmental attributes.

A lifecycle assessment asks questions such as:

Does your product have an environmental impact on global warming? How many kilos of CO_2 are emitted to produce one metric ton of your product? What inputs do you use in your process? What product does your process produce?

At Geo we have the answers to these questions and are more than happy to share them!

Would you like to learn more about our process? Go to our website and see what we're doing to decarbonize our planet now!

An under-the-hood look at our facilities and processes

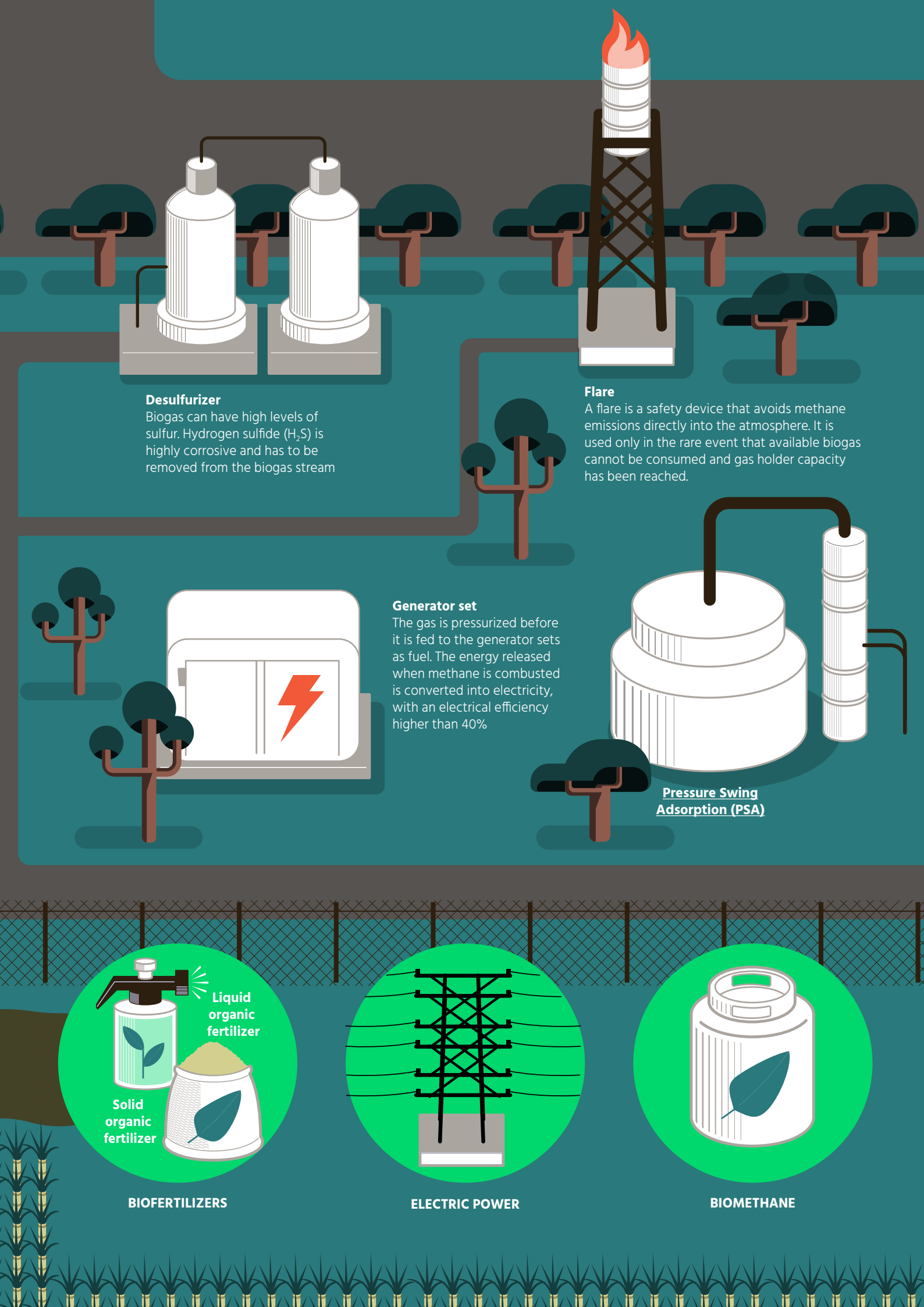
Our biogas plants comprise multiple units and processes. See below an overview of each component:

Buffer Pond
Vinasse from the distillery is cooled and sent to ponds that equalize the feed to the vertical and horizontal biodigesters, as well as providing buffer storage during short plant shutdowns.

Horizontal biodigester
An agitated reactor in the form of a pond, used for liquids such as vinasse. The process has controls for agitation, pressure and temperature, like the vertical biodigesters.

Vertical biodigester
Solid materials are biodigested at this stage. In the vertical biodigesters, anaerobic bacteria convert biomass into biogas

Silos
Silos help to preserve the organic matter in the material and extend the life of our stocks, allowing us to produce biogas 365 days a year


Desulfurizer
Biogas can have high levels of sulfur. Hydrogen sulfide (H_2S) is highly corrosive and has to be removed from the biogas stream
Flare
A flare is a safety device that avoids methane emissions directly into the atmosphere. It is used only in the rare event that available biogas cannot be consumed and gas holder capacity has been reached.
Generator set
The gas is pressurized before it is fed to the generator sets as fuel. The energy released when methane is combusted is converted into electricity, with an electrical efficiency higher than 40%
Pressure Swing Adsorption (PSA)
Liquid organic fertilizer
Solid organic fertilizer
BIOFERTILIZERS
ELECTRIC POWER
BIOMETHANE

Our products

We offer our customers and partners a comprehensive portfolio of innovative and tailored products and solutions that help them align with the ESG agenda and a low-carbon economy.

BIOGAS

Biomethane is produced by purifying biogas. A recognized energy transition fuel, biomethane can reduce greenhouse gas (GHG) emissions by up to 95%.

It contains a minimum of 90% CH_4, meaning it is interchangeable with natural gas in all applications, and can be used as a replacement for LPG (Liquefied Petroleum Gas) and diesel, including in heavy vehicles. This gives it the potential to mitigate particulate emissions by up to 99%. Biomethane is a smart and sustainable solution for managing organic waste. One of its many benefits is that it can be produced locally, avoiding the need for long-distance gas pipelines. By considerably reducing greenhouse gas emissions, this helps to address climate change and supports sustainable development.

ELECTRICITY

The biogas produced using our technology can be used to generate clean and reliable power, at the scale required to provide a secure electricity supply to different markets. Produced biogas is treated and then fed into generator sets to produce electricity, which can then be supplied to the grid, or sold in the free market or in auctions.

Electricity generated from biogas provides many other adjacent benefits: it supports jobs; it can be sold to electric utilities; it helps to reduce methane emissions; and it can make industrial operations energy self-sufficient. It is a storable and dispatchable energy source that can readily replace fossil fuels, among other positive impacts.

BIOFERTILIZERS

We produce organic fertilizer via anaerobic biodigestion of organic matter. This produces a zero-carbon fertilizer compound that is rich in the active micronutrients needed for healthy plant growth.

The process, which raises the temperature of the feedstock and releases methane, produces both solid organic fertilizer and liquid biofertilizer. In terms of nutrients, biofertilizers are comparable to compost, except that their nutrients become even more bioavailable to plants after mineralization.

#NetZeroNow

Our business platform and our products and solutions are uniquely positioned to support the transition to a carbon-neutral economy.

By turning waste from large-scale production processes into clean and renewable energy, we are providing a straightforward and reliable pathway for other companies to achieve their ESG goals and targets.

In addition, we are prepared to play a major role in the regulated carbon market by issuing decarbonization credits (CBIOs) as part he Brazilian Biofuels Program (RenovaBio), introduced by Law no. 13.576/2017.

Our governance

GRI 102-18, 103-2, 103-3 |201, 103-2, 103-3 |205, 103-2, 103-3 |206, 103-2, 103-3 |419

In 2021 we launched an effort to perfect our corporate governance practices, within our commitment to strengthening and bolstering this pillar of ESG. As part of this, we launched a number of initiatives to align our governance with internationally recognized best practices.

