



Sustainability  
Report  
2019/2020



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## About the report

This sixth edition of the Termotécnica Sustainability Report covers the years 2019 and 2020 and includes all operations of the company in the period. It was prepared according to the Essential option of the GRI Standards.

It was based on the Materiality Matrix revised in the last biennium, when Termotécnica heard from two of its four stakeholders with the greatest impact: Employees and Customers. Listening to Suppliers and the Community was hampered by the social distancing caused by the Covid-19 pandemic.

Since the first edition, referring to 2012, the Sustainability Report has been an important management improvement tool for Termotécnica. Recognized for four years in the Exame Sustainability Guide, in 2015 and 2018 being the year's most sustainable in the Chemical category and in 2018 the most sustainable SME in Brazil.

**Important:** The unmasked people appearing in this report were photographed before the pandemic or in isolation.

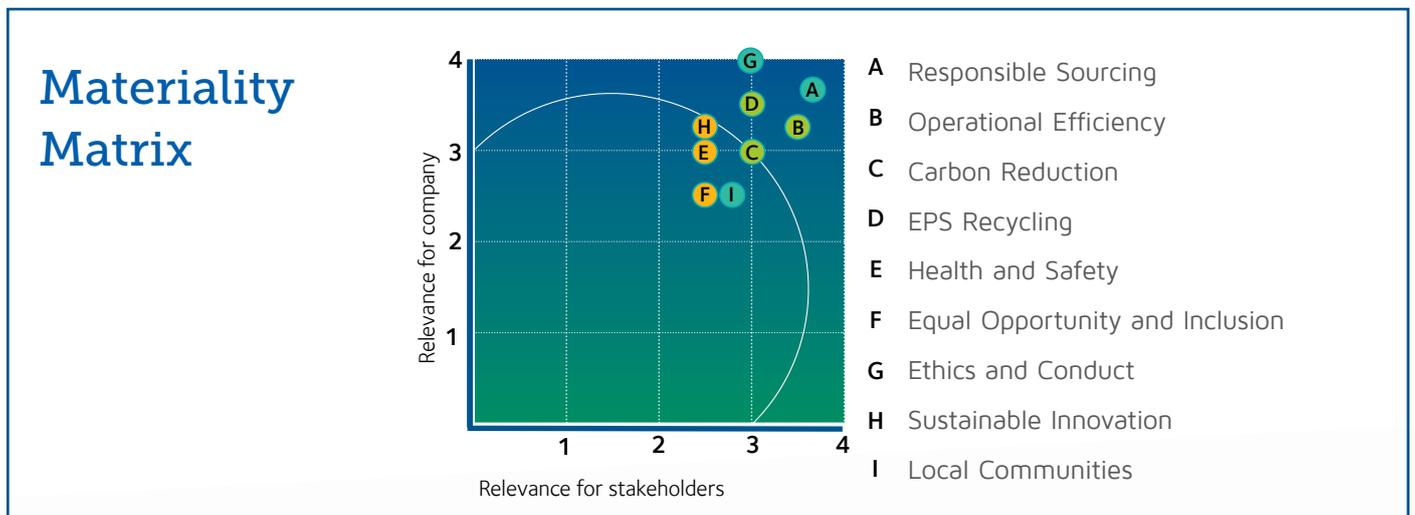
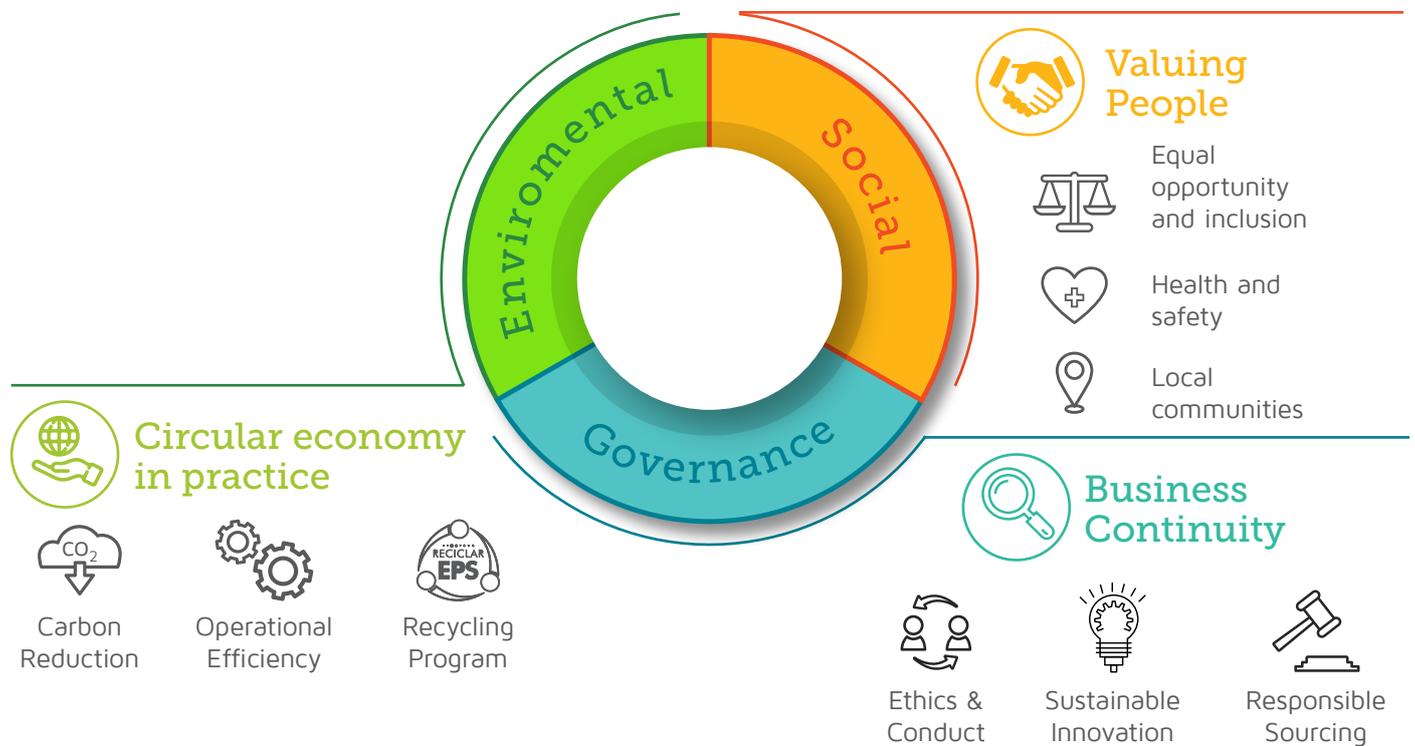
# Termotécnica ESG Strategy

Termotécnica brought together its Sustainability Committee and specialists to review its Sustainable Strategy, present in the sustainability report's previous editions, and which was renamed ESG Strategy.

It also updated its materiality matrix, prioritizing environmental, social and governance issues with the greatest impact on its performance and which are of great relevance to stakeholders. The inclusion of the CDP (Carbon Disclosure Project), for example, was an invitation from an important customer, which Termotécnica decided to join. Sustainability trends that impact the company and the segment in which it operates were taken into account.

The assessment also considered external initiative benchmarks such as the Global Reporting Initiative Standards (GRI), United Nations Global Compact as well as Sustainable Development Goals (SDGs).

The materiality process identified 9 priorities in accordance with the company's sustainable strategy, which was consolidated in this version as Termotécnica's ESG strategy.



## Message from the President



### 60 years transforming

We present in this Sustainability Report our advances regarding Termotécnica's ESG strategy

for the last 2 years, reporting to our stakeholders and making our actions more transparent to society. Our trajectory in pursuit of sustainability goes a long way back. In 2007, when attention was not yet focused on recycling, the company conceived and implemented the EPS Recycling Program, anticipating the National Solid Waste Policy, which makes companies responsible for finding an environmentally correct destination to dispose of their products at the end of their life cycle. Therefore, since then, we have collected, recycled, and returned to the market as a value-added material, more than 44,000 tons of EPS.

Nowadays, as the world and markets commit to bold targets for reducing greenhouse gas emissions to prevent global warming, the company has completed a significant portion of its carbon reduction project. Based on our strategic vision in pursuit of sustainability, we have invested significantly in changing our energy matrix to biomass. Between 2012 and 2020, Termotécnica anticipated and reduced CO2 equivalent emissions in its production process by 87.65%. The DaColheita product line, developed by Termotécnica, contributes to combating another major problem in the world, food waste and hunger (SDG 2), having been internationally recognized by the WPO with the WorldStar award in the Save Food category.

To transparently present our sustainable commitment, following GRI Standards and meeting 14 of the 17 Sustainable Development Goals, is part of this pioneering spirit along with constant renewal that mark our company's trajectory.

On the eve of its 60th anniversary, the company continues to transform, connected with market trends. It innovates by developing active, intelligent, and sustainable packaging, with a brand and patent strategy that protects its intellectual capital. The company is committed to a high level of customer satisfaction and zero production line stoppages in just-in-time sourcing, while at the same time diversifying its market opportunities in various segments: whether by expanding the agribusiness portfolio to become a post-harvest reference, internationalizing the use of EPS in transporting fruits, developing new solutions to value technical products or acting strongly in the cold chain, where it offers solutions for safe transport of vaccines.

We invest heavily in people, working to maintain a high satisfaction level in a safe work environment, preserving jobs in the most difficult times during the pandemic. We value our internal talents whenever possible as opportunities arise. In the two years covered by this report, we filled 37% of available positions with internal promotions. In the same period, we increased the number of women in our workforce from 47% to 55%, valuing diversity and inclusion.

By putting our ESG strategy into practice, which includes Business Continuity, Valuing People and Circular Economy in Practice, Termotécnica prepares itself for the future and remains at the forefront of sustainability. The recognition received by Management, Sustainability, Packaging and Human Resources entities show that we are on the right path to achieving our goals.

**Albano Schmidt**

President of Termotécnica

## Report Highlights



### Business Continuity

- Service risk mitigation with **zero production line downtime** of just-in-time customers
- High level (**85%**) of **customer satisfaction**
- **Business diversification** with increased market share of agribusiness and cold chain
- **Elevate technologies and traceability** adding value to solutions
- **DaColheita portfolio expansion** to new crops in the domestic market and increased complexity in servicing tropical fruits
- Internationalization of FarmFresh conservers in fruit exports to **3 continents**
- Packaging additive strategy with the launch of Safepack with **antiviral** and antibacterial **action**
- **Leading supplier** of conservers for transporting Covid-19 vaccines
- Launch of packaging for vaccines, maintaining temperatures of **-70°C for up to 30 hours**



### Valuing People

- Six consecutive editions among the **150 Best Companies to Work For** from Você S/A Guide
- 5 consecutive years **without work-related accidents** in the Manaus and Petrolina units
- Increase from 47% to **55% in the percentage** of women in the workforce
- Average of **84.38%** in the Climate Survey's **Satisfaction Index**
- **37% internal recruitment** in the biennium
- **Maintained jobs** and well-being of employees throughout the pandemic
- Increased **digital connections** during pandemic



### Circular Economy in Practice

- **87.65% reduction of CO2 equivalent emissions** in Scope 1 between 2012 and 2020
- Completion of **energy matrix shift to biomass**, with an increase from 62.4% to 99% in the proportion of renewable energy
- More than **44,000 tons of post-consumer EPS collected** and recycled in 13 years
- **Valuing Repor** (post-consumer EPS) with a product standard change in the market
- Four editions among the **country's most sustainable companies** in Exame magazine's Sustainability Guide
- Increased connections for **international recycling**
- **Reduced carbon footprint** by using DaColheita conservers in the market

## Recognitions



# Termotécnica

One of Latin America's largest EPS packaging manufacturers and the Brazilian market leader in this segment, in 2021 Termotécnica Ltda. celebrates 60 years in the market, with a trajectory marked by entrepreneurship, innovation, pursuit of excellence and sustainability. The company produces solutions for seven market segments: Packaging and Components (iPack), Conservation (Icebox), Agribusiness (DaColheita/Farm-Fresh), Thermal Chain, Cargo Handling

(Upally), Construction, Raw Materials (Fittocell, Termocell and Safe Pack), and post-consumer recycled EPS (Repor), which are used in the domestic market and for exports.

Termotécnica units are present in five Brazilian states. The head office is in Joinville (SC) and the production and recycling units in Manaus (AM), Petrolina (PE), Rio Claro (SP) and São José dos Pinhais (PR).

