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AFTER THE SECOND ISSUANCE
OF GREEN BONDS MADE IN
APRIL 2019, IN THE AMOUNT
OF USD 500 MILLION, KLABIN
REOPENED THE GREEN BONDS
IN JANUARY 2020, RAISING
ADDITIONAL FUNDS OF USD
200 MILLION.

The bonds mature in 2049 and are a milestone for Klabin, which became the first Brazilian company to issue a bond in this category with a 30-year maturity.

The Company's first issuance, also totaling USD 500 million, but with a 10-year maturity, was made in September 2017 (Green Bond 27). The operation achieved a "High Standard" rating, attested by the Sustainalytics consulting firm acting as Second Party Opinion (SPO), reinforcing Klabin's austerity and commitment towards sustainable development – an area in which the company is a market benchmark.

In this report, Klabin provides accountability on the use of funds from the green bonds in the allocation period from July to December 2019 and January to June 2020 for initiatives that meet the eligibility criteria for their issuance, respecting the four pillars that make up the Green Bond Principles.

To learn more about Klabin's green bond issuance, as well as the issuance history, refer to the Management Report on Eligible Projects (Appendix A), the Resource Use Statement (Appendix B) and the Verification Statement at the end of this report.





## **ACTIONS FOR NATIVE FOREST RESTORATION AND** CONSERVATION OF BIODIVERSITY

USD, in thousands

1,184

**INVESTED IN INITIATIVES AND** PROJECTS IN THE PERIOD



**MORE THAN** 

2,700

**HECTARES OF** 

**NATIVE AND RECOVERING** 

**FOREST** 

CONSERVATION AREAS ECOLOGICAL PARK



**MORE THAN** 

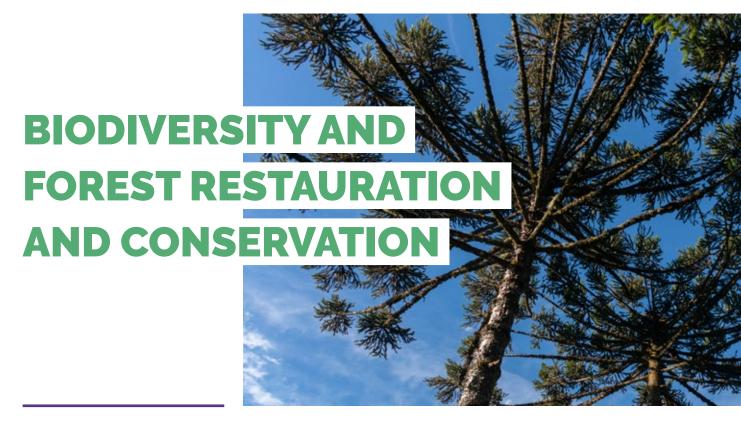
5,000

**CLINICAL CARE** 

**SERVICES** 

**PERFORMED ON** 

**ANIMALS IN THE** 



USD, IN THOUSANDS

1,184.00

INVESTMENT IN THE PERIOD

Klabin was one of the first companies to adopt forestry management in a mosaic format, which mixes planted forests and conserved native forests. Ecological corridors formed using this technique allow the transit of animals in large areas, contributing to the preservation of fauna and flora and the conservation of water resources. The Company develops an extensive program for research and conservation of biodiversity, promoting the monitoring of its forests and helping ensure the survival of endangered species such as the pygmy brocket deer, howler monkey and cougar.

Planted areas account for approximately 46% of Klabin's total area, while **43% of the lands** are allocated to the conservation and maintenance of biodiversity. Klabin's RPPNs are located in Paraná and Santa Catarina. Considered areas of

high biodiversity value, they are dedicated exclusively to scientific research, environmental protection and water resource preservation, contributing to the conservation of biodiversity in the Atlantic Forest biome. At the Serra da Forofa Complex RPPN, in Santa Catarina, the Center for Nature Interpretation, inaugurated in 2019, reinforces this action front.

Green bond resources allocated for restoration and conservation from July 2019 to June 2020 were applied in the following initiatives:

## PROGRAMA MATAS LEGAIS [GOOD FORESTS PROGRAM]

Conducted in partnership with the Association for the Preservation of the Environment and Life (Apremavi), the Good Forests Program guides small and medium-sized rural producers in Paraná and Santa Catarina

Divided between Permanent Preservation Areas (APP), Legal Reserves (RL) and Private Natural Heritage Reserves (RPPN)



to operate more efficiently, profitably and ecologically on their properties, through rural property planning, conservation, environmental education and forestry development actions. The program also encourages the practice of forestry actions using planted forests, the enrichment of secondary forests, organic agriculture, and the recovery of riparian forests, supporting the conservation of water sources.