ENHANCING DECISION-MAKING

We set up a Board of Directors that meets every two months, as well as a financial committee to increase transparency around our financial disclosures. Alongside this, we developed new financial and payment policies, and commissioned annual independent audits, which will become quarterly in 2022.

We now also have an executive committee that meets on a fortnightly basis to support the executive board in decision--making, and we hold weekly meetings to transparently share information about our results, projections and goals with other areas of the company. These processes have been formally structured with the implementation of an Administrative and Financial department, and with procedures and internal controls now centralized.

As another governance development in the year, we created a new committee to approve projects. All internal initiatives are now screened by different departments on aspects such as time frames, feasibility, opportunities for improvement, and general approvals.

OUR POLICIES AND GUIDELINES

The Geo Code of Ethics provides guidance on anti-corruption and antitrust practices. The Code formalizes our policies on receiving gifts and other aspects of supplier and employee conduct.

We are currently developing a set of policies on compliance; relationships with third parties; information security; risk management; corporate social and environmental responsibility—in line with Principle 15 of the Rio Declaration on Environment and Development—and social investment; and sponsorship and donations. GRI 102-11

A SNAPSHOT ON RECENT PROGRESS

Efforts to build maturity in our decision-making processes have led us to implement new governance bodies, tools and initiatives. These include a new Code of Ethics, a newly set up Board of Directors and financial and sustainability committees, an upgrade of our SAP system to S/4 HANA, new financial and confidentiality policies, a refreshed organizational design, newly set collective and individual targets, and improved performance management against KPIs.

RISK MANAGEMENT

We monitor the main operational, climate, financial and regulatory factors affecting our business. Identified risks are addressed in strategy meetings with our Compliance function, which works to enhance preventive measures and ensure our activities are at all times compliant with applicable laws and regulations. We also actively participate in discussions around the legal framework in Brazil on biogas and biomethane. GRI 201-2

WHISTLEBLOWING CHANNEL

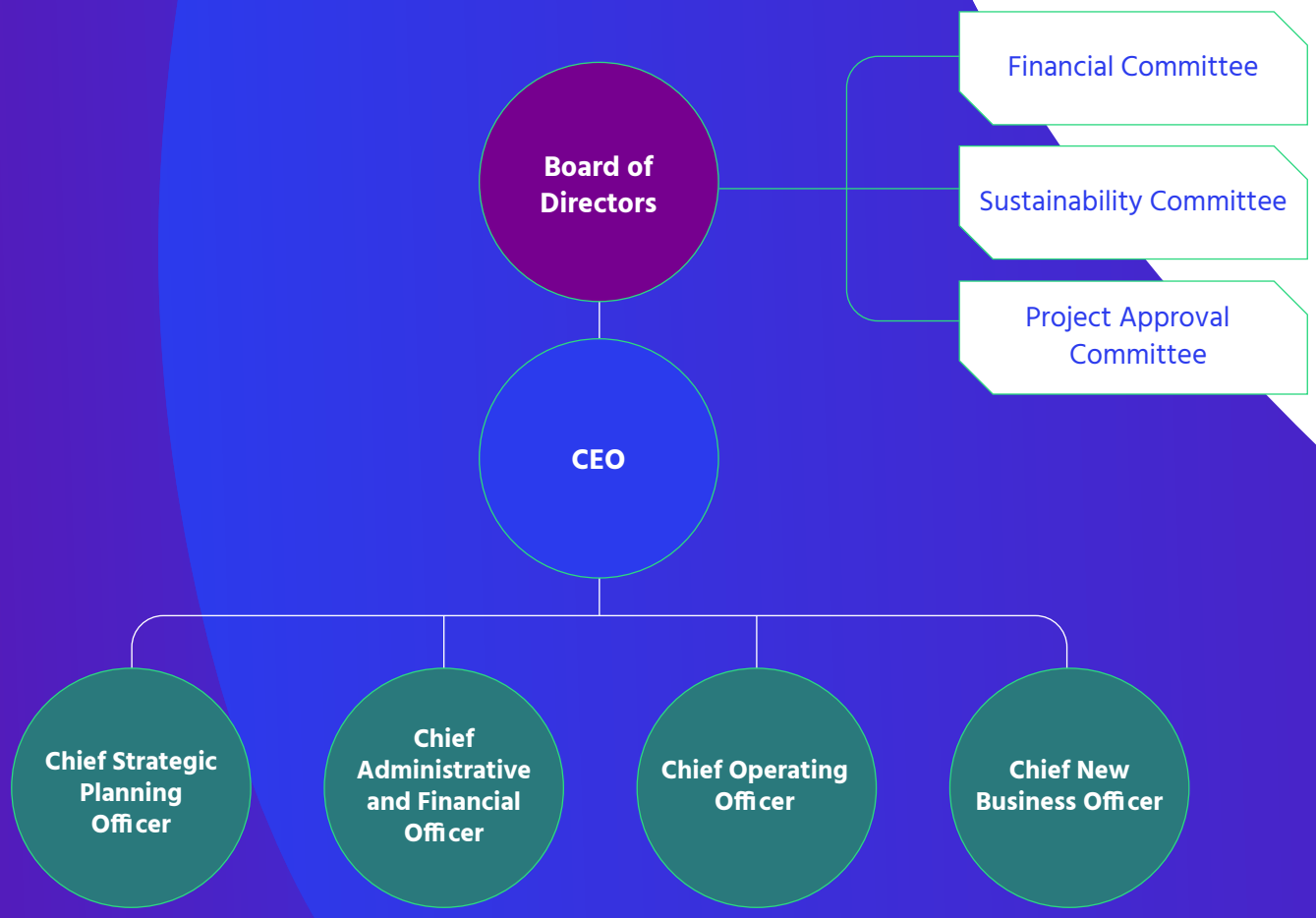
GRI 103-2, 103-2, 103-3 |406

In 2021 we engaged independent consultants to review our Code of Ethics and assist us in developing an automated, third-party-managed whistleblowing channel, which we will implement in the first half of 2022. The new channel will allow employees to anonymously report any misconduct in a secure environment. All reports will be referred to the appropriate department for investigation and, if necessary, appropriate disciplinary action.

Reports are currently made directly to the relevant department head, who is then responsible for handling the investigation. All purchases are preceded by a careful assessment on quality and price as part of the Request for Quote (RFQ) process. This gives different suppliers equal opportunity to do business with us.

We take a no-tolerance approach to discrimination in our business, and this is emphasized to all employees joining our team during induction. Any reports are reviewed by an independent consulting firm that reports directly to the Board of Directors.

GEO'S GOVERNANCE **STRUCTURE**



BOARD OF DIRECTORS

Our Board of Directors currently consists of six members. It is responsible for exercising oversight of our relations with investors, customers, partners, government agencies and communities, ensuring we consistently generate positive impacts.

Members: Bernardo Parnes, Caio Koch-Weser, Paulo Caldeira, Alessandro Gardemann, Sergio Spinelli and José Arimateia.

INTEGRATING ESG INTO DECISION-MAKING

Geo's busines creates positive impacts across the social, environmental and governance dimensions, by delivering solutions and projects that are advancing important agendas and helping companies to achieve ambitious goals and targets.

We are currently implementing an ESG department to help us embrace these principles within our own organization and across our day-to-day activities. This is a strategic step toward building greater maturity as a leading player in our industry.

GOVERNANCE BODIES BEING IMPLEMENTED

As part of our efforts to bolster our governance, we are creating management bodies dedicated to different strategic fronts. In 2022 our decision-making structure will comprise an executive board and financial, sustainability and project approval committees, tasked with the following duties:

EXECUTIVE BOARD

The Executive Board is responsible for providing strategic direction in line with our Code of Conduct, supporting the sustainable development of our industry and implementation of Geo's Strategic Plan.