## Segments and Brands



Packaging



Components



Agribusiness



Thermal chain



Cargo handling



Conservation



Construction



Recycling



**iPack**



DaColheita  
FarmFresh



CADEIA TÉRMICA



**ICEBOX**



**UPALLY**



Termocell®  
FITTOCELL  
SAFE pack  
REPOR





## Results and investments

In 2019, Termotécnica renewed supply contracts with its main customers for the coming years. Sales volumes for 2019 compared to 2018 remained stable. The year 2020 began with the impact of the Covid-19 pandemic that shook the world. Termotécnica had to take several actions to preserve jobs and balance industrial and corporate expenses. Even with all this difficulty, it advanced 7% compared to 2019 sales volume.

In view of the sanitary crisis, the company leveraged business in the pharma line, by supplying vaccine boxes along with the Safepack product line. In 2019 and 2020, Termotécnica invested approximately R\$ 20 million in mold making, factory renovation, acquisition of a biomass boiler in Petrolina, new air compressors for greater energy efficiency at the Joinville unit, in addition to other investments that contributed to improving factory efficiency and productivity.

## Brand and Patent Strategy

Termotécnica is concerned with protecting its product and brand innovations for the market with patents. It is a differentiation strategy to establish an innovative positioning and as a way to mitigate risks, preserving the company’s intellectual capital.

Brands and Patents	
Industrial design	65
Utility model	8
Invention patent	24
Registered trademarks	19



## Context 2020

Faced with the challenges posed by the Covid-19 pandemic, the executive board began meeting daily to establish measures aimed at four macro-objectives: reassure people, continue operations with the necessary health and safety measures; understand and adapt the operation to customer demand and minimize effects on cashflow.



Two of the foundations of the Management Model for Excellence (known here as MEG) were prioritized in this context: **adaptability**, which suggests that every organization must have flexibility and capability to change in a timely manner, and **organizational learning and innovation** – which suggests rapid learning cycles and speed in implementing improvements. Through the practice of benchmarking, MEG users seek to network and update themselves on the paths they are taking. This was essential for Termotécnica to become faster in the necessary adjustments and more precise in the proportion of measures.

Taking care of the employees' physical and mental health was prioritized. The health and safety aspect has been extensively studied. How to overcome the employees' fear of contamination was our priority, and given this, the importance of hygiene and protection measures regarding new practices in the work environment. The company anticipated all the restriction decrees that began to be published as a result, in the various states where it operates, in addition to carrying out several preventive actions before the legislation. With many of its customers' activities stopped, Termotécnica had the challenge of adjusting its operations to the same levels of activities as its contractors. Prioritizing maintenance of its workforce, the company adhered to Provisional Measure MP 927/20

- which allowed streamlining several labor issues with simplified negotiations - and MP 936/20, which allowed suspending work contracts for an average of 2 months or a 25, 50 or 70% reduction in working hours and salary, which were fundamental to preserve jobs. Direct and constant communication was also a differential so that messages permeate the entire organization at the right time.

The coronavirus pandemic brought several challenges and impacts on supplying factories, since the crisis and the scarcity of inputs strongly affected the production chain. The relationship was a great differential for continuity and to guarantee supplying the line. Commercial actions were carried out effectively in order to ensure contract and payment renegotiation. And without a doubt, it was through the commercial relationship built with trust and partnership that we were able to overcome each challenge and obstacle that arose along the way. It was also necessary to renegotiate a new payment flow with suppliers to minimize effects on cashflow.

An upturn in the level of activities and revenues, as well as the stability of the workforce in 2020, showed the effectiveness of the set of measures taken during the most critical months of the pandemic. As of June 2020, the company noticed a recovery.



## Governance



On the eve of completing 60 years of operation, Termotécnica has its governance pillar based on culture and management, with a view on promoting the business' continuity. In this way, our governance approach translates into three major areas:



- **Ethics and conduct:** basis of our actions in pursuit of the best results, with honest, constructive attitudes that respect people. It brings together a set of guidelines and policies to ensure compliance and governance.



- **Sustainable innovation:** we think about innovation in a systemic manner, starting with processes, going through products and services, with investments in expanding the value proposition and diversifying solutions. In current markets, for which we develop active, intelligent, and sustainable packaging, as well as in segments with growth prospects, such as agribusiness – which is evolving towards the internationalization of solutions – and the cold chain, which is undergoing rapid development due to the pandemic.



- **Responsible sourcing:** includes integrated planning with the customer, risk management (with redundancy of lines and molds), Service Level Agreement and capability for rapid response to unexpected events. In this way, it integrates the entire supply chain, from developing qualified and strategic suppliers to delivering to customers as well as taking responsibility for the product.





## ETHICS AND CONDUCT



### Management

At Termotécnica, the highest level of governance is executed by the Board of Directors, comprised of the shareholder and president Albano Schmidt and external directors.

The executive board is composed of the Managing Director, Nivaldo Fernandes de Oliveira, and the Operations Director, Regina Célia Zimmermann da Fonseca.



In 2021 Termotécnica is reaching a milestone that few companies and organizations have achieved: 60 years of experience in the market, always growing, innovating, in motion, reinventing itself. And to mark this date, one of the actions was the launch of a visual identity. The concept "Our history connects us to the future" represents the company's plans for the next years of life. People, Connections, Technology, Innovation, Circularity. Motion, Future and Digital. The fluid forms, representing the in-

finite, bring the notion of these connections and movements. Strong, bright colors represent the digital world, technology, change and transformation. The identity also represents each of the company's units in five states, interconnected, as a symbol of union.

The company is experiencing a leap towards modernity, thinking ahead, but always respecting its values, legacy, people, history of success that guided its initial six decades and that should inspire its next steps.

## VISION

To be a world-class company where people are pleased and proud to work

## MISSION

Termotécnica is committed to generating wealth for society, customers, shareholders, and employees, providing excellent solutions for protection, services, packaging, thermal insulation, and product enrichment, while preserving the environment.

## VALUES

1. Result with ethics
2. Commitment to Termotécnica's high performance
3. Innovation in a planned manner
4. Respect and transparency with people
5. Honest and constructive attitudes

## Institutional Commitments



- Signatory of the Carbon Disclosure Project (CDP), a non-profit institution that oversees the global disclosure system for companies and cities to manage their environmental impacts.



- Member of Save Food, from the Food and Agriculture Organization, UN project to fight hunger by reducing food waste.



Pacto Global Rede Brasileira

- Signatory to the Ten Principles of the United Nations Global Compact, which aim to protect Human Rights, Labor Rights and the Environment and Combat Corruption.



- Member of the National Movement ODS Santa Catarina

- Member of the Isopor Amigo movement, for correct EPS disposal and recycling.

- Signatory of Responsible Care (Abiquim), voluntary initiative of the chemical industry to improve performance in health, safety, and the environment.

- Member of the ABIQUIM EPS Commission

- National Seal of Recycled Plastics, certified by ABIPLAST for companies suited to the concepts of recycling, sustainability, and environmental protection.

- Signatory of the Abiplast Sector Agreement to implement the Reverse Logistics System for post-consumer packaging of non-hazardous products.



Atuação Responsável<sup>®</sup>  
Compromisso com a sustentabilidade



## Participation in entities

Termotécnica's executive board and leadership actively participate in business and segment entities that contribute to developing public policies in their segment of operation.

**ABIPLAST** Brazilian Plastic Association / National Chamber of Plastic Material Recyclers | **ABIQUIM** Brazilian Chemical Industry Association/ EPS Sectorial Commission | **ABRAFRUTAS** Brazilian Association of Fruit and Byproduct Exporters | **ABRAPEX** Brazilian Association of Expanded Polystyrene | **ABRE** Brazilian Packaging Association / Technical Group for Standardization of FLV Packaging and Environment and Sustainability Committee | **ABRH** Brazilian Association of Human Resources | **ACIJ** Joinville Business Association/ Innovation, Environment, Women Entrepreneurs, Quality and Safety Nuclei | **ASAPEX** South American Expanded Polystyrene Association | **EXCELÊNCIA SC** Santa Catarina Movement for Excellence | **FIESC** Federation of SC Industries / Reverse Logistics Strategic Committee | **IBRAHORT** Brazilian Institute of Horticulture | **ILZB** Zero Waste Brazil Institute | **PMA** Produce Marketing Association | **SIMPESC** Plastic Material Industry Union of SC/ Human Resources and Safety Group.



## Code of Conduct

Termotécnica’s Code of Conduct describes the personal, professional, and legal behavior expected from the company’s employees and partners. The document also covers topics such as Anti-Corruption Policy, Preservation of Diversity, Equal Opportunities and Free Association as well as condemnation of any type of Prejudice, Harassment and Discriminatory Attitudes. The company regularly receives and handles any complaints, grievances and suggestions related to

this Code of Conduct.

All employees receive training on Human Rights and Anti-Corruption Policies upon joining the company. Termotécnica’s suppliers have clauses in their service provision contracts related to compliance with the Legislation and Labor Rights; in addition, before being contracted, they answer a self-assessment questionnaire on issues such as Quality, Environmental Preservation, Safety, and decent and dignified working conditions.



## Integrated Management Policy

This brings together the Quality, Environment, Health and Safety and Social Responsibility policies. It also includes Termotécnica’s commitment to Sustainable Development.

The Policy is based on meeting requirements, prevention, continuous improvement, ethics, and transparency. The Integrated Management System has certifications (ISO 9001, ISO 14001 in Manaus) and meets ROHS criteria.



## Business Excellence

Both the Integrated Management Policy and Termotécnica’s Strategic Map are inspired by the Management Model for Excellence. The eight fundamentals of excellence guide management.

Defined by senior management, the Strategic Business Map is based on the Vision, Mission and Values.

The company follows the precautionary principle: various types of risks inherent to the business are identified in the internal and external environments and treated according to the Management Model for Excellence, from the National Quality Foundation, and SC Excellence and managed through the Balanced Scorecard (BSC), following the Policy and Integrated Management System.

## SDG

With its performance, the company meets 14 of the 17 Sustainable Development Goals of the UN.





## Strategy development and deployment

In order to develop the strategy, Termotécnica uses an open construction process, involving senior and middle management collaborators, market specialists, customers, companies from the field with international operations and professional associations. In this process, trends are visualized, and ideas are generated. Subsequently, the Executive Board analyzes the outputs and reviews the company's strategy, taking into account relevant issues raised in the process.

To promote deployment of the company's strategy for the various processes, Termotécnica holds an Operations Meeting at the beginning of every year.

In this event, the Operations' Executive Board shares the objectives and goals with leadership, through a methodology that prioritizes the strategic focuses:

guaranteed delivery and customer satisfaction, quality excellence, contracted fixed costs, eco-efficiency, employee satisfaction. Using Lean Manufacturing concepts, middle management commits itself by signing a contract, providing the base for Profit Sharing Program indicators.

The meetings are themed, helping to make the atmosphere among leadership more pleasant as well as increase engagement.

In order to recognize and value the units that stood out in each of the strategic focuses, generating inspiration to the others towards a continuous improvement process, the Operations area also conducts, at this time, an Operations Benchmarking which rewards the units that stood out in the period.

## Automation and productivity commissions

To face the market challenges that demand increasingly narrow margins, Termotécnica chose 2020 as the year of productivity. The Operations' Executive Board established a Productivity Committee, with weekly meetings. The purpose is to anticipate closing the month by proactively managing all resources, contributing more effectively to the company's results.

Monitoring productivity and efficiency indicators for each factory, area and machine is done in real time at the units. With this set of measures, the commission gave visibility to the main deviations detected during the week, establishing actions to resolve them.

The company also created an Automation Commission to monitor trends in new technologies, aiming to prepare the operation for the arrival of Industry 4.0.





## SUSTAINABLE INNOVATION

### Active, intelligent, and sustainable packaging

Brazilian leader in the production of EPS packaging, Termotécnica develops its products considering that each new solution needs to be Active, Intelligent and Sustainable. The sustainability and longevity of companies depend on their ability to innovate, seeking alternatives focused on market trends and aligned with new technologies.