### **EXOTIC SPECIES CONTROL**

This involves controlling the dispersion of exotic species, such as pine species in native areas, contributing to the recovery of degraded areas during the forest restoration process. The work is performed in the Klabin forests in Paraná and Santa Catarina by field teams that hike across the areas and remove the exotic trees by mowing and cutting.

### **ENVIRONMENT**

Green bond funds were allocated to activities such as training employees on Sustainability Policy topics, certification processes, removing pine seedlings that occur naturally in Permanent Preservation Areas (APPs), environmental education activities, creating procedures, internal audits, field reports, developing socio-environmental projects, environmental licenses, involvement with stakeholders, among others.

## PROJETO CRESCER [GROWING UP PROJECT]

Conducted in partnership with Sesi, this project involves continuous training of direct and indirect employees of Klabin's forestry operations on environmental issues, health, family management, quality of life and professional growth, among other topics.

## PROGRAMA PROTETORES AMBIENTAIS [ENVIRONMENTAL PROTECTORS PROGRAM]

Klabin has been supported the Protetores Ambientais [Environmental Protectors] Program since 2005, an initiative of the Environmental Military Police of Santa Catarina focused on training pre-adolescents to act as multipliers in environmental education. So far, 402 teenagers have been involved in the program across several municipalities in the Company's operating region.

## PROGRAMA CAIUBI [CAIUBI PROGRAM]

This program focuses on training teachers to disseminate concepts of ecological awareness and contribute to the formation of citizens aware of their responsibilities to the environment. The initiative is supported by municipal administrations in the cities where it is held, institutions and professional partners.

Klabin has promoted the Program in Paraná since 2001. From July 2019 to June 2020, green bond funds were allocated to editions in the municipalities of Imbaú, Ortigueira, Tamarana, Telemaco Borba and Tibagi. The Program began in 2007 in Santa Catarina and has already covered the 40 municipalities where Klabin operates in the state. In 2019, it was expanded to communities near the corrugated board factories in Feira de Santana (BA).

#### **ARAUCÁRIA TRAIL**

Located in the municipality of Correia Pinto (SC), in the vicinity of Klabin operations, the Araucária Trail is 1,260 m long and is bordered by the native forest of the company's forest areas. Since 2007, its purpose is to receive teachers and students who participate in the Caiubi Program, in addition to the general public. Visitors receive information of an environmental nature about Klabin and about our social and environmental actions. So far, over five thousand visitors have visited the trail.



## **ECOLOGICAL PARK**

KLABIN MAINTAINS AN ECOLOGICAL PARK AT THE MONTE
ALEGRE FARM IN TELÊMACO BORBA (PR), WHICH DEDICATES
ITS OPERATIONS TO THE CONSERVATION AND STUDY OF THE
BEHAVIOR OF ENDANGERED SPECIES, PROMOTING THEIR
REPRODUCTION AND REINTRODUCTION INTO THE ENVIRONMENT.

The site also houses animals at risk and unable to return to the wild, such as animals hit by cars on local roads. About 180 specimens of 50 different species live in the Park which has also been acting as a fauna rehabilitation center since 2014.

With an expansive area of 9,852 hectares, 91.7% of which consist of natural forests, the location has a significant concentration of flora and fauna specimens important to biodiversity, in addition to rare ecosystems

that are endangered or threatened with extinction.

The allocated green bond resources were directed to projects to build new structures in the Park, renovate existing facilities and fund the staff dedicated to the animals.

Among the renovation work performed, the highlight was the installation of pavers, pavement partly composed of waste from Klabin's industrial process, which is processed by other companies and bought

back by the Company under the circular economy concept.

Investments made between July 2019 and July 2020 were applied to continuity of the construction works, which reached 100% completion by the date this report was closed. In 2020, a project to reintroduce the blackfronted piping guan (Aburria jacutinga), an endangered species, began in the region of the Monte Alegre Farm.