Alessandro Gardemann
CEO

Eliane Viotto
Chief Administrative and Financial Officer

Dante Alberto Jemma Cobucci
Chief Strategic Planning Officer

Maurício Baldi
Chief Operations Officer

Renato Steffen Barnabe
Chief New Business Officer

FINANCIAL COMMITTEE

Comprising eight members, the Financial Committee assists the Board of Directors in ensuring our operations are at all times compliant with applicable laws and regulations, as well as increasing transparency around our financial processes.

SUSTAINABILITY COMMITTEE

The Sustainability Committee is essential to our business. Its four members work to ensure that the ESG agenda is at the center of our decision-making within the company. The Committee's duties include reviewing our communication strategy and evaluating our performance across the environmental, social and governance pillars.

PROJECT APPROVAL COMMITTEE

The project approval committee was created to assess our projects on important aspects prior to implementation. Working with our different departments, committee members evaluate initiatives on feasibility, time frames, needed approvals and other aspects.

4 Scaling our impact through innovation

We invest in and develop state-of-the-art technology, building effective solutions that support environmental preservation

Our process differentiators

Geo was born out of technology, and has risen to industry leadership through proprietary research and development. Innovation is a top priority for us and is present in our decision-making, in our ventures and initiatives, and in our day-to-day activities.

One of the key differentiators of our platform is that it is non-seasonal. This means that our facilities can operate all year-round without any stoppages. Geo has made this possible by diversifying its sources of raw materials to ensure a reliable supply of biogas and electricity. Our track record is a testament to the quality of the technology solutions in our portfolio, and we offer a range of tools to help our customers track the performance of their plants to a high level of detail.

At Geo, we are spearheading initiatives to develop the biogas value chain in Brazil, including collaborations with different organizations. We are also working to amplify the potential impacts from our operations, to mainstream biogas in other industries, and to advance the circular economy through waste recycling.

GEO CONNECT

Our biogas plants use a state-of-the-art system for monitoring energy production. Geo Connect allows us to efficiently and timely adjust and maintain our operations, and demonstrates the quality of our procedures.

The scope of our engineers' activities is plant-specific, and may include plant supervision, operational safety and performance improvement.

Geo's proprietary approach allows us to maximize energy efficiency and accelerate the maturity curve and returns on investment for our customers and partners.

Our operation system monitors the plant 24/7. Geo customers have access to a remote desk for assisted operation and real-time data-driven decision-making, and we manage plant routines through an internal process based on checklists and operational procedures. We provide direct planning support to operations and maintenance teams, and generate and submit daily reports on electricity and biogas production.

ACADEMIC COLLABORATIONS AND PROJECTS

To strengthen and expand our academic network, we have developed partnerships with different universities in Brazil, offering sponsorship and education grants. We also support research programs such as *Pesquisador na Empresa*, in which academics conduct research in-house in our operations.

In 2021 we joined the Strategic Human Resources Program (RHAE), in response to a call for proposals from the Brazilian Council for Scientific and Technological Development (CNPq). The initiative helps researchers to find positions at innovative companies. These researchers will help us to perfect the biodigestion process as part of a project we plan to develop over the coming two years.

We have also been selected as part of Fundação Araucária's Tecnova II program to develop a biodigestion system for lignocellulosic wastes. In addition, we are collaborating with the State University of Campinas (UNICAMP) and the Federal Technology University of Paraná (UTFPR) on research to further develop the biogas value chain in Brazil.

SYNERGIES WITH AGRIBUSINESS

Geo has several partnerships with agribusiness companies. By turning materials that would otherwise go to waste into value-added energy products, our process helps these organizations align their operations with the environmental agenda and develop ambitious ESG strategies.

We have recently established a partnership with UISA's Biomass Biotechnology Center (CBB) to further amplify these synergies. The project aims to expand the product output of sugar and ethanol mills without expanding their sugarcane plantations, by improving yields per hectare, in a process that will involve extensive testing of biomass materials.

Geo Research Center

Created ten years ago in Londrina, Paraná, Southern Brazil, the Geo Research Center (CPG) is now a leading anaerobic biodigestion research and engineering lab. CPG provides world-class quality control, research and development, and is led by our R&D and Process Engineering Manager, Alysson de Camargo.

The lab has cataloged and performed methanogenic potential testing on more than 400 different raw materials. It has also conducted bench tests, developed pilot biodigestion plants and conducted other strategic research to improve our processes.

Waste testing not only improves biogas yields per metric ton of material—by enabling better control of the biodigestion process—but it also supports the production of fertilizers as co-products.

Alysson de Camargo
R&D and Process Engineering Manager

We believe that by investing in research and development we can find solutions to build an increasingly sustainable and low-carbon world

NEW PRODUCTS

One of CPG's major research areas is assessing and analyzing the potential of new products from biogas. This research looks at existing applications for natural gas and adapts them to biogas, creating alternatives to petrochemicals, such as hydrogen.

Our goal is to capture market opportunities and trends to provide renewable fuels at competitive prices. We believe that reconciling the net zero agenda with economic and financial aspects, including process costs, is crucial to achieving further progress in this movement.

Our relationships

5

At Geo we value the relationships we have built along the way.

Our past ventures and results reflect the efforts of our team and the partnerships we have developed.

And nothing could have been achieved without the commitment of our customers

Our team GRI 102-8

We have a highly engaged and skilled team with wide-ranging expertise across different industries. We work to foster a harmonious and inclusive work environment that encourages our employees to get out of their comfort zone and develop increasingly ambitious and innovative solutions.

Geo ended year 2021 with a workforce of 57 employees, including 48 men and 9 women. To accommodate our rapid expansion, we have been preparing to onboard lots of new members to our team.

This has required us to reformulate our organizational structure and departments, and create new ones. We have recently established a partnership with the Gupy platform to optimize our recruiting and selection process.

Are you interested in learning more about our team?

See our People and Management disclosures in the Appendix.

OUR CULTURE

In 2021 we undertook a complete refresh of our visual identity, including a new logo, structure and color palette. We also commissioned a rebranding study to help us more effectively achieve our objectives in the market. Geo is a sustainable, innovative and tech-enabled company, and we wanted this to be reflected in our communications, media presence and interactions with stakeholders.

We have actively built a very positive reputation as a modern company through the IT and production systems and tools we have developed, such as Geo Connect, Geo Biogas University and our Research Center (CPG), the largest anaerobic biodigestion lab in Brazil and one of the largest in the world (read more on page 42).

At the beginning of the year, we held a series of informal discussions and interviews to measure aspects related to our culture. Building on this process, we partnered with Qulture.Rocks, a performance assessment platform, to implement an innovative approach to performance feedback, OKR/goal management, organizational climate surveys, and IDPs.

The platform will also allow us to constantly track the organizational climate beginning in 2022. We plan to conduct an assessment at the beginning of the year and another at the end of the year to measure progress and identify areas for improvement.

OUR TALENTS

GRI 103-2, 103-3 |401, 103-2, 103-3 |404

We are undergoing a complex process to restructure our positions and departments in order to make Geo more diversified and inclusive. We seek out talents from across Brazil to support the ongoing expansion of our operations.

In addition to the competitive benefits we offer, we have also developed incentive programs that encourage employees to achieve their goals and reward them for performance.

For our young talents, we organize workshops and recruiting and selection programs in partnership with universities. We also run internship programs in Paraná and São Paulo, and plan to expand them into other regions.

We expect our new Training & Development Program will be implemented within 2022, as a new benefit for our employees.

Geo covers up to 70% of tuition fees for training programs, including language, technical, undergraduate and specialization courses. In addition to developing and retaining talents, our goal is to increasingly grow our employees' skills and recognize, encourage and reward engagement.

BENEFITS, HEALTH AND WELL-BEING GRI 401-2

We offer our employees a range of bonuses and benefits that provide competitive differentiators in attracting and retaining talent. The members of our team have health insurance, life insurance, public transportation passes and meal tickets, plus market differentiating benefits such as multi-benefit cards, stock options, training programs and performance--based bonuses, with gender equity as an overarching value. The following year we plan to offer vacancies with benefits such as extended paternal leave or extended telecommuting.

In response to the impacts from the COVID-19 pandemic, we strengthened our health and safety practices by implementing personal protection guidelines for all employees and enhancing awareness-raising initiatives. We provided facemasks and alcohol gel to all departments in the company, and implemented protocols recommended by health authorities, including for telecommuting.