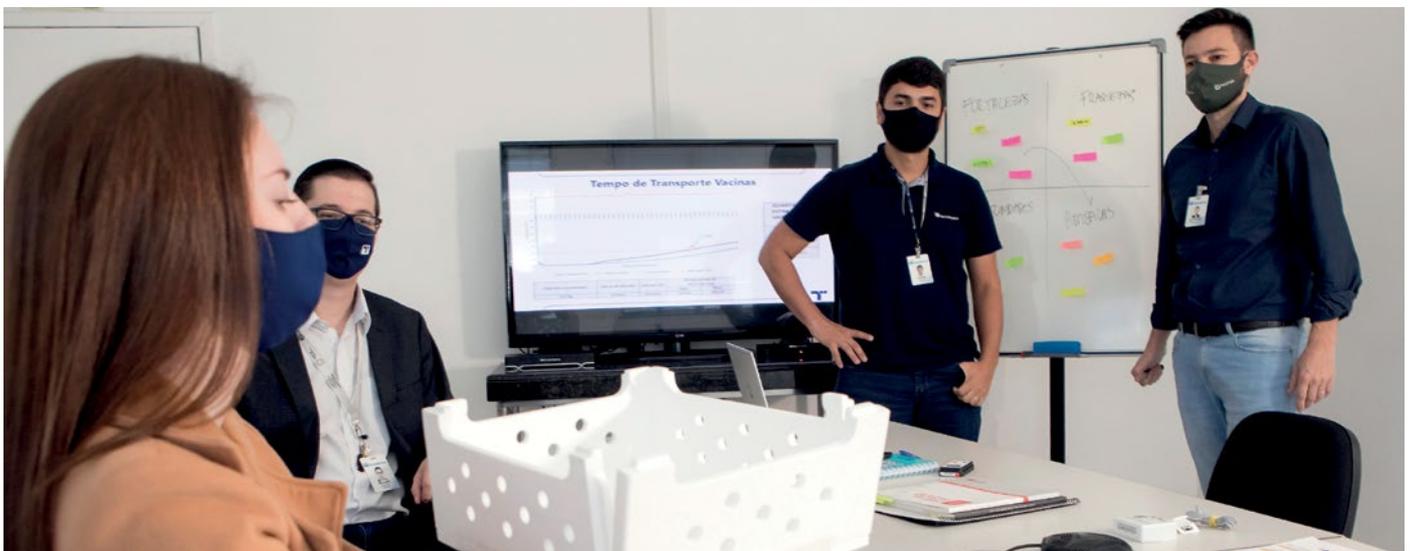
In this way, we seek, through active packaging, to conserve fruits, legumes, and vegetables by using technologies that actively interact with them, controlling the emission of gases that accelerate the ripening process, allowing the ideal amount of oxygen to circulate in the packaging, or even eliminating bacteria, fungi, and viruses harmful to food or consumers. With this, the packaging maintains food quality, increases food safety and its durability, thus prolonging its life and shelf-life. Another focus is to reduce losses in the production chain, for food that deteriorates quickly, or damage caused during improper handling and transportation.

Given that active packaging increases food safety, we recently launched a groundbreaking technology in Brazil: the Safe Pack line with antiviral and antibacterial protection with efficacy proven by accredited laboratories. Focused on the Packaging and Components area's growth, Termotécnica launched in 2019 the iPack brand – intelligent and technical packaging, meeting customer logistics

and manufacturing processes requirements, with capacity for gains in the chain, reduced losses, complaints and recalls. This line improves the experience of the consumer, retailer, industry, and producer with the final product, which allows, for example, them to track their products throughout the entire production chain, or even make the manufacturing, transport, and handling process more efficient by optimizing design and materials. The company's technical teams work on several fronts, aimed at breaking down logistical barriers in supplying EPS packaging. One of the actions taken is the standardization and versatility of packaging for different product models from the same manufacturer, increasing competitiveness in freight and reducing investments with SKU rationalization.

Finally, each new product is designed to be Sustainable and meet circularity aspects, using reverse logistics and the structure of the EPS Recycling program. At the same time, the company has lines of research in alternative materials, from renewable and biodegradable sources, seeking sustainable development in line with the company's strategic objectives.

Monitoring trends, in 2019, Termotécnica participated in the K Fair, in Düsseldorf, Germany, the world's largest fair in the plastic segment.



## Open Innovation

Termotécnica fosters entrepreneurial innovation among its employees, encourages development of intelligent solutions for the market, and this biennium was no different. The company has developed several products and services using the open innovation concept, mainly combining internal and external ideas with market demands, through local and international partnerships,

including startups and even large companies.

Internally, opportunities go through the innovation funnel process, with monitoring and review meetings, where evolution of these opportunities is evaluated in phases and whether to proceed with this development is decided, always based on its adherence to the company's strategic pillars, technical and financial feasibility.

## Safe Pack nanotechnology with antiviral and antibacterial action

To develop this product, Termotécnica started from the need to meet the consumer's new behavioral demand for greater safety and hygiene when purchasing food, meals, medicines, among other products. Consequently, it launched Safe Pack Antiviral and Antibacterial, developed 100% nationally. Patented and unprecedented in the market, Safe Pack uses nanotechnology to create an active protective layer, which makes replication difficult and interrupts the binding of enveloped bacteria and virus host cells, such as human herpes simplex (HSV-1)

and viruses belonging to the SARS-COV-1, SARS-COV-2 and MERS family. Termotécnica is the first company to apply this formulation in EPS packaging.

According to laboratory tests, Safe Pack can provide rapid deactivation of up to 90% of viruses and up to 99.9% antibacterial efficacy. In other words, if an infected person handles or sneezes on an EPS packaging with Safe Pack technology, instead of the virus remaining on the surface for days, it can be deactivated in a short period of time (15 minutes or less).





## Vaccines, an opportunity

Termotécnica has been producing EPS conservers for the pharma market for decades, which, due to its thermal characteristics, provides great temperature stability, in addition to being able to absorb impacts and ensure the integrity of medications. It's currently the main supplier for the Ministry of Health's logistics distributor.

The pandemic that hit the world in 2020 sparked a race to develop vaccines against Covid-19 and also generated a demand for the pharmaceutical industry's supply chain, the cold chain. As they are immunobiological drugs composed of highly, complex molecules,

vaccines must be kept strictly within the transport and storage temperature conditions for which they were specified, as they run the risk of losing their efficacy when exposed to temperatures outside this specification, with the known ranges to date: 2°C to 8°C, -25°C to -15°C or -70°C. During 2020 the Innovation and Engineering team had the mission to validate EPS conservers for transporting vaccines, in the different specifications required by the pharmaceutical industry. The constant search for evolution, continuous development of technologies and previous studies made it possible to achieve positive results within a few weeks.

## 1st Innovation Day

With innovation as one of its strategic pillars, in 2020, Termotécnica promoted, in partnership with SENAI, the 1st Innovation Day. The company invited six SENAI Innovation Institutes from Rio Grande do Sul, Santa Catarina, São Paulo, and Rio de Janeiro to present their projects in the areas of Polymer Engineering, Advanced

Materials and Nanocomposites, Green Chemistry, Laser Manufacturing and Processing System, Embedded Systems and Production Logistics.

This proximity with the SENAI Innovation Institutes is part of Termotécnica's culture of partnership industry-university to accelerate innovation.



## Reference in post-harvest technology



2021 was established by the UN as the International Year of Fruits and Vegetables. One of the goals is to reduce food waste. Termotécnica is a signatory of the Save Food Initiative, from the United Nations' Food and Agriculture Organization (FAO), which aims to reduce food waste throughout the entire logistics chain, from producer to final consumer. Its DaColheita conserver line brings together innovative and patented EPS solutions for packaging fruits, legumes, and vegetables.

These conservers have benefits certified by interna-

tional organizations that prove an increased shelf-life, less weight loss through dehydration, maintenance of the fruit's vitamin content longer, in addition to ensuring an excellent visual appearance at the point-of-sale. DaColheita solutions have wide application and can accommodate fruits such as grapes, mangoes, limes, figs, papaya, stone fruits, among others. It also offers hollow models for use with plastic bowls (ecodesign concept and transport gains) and a portioned model to meet delivery service needs. One of the partner institutions in post-harvest technology is Embrapa.

## Participation in fairs in Brazil and abroad

In 2019 the company presented its DaColheita solutions at fairs such as: Fruit Logística (Berlim), Fruit Attraction (Madrid), Hortitec (Holambra, SP), PMA Fresh Connections (São Paulo) and Enfrute (Fraiburgo, SC) and in 2020 launched the FarmFresh brand at Fruit Logística to facilitate communication with global markets.

At all fairs, in addition to the benefits of using EPS conservers, DaColheita/FarmFresh solutions are also valued for their 100% recyclable feature and for their participation in a reverse logistics network for post-consumer EPS, existing around the world, called Global Packaging Alliance.

The Packaging Standardization Project, presented at the 7th Food Loss and Waste Prevention Forum and at the PMA Fresh Connections, has Termotécnica as its creator and great supporter. Developed in partnership by CEAGESP - Companhia de Entrepósitos e Armazéns Gerais of São Paulo - and ABRE - Brazilian Packaging



Association -, seeks to improve and optimize the logistics, movement, and storage of fresh products, enabling mixed loads (EPS boxes, corrugated fiberboard, wood, plastic) to reduce food waste throughout the chain.



## Internationalization of solutions

Brazilian agribusiness is a major exporter of fresh fruit to several world markets. The contacts made by Termotécnica during its participation in international fairs resulted in full scale export of various fruits using FarmFresh conservers.

Termotécnica's post-harvest solution maintains fruit properties during the long transit-time and reduces freight costs. Exports have already involved, for example, cargoes of Tahiti limes to supply Eurasian markets through air and sea freight; of mangoes, by air to supply foreign markets, such as Eurasia and North America.



## WorldStar 2019 international award

The DaColheita conserver for Fruit Bowls, produced by Termotécnica, was the champion of the WorldStar 2019 award. It competed with 319 packages from 35 countries and was selected to compete for the world award after winning the 2018 ABRE Award, from the Brazilian Packaging Association.



## Intelligent solutions

Termotécnica launched iPack at Fispal Tecnologia 2019, in São Paulo. An intelligent solution for packaging and components developed and patented by the company, iPack has all the preservation and protection attributes required to ensure safe delivery of products purchased in traditional retail or through e-commerce, sales channel and product flow which grew with the new coronavirus pandemic.

iPack brings together concepts of ecodesign, traceability, eco-efficiency and optimization of materials applied to packaging solutions in the White, Brown, Automotive and Special Packaging lines. Designed to unify platforms and simplify packaging processes, this solution allows product distribution by the most diverse modes of transport, both in closed and fractional loads.

In 2020, heater packaging developed by Termotécnica for a Japanese multinational won third place in the ABRE 2020 Packaging Award, under the category "Solutions for retail and e-commerce". In addition to offering high protection for the product, the solution brought gains in the containerization of goods in the truck, protection of the products' physical integrity during transport, reduction in the total weight of the packaged product and increased competitiveness in shipments via e-commerce. Multipurpose packaging with a modular system for cooktops. Termotécnica used its expertise in packaging for the White Line and

the iPack intelligent packaging concept – patented technology – to provide the customer with greater flexibility with less investment. This project won in the Innovation – Intelligent Packaging category of the Southern Plastic Innovation Award.

The solution delivers single packaging for 4 and 5 burner cooktops, with standardized fittings and interchangeable parts, allowing the manufacturer greater flexibility, fewer packaging components, better inventory management and less investment in equipment. It also provides safe protection for the appliance during storage and transport, being easy to assemble at the factory and easy to remove by the appliance's end user. Another advantage is greater security and adaptability to different modes of transport, enabling e-commerce.





## RESPONSIBLE SOURCING

### Our Process



Responsible sourcing provides business continuity and stability. Termotécnica has a vertical operation, which begins with the raw material and extends throughout the entire process, encompassing the development of products and tools, laboratories, production and differentiated services. Services range from production supply to reverse logistics chain and recycling. The chemical plant is located at the headquarters, in Joinville, and the production units are close to the main supply markets for the different businesses. The company's supply chain involves close to 1,400 suppliers, 85% for purchasing materials and 15% for services. The main suppliers are in four large segments:

Energy (gas, electricity, fuels, and biomass); Chemicals (additives, raw materials, and packaging) Transport (among units and delivery to customers) and Services (janitorial/surveillance, communication, rentals, leasing and banks).

All companies that sell products and services to Termotécnica commit, through a contract, to fully comply with legislation and human rights and labor practices. All suppliers answer a self-assessment questionnaire that includes quality, environmental preservation, safety and working conditions. The company monitors compliance to these issues with the suppliers that work on its premises.

## Customer satisfaction

The customer's satisfaction with the quality of Termotécnica's products and services is assessed through a biennial survey carried out by Valor Surveys, an outsourced company with competence for this. In the survey carried out in 2019, on a scale of 1 to 10, the company obtained a score of 8.52 in the general perception of products and services, – on the same level as the survey conducted in 2017.