## BIODIVERSITY CONTINUOUS MONITORING PROGRAM

Green bond funds financed maintenance activities for the program developed by Klabin, which has the purpose of verifying the impacts of forestry management on the behavior of the species and adopting prevention and

mitigation measures. The program is held in Paraná, Santa Catarina and São Paulo. The results of the monitoring conducted (see indicators in the table at the end of the text) demonstrate, in addition to new records, the permanence and identification of endangered species in Klabin's areas. The biodiversity monitoring also allows for further

learning and constant updating of biological wealth in the monitored areas, recognizing the permanent species for the farms over time and allowing the identification of maintained conservation in Areas of High Conservation Value (AAVCs).

PERFORMANCE INDICATOR	PERIOD	ENVIRONMENTAL BENEFITS
Programa Matas Legais [Good Forests Program]		
Number of native species seedlings donated	July/2019 to June/2020	23,415 seedlings in PR and 31,135 seedlings in SC
Number of hectares of native and recovering forest conservation areas	July/2019 to June/2020	1,429 hectares in PR and 1,322.49 hectares in SC
Exotic species control		
Areas covered by exotic species control activities (ha)	July/2019 to June/2020	775.80 hectares in PR and 1,434.65 hectares in SC
Ecological Park		
Births of reproduced animal species	July/2019 to June/2020	3 individuals, 1 of which is on the IUCN Red List
Endangered animals, according to the IUCN Red List	July/2019 to June/2020	53% of all the animals, considering the herd's individuals and sheltered animals
Assistance to wild animals	July/2019 to June/2020	5,039 clinical care services
Biodiversity Continuous Monitoring	Program	
Fauna and flora species identified	January/2019 to December/2019	717 fauna and 201 flora species identified, 25 of which are endangered, according to the Red List of Threatened Species of the International Union for Conservation of Nature (IUCN)
Increase in species over the last year (2019-2020)	July/2019 to June/2020	17 new species





## FIRE PREVENTION MEASURES, PROPERTY PROTECTION AND MANAGEMENT MICROPLANNING

USD, in thousands

3,769

INVESTED IN INITIATIVES AND PROJECTS IN THE PERIOD



PERMANENT
MONITORING
OF FOREST AREAS



553,800
HECTARES OF
PROTECTED AREA
IN PR, SC AND SP

## FIRE PREVENTION AND PROPERTY PROTECTION

**MEASURES** 

Klabin maintains a forest heritage security structure to fight fires and protect fauna and flora, curbing the action of predatory hunters and fishermen, invasions and other occurrences.

The allocated green bond funds were applied to maintain activities and structure that comprise the Company's property protection initiatives in forest areas.

This action front includes a structure consisting of mobile patrols, surveillance towers and communication equipment for the permanent monitoring of forest areas, totaling 394,000 hectares of protected area in PR and 136,000 hectares in Santa Catarina.

USD, IN THOUSANDS

2,925.00

INVESTMENT IN THE PERIOD



#### **PERFORMANCE INDICATOR**

### **PERIOD**

### **ENVIRONMENTAL BENEFITS**

Monitored areas (in hectares)

July/2019 to June/2020

553,792 hectares in Paraná, Santa Catarina and São Paulo



## MANAGEMENT MICROPLANNING

Klabin's Forest Management
Plan guides the company in
management actions, incorporating
sustainability concepts. Protected
mosaics from native forests,
interspersed with planting and
operating areas, as well as care
for hydrographic basins, are some
of the parameters controlled
in the forest management
of the Company's areas.

The microplanning of the operating areas is one of the forest management action fronts. It includes the creation of maps that define land use in a microplanned way, for the purpose of minimizing the impacts of forestry operations. Prepared by the Geoprocessing area and field analysts, the maps guide the planning for loading wood, building and maintaining roads, changing planting areas and harvesting modules in order to protect water abstraction points and hydrographic micro-basins (hydrosolidary management), definition of useful and conservation areas on farms, among other actions.

The allocated green bond funds were invested in monitoring tools for the development of microplanning and land use

maps for the company's forest areas. The management of forest areas also includes continuous field actions, audits, operational procedures and training.

#### **GEOPROCESSING TOOLS**

Funds were also used for the purchase and maintenance of geotechnologies and remote sensors to obtain information on Klabin's forest assets, which provide constant monitoring of all the Company's forests and operations.

Planet, LiDAR and ESRI Platform are the technologies applied in this process. The acquisition of images through Planet allows the monitoring of all biological assets on a monthly basis, including in the conservation areas, favoring the model adopted by Klabin for landscape management. With the application of the LiDAR technology, teams have digital models of the company's forests at their disposal, allowing them to track and monitor the evolution of these assets. All of this data is processed through the ESRI platform and the results made available after analysis and conversion to standards that support decision making.