We have developed incentive programs that encourage employees to challenge themselves and get out of their comfort zone

DIVERSITY AND INCLUSION

GRI 103-2, 103-3 |405

We have an unwavering commitment to promoting equal opportunity and diversity, two of the core values in our culture. This is reflected in all our actions toward employees, as an essential part of our approach to doing business.

We recognize that embracing diversity results in increased engagement, personal fulfillment and business growth. At Geo we believe that a diversified workplace is not only beneficial but crucial for our business, and we understand that we can do more to advance this agenda by building a more plural workforce.

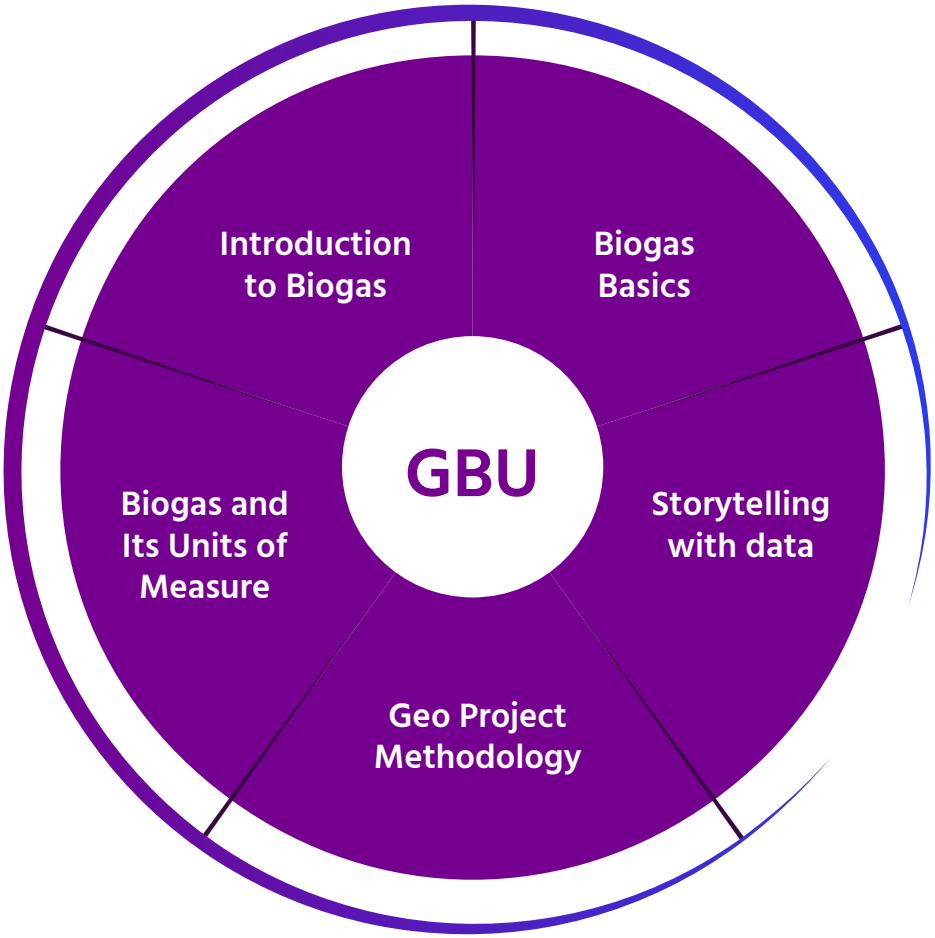
We know that by pooling people's combined backgrounds and experience we can boost creativity and innovation. But despite all our efforts so far, we recognize there is still much to be done, and strive each day to help build a more equal and humane society.

Geo Biogas University (GBU)

GBU is a knowledge management platform created to build our employees' skills by sharing and applying the knowledge held within the organization and available in the wider market. GBU helps to drive engagement, synergies, professional development and competitiveness.

The first training modules have been developed and we expect initial training to begin in the first half of 2022. Our first GBU training titles are: Introduction to Biogas; Biogas Basics; Biogas and its Units of Measure; Geo Project Methodology; and Storytelling with data.

GBU will also provide induction training to all new hires. Thereafter, courses will be target audience-specific, organized into knowledge pathways.



Engaging with the value chain

GRI 102-9, 102-13, 103-2, 103-3 |414, 414-1

We are proud of the way we cultivate strong relationships based on trust and efficiency with our partners, investors, customers and suppliers. Our supply chain comprises small and medium-sized businesses located near our operation sites. This helps both to stimulate local development and to reduce costs.

In 2021 we had 459 active suppliers, from which we made at least one purchase. During the year, our supplier spend was a total of R$ 17 million, with half the amount going to contractors. Our contractors follow internal safety requirements and policies (read more on page 34), which are presented to them in dedicated training sessions.

All suppliers are required to submit documentation demonstrating that they have made required social security payments, fulfilled their labor obligations and that their employees have completed required health checkups. As a safety practice at Geo, we supervise and ensure the proper use of safety equipment. In 2022 will have a dedicated platform to improve these practices. We are also developing a new Supplier Code of Conduct to guide our relationship with suppliers and update our policies.

ABiogás

We are a founding member of the Brazilian Biogas Association (ABiogás), an organization that compiles and disseminates information about biogas, promotes decarbonization practices, and supports the development of the sector. ABiogás also promotes good practices, including industry certifications.

Our CEO serves as chair of ABiogás, where he has advocated that the association participate in a federal government incentive program for biomethane.

Local communities

GRI 103-2, 103-3 |413, 413-1, 103-2, 103-3 |203, 203-1

We act on our responsibility to the communities in the regions where we operate, and believe in the transformational power of initiatives that create positive impacts and engage residents in activities and actions that can make a difference.

Consistent with our business model, Geo's social strategy involves an assessment of the areas where our plants are sited to identify opportunities and develop projects that are responsive to local needs.

Internally, we implement social initiatives that express the company's commitment to doing business ethically and transparently and to supporting the development of local communities. Within this commitment, we have run several charitable campaigns, particularly to mark occasions such as Easter, Christmas and Children's Day.

Employee testimonials have described these initiatives as significant and transformational, showing that the little things we do can have a tremendous impact on people's lives. This ultimately sparked a desire in each of us to do more, and developed into a collective cause involving the entire company.

We soon partnered with a very special organization, Florescer, that helps families near one of our plants. Florescer works to transform communities through social education programs, with a significant presence in Brazil's Midwest. It offers education, sports, cultural activities, professional training and income opportunities for benefited families, supporting social upliftment.

Through the organization, benefited families have access to a wide range of workshops, including handcrafts, choir singing, dancing, ballet, guitar, judo, book reading, school tutoring, computer lessons, and gardening. A total of ten different projects offer more than 800 spots to community residents. Since its founding, Florescer's projects and training have benefited at least 32,000 people.

FLORESCER
Ação Social

Learn more about Florescer at
www.floresceracaosocial.org/sobre

How we are **advancing** the ESG agenda

At Geo Biogas & Tech, ESG is more than just a buzzword; it is a value that has been an integral part of our day-to-day business for more than a decade. Through technology and innovation, we help make our customers' operations more sustainable, delivering on their social and environmental commitments.

We help our customers reduce their greenhouse gas emissions, improve their waste management practices, and green their energy supply. Our process turns materials that would otherwise be disposed of as waste into value-added materials and biogas (read more on page 40).

The ESG agenda has gained momentum in a society that increasingly values businesses that are conscientious, responsible and committed to creating positive social and environmental impact. In this context, our core business resonates with companies' ESG challenges and agendas, and can provide them with both competitive and reputational advantages.

We also play an important role within RenovaBio as an issuer of carbon credits (CBIOs). In addition, Geo has developed a leading position in the regulated carbon market, and is prepared to offer further solutions and products to help other companies align with the agenda.