One hundred nineteen professionals from 61 customer companies operating in nine segments were interviewed: Agribusiness, Automotive, Conservation, Construction, Packaging and Components, Pharma, Raw Material, Fish and Replacement. In each edition, the survey brings useful information for improving the value proposition of the company's solutions too. It also contains aspects that underlie the materiality matrix.

## Product responsibility

Termotécnica values the confidentiality of its customers' projects. The development of products, labels, manuals, catalogs, and technical files complies with the best industry practices regarding consumer health and safety. In the period covered by this report, the company did not record complaints regarding breaches of customer

privacy and loss of customer data, as well as non-compliance with regulations and voluntary codes related to the impacts caused by products and services on health and safety during their life cycle. Termotécnica also did not receive any type of fine related to laws and regulations involving the supply and use of the product.





## Social



People are fundamental resources for the organization. It is for them – and through them – that companies organize themselves, develop products and services, differentiate themselves in the market and establish objectives and goals.

Our social approach prioritizes valuing people, focused on our employees – our greatest asset –, on local suppliers, who contribute to developing our activities – and on the communities where we operate, which welcome us.

This is translated into three major areas:

- 
**• Equal opportunities and inclusion:** our mission puts employees at the forefront when it establishes that Termotécnica aims to be a world-class company where people are pleased and proud to work. Offering decent, qualified work, with the possibility of personal fulfillment and professional growth is part of Termotécnica's way of being, with equal opportunities for both genders as a premise.
- 
**• Health and safety:** the well-being of people is a priority for the company. Termotécnica ensures a healthy work environment, which provides physical integrity and emotional balance for the employee in carrying out their activities.
- 
**• Local communities:** Termotécnica develops a relationship of partnership, interaction and listening with the surrounding communities, which gives it the social license to operate. Neighbors are one of the publics that have their material aspects considered in the materiality matrix. The company generates employment and income in the communities where it operates, prioritizing, whenever it finds an adequate source, the hiring of workers and local suppliers, as well as promoting selective collection and purchasing post-consumption styrofoam directly from waste collection cooperatives. It also focuses on the communities in which it is present, especially at its headquarters in Joinville, the social responsibility actions that contribute to developing cities with more recycling and less waste.



# EQUAL OPPORTUNITY AND INCLUSION

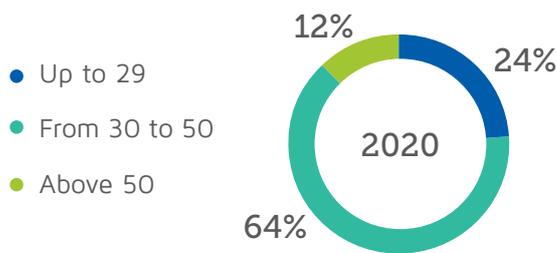


## Profile of employees

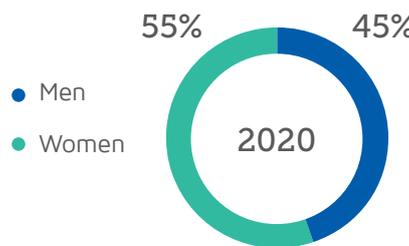
In 2020, Termotécnica maintained the same level of employees as 2018 – ending the year with 782 professionals. During the pandemic, the company adopted Provisional Measure 936 – a federal government program to maintain employment and income, opting to suspend contracts for a fixed period and preserve jobs.

For the second consecutive biennium, Termotécnica registered an increase in the percentage of women in its workforce, showing that it respects gender equity. Women, who represented 47% of employees in 2018, now account for 55% of the workforce in 2020.

### Employees by age group



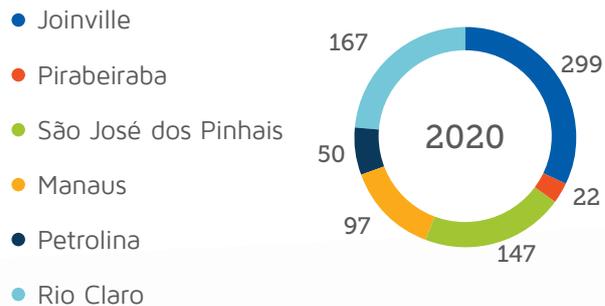
### Employees by gender



### Employees by area

Executive Board	3
Management	8
Coordinators	18
Leaders	15
Administrative	96
Technicians	27
Operational	588
Specialists	4
Young Apprentice	22
Interns	1

### Employees by unit



## Benefits plan

The company offers a set of benefits that aim to provide well-being and development of its employees: national health plan without monthly fees, medical care on the unit's premises, group life insurance and educational assistance and scholarships for technical, undergraduate and specialization courses, subsidized in the amount of the monthly fee.



## Hiring and Compensation

All Termotécnica employees are hired under the CLT regime, are covered by a collective bargaining agreement, and have salaries compatible with the regions where they work.

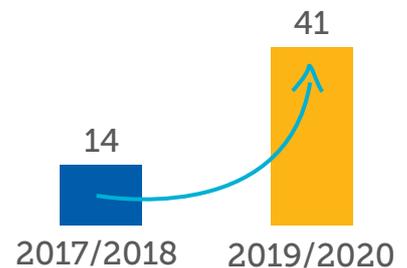
As variable remuneration, the company utilizes a Profit-Sharing Program –based on achieving goals and indicators defined for the various areas. In the years 2019 and 2020 there was no profit distribution.



“To get through this pandemic healthy and safe, all of us, employees, were very well guided, in meetings, lectures, on what to do and what not to do. All measures were taken to prevent the spread of the disease and all employees understood and accepted the routine, because it's for our own good”. **Chirlene Prado**, from Molding area in Manaus.

## Promotions

Developing its employees internally, so that they can grow in the company, is part of Termotécnica's culture. In 2019 and 2020, 41 promotions were made. Of the total number of promotions, 37% were internal recruitment in the biennium.



“I joined Termotécnica in 2004, in production, working as a machine operator and then a kiln operator. In 2020 I participated in the internal recruitment for PCP and I have been in this area for a year. I'm studying Logistics and I hope to grow even more. I'm proud to be the second generation of the family to be part of this company.” **Cleia da Silva Mello**.



### Training and development

Investments in employee training and development is a constant at Termotécnica. In 2019, the company increased the number of training hours per employee by 11.2%. Among the courses held, there was capacity building for managers and employees from the company's strategic areas in Feedback and Consultative Sales.

In 2020, due to the pandemic, the amount of training was impaired, but there was an important training course in digital platforms, so necessary in this period that favored telework, especially for the administrative, commercial and support areas. Also in 2020, since ExpoGestão – one of the country's best entrepreneurship and management gatherings – was virtual, event passports were made available to all company units.

### Total hours of Training

- Manaus
- Joinville
- Rio Claro
- São José
- Pirabeiraba
- Petrolina

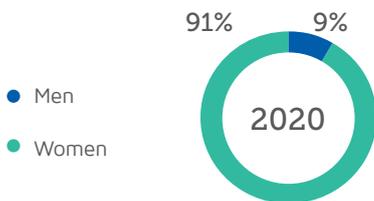


- Manaus
- Joinville
- Rio Claro
- São José
- Pirabeiraba
- Petrolina

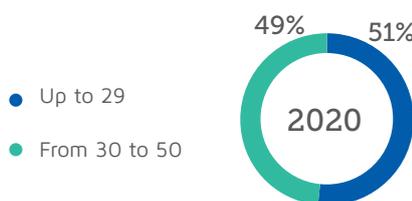


### Hirings

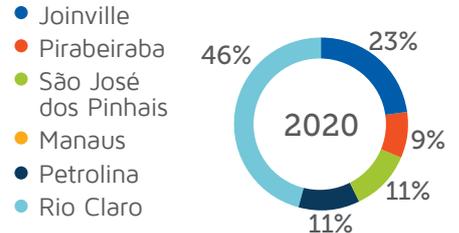
#### By gender



#### By age group

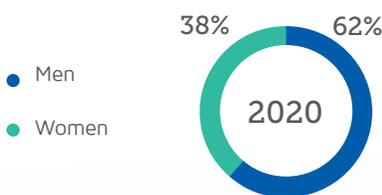


#### By region

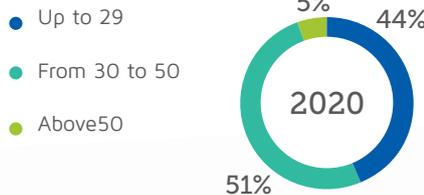


### Turnover

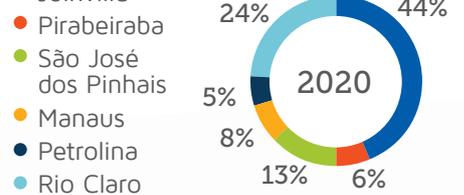
#### By gender



#### By age group



#### By region





## HEALTH AND SAFETY

Taking care of the health and physical integrity of employees and promoting their quality of life are goals for Termotécnica.

To ensure safe and healthy working conditions, in line with the commitments established in its vision and integrated management policy, the company develops prevention programs for which it counts on the participation of members of the Internal Accident Prevention Commission (CIPA) to promote employee engagement. CIPA's exemplary performance at the national level was recognized in 2019 by the Brazil Protection Award in the bronze category and in 2020 by the Ser Humano Award from ABRH/SC - Brazilian Association of Human Resources/SC.



### IFAT with good performance

Recorded accidents in the 2019-2020 biennium were at the same level as 2017, within the "very good" range of the World Health Organization's Occupational Accident Frequency Index.

Among the company's units, Petrolina and Manaus reached the record of 5 years without work-related accidents within the period covered by this report.

### Representativeness in internal committees

Between 2018 and 2020, participation in committees increased by two percentage points. The number of firefighters in the industrial units exceeds the safety legislation requirements by roughly 10%.



### T-Day and 5S Guardians

Employees from Termotécnica's Headquarters mobilized themselves towards a general organization based on the first three senses of the 5S Program: Use, Ordering and Cleaning. As part of the operation, a donation tent was set up, a space where objects were left available for other areas, with eventual disposal. The 5S program also has a team of guardians, collaborators from different areas, chosen to spread and expand knowledge related to the Termotécnica 5S Program.



## Sipamaq: prevention show

At Termotécnica, Internal Accident Prevention Week - which is called Sipamaq since it also involves the Environment and Quality - is always a major thematic event. A moment in which the prevention of accidents, non-quality losses and environmental impacts in the company's activities is reinforced through playful activities that provide training, interactivity, and integration, addressing important issues in a positive manner. In 2019, Sipamaq showcased its knowledge, participation, interaction, and fun. Themes on health, safety, quality, and the environment were shared in the auditorium programs, in addition to lectures,

competitions, stands and intervention. This year, Sipamaq also received recognition from the Brazil Protection Award.

In 2020, reinvented in a virtual format with simultaneous transmission to all operations, the Week was renamed Sipamaqx and was a parody of the Matrix. The company's largest units recorded short videos with the characters' journey supporting the event's themes. In the locations characters from the film interacted with employees, maintaining all safety procedures against Covid-19 to demonstrate that they were making a choice for prevention along the way.



“In a dynamic way, we are able to transmit information and knowledge about the topics addressed. Definitely a learning experience that we will take with us for life. What impressed me most was the union and partnership of CIPA members and volunteers from other areas to make the event happen”. **Gabriela Itla da Silva Santos**, President of CIPA Petrolina

## Communication and engagement

To promote engagement of its employees with the corporate identity and its strategic objectives, Termotécnica, in addition to the Operations and Sales Meetings, uses several communication strategies.

'Termonews' is the bimonthly newsletter that disseminates news and good practices in the areas and promotes integration among the units. The intranet was redesigned and keeps all employees updated on the news, weekly menus, birthdays, etc., together with the notice boards.

Face-to-face meetings took place at all levels during 2019 but were limited to safety communications in 2020 due to social distancing during the pandemic. Celebrating, which has always been a hallmark of the company on commemorative dates such as Labor Day and Termotécnica's anniversary, also had to become something more symbolic to avoid agglomerations. The traditional

"Birthdays of the Month Coffee" was reinvented: employees began receiving a cake in the cup from their immediate leaders.