#### **Planet**

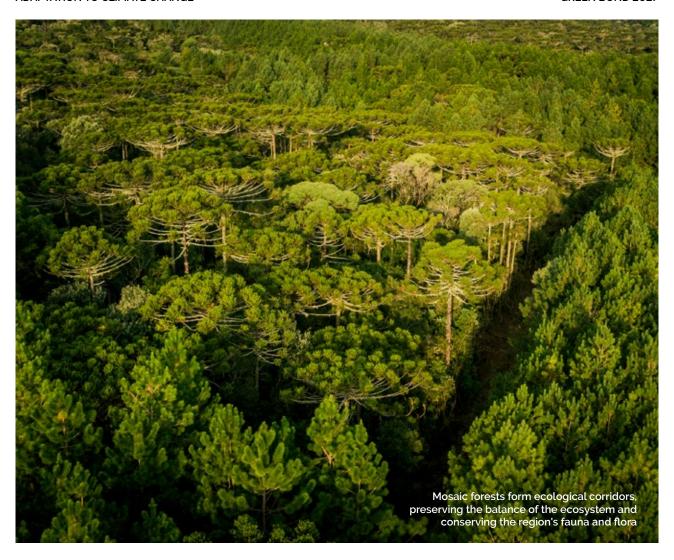
Technology for acquiring images from orbital sensors (satellites) of all forest assets, classified with a numerical algorithm, which translates the information into desired responses. Images are made available every other day, adding to a collection that allows temporal analysis.

#### Lidar

Sophisticated technology sensor to obtain information on the vertical structure of the forests, including high-precision terrain relief. This allows for extremely accurate virtualization of field reality (three-dimensional model), allowing visualization of the forest in a similar manner to the concept of virtual reality.

#### **ESRI Platform**

This contains applications that make it possible to process, integrate and disseminate results obtained by Planet and LiDAR, among other tools, in a simple and friendly way. ESRI is the acronym for Environmental Systems Research Institute.



USD, IN THOUSANDS

844.00

**INVESTMENT IN THE PERIOD** 



See the Public Summaries of Klabin's Forest Management Plan here.

PERFORMANCE INDICATOR	PERIOD	ENVIRONMENTAL BENEFITS
Total monitored areas in hectares	July/2019 to June/2020	570,000 hectares
Total conserved microbasins (hydrosolidary management)	July/2019 to June/2020	6 micro-basins protected by hydrosolidary management, in 569 hectares





## FORESTRY, TIMBER PURCHASE AND RESPONSIBLE MANAGEMENT MICROPLANNING

USD, in thousands

72,940

INVESTED IN INITIATIVES AND PROJECTS IN THE PERIOD



**FORESTS** 

ABOUT
40%
OF THE TOTAL
TIMBER DESTINED
FOR PRODUCTION
ARE ACQUIRED
FROM THIRD-PARTY



**MORE THAN** 

7.8 MILLION tco, SEQUESTERED

FROM THE

**ATMOSPHERE BY** 

**PLANTED FORESTS** 

## **FORESTRY**



Klabin's forestry activities, conducted throughout the year, had green bond funds allocated from July 2019 to June 2020. They involve providing seedlings for planting forests, preparing the soil, fighting leaf-cutting ants, planting, replanting, fertilization

and cultural treatments. Their main purpose is to maintain the planted forests to ensure the supply of planted timber to the industrial units in a sustainable manner and without harming associated natural ecosystems.

USD, IN THOUSANDS

2,428.00

**INVESTMENT IN THE PERIOD** 

<b>PERFO</b>	RMANCE	<b>INDICATOR</b>
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### **PERIOD**

### **ENVIRONMENTAL BENEFITS**

Carbon sequestration by area (tCO<sub>2</sub>eq), considering planted areas

July/2019 to June/2020

7,861,813.84 tCO<sub>2</sub>eq

**FOREST** 



To ensure compliance with the principles and criteria of FSC® certification (Forest Stewardship Council®), a schedule of periodic internal and external audits is part of Klabin's environmental management system. Internal audits are conducted by own employees that are trained to check forest processes; external audits are conducted annually by an entity accredited by the FSC to evaluate the certification system. Green bond funds were allocated to audit-related activities in part of the Company's forest units.