Our core business resonates with companies' ESG challenges and agendas, and can provide them with both competitive and reputational advantages

Our platform and the environmental agenda

6

Our platform has synergies with important agendas, including low-carbon and circular-economy efforts in different industries

Supporting efforts against climate change

GRI 103-2, 103-3 |305, 305-1, 305-4, 305-7

HOW OUR PLATFORM MAKES A DIFFERENCE

Among the products in our portfolio is biomethane, a fuel that can reduce greenhouse gas emissions by up to 95%—making it a compelling energy transition fuel. Brazil is second to none in its potential for biomethane production; the country has the capacity to produce a reliable and continuous supply of biomethane at sufficient scale to replace 100% of its demand for natural gas, and 70% of its demand for diesel.

Our mission is to decarbonize the energy mix by producing green hydrocarbons. We can help lower GHG emissions by producing green electricity and biomethane as a replacement for diesel and LPG.

OUR IMPACTS

Our greenhouse gas (GHG) emissions increased from 2020 to 2021, reflecting higher energy production rates. Emissions data are periodically monitored by specialized firms that assess the impacts from our plants. Geo's facilities have equipment to ensure that emissions are kept within the limits prescribed by applicable laws and regulations. In addition to this report, information on greenhouse gas emissions is reported in our greenhouse gas inventory for 2021.

95%

potential emissions reduction from the use of biomethane

100%

of natural gas demand can be met using biomethane as a transition fuel

Direct greenhouse gas emissions (t CO_2 equivalent)

	2019	2020	2021
Production of electricity, heat or steam	37.26	24.38	43.72
Fugitive emissions	174.26	182.82	192.51
Total gross CO_2 emissions	211.52	207.20	236.23

** Conversion factors used: GHG Protocol (2020); and, for fugitive emissions, global warming potential (GWP100) and IPCC 2013 (AR5). There were no biogenic emissions in any of the three reported years.*

Greenhouse gas emissions intensity (GHG emissions/methane produced, in t CO_2 equivalent/Nm^3)

2019	**2020**	**2021**
0.03	0.04	0.03

Significant air emissions (t)*

	2019	**2020**	**2021**
NO_2	39.18	43.74	41.80

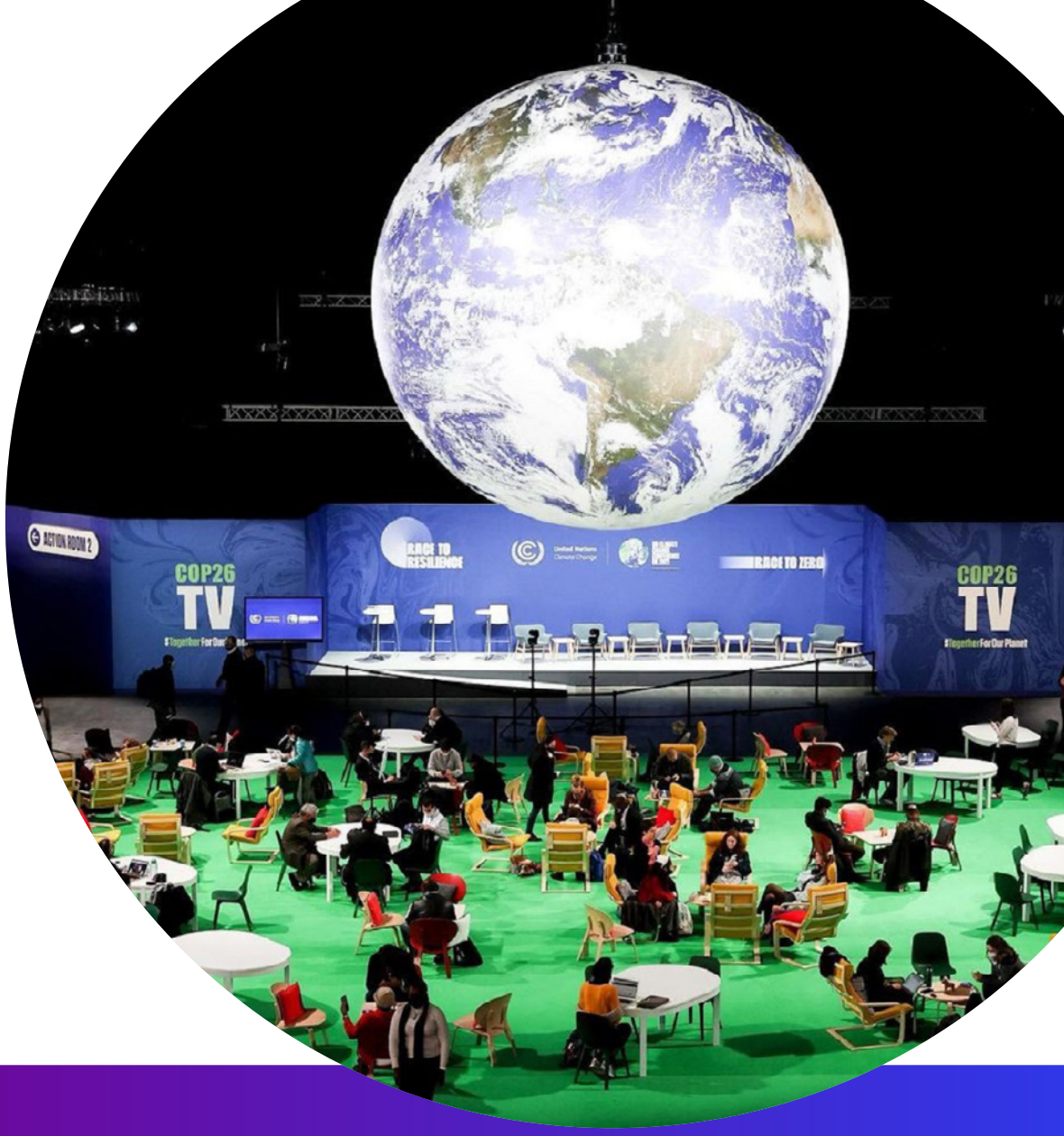
** Emissions are produced when burning fuels in biogas-fired engines. The emissions per hour measured during the third-party firm's inspection visit were deemed constant throughout the year. The volume, expressed in kg/h, was multiplied by the number of hours of engine operation.*

Our CEO delivered a **presentation** at COP26 on Brazil's biogas scene

During the most important climate conference in recent years, we showcased how biogas can be a powerful tool in decarbonizing agriculture

Reflecting Geo's leading position in the segment, our CEO, Alessandro v. Arco Gardemann, was invited to provide an overview of the biogas sector in Brazil during COP26, underscoring the fuel's potential to decarbonize the economy. During the United Nations (UN) climate conference, Brazil set a target to reduce greenhouse gas emissions by 50% by 2030, and to achieve net zero by 2050.

In his presentation, Gardemann highlighted the exciting opportunities and synergies that exist between biogas development and the drive for more sustainable agriculture in Brazil. In this landscape, Geo and ABiogás are positioned to support the continued development of the regulated carbon market.



"Biogas has huge unexplored potential that is going to waste. It is an advanced, carbon-neutral fuel that can help to decarbonize agriculture in general, and any industry that is hard to decarbonize by electrification, such as shipping and chemicals."

Alessandro v. Arco Gardemann,
Geo CEO and chairman of ABiogás

Driving energy efficiency

GRI 103-2, 103-3 |302

HOW OUR PLATFORM MAKES A DIFFERENCE

The biogas we produce can be used to generate clean and reliable electricity using generator sets co-located at our plants. In Brazil, biogas-fueled power generation can meet approximately 40% of the country's electricity requirement.

40%

of Brazil's electricity demand can be met with biofuel-powered generation

OUR IMPACTS

Our energy consumption is monitored against metrics that include the use of non-renewable fuels, and the production, sale and consumption of electricity. These are monitored on a daily basis at our facilities, and on a monthly basis for energy-intensive activities. If consumption is higher than expected, we develop an action plan to reduce it. Our targets are set at the beginning of the year based on industry best practices.

At Geo we use high-quality generator sets, with our electrical efficiency improving by 5% from 2019 to 2020. We aim to further increase our energy efficiency performance in the coming years through operational and equipment improvements.

Our energy consumption indicators are available in the *Appendix*.