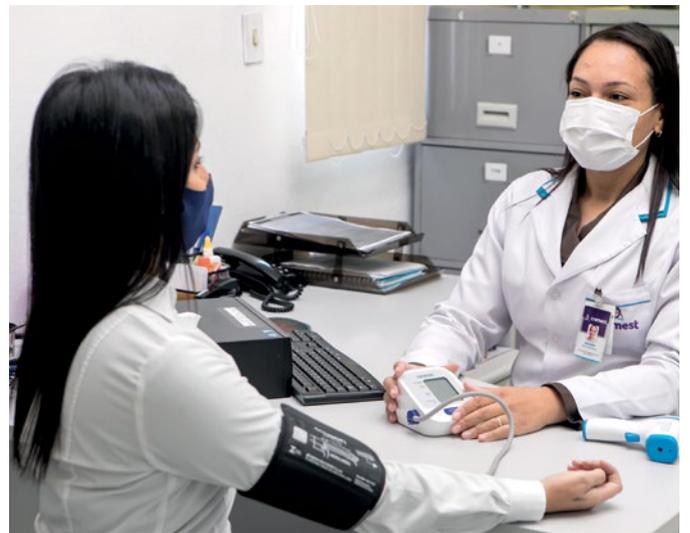
Termotécnica maintains a presence on social media – Facebook, Instagram, and LinkedIn – through which it communicates about its products, services, and institutional activities with the entire society.

One of the activities among the operations anchored by the newsletter in 2019 and 2020 was Cultural Box, which promotes appreciation of the diversity of units installed in states with different customs, such as Santa Catarina, Paraná, São Paulo, Pernambuco, and Amazonas. Each unit prepares a box with elements of its culture – handicrafts, gastronomy, books, postcards – to give to another. Employees gather together in groups to learn about this diversity when the box is received, and the newsletter covers it, bringing the information to everyone.



## Preserving health in the pandemic

To take care of the health of employees who remained active, Termotécnica implemented several prevention measures, in compliance with the Ministry of Health's recommendations: measuring body temperature, using masks, continuously cleaning environments, offering alcohol gel in various places, distancing individuals, suspending travel and visits, prohibiting agglomerations, rotating, and distancing at mealtimes, reinforcing internal communication with prevention information, intensifying medical care and protocol to identify suspicious cases and decision-making.



## 📍 LOCAL COMMUNITIES



### Employment and income

Termotécnica prioritizes hiring workers, whenever possible, from the communities where it is located, generating employment and income for its citizens. Employees hired locally represent more than 90% of the company's workforce. Likewise, purchases of services such as food, security, cle-

aning, and communications are focused on companies with local operations. In the period 2019/2020, close to 40% of contracted services were acquired from companies operating in the municipalities where the company's headquarters or units are based.

### Open doors

As part of the strategy to get closer to the community and stakeholders, Termotécnica received students from various educational institutions in 2019.

One of these visits involved students from Senai's Plastic Technician course, who observed the practice of circular economy, with reverse logistics and EPS recycling.

Another brought together students from the Chemical Engineering course at Univille, who visited the headquarters. They learned about practices aimed at the circular economy and the industrial process, with a focus on raw materials production and EPS transformation.





## Partnership in recycling

Termotécnica establishes partnerships with cities and cooperatives to collect and recycle EPS within a radius of 150 kilometers from its units' headquarters. This type of initiative includes raising awareness for correct EPS disposal, generates income for trash collection cooperatives in the municipalities and reduces recyclable material improperly sent to landfills. Canoinhas and Indaial are examples of cities where the government's engagement with all stages of this initiative leads to regular collection of material by the company.

In 2019 and 2020, Termotécnica acquired 3,500 tons of post-consumer EPS, generating revenue of R\$ 4.2 million – of which around R\$ 600,000 was paid directly to trash collection cooperatives.



## Corporate citizenship

At the beginning of the pandemic, Termotécnica joined the actions of private companies and entities in Joinville that collaborated with the Municipal Health Department, donating resources to fight Covid-19. It promptly made EPS thermoboxes available to trans-

port blood samples for virus testing to the laboratory in Florianópolis. The donated products were 14-liter double-walled conservers, which accommodate clinical materials with cold accumulators (ice in gel) to ensure thermal stability.





## Environmental awareness

The 52nd edition of the Boa Vista Tupy Circuit, in 2019, was attended by Termotécnica. The event brought together professional cyclists, amateurs and the community in an outing and competition organized by the Santa Catarina Cycling Federation. With a space to explain EPS recycling to the participants and visitors, the company provided information, highlighted the material's benefits and addressed topics related to recycling and raising awareness about each person's role in the circular economy process. Volunteers from Termotécnica participated in two events of the #conhecendoosODS movement in Joinville, in 2019. At an event in the Municipal Market, the company installed an EPS recycling machine for the public to follow how this sustainability action works. In the World Environment Day celebrations, volunteers from the EPS Recycling program created an artistic intervention in the center of Joinville, integrating the route of the 17 Sustainable Development Goals painted in the city's parks.

Another pioneering initiative that company participated in was the pilot project Isopor® Amigo. Managed by ABIPLAST - Brazilian Association of the Plastics Industry - in Joinville, at the end of 2020, its aim was to test the effectiveness of the awareness campaign for

the proper disposal and recycling of EPS/XPS containers and trays. The material faces challenges to reach the processing industry: used mainly for packaging and transporting food, it is usually disposed of with organic waste, making its reuse unfeasible.

The pilot project was held at Ágora Tech Park, a multi-sector industrial park in partnership with Perini City Lab, a test environment for smart cities that receives 10,000 people daily. Isopor Amigo encouraged engagement with correct waste disposal and fostered the circular economy, as well as test the communication and structure necessary for when it's expanded to other communities. Preliminary results indicated that people dispose material correctly, provided they are instructed to do so.

Annually, Termotécnica and its group of volunteers participate in the Zero Waste Week, conceived by Zero Waste Institute Brazil. The week promotes awareness-raising actions on correct waste disposal, in actions that involve guidance blitzes in bus terminals, supermarkets and schools. In 2020, a virtual tour was held at the Pirabeiraba factory, broadcasted online on social networks, which presented the recycling process, from receiving the material to the final products that can be made with recyclable plastic.





## Environmental



The main environmental aspects of activities, products and services were identified in order to manage them and prevent their externalities and negative impacts from affecting stakeholders. Environmental aspects are related to consumption of materials, water and energy, generation of waste, effluents, and atmospheric emissions.

In relation to services, the main environmental aspect is the transport of products, and the impact is related to the transport's carbon emissions. As for products, the environmental aspect is more related to the product's end of

life, with regard to the generation of plastic waste.

Governance has established in its management policy a commitment to sustainable development and seeks in its ESG strategy to translate these issues into practical actions.

Our environmental approach therefore brings the circular economy into practice. It includes an integrated vision from product design, operational efficiency, through reverse logistics, recycling and going to new production chains, closing the circular economy cycle.



We translate this environmental approach - which we call Circular Economy in Practice - in our strategic map, broken down into long-term goals and annual goals in 3 areas:



- **Carbon Reduction:** We are evolving in a vision of perception and assessment of our risks related to climate change, in line with the strategic decision to replace the thermal matrix for biomass, implemented in 2019. In 2020, we joined the Carbon Disclosure Project (CDP) and will report, for the first time, our evolution in the climate and water dimensions, within this criterion. In order to improve management and actions impacting climate change, the emission inventory methodology was updated and Termotécnica began adopting the GHG Protocol Brazil for greenhouse gas inventory in scopes 1, 2 and 3.



- **Operational Efficiency:** Focused on up-to-dated, competitive and eco-efficiency technology, it seeks to continuously improve operating indicators in terms of absolute goals and production intensities. Our factories operate in compliance with their environmental operating licenses, relevant legislation, and voluntary agreements. Our main initiatives are related to the use of renewable fuels, efficient use of material and energy resources, based on the leadership's commitment and best operational practices, focused on the pursuit of excellence.

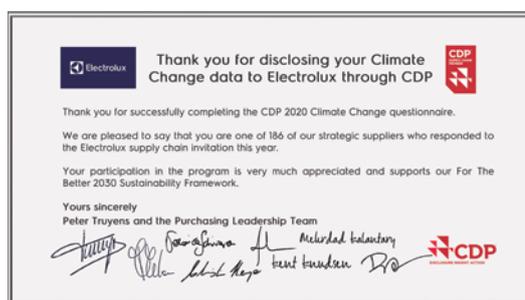


- **EPS Recycling Program:** In line with the circular economy concept, the search for actions to extend the life cycle of materials is constant. Even though it is a material with 98% air, it seeks to avoid exploiting new finite resources and contribute to preserving the environment. With the EPS Recycling Program, the company has already recycled more than 44,000 tons of post-consumer EPS since 2007, when it was created voluntarily and in advance of the National Solid Waste Policy, marking Termotécnica's pioneering spirit and vanguard actions regarding sustainability issues. In 2019 and 2020 the search for improvements in the recycled product's quality, Repor, was intensified, so that it could be used in nobler applications. Currently, other production chains, different from EPS, are actively seeking this material in order to introduce it into their production chains, reducing costs and increasing the appeal of sustainability. This meant Termotécnica joining a new network of suppliers, strengthening partnerships, and seeking out new customers, who are already benefiting from a material that allows for greater stability in production processes and the perception of the desired quality.



## CARBON REDUCTION

Driven by global movements that translate the need to monitor and act on the operations' environmental impacts, seeking actions for significant sustainable development for current and future generations, Termotécnica started in 2020 transparent disclosure of its corporate environmental management through the methodology and internationally recognized CDP (Carbon Disclosure Project) platform. The CDP aids the company in measuring its environmental impact and risk, assisting management and decision-making to allow for actions that



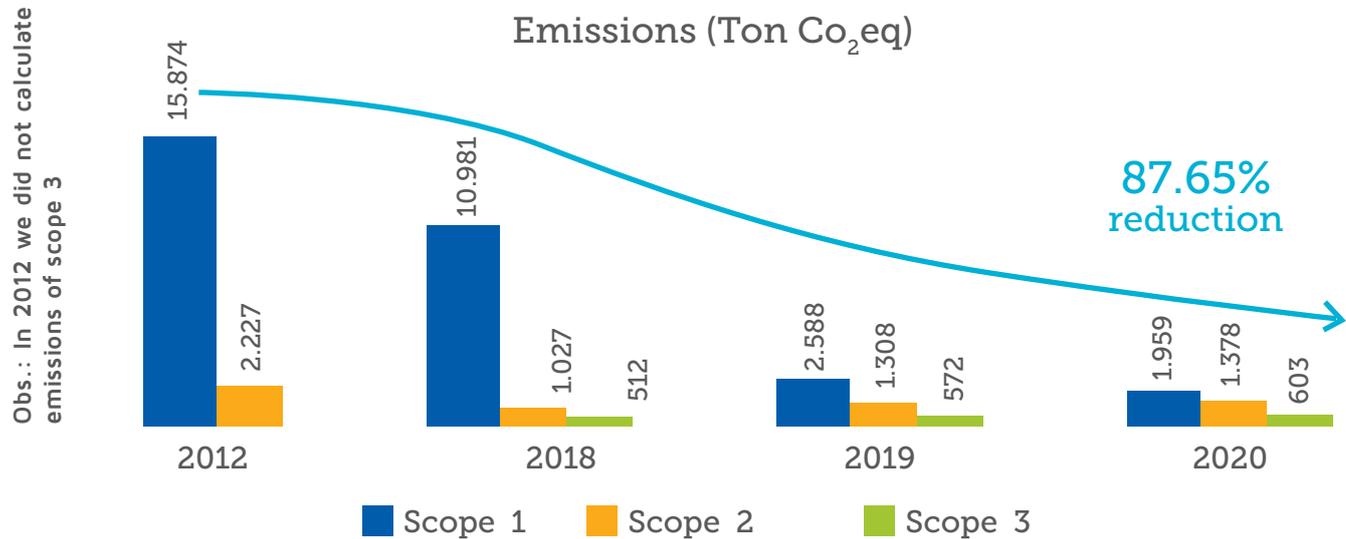
contribute to reducing carbon emissions. Aspects related to climate change, water, forests, and supply chain are evaluated through the tool.

In this first year of participation, the impacts on climate change and water safety profiles were declared.

## Impacts on climate change

In 2019, we reached the goal of converting the energy matrix to biomass, which made it possible to reduce relative CO<sub>2</sub>eq emissions of Scope 1.

This is a voluntary commitment achieved through a project to change the thermal energy matrix of the production units with their biomass boilers.