USD, IN THOUSANDS

30.00

INVESTMENT IN THE PERIOD

PERFORMANCE INDICATOR	PERIOD	ENVIRONMENTAL BENEFITS
Total certified areas (in hectares)	July/2019 to June/2020	203,640.75

# FOREST CERTIFICATION PROGRAM FOR SMALL RURAL PRODUCERS

Most of the wood used in Klabin's production processes comes from its own pine and eucalyptus forests, with FSC\* (FSC-C022516). Approximately 40% of the total wood intended for production is acquired from third-party forests, members of the Fomento Florestal program or independent producers. The allocated green bond funds were used for the acquisition of wood from July 2019 to June 2020.

Since 2013, Klabin maintains the Program for Forest Certification for Small and Medium Farmers in the region of Campos Gerais, state of Paraná, intended for producers that participate in the Forestry Incentive Program as well as independent producers. Purchases from these producers reinforce the Company's commitment to prioritizing the

use of certified wood deriving from sustainable production processes. The certificate is an affirmation that the timber producer operates with social and environmental responsibility and follows global forestry management standards.

The certification also adds value to the wood marketed by these producers, with benefits extending throughout the entire production chain. Klabin finances the process along with rural producers in Paraná and Santa Catarina, which have specialized consultants.

In Paraná, the program has been carried out since 2013 and, in Santa Catarina, since 2017. In 2019, the first group certification was carried out with producers from Santa Catarina. USD, IN THOUSANDS

678.00

INVESTMENT IN THE PERIOD

#### **PERFORMANCE INDICATOR**

## PERIOD

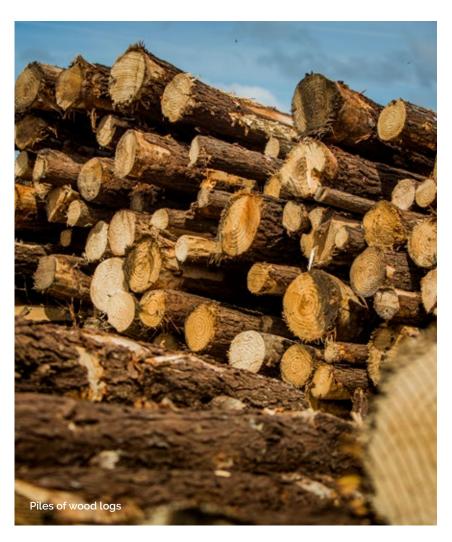
#### **ENVIRONMENTAL BENEFITS**

Total areas owned by certified small and medium-sized rural producers (in hectares)

July/2019 to June/2020

110,046.71 hectares in PR and 2,621.07 hectares in SC

## PURCHASE OF WOOD



USD, IN THOUSANDS

69,804

### INVESTMENT IN THE PERIOD

To ensure the sourcing of timber purchased from independent suppliers that do not participated in the Forestry Incentive Program, Klabin maintains the Controlled Timber Program, where suppliers have their properties assessed based on specific methodology related to FSC® chain of custody certification, including economic management aspects, environmental compliance and social impacts. These producers undergo annual maintenance audits, carried out by the Institute for Agricultural and Forest Management and Certification (Imaflora).

PERFORMANCE INDICATOR	PERIOD	<b>ENVIRONMENTAL BENEFITS</b>
Certified wood from producers participating in the Small and Medium Producers Certification Program (in tons)	July/2019 to June/2020	2,923,480.88
Wood from producers participating in the Controlled Timber Program (in tons)	July/2019 to June/2020	1,617,336.57





## IMPROVEMENTS IN WASTEWATER MANAGEMENT

USD, in thousands

328

INVESTED IN INITIATIVES AND PROJECTS IN THE PERIOD



MAINTENANCE
OF WASTEWATER
QUALITY TO A
STANDARD OF
EXCELLENCE IN
OTACÍLIO COSTA
(SC)



MORE EFFICIENT
WASTEWATER
TREATMENT AT THE
MONTE ALEGRE
ETP (PR)

# IMPROVEMENTS IN WASTEWATER MANAGEMENT



USD. IN THOUSANDS

328.00

INVESTMENT IN THE PERIOD

Wastewater disposal is one of the focuses of attention for Klabin's environmental management. One hundred percent of wastewater generated in the industrial operations is treated at the Effluent Treatment Plants (ETPs), before discharge to the water bodies. Treatment is monitored both internally and by a third party, in compliance with all legal requirements.