Adding value to biomass and waste

GRI 103-2, 103-3 |306, 306-2, 306-3, 306-5

HOW OUR PLATFORM MAKES A DIFFERENCE

Geo receives millions of metric tons of biomass and waste materials that would otherwise be disposed of, and recycles them into biogas. This enables sugar and ethanol, agricultural and sanitation companies to join the circular economy and advance the ESG agenda in the Brazilian market (read more on page 23).

OUR IMPACTS

We are proud to have played a role in the development of the biogas value chain in Brazil, an ecosystem in which products are generated through industrial symbiosis between the production plant and the facility generating the waste materials. Since we began our operations, we have produced 87.2 million Nm^3 of biogas, which have been converted into 176.2 GWh of green electricity. In the last five years, part of our biogas output has been used to produce 107,600 Nm^3 of biomethane.

The residual material from our process is converted into biofertilizer for use in farming. Waste materials that are potentially harmful to human health or the environment, especially laboratory waste, are sent to dedicated waste collection and disposal companies for incineration and subsequent disposal at a licensed landfill—as measured on a monthly basis, in 2021 we disposed of 180 kg of hazardous waste through this process.

GRI Content Index

GRI 102-55

7

GRI Standards	Disclosure	Page/URL	Omission	SDG
GENERAL DISCLOSURES				
GRI 101: Foundation 2016				
GRI 101 contains no disclosures				
Organizational profile				
GRI 102: General disclosures 2016	102-1 Name of the organization	12		
	102-2 Activities, brands, products, and services	12		
	102-3 Location of headquarters	12		
	102-4 Location of operations	12		
	102-5 Ownership and legal form	12		
	102-6 Markets served	12		
	102-7 Scale of the organization	12		
	102-8 Information on employees and other workers	46 and 77		8, 10
	102-9 Supply chain	51		
	102-10 Significant changes to the organization and its supply chain	8		
	102-11 Precautionary principle or approach	34		
	102-12 External initiatives	Our Executive Board is currently discussing plans to join the Global Compact. We are also reviewing our practices for alignment with the Sustainable Development Goals (SDGs).		
	102-13 Membership of associations	51		
Strategy				
GRI 102: General disclosures 2016	102-14 Statement from senior decision-maker	10		

GRI Standards	Disclosure	Page/URL	Omission	SDG
Ethics and integrity				
GRI 102: General disclosures 2016	102-16 Values, principles, standards, and norms of behavior	14		16
Governance				
GRI 102: General disclosures 2016	102-18 Governance structure	34		
Stakeholder engagement				
GRI 102: General disclosures 2016	102-40 List of stakeholder groups	6		
	102-41 Collective bargaining agreements	All employees are covered by collective bargaining agreements.		8
	102-42 Identifying and selecting stakeholders	6		
	102-43 Approach to stakeholder engagement	6		
	102-44 Key topics and concerns raised	6		
Reporting practices				
GRI 102: General disclosures 2016	102-45 Entities included in the consolidated financial statements	4		
	102-46 Defining report content and topic Boundaries	6		
	102-47 List of material topics	6		
	102-48 Restatements of information	None.		
	102-49 Changes in reporting	None.		
	102-50 Reporting period	4		

GRI Standards	Disclosure	Page/URL	Omission	SDG
GRI 102: General disclosures 2016 (cont.)	102-51 Date of most recent report	Not applicable.		
	102-52 Reporting cycle	4		
	102-53 Contact point for questions regarding the report	contato.geo@geobiogas.tech		
	102-54 Claims of reporting in accordance with the GRI Standards	This report has been prepared in accordance with the GRI Standards—"Core" option		
	102-55 GRI content index	64		
	102-56 External assurance	None.		
MATERIAL TOPICS				
Economic performance				
GRI 103: Management approach 2016	103-1 Explanation of the material topic and its Boundary	6		
	103-2 The management approach and its components	34		
	103-3 Evaluation of the management approach	34		
GRI 201: Economic performance 2016	201-2 Financial implications and other risks and opportunities due to climate change	35		13
Indirect economic impacts				
GRI 103: Management approach 2016	103-1 Explanation of the material topic and its Boundary	6		
	103-2 The management approach and its components	52		
	103-3 Evaluation of the management approach	52		
GRI 203: Indirect economic impacts 2016	203-1 Infrastructure investments and services supported	52		5, 9, 11
Anti-corruption				
GRI 103: Management approach 2016	103-1 Explanation of the material topic and its Boundary	6		
	103-2 The management approach and its components	34		
	103-3 Evaluation of the management approach	34		

GRI Standards	Disclosure	Page/URL	Omission	SDG
GRI 205: Anti-corruption 2016	205-1 Operations assessed for risks related to corruption	No operations were assessed in 2021.		16
	205-2 Communication and training on anti-corruption policies and procedures	There were no communications or training on this topic in 2021.		16
	205-3 Confirmed incidents of corruption and actions taken	There were no confirmed incidents of corruption in 2021.		16
Anti-competitive behavior				
GRI 103: Management approach 2016	103-1 Explanation of the material topic and its Boundary	6		
	103-2 The management approach and its components	34		
	103-3 Evaluation of the management approach	34		
GRI 206: Anti-competitive behavior 2016	206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	There were no legal actions related to this matter in 2021.		16
Energy				
GRI 103: Management approach 2016	103-1 Explanation of the material topic and its Boundary	6		
	103-2 The management approach and its components	62		
	103-3 Evaluation of the management approach	62		
GRI 302: Energy 2016	302-1 Energy consumption within the organization	81		7, 8, 12, 13
	302-3 Energy intensity	82		7, 8, 12, 13
	302-4 Reduction of energy consumption	82		7, 8, 12, 13
Emissions				
GRI 103: Management approach 2016	103-1 Explanation of the material topic and its Boundary	6		
	103-2 The management approach and its components	58		
	103-3 Evaluation of the management approach	58		

GRI Standards	Disclosure	Page/URL	Omission	SDG
GRI 305: Emissions 2016	305-1 Direct (Scope 1) GHG emissions	58		3, 12, 13, 14, 15
	305-2 Energy indirect (Scope 2) GHG emissions	We do not produce indirect (scope 2) emissions as the energy we consume at our facilities is entirely produced on site.		3, 12, 13, 14, 15
	305-3 Other indirect (Scope 3) GHG emissions	Information about scope 3 emissions is unavailable as it is not yet being tracked.		3, 12, 13, 14, 15
	305-4 GHG emissions intensity	58		13, 14, 15
	305-5 Reduction of GHG emissions	There was no reduction in emissions.		13, 14, 15
	305-6 Emissions of ozone-depleting substances (ODS)	Our operations produce no ODSs.		3, 12
GRI 305: Emissions 2016	305-7 Nitrogen oxides (NO_x), sulfur oxides (SO_x), and other significant air emissions	58		3, 12, 14, 15
Waste				
GRI 103: Management approach 2016	103-1 Explanation of the material topic and its Boundary	6		
	103-2 The management approach and its components	63		
	103-3 Evaluation of the management approach	63		
GRI 306: Waste 2021	306-1 Waste generation and significant waste-related impacts	We do not generate significant amounts of waste at our plants.		3, 6, 11, 12
	306-2 Management of significant waste-related impacts	63		3, 6, 11, 12
	306-3 Waste generated	We currently do not track the volume of non-hazardous waste we generate.		3, 6, 12, 14, 15
	306-4 Waste diverted from disposal	Although we currently do not track the volume of waste we generate, all waste materials are directed to disposal.		3, 11, 12
	306-5 Waste directed to disposal	In 2021 we generated approximately 180 kg of waste that were sent for incineration (without energy recovery).		3, 6, 11, 12, 14, 15