### Direct Emissions (Scope 1 of GHG - Greenhouse Gases)

The inventory confirmed a significant reduction in CO<sub>2</sub>eq emissions in scope 1, which includes fugitive emissions from boilers. The project to change Termotécnica’s energy matrix, which in 2019 completed 100% implementation of the manufacturing units using biomass, brought an 87.65% reduction in CO<sub>2</sub>eq emissions when compared to the base year of 2012,

being that 3 units still operated with fuel oils or natural gas.

Consequently, in 2012 15,873.82 tons CO<sub>2</sub>eq were emitted, in 2019 by using biomass at the Joinville unit, emissions were reduced and reached 2,403.91 tons CO<sub>2</sub>eq. With completion of the project, emissions reached 1,959.34 tons CO<sub>2</sub>eq.

### Indirect Emissions (Scope 2 of GHG) from energy acquisition

In scope 2 emissions, observing the base year 2012, CO<sub>2</sub>eq emissions were reduced by 38.13%, from 2,227.36 tons of CO<sub>2</sub>eq to 1,377.69 tons in 2020. The observed reduction is mainly due to the efficiency projects in electrical energy consumption, such as optimizing con-

sumption of utilities, improving production efficiency of the transformation processes, and entering into the free market of electrical energy, which allowed optimization of working hours and use of resources.

### Other Indirect Emissions (Scope 3 of GHG)

Scope 3 emissions represent a major challenge, considering that they mainly include upstream and downstream logistical modes. The observed rises in emissions are mainly explained by the increase in the consumption of raw materials.

Regarding finished product, there was also an increase in the distances covered, as the company defined customer and portfolio diversification in its strategic plan.



## Biogenic emissions

Biogenic emissions are related to the natural carbon cycle, such as those resulting from combustion, harvesting, decomposition or processing of bio-based materials. With a higher percentage of biomass burning in boilers, there was also a significant increase in biogenic emissions (emissions from natural sources).

## Reduction of Greenhouse Gas (GHG) Emissions

Biogenic CO2 Emissions (t)		
Year	Scope 1	Scope 2
2018	53.991,26	29,79
2019	70.774,84	48,18
2020	75.339,69	51,97

## Use of biomass

Termotécnica believes that investing to increase the participation of biomass in its energy generation is one of the most sustainable when considering its operation's social and environmental stakeholders. For society, the use of biomass helps maintain and generate jobs throughout the capture, processing, and transport chain. Furthermore, this input is better for the environment as it comes from waste from other industrial processes. Its use avoids the risk of spills and subsequent contamination of soil and water during transport and storage, as well as reduce atmospheric emissions that contribute to global warming. Additionally, the ash generated in the burning process enables its reuse in composting, agriculture, and the ceramic industry, for example.

Although within the parameters of current legislation, Termotécnica understood that it was possible to improve its performance, opting for a new fuel from renewable sources that would contribute positively to society. The woodchip, or biomass, originates from a renewable source as of the moment we are able, through correct handling, to guarantee its cycle. The woodchips used in the manufacturing units come from wood shavings and

Under current Kyoto Protocol terms and various greenhouse gas emissions programs, the use of biomass and its by-products as alternative fuels can be classified as a reduction in greenhouse gas emissions. The increase in biogenic emissions was 39.16% in the period 2018 to 2020.

## Greenhouse Gas (GHG) Emission Intensity

	2018	2019	2020
CO <sub>2</sub> eq	12.641,2	4.467,5	3.939,8
IEGEE	1,29	0,46	0,38

A 71% reduction in the intensity of greenhouse gas (GHG) emissions when compared to 2018 emissions, is due to the company's investments in biomass-based boilers at the Joinville (in operation since December 2018) and Petrolina (in operation since July 2019) units.



waste processes, waste from pallets and even agribusiness waste, fruit tree pruning such as mango.

In this way, it contributes to reducing greenhouse gas emissions throughout the chain involved, closing the cycles of nature and processes.

## Boilers in Petrolina and Joinville

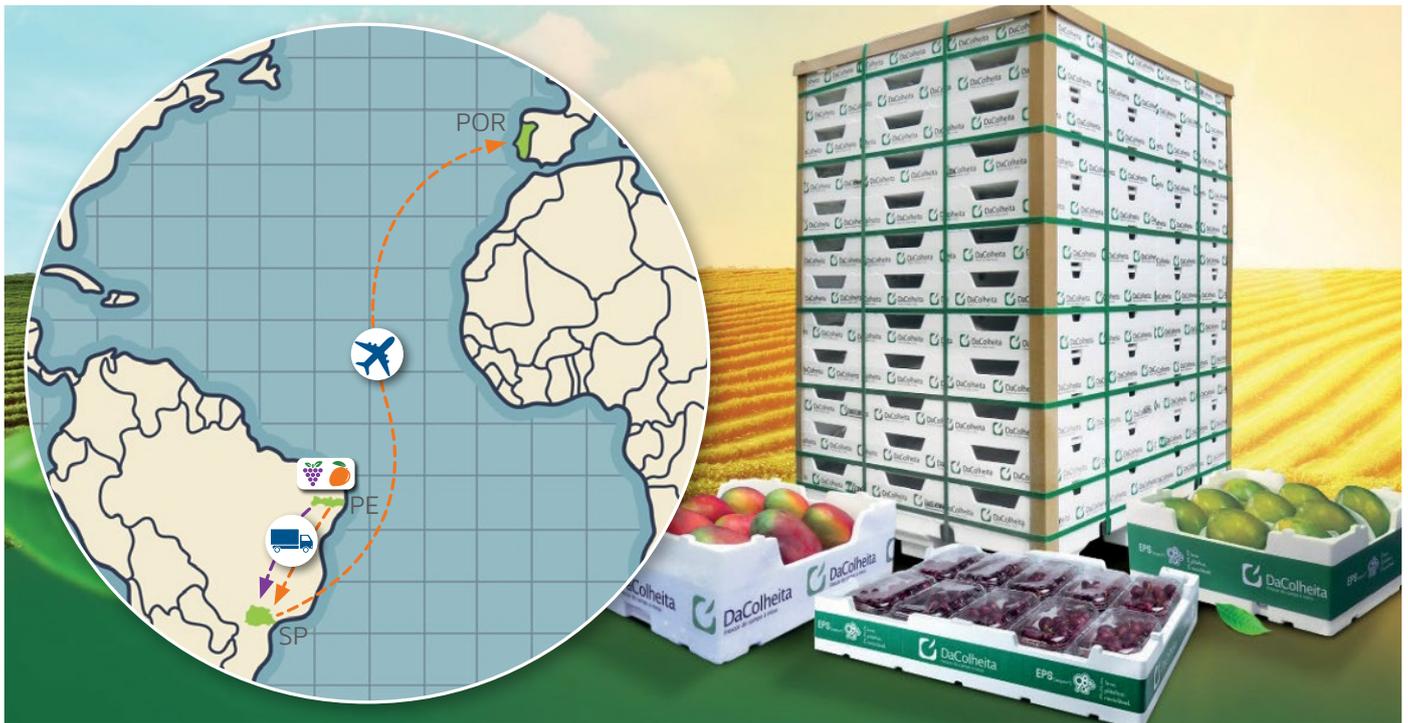


Through its ESG strategy, Termotécnica has been seeking new options of technologies and fuels that reduce the risks associated with the thermal energy production process in different aspects, operational as well as in terms of cost and competitiveness. The company's energy matrix operates with 99% biomass, and its target was 97%. Inspired by the strategic objective of having up-to-date, competitive, and eco-efficiency technology, the company changed the energy matrix of its operations in order to eliminate fossil fuels. This initiative comes from a long-term vision, intensified in the last three years with the introduction of biomass boilers at the Joinville unit in 2018 and completed with the Petrolina unit in 2019. The company studied alternatives to reduce environmental impacts and risks, minimizing and controlling its atmospheric emissions, in addition to reducing costs.

A technology was chosen that added not only in terms of emissions, but that would bring greater safety and positive results for the entire chain involved. After studying different technologies, the company opted for biomass.



## Study of GHG Emissions in Fruit Transport



In a study\*, GHG emissions from transporting a cargo of grapes (110 boxes) between Petrolina (PE) and Ceagesp (SP) via road transport in a standard, refrigerated truck were compared, in two scenarios: EPS conservers and pallets and corrugated boxes with wooden pallets. The results were as follows:

Comparison of packaging for Grape transport:	Emissions tCO <sub>2</sub> e
EPS Pallet + EPS Conserver	846,71
Wood Pallet + Corrugated box	935,84

Emissions from overland transport of grapes in EPS packaging and pallets were **9.52%** lower than in transport of grapes in corrugated boxes and wooden pallets, a difference of **89.13** tons. As a comparison, in 2019, according to data from the IBGE and the SEEG platform, the Brazilian's daily per capita emission is 28.25 KgCO<sub>2</sub> p/day. Therefore, in conclusion, a reduction in CO<sub>2</sub> equivalent to the daily activities of **3,155 people**.

A similar study\* was carried out with a mango load (110 boxes) between Petrolina (PE), Viracopos (SP) and Lisbon (POR), with the first stretch by land transport and the second by air. It also involved two scenarios: EPS conservers and pallets and corrugated boxes with wooden pallets, with the following results:

Comparison of packaging for mango transport:	Emissions tCO <sub>2</sub> e
EPS Pallet + EPS Conserver	43.292,59
Wood Pallet + Corrugated box	45.784,98

The combined GHG emissions from land and air transport of mangoes in EPS packages and pallets were **5.44%** lower than the transport of mangoes in packaging of corrugated boxes and wooden pallets. The difference in mango transportation was **2,492.39** tons. This amount of emissions is equivalent to the emissions of **88,226 people/day**. Both studies show that the use of DaColheita EPS packaging solutions contribute to reducing the environmental footprint in fruit transport.

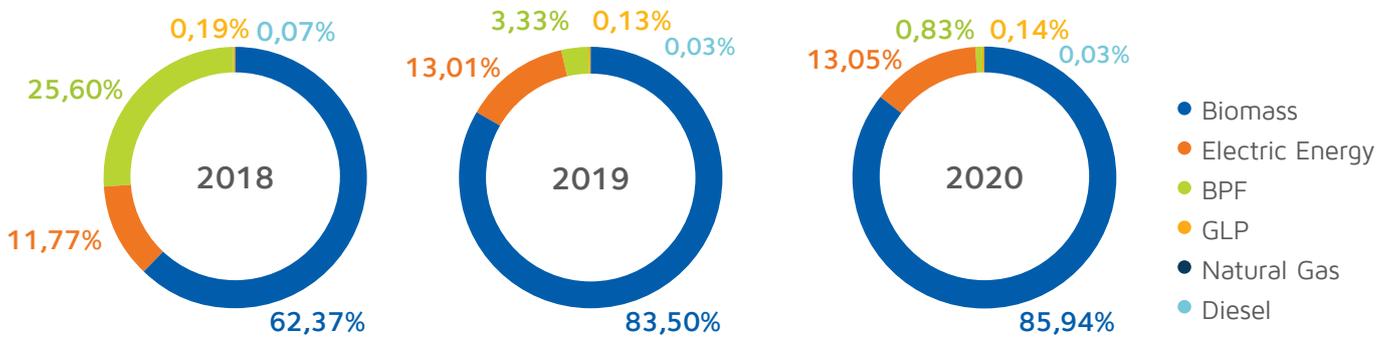


\*Study conducted by Green Domus



## OPERATIONAL EFFICIENCY

### Energy consumption within the organization



In 2019, Termotécnica completed the investment cycle making the main boilers in all units Biomass based. The Manaus, Rio Claro, Joinville and Petrolina units have only backup boilers based on BPF or diesel oil.

In the total energy consumed (electrical and thermal), the share of Biomass increased to 85.94% in 2020, from 62.37% in 2018. On the other hand, the consumption of BPF oil dropped to 0.83% which in 2011 was around 40%. For the years 2019 and 2020, the reduction of fossil fuel (BPF oil) is very clear, as in the Petrolina unit the boiler was replaced throughout 2019, also using

biomass.

In relation to thermal energy, energy generation from Biomass is 99.0%, in 2018 it was 63.9% and in 2011 it was around 50%.

Electrical energy consumption remained stable in 2019 and 2020 when compared to the previous biennium. We continued our strategy of migrating to the free market for energy in search of greater flexibility in the operation and competitiveness. In 2020, we migrated the São Jose dos Pinhais Unit and we will migrate the Manaus Unit in 2021.