Green bond funds were allocated to investments for improving Klabin's ETPs in Otacílio Costa (SC), Manaus (AM) and Telêmaco Borba (PR), as detailed below.

## COOLING TOWER AT THE OTACÍLIO COSTA UNIT ETP (SC)

Resources allocated for improvements to the unit's Effluent Treatment Plant (ETP), including the refurbishment of a cooling tower. This structure is essential to obtaining mild temperatures for wastewater treatment, especially in the summer, in order to maintain BOD\* levels and wastewater quality at a standard of excellence, such as those that Klabin already has (less than 10% of the legal limit).

\*BOD: Biochemical Oxygen Demand = amount of oxygen consumed to break down the organic matter present in water.

## **MANAUS UNIT ETP (AM)**

The installation of a new ETP at the Manaus Unit aims to unify wastewater treatment from three sources – boiler, paint ETP and glue ETP – in order to improve the process and comply with current environmental legislation and conditions of the Operating License.

Green bond funds were allocated to the scopes of soil drilling and structural design, already completed. The new system will expand the treatment capacity to 20 m³/day. With the installation of a new filter press (which separates liquid material from solids) foreseen in the project, it is expected to reduce the sludge disposal volume.



## ETP OF THE MONTE ALEGRE UNIT IN TELÊMACO BORBA (PR)

The investments were allocated to improvements that include the refurbishment of the centrifuge and replacement of equipment such as pumps and valves. The main purpose was to establish basic conditions for ETP equipment to reduce unavailability events that impact the sludge balance of the

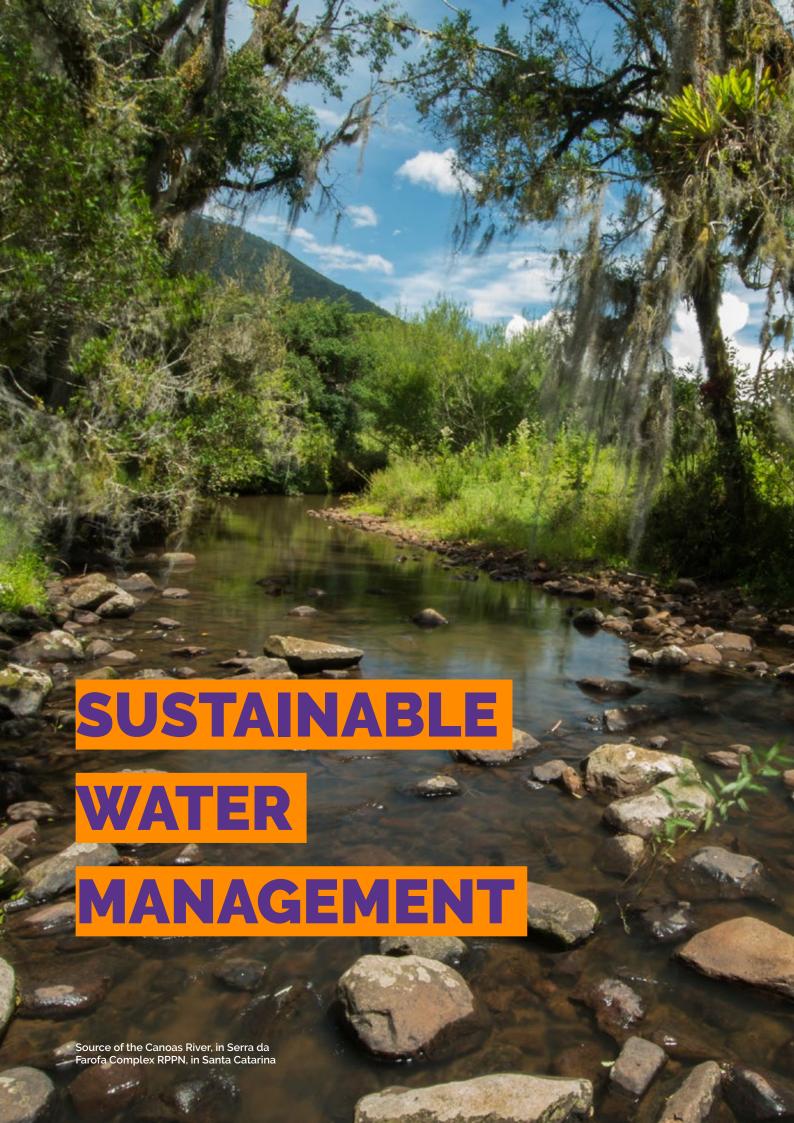
system and, consequently, the efficiency of removing the organic load from the wastewater.