GRI Standards	Disclosure	Page/URL	Omission	SDG
Environmental compliance				
GRI 103: Management approach 2016	103-1 Explanation of the material topic and its Boundary	6		
	103-2 The management approach and its components			
	103-3 Evaluation of the management approach	In 2021 there were no instances of noncompliance with environmental laws and/or regulations. We currently do not have documented procedures for managing information about our operations in order to determine whether they are compliant with performance parameters and environmental legislation.		
GRI 307: Environmental compliance 2016	307-1 Non-compliance with environmental laws and regulations			16
Employment				
GRI 103: Management approach 2016	103-1 Explanation of the material topic and its Boundary	6		
	103-2 The management approach and its components	48		
	103-3 Evaluation of the management approach	48		
GRI 401: Employment 2016	401-1 New employee hires and employee turnover	77		5, 8, 10
	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	48		3, 5, 8
	401-3 Parental leave	In 2021 only one employee took parental leave and did not return to work after parental leave ended.		5, 8

GRI Standards	Disclosure	Page/URL	Omission	SDG
Training and education				
GRI 103: Management approach 2016	103-1 Explanation of the material topic and its Boundary	6		
	103-2 The management approach and its components	48		
	103-3 Evaluation of the management approach	48		
GRI 404: Training and education 2016	404-1 Average hours of training per year per employee	We currently do not track training data. We are organizing processes to record and document training data through an Integrated Management System (IMS).		4, 5, 8, 10
	404-2 Programs for upgrading employee skills and transition assistance programs	We have not yet implemented training programs or career plans, but plan to do so in 2022.		8
GRI 404: Training and education 2016	404-3 Percentage of employees receiving regular performance and career development reviews	Geo does not have a formally established training plan. As a result, there are no training records or schedules outlining future training programs. We are currently considering engaging a consulting firm to implement an Integrated Management System (IMS) to track information on training, performance reviews and other people-related processes.		5, 8, 10
Diversity and equal opportunity				
GRI 103: Management approach 2016	103-1 Explanation of the material topic and its Boundary	6		
	103-2 The management approach and its components	49		
	103-3 Evaluation of the management approach	49		

GRI Standards	Disclosure	Page/URL	Omission	SDG
GRI 405: Diversity and equal opportunity 2016	405-1 Diversity of governance bodies and employees	77		5, 8
	405-2 Ratio of basic salary and remuneration of women to men	In 2021 there was no difference in basic salary between women and men.		5, 8, 10
Non-discrimination				
GRI 103: Management approach 2016	103-1 Explanation of the material topic and its Boundary	6		
	103-2 The management approach and its components	35		
	103-3 Evaluation of the management approach	35		
GRI 406: Non-discrimination 2016	406-1 Incidents of discrimination and corrective actions taken	Company management has not received any reports of incidents of discrimination within the company.		5, 8
Child labor				
GRI 103: Management approach 2016	103-1 Explanation of the material topic and its Boundary	6		
	103-2 The management approach and its components	We do not currently have a documented procedure on this matter. However, all employees are hired in accordance with the Brazilian Consolidated Labor Regulations.		
	103-3 Evaluation of the management approach			
GRI 408: Child labor 2016	408-1 Operations and suppliers at significant risk for incidents of child labor			8, 16

GRI Standards	Disclosure	Page/URL	Omission	SDG
Forced or compulsory labor				
GRI 103: Management approach 2016	103-1 Explanation of the material topic and its Boundary	6		
	103-2 The management approach and its components	We do not currently have a documented procedure on this matter. However, all employees are hired in accordance with the Brazilian Consolidated Labor Regulations.		
	103-3 Evaluation of the management approach			
GRI 409: Forced or compulsory labor 2016	409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor			8
Local communities				
GRI 103: Management approach 2016	103-1 Explanation of the material topic and its Boundary	6		
	103-2 The management approach and its components	52		
	103-3 Evaluation of the management approach	52		
GRI 413: Local communities 2016	413-1 Operations with local community engagement, impact assessments, and development programs	52		
Supplier social assessment				
GRI 103: Management approach 2016	103-1 Explanation of the material topic and its Boundary	6		
	103-2 The management approach and its components	51		
	103-3 Evaluation of the management approach	51		
GRI 414: Supplier social assessment 2016	414-1 New suppliers that were screened using social criteria	51		5, 8, 16
	414-2 Negative social impacts in the supply chain and actions taken	We currently do not have a documented procedure for screening suppliers against environmental and social criteria.		5, 8, 16

GRI Standards	Disclosure	Page/URL	Omission	SDG
Socioeconomic compliance				
GRI 103: Management approach 2016	103-1 Explanation of the material topic and its Boundary	6		
	103-2 The management approach and its components	34		
	103-3 Evaluation of the management approach	34		
GRI 419: Socioeconomic compliance 2016	419-1 Non-compliance with laws and regulations in the social and economic area	We have not incurred administrative or judicial sanctions for non-compliance with laws and regulations in the social and economic area. All our plants have currently valid operation licenses.		16

Sustainable Development Goals

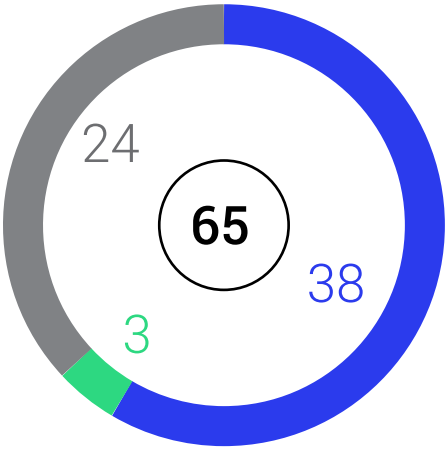
1. No poverty
2. Zero hunger and sustainable agriculture
3. Good health & well-being
4. Quality education
5. Gender equality
6. Clean water and sanitation
7. Affordable and clean energy
8. Decent work and economic growth
9. Industry, innovation and infrastructure
10. Reduced inequalities
11. Sustainable cities and communities
12. Responsible consumption and production
13. Climate action
14. Life below water
15. Life on land
16. Peace, justice and strong institutions
17. Partnerships for the goals

Appendix 8

People and Culture GRI 102-8, 401-1, 405-1

Workforce by region, in 2021*

** All employees work full time.*



LONDRINA

SÃO PAULO

TAMBOARA

TOTAL

Workers by category and gender, in 2021

	Men	Women	Total
Interns	5	2	7
Trainees	3	0	3
TOTAL	**8**	**2**	**10**

Employees by category and age group, in 2021

	Under 30	30 to 50	Over 50
Executive Officers	0	2	0
Coordinators	4	1	0
Operational	33	17	0
TOTAL	**37**	**20**	**0**

Employees by category and gender, in 2021

	Men	Women	Total
Executive Officers	2	0	2
Coordinators	3	2	5
Operation	43	7	50
TOTAL	**48**	**9**	**57**

Workers by category and age group, in 2021

	Under 30	30 to 50	Over 50
Interns	7	0	0
Trainees	3	0	0
TOTAL	**10**	**0**	**0**

Employees from underrepresented groups, by employee category, in 2021

	Black and Brown		LGBT		PwDs	
	No.	**%**	**No.**	**%**	**No.**	**%**
Executive Officers	0	0	0	0	0	0
Coordinators	1	14.29	0	0	0	0
Operational	2	4.17	0	0	0	0
TOTAL	**3**	**5.26**	**0**	**0**	**0**	**0**

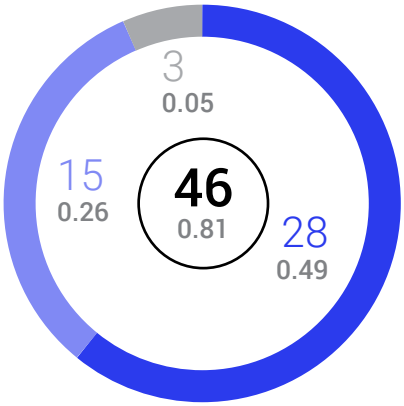
Workers from underrepresented groups, by employee category, in 2021

	Black and Brown		LGBT		PwDs	
	No.	**%**	**No.**	**%**	**No.**	**%**
Interns	0	0	0	0	0	0
Trainees	0	0	1	33.33	0	0
TOTAL	**0**	**0**	**1**	**10**	**0**	**0**