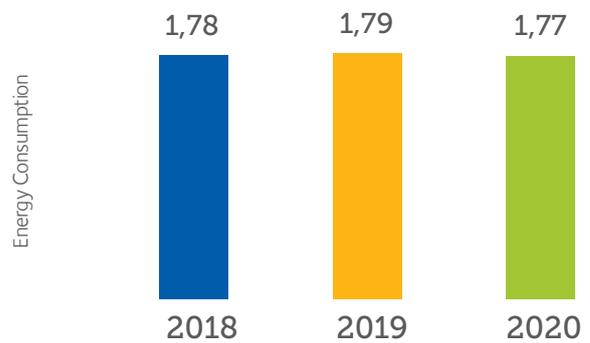
### Energy Intensity

Energy intensity remained stable in 2020 when compared to 2018, a fact that reflects the particularity of the industrial park that remained unchanged in the period.

The year 2020 brought, in its second half, a better use of Termotécnica's industrial facilities, which contributed to a slight improvement in energy intensity performance.

At the end of 2020, an energy efficiency project was carried out at the Joinville unit, with the installation of new compressors, using the most up-to-date technology, including frequency inverters and an automatic pressure modulation system.

This project will certainly bring lower energy intensity



to the Joinville unit for the next period of the sustainability report, as the results will be observed from 2021 onwards. Energy efficiency projects will be challenges for Termotécnica in the coming years.

## Water Collection

Water consumption did not vary in relation to surface water. Variations in consumption are related to the increase in volume and better accuracy of groundwater consumption controls.

Underground wells in the units were reactivated to reduce expenses with surface water and keep up with increases in production volumes, directly reflecting on the indicator's fluctuation in 2019 and 2020.

Between 2019 and 2020, chemical plant production increased 9.5%, and transformation increased 6.4%, these facts are directly linked to the increase in water consumption.

## Water Discharge

The slight reduction when comparing 2019 and 2020 is proportional to the volume of expandable polystyrene produced, since in expanded polystyrene transformation, the heating and cooling circuits are closed, so there is no need to dispose of industrial effluents.

The sanitary effluents generated are proportional to the company's number of employees, which has fluctuations over the years.

## Impacts on Water Security

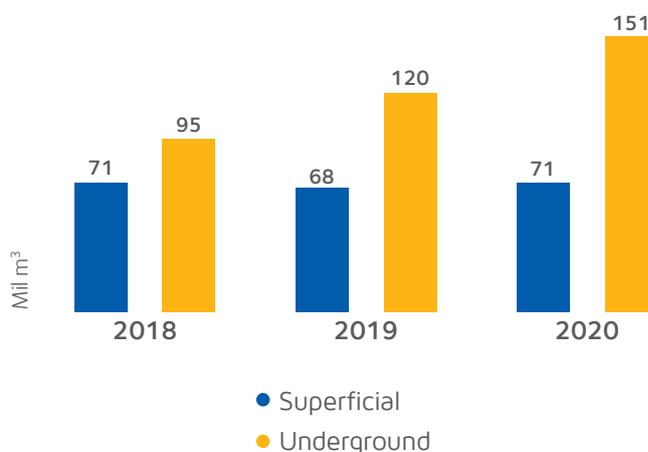
Assessing water risks is related directly in this methodology, being presented for each production unit and/or project.

The largest portion of water consumption at Termotécnica is related to steam generation. To ensure quality steam for operations, it is necessary to reduce the conductivity of the water used. For this it is necessary to use softeners, filters or even a demineralization station for the water used.

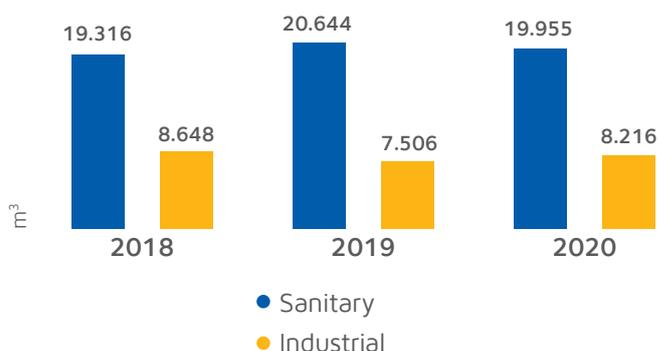
## Waste Intended and Not Intended for Final Disposal

In 2019 and 2020 we observed a 9% reduction in the absolute values of generated waste when compared to 2018. Waste intensity also shows a reduction in the period when compared to 2018. For 2019, an increase in

## Water withdrawn by source



## Total water discharge



Assessing water risks is related directly in this methodology, being presented for each production unit and/or project.

The largest portion of water consumption at Termotécnica is related to steam generation. To ensure quality steam for operations, it is necessary to reduce the conductivity of the water used. For this it is necessary to use softeners, filters or even a demineralization station for the water used.

Class I waste generation can be observed, due to the adjustment in the classification of Joinville's boiler ash, which was previously Class I and after analysis became IIA along with the disposal of asbestos tiles.

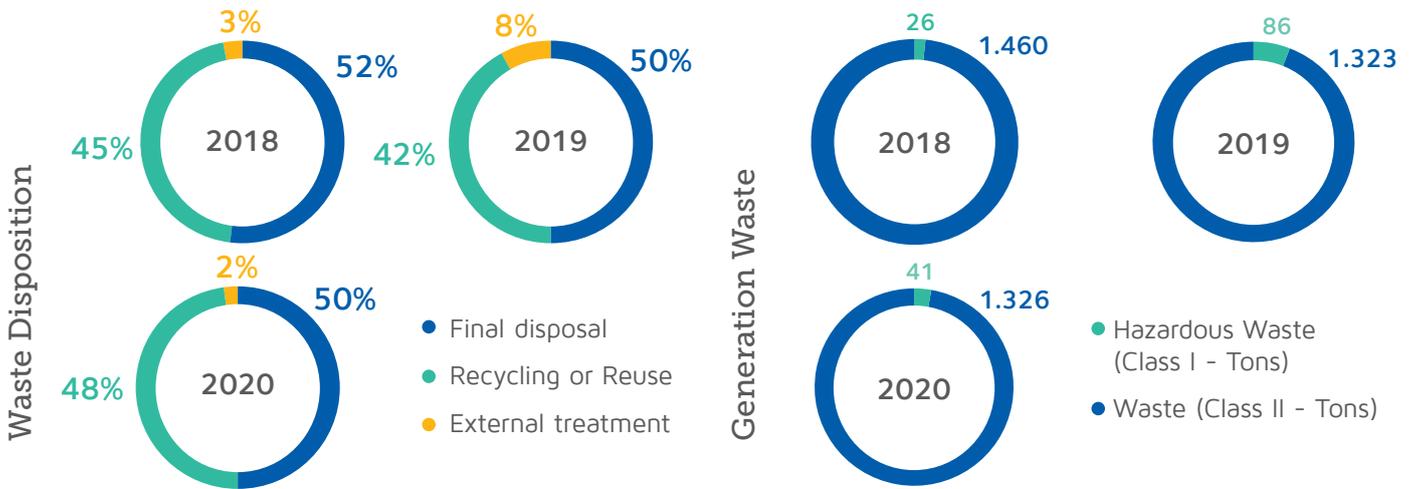


Thus, generating a significant amount in the total sum of class I waste. In 2020, there was a reduction in the generation of hazardous waste, which wasn't even smaller because we had the disposal of a large amount of asbestos tiles at the Joinville unit, due to a storm that unroofed the plant.

In 2019 and 2020, we had our best performance in terms of disposal of waste sent to landfills, accounting for 50% of all waste generated, with new reuse initiatives

such as Petrolina boiler ashes, that are being sent to make fertilizer and will later be used to cultivate fruits, which is the main market in the region. In a way, we are also doing the circularity of materials. The ashes in other units are reused to make bricks or in cement kilns.

Efforts to reduce the generation of waste and its appreciation will continue being a challenge in the coming years.



### Constant search for operational efficiency

In order to manage its environmental aspects and minimize impacts in relation to the resources used, achieving operational efficiency, the company annually puts a multidisciplinary team together to reflect on the previous year's results, define short and medium-term goals and outline service strategies. Through management techniques, the proposed projects are demonstrated by the A3 plan methodology, a lean tool based on the PDCA cycle, where the risks

of the operation, and in turn, of the value chain, are also measured, evaluated, criticized, and defined for mitigation, being later made official in a results contract. This is an Operations Meeting activity, which continues having its commitments accompanied by daily results meetings, weekly with the Productivity Committee and monthly to monitor the contracted performance.

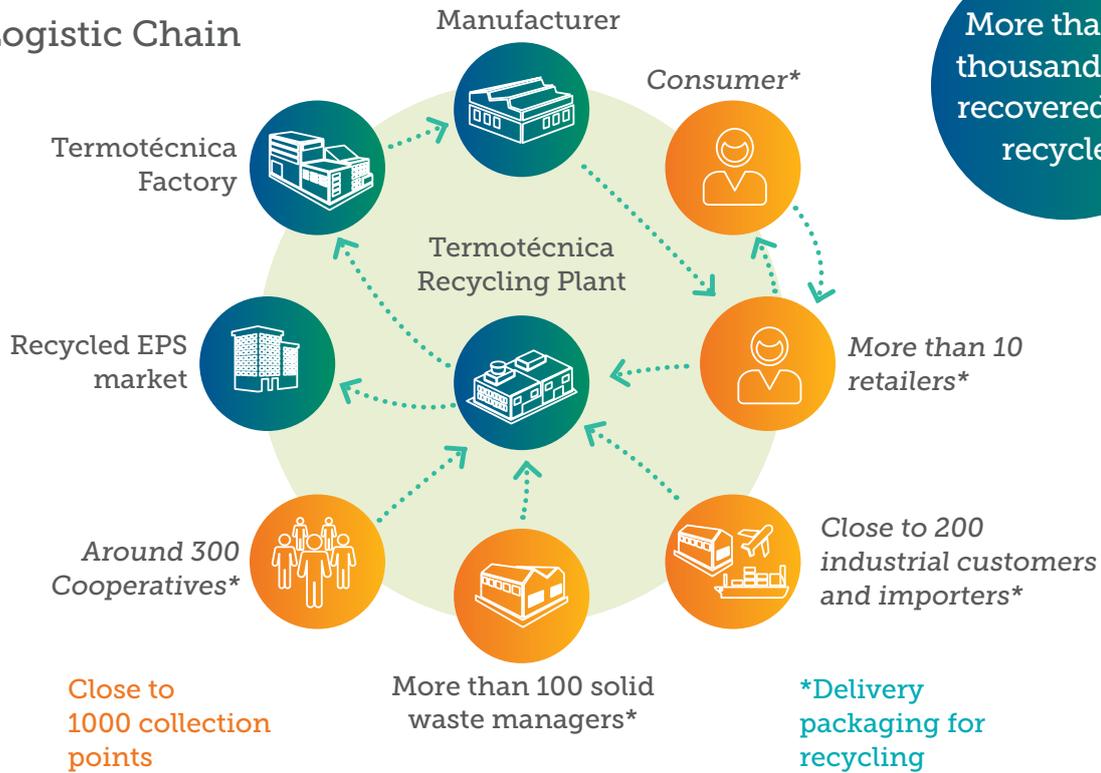
Intensity of Indicators					
Indicator	Units	2018	2019	2020	Trends
Industrial Effluents	(m3/tons of expandable EPS)	0,82	0,81	0,80	↓
Water Consumption	(mil m3/ tons of transformed materials)	0,02	0,02	0,02	↔
Electric Energy	(mil tons of transformed materials / GWh)	1,78	1,79	1,77	↔
Thermal Energy	(GJ/tons of consumed materials)	21,48	21,96	21,27	↔
IEGEE	(Tons of CO2 eq./ tons of transformed materials)	1,29	0,46	0,38	↓
Residues	(t. residue/tons of consumed materials)	0,08	0,08	0,07	↓





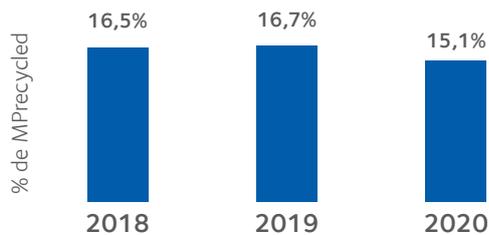
# EPS RECYCLING

## Reverse Logistic Chain

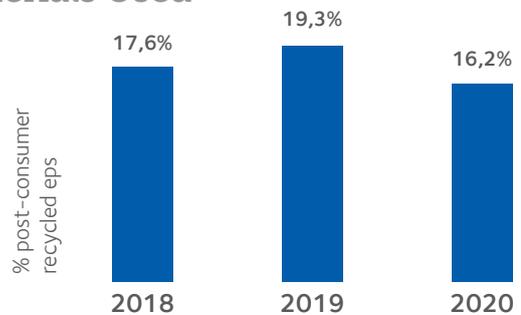


The company has been keeping its voluntary commitment to the circular economy, practicing since 2007 reverse logistics, recycling, and reintroduction of products in new production chains. The recycled materials used in the processes are at the same level as the previous biennium, with a slight drop in 2020 influenced by the pandemic. Termotécnica’s pioneering spirit in recycling generated a positive transformation in the perception of EPS scrap – which started to be valued. This change has been moving the market with the entry of new players in the industrialization and sale of recycled EPS, which is beneficial to the environment. Termotécnica has also been consolidating its partnership with the companies from the Global Pack Alliance, formed by dozens of suppliers that guarantee recycling of EPS packaging in countries such as Portugal, Spain, Germany, Netherlands, France, United Kingdom and United States.