In June 2020, the refurbishment of centrifuges and the acquisition of spare geared motors were completed. The manual and flow control valves will be installed during General Shutdown of the Unit in February 2021, as well as the replacement of the instrumentation network.

The actions already taken made it possible to obtain a reduction in the number of equipment outages, with the reestablishment of the basic conditions, resulting in an increase in the COD removal capacity\*.

\*COD: \*Chemical Oxygen Demand = amount of oxygen needed to break down organic matter by chemical means

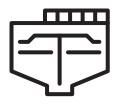
PERFORMANCE INDICATOR	PERIOD	<b>ENVIRONMENTAL BENEFITS</b>
BOD concentration per liter of wastewater treated at the Otacílio Costa ETP	July/2019 to June/2020	Average of 5 mg/l, maintaining a level 12 times lower than the legal limit
Manaus ETP treatment capacity	July/2019 to June/2020	Treatment of 20 m³/day
COD removal at the Monte Alegre ETP (evolution in %)	July/2019 to June/2020	6% increase in COD removal capability





USD, in thousands

4,789 INVESTED IN THE PERIOD



**NEW** BOILER WATER **TREATMENT PLANT** 



85,200 M<sup>3</sup>/YEAR IN **EXPECTED WATER SAVINGS** 

## **DEPLOYMENT OF NEW ETAC**

USD, IN THOUSANDS

4,789.00

INVESTMENT IN THE PERIOD

The project to install a new Boiler Water Treatment Plant (ETA) at the Monte Alegre Unit, in Telêmaco Borba (PR), required investments allocated from the green bonds to purchase equipment and a civil engineering project. The new structure, which should come online in the second half of 2021, will allow, in addition to water savings, greater treatment efficiency.

PERFORMANCE INDICATOR	PERIOD	ENVIRONMENTAL BENEFITS
Decrease in water consumption/ losses	Annual estimate, as of 2021	Expected reduction of water consumption to 85,200 m³/year





## ENERGY GENERATION PROJECTS FROM RENEWABLE SOURCES

USD, in thousands

6,119

INVESTED IN INITIATIVES AND PROJECTS IN THE PERIOD





REDUCTION
OF GREENHOUSE
GAS (GHG) EMISSIONS

OF RENEWABLE
FUELS IN THE
KLABIN ENERGY
MATRIX TO
89.5%

RENEWABLE ENERGY GREEN BOND 2049



USD, IN THOUSANDS

5,760.00

#### INVESTMENT IN THE PERIOD

The production of Tall Oil (a byproduct of pulp processing) – considered as a source of clean energy, which reduces the consumption of oil as a fuel, the emission of greenhouse gases

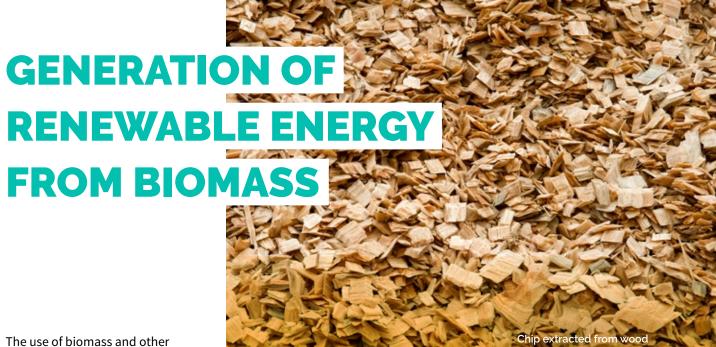
(GHG) and CO<sub>2</sub> emissions to the atmosphere – made from the soap generated at the Monte Alegre and Puma Units, demonstrates, since January 2020, that Klabin is concerned with the energy issue at its factories, with the efficiency of its production process and with eco-efficiency, transforming the process into successful results in the environmental, social and economic aspects through technology.

The entire process is conducted in a unit specific for this purpose, installed in the evaporation area of the Puma Unit, in Ortigueira (PR) and to which the green bond funds were allocated. The works started in January and were completed in November 2019, with the first indicators monitored as of January 2020.

The installation of the plant is expected to reduce oil consumption in the lime kilns by approximately 16,600 tons, from the average production of 2.5 t/h of tall oil. The operation of the new plant is carried out in 24/7 shifts, with eight cleaning hours per week.