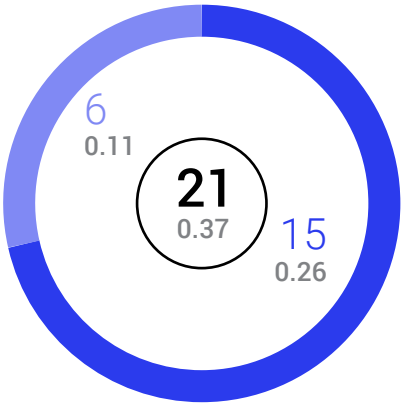
Individuals within the organization's governance bodies, by age group, in 2021

	Men	Women
Under 30	0	0
30 to 50	2	0
Over 50	0	0
TOTAL	**2**	**0**

Employee hires by age group, in 2021



Turnover by age group, in 2021



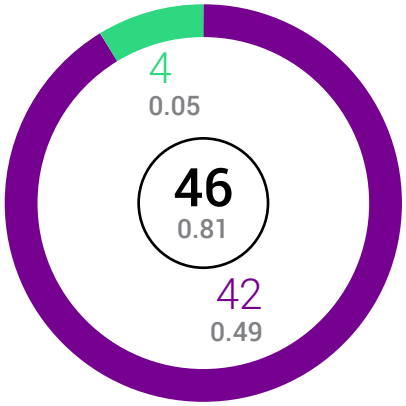
TOTAL | RATE

UNDER 30

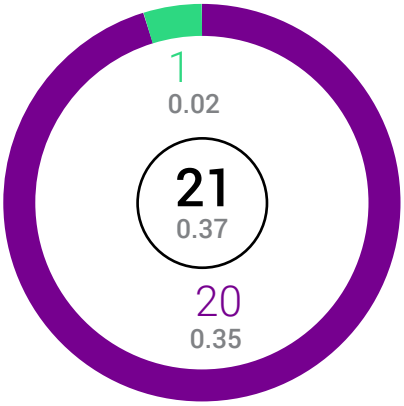
30 TO 50

OVER 50

Employee hires by gender, in 2021



Turnover by gender, in 2021

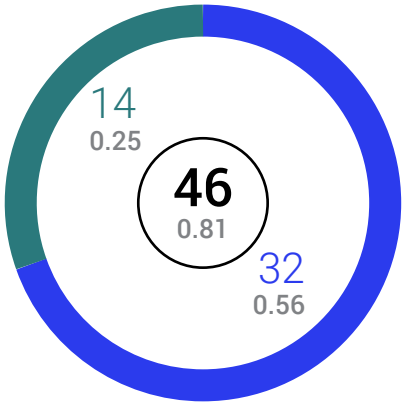


TOTAL | RATE

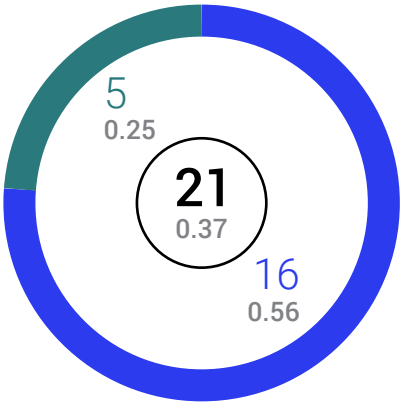
MEN

WOMEN

Employee hires by region, in 2021



Turnover by region, in 2021



TOTAL | RATE

LONDRINA

SÃO PAULO

TAMBOARA

Turnover rate[1], in 2021

	2021
Total headcount	**57**
By gender	
Men	0.54
Women	0.04
By age group	
Under 30	0.38
30 to 50	0.18
Over 50	0.03
By geography	
Londrina	0.42
São Paulo	0.00
Tamboara	0.17
TOTAL	**0.59**

[1] *Calculation method: [(hired + terminated)/2]/total headcount.*

Energy efficiency

Fuel consumption – nonrenewable (GJ)* GRI 302-1

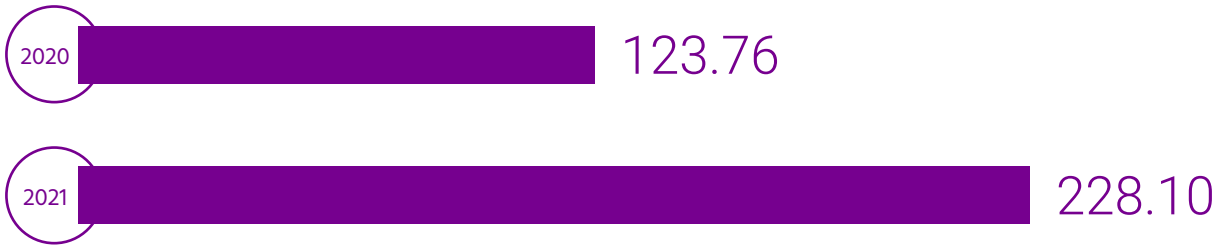
	2021
Diesel	9,752.47
TOTAL	**9,752.47**

** Information on diesel, biodiesel and electricity consumption is unavailable for years prior to 2021, as this data was not yet being tracked.*

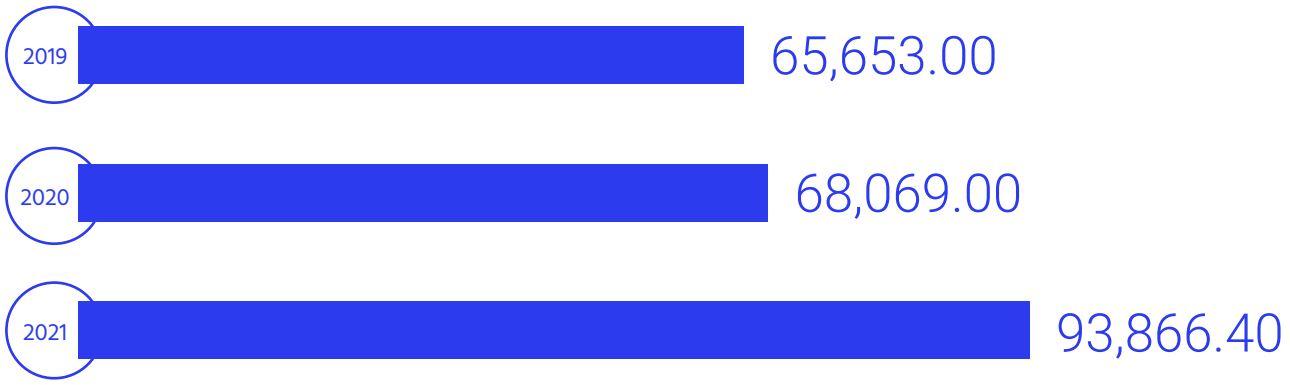
Fuel consumption – renewable (GJ) GRI 302-1

	2019	2020	2021
Biodiesel			1,344.62
Biogas	74,810.00	70,661.00	858,564.00
TOTAL	**74,810.00**	**70,661.00**	**859,908.62**

Energy consumed – Electricity (GJ) GRI 302-1



Energy sold – Electricity (GJ) GRI 302-1



Total energy consumed (GJ) GRI 302-1

	2019	2020	2021
Nonrenewable fuels	-	-	9,752.47
Renewable fuels	74,810.00	70,661.00	859,908.62
Energy consumed	0.00	123.76	228.10
Electricity sold	65,653.00	68,069.00	93,866.40
TOTAL	**9,157.00**	**2,715.76**	**776,022.79**

Energy efficiency (total electricity consumption/methane produced, in GJ/Nm) GRI 302-3

	2019	2020	2021
TOTAL	12.27	12.12	12.29

** Conversion factors used: GHG Protocol (2020).*

Reductions in energy **consumption** achieved as a direct result of conservation and efficiency initiatives (GJ) GRI 302-4

	2019	2020*	2021
Renewable fuel for generating electricity		1,493.00	

** Reductions in energy consumption were calculated based on the average annual power efficiency of our generator sets from 2019 to 2020, including power generated in 2020 via the PCI and generator set operation. The same calculation was then made with a 5% reduction in power efficiency. The additional biogas consumed in the second scenario was assessed on its energy content (GJ).*

Credits and corporate information

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