## Products and their Recuperated Packaging



## Raw Materials or Recycled Materials Used



In 2019, we started growing again in terms of the level of recovered packaging in the market. Our efforts to value Repor have opened up new possibilities to introduce this material into the market. In 2020, the pandemic made it difficult to obtain a greater volume of material for recycling.



## Challenges 2021/2022



### Business Continuity

- Maintain long-term contracts with packaging customers.
- Increase revenue share in new segments: agribusiness and thermal chain.
- Continue the process of valuing Repor (recycled EPS), introducing it into new production chains.
- Maintain the high efficiency of operations, with zero downtime in packaging.



### Valuing People

- Strengthen the operational training process.
- Maintain the safety performance evolution in the units.
- Maintain Development and Alignment Programs.
- Maintain periodic internal marketing campaigns.
- Promote programs to encourage Health and Quality of Life practices.



### Circular Economy in Practice

- Develop new partnerships to increase post-consumer EPS collection.
- Continue participating in associative environments and networks for sustainability.
- Continue improving solid waste management by developing reuse partners.
- Seek more sustainable alternatives for materials and processes.
- Evolve in CDP assessments.
- Expand comparative assessments of carbon emission reductions in products.

## GRI Summary

GRI INDICATORS		REFERENCE/RESPONSE	SDG
102-1	Name of organization	Termotécnica Ltda.	
102-2	Activities, brands, products, and services	Page 6	
102-3	Location of headquarters	Page 6	
102-4	Location of operations	Page 6	
102-5	Ownership and legal form	Page 6	
102-6	Markets served	Page 6	2,9
102-7	Scale of operation	Page 6	
102-8	Information on employees and other workers	Page 23	8
102-9	Supply chain	Page 20	
102-10	Significant changes to the organization and its supply chain	there were none	
102-11	Precautionary principle or approach	Page 12	
102-12	External initiatives	Page 11	
102-13	Membership of associations	Page 11	17
102-14	Statement from senior decision-maker	Page 4	16
102-15	Key impacts, risks, and opportunities	Page 3	
102-16	Values, principles, standards, and norms of behavior	Pages 11 and 12	
102-17	Mechanisms for advice and concerns about ethics	Page 12	8
102-18	Governance structure	Pages 3 and 10	
102-19	Delegating authority	Page 10	
102-20	Executive-level responsibility for economic, environmental, and social topics	Board and Council	
102-25	Conflicts of interest	Page 12	
102-29	Identifying and managing economic, environmental, and social topics	Materiality Matrix, page 3	
102-32	Highest governance body's role in sustainability reporting	Board is part of the sustainability committee	
102-40	List of stakeholder groups	Materiality Matrix, page 3	
102-41	Collective bargaining agreements	100%	8
102-42	Identifying and selecting stakeholders	Materiality Matrix, page 3	
102-43	Approach to stakeholder engagement	Materiality Matrix, page 3	
102-44	Key topics and concerns raised	Materiality Matrix, page 3	
102-45	Entities included in the consolidated financial statements	Termotécnica no longer opens economic information as it is a private company	
102-46	Defining report content and topic boundaries	Materiality Matrix, page 3	
102-47	List of material topics	Materiality Matrix, page 3	
102-48	Restatements of information	Materiality Matrix, page 3	



102-49	Changes in reporting	Inclusion of GHG emissions	
102-50	Reporting period	2019/2020	
102-51	Date of most recent report	2018	
102-52	Reporting cycle	Biennial	
102-53	Contact point for questions regarding the report	marketing@termotecnica.com.br	
102-54	Claims of reporting in accordance with the GRI Standards	About the report, page 2	
102-56	External assurance	This report has not been externally ensured.	
<b>MANAGEMENT APPROACH</b>			
103-1	Explanation of the material topics and its boundary	Page 3	
103-2	The management approach and its components	Page 3	
103-3	Evaluation of the management approach	The approach of managerial efficacy for relevant topics is assessed through the process of monitoring our goals benchmarks and through customer audits.	
<b>ECONOMIC</b>			
201-2	Financial implications and other risks and opportunities due to climate change	Page 37	13
203-2	Significant indirect economic impacts	Context, page 8	
204-1	Proportion of spending on local suppliers	Employment and income, page 29	8
205-1	Operations assessed for risks related to corruption	Pages 12 and 20	8
205-2	Communication and training about anti-corruption policies and procedures	Page 12	8
205-3	Confirmed incidents of corruption and actions taken	There were no confirmed cases of corruption in 2019 and 2020	
206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	There were none in 2019 and 2020	
<b>ENVIRONMENTAL</b>			
301-1		<ul style="list-style-type: none"> <li>• Materials used by weight or volume</li> <li>• Raw materials for transformation (non-renewable): 20,102 tons (16.45%)</li> <li>• Raw materials for polymerization (non-renewable): 19,557 tons (16.01%)</li> <li>• Metals (non-renewable): 51 tons (0.04%)</li> <li>• Plastics (non-renewable): 1,663.4 tons (1.36%)</li> <li>• Corrugated packaging (renewable)1: 635.4 tons (0.20%)</li> <li>• Corrugated Packaging (renewable)1: 635.4 tons</li> <li>• Labels (non-renewable): 40.3 tons (0.03%)</li> <li>• Biomass (renewable): 79,922 tons (65.42%)</li> <li>• BPF and Diesel oil (non-renewable): 516 tons (0,42%)</li> </ul> <p><b>Note:</b> this data includes both 2019 and 2020.</p>	12
301-2	Recycled input materials used	Indicator page 40.	12
301-3	Reclaimed products and their packaging materials	Indicator page 40.	12
302-1	Energy consumption within the organization	Indicator page 37. Disclosure includes renewable and non-renewable energy sources	7,12,13
302-3	Energy intensity	Indicator page 37. The disclosure considers the energy consumption within the organization and the denominator is the total weight of materials transformed in 2019 and 2020.	12,13
302-4	Reduction of energy consumption	Indicator page 37.	7, 12,13

303-1	Interactions with water as a shared resource	Indicator page 38. We use CDP Water to analyze our impacts and places with the greatest water risk, this enables our progress towards improving environmental management through benchmarking and comparison with other companies, in order to continuously improve governance in relation to water.	6,12
303-2	Management of water discharge-related impacts	Indicator page 38.	6,12
303-3	Water withdrawal	Indicator page 38.	6,12
303-4	Water discharge	Indicator page 38.	6,12
304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	Termotécnica does not contain any Manufacturing and/or Sustainability unit located on any area called Environmental Protection or High Biodiversity Value, so this content is considered as not applicable.	
305-1	Direct GHG emissions	Indicator pages 34 and 35. See Reduction of Greenhouse Gas (GHG) Emissions in our units, page 36	12,13
		No gas was excluded from the calculation. The reference year is 2012 based on the GHG Protocol and CDP methodology.	
305-2	Indirect GHG emissions	Indicator page 34 The reference year is 2012 based on the GHG Protocol and CDP methodology.	12,13
305-3	Other indirect GHG emissions	Indicator page 34. The reference year is 2012 based on the GHG Protocol and CDP methodology.	12,13
305-4	GHG emissions intensity	Indicator page 39. The reference year is 2012 based on the GHG Protocol and CDP methodology.	12,13
305-5	Reduction of GHG emissions	Indicator page 34. No gas was excluded from the calculation. The reference year is 2012 based on the GHG Protocol and CDP methodology.	12,13
305-6	Emissions of ozone-depleting substances (ODS)	Termotécnica does not use any type of refrigerant gas in its cooling processes.	12,13
305-7	Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions	NOx emissions in 2019 were 43.18 tons and 2020 were 42.02 tons. SOx emissions in 2019 were 3.28 tons and 2020 were 5.78 tons.	12,13
306-1	Waste generation and significant waste-related impacts	Description in the environmental chapter, pages 38 and 39	12
306-2	Management of significant waste-related impacts	Description in the environmental chapter, page 39.	12
306-3	Waste generated	Indicator pages 38 and 39	12
306-4	Waste diverted from disposal	Indicator pages 38 and 39	12
306-5	Waste directed to disposal	Indicator pages 38 and 39.	12
307-1	Environmental compliance	There were no non-compliances with environmental laws/regulations in the reporting period.	12
<b>SOCIAL</b>			
401-1	New employee hires and employee turnover	Indicator page 25	8
403-1	Occupational health and safety management system	To ensure safe and healthy working conditions, aligned with the commitments established in its vision and integrated management policy, it meets the Occupational Health and Safety (OHS) requirements established in legislation, executing them through prevention programs required in the Regulatory Standard of the Special Secretariat of Labor. The commitment to execute the programs is endorsed through the action plans defined in the A3 of the SESMT and the managers of each unit in the operations meeting.	3



403-2	Hazard identification, risk assessment, and incident investigation	Termotécnica applies the Environmental Risk Prevention Program (PPRA) where prior identification and assessment occur as well as the treatment of hazards and risks, with quantitative review of those with tolerance limits and perform safety inspections and prevention campaigns applied by SESMT, CIPA and Brigade continuously to prevent deviations.	3
403-3	Occupational health services	All units have occupational medical service performed by specialized companies, with medical and health control actions implemented through PCMSO. Only medical service has access to workers' health information. The organization provides a health plan with co-participation to all workers, has a fully subsidized flu vaccination program and medical service provide preventive monitoring of workers who have comorbidities.	3
403-4	Worker participation, consultation, and communication on occupational health and safety	The participation and consultation of workers is guaranteed in implementing health and safety management programs through formal health and safety committees required by law. Termotécnica has two committees that act continuously. All units have Internal Accident Prevention Commission (CIPA) and Brigade.	3
403-5	Worker training on occupational health and safety	Application of training follows two types of need, mandatory training required by law as defined in the Regulatory Standards and training applied as defined by the integrated management system that involves internal technical standards and instructions, prevention programs and by an identified need in risk inspections, accident investigations and CIPA and Brigade work.	4
403-6	Promotion of worker health	See item 403-3	
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	See items 403-1 and 403-3	3
403-8	Employees covered by an Occupational Health and Safety management system	All workers themselves are covered by prevention programs, and outsourced workers are required to carry out applicable programs according to the specificity of each team's activity.	3
403-9	Work-related injuries	Indicator page 26	3
406-1	Incidents of discrimination and corrective actions taken	There were none in the period	
407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	Zero	8
411-1	Incidents of violations involving rights of indigenous peoples	Non-applicable	
413-1	Operations with local community engagement, impact assessments, and development programs	Pages 29, 30 and 31	8
414-2	Negative social impacts in the supply chain and actions taken	There were none in the period	
415-1	Political contributions	There were none in the period	
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	There were none in the period	
417-2	Incidents of non-compliance concerning product and service information and labeling	There were none in the period	
417-3	Incidents of non-compliance concerning marketing communications	There were none in the period	
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	There were none in the period	
419-1	Non-compliance with laws and regulations in the social and economic area	There were none in the period	

## Termotécnica Sustainability Committee



### Credits

General Coordination - Termotécnica | Regina Zimmermann - Director of Operations | Thiago Hess dos Santos - Marketing Coordinator | GRI Technical Content - Termotécnica Sustainability Committee | Editorial Project - Logos Conexão e Conteúdo | Simone Schuler Gehrke (6078/RS) | Graphic Design and Publishing - Sketcher Studio Design | Photography - Termotécnica Image Bank. For more information or questions, contact [marketing@termotecnica.com.br](mailto:marketing@termotecnica.com.br)