PERFORMANCE INDICATOR	PERIOD	ENVIRONMENTAL BENEFITS
Reduction of greenhouse gas emissions	January/2020 to June/2021	Reduction of 9,896.3 tCO <sub>2</sub> eq in the period
Fuel oil consumption avoided	January/2020 to June/2020	In the period, the amount of oil avoided was 3175.4 tons (1.25 tons per hour, on average)

RENEWABLE ENERGY GREEN BOND 2027



recovered inputs as an energy source, replacing fossil fuels, is the focus of Klabin's environmental management, whose energy matrix currently comprises 89.5% of renewable sources (biomass and black liquor – waste from the pulp manufacturing process – and hydroelectric power).

In April 2020, Klabin began installing a biomass boiler at the Piracicaba Unit (SP), operating 24 hours a day, replacing three natural gas and one oil boilers. In addition to an alternative to burning fossil fuel (natural gas and oil) by burning renewable biomass fuel, the project aims to reduce the cost of generating steam (energy).

The expectation is that, with the use of biomass fuel, emissions will be reduced by 59% for NOx (nitrogen oxide), 99% for SOx (sulfur oxide), 53% of PM (particulate matter) and 77% of greenhouse gases (GHG) and will also contribute to increasing the share of renewable fuels in the Company's energy matrix.

In addition to the Piracicaba Unit (SP), Klabin's operations in Paraná and Santa Catarina also received funds allocated from the green bonds for the use of biomass as an energy source, totaling USD 356 million between July 2019 and June 2020.

USD, IN THOUSANDS

359.00

INVESTMENT IN THE PERIOD

PERFORMANCE INDICATOR	PERIOD	<b>ENVIRONMENTAL BENEFITS</b>
Reduction of greenhouse gas	As of April/2020	Expected reduction of 26,675
emissions		tCO <sub>2</sub> eq/year





USD, in thousands

684

INVESTED IN INITIATIVES AND PROJECTS IN THE PERIOD



REDUCTION
IN OIL
CONSUMPTION AS
FUEL BY
1,300
TONS



**ENERGY**TRANSPORTATION
AND CONSUMPTION

ENERGY EFFICIENCY GREEN BOND 2027

# HYDROGEN PIPE EXCHANGE

USD, IN THOUSANDS

684

# INVESTMENT IN THE PERIOD

To promote the transportation of hydrogen, a gas used as a clean energy source option, a pipe produced with specific material for this purpose was installed at the Puma Unit in Ortigueira (PR).

The pipe is made of Fibre-reinforced plastic (FRP), has high resistance to corrosion and fire with low flame propagation, in addition to being supplemented with graphite and carbon to provide the characteristic of electrical conductivity.

The implementation of the new project started in May 2019 and the hydrogen burning conducted by the Unit's new production line began in February 2020. The installation of the new pipeline is expected to reduce oil consumption by 1,300 tons and there will be a reduction in greenhouse gas (GHG) emissions, which with the use of hydrogen are lower compared to other fuels.



PERFORMANCE INDICATOR	PERIOD	ENVIRONMENTAL BENEFITS
Emissions avoided by the equivalent amount of unconsumed fossil fuel	July/2019 to June/2020	Avoided emission of 7,183,846 tCO <sub>2</sub> eq

ENERGY EFFICIENCY GREEN BOND 2027







# INDUSTRIAL AND PACKAGING OPTIMIZATION PROJECTS

USD, in thousands

7,301

INVESTED IN INITIATIVES AND PROJECTS IN THE PERIOD



# REDUCED

IMPACT AND
COMPLAINTS ABOUT
ODOR AND GAS
EMISSIONS IN
THE COMMUNITIES
SURROUNDING THE
UNITS



# EFFICIENT AND SUSTAINABLE

PRODUCTION
TECHNOLOGIES
TO MEET GLOBAL
CONSUMER DEMAND





In order to mitigate the noise resulting from industrial production and reduce the impacts to the community around the factory, noise attenuating devices were installed at the ends of the steam outlet pipes for the paper machines and the boiler at the Monte Alegre Unit in Telêmaco Borba (PR), whose work was completed in May 2019 after the plant's General Shutdown.

Within the project and included in the plan for improvements and modernization of the plant, the installation of silencers was also conducted on paper machines 6 and 7 and on the power boiler 6, responsible for energy production. The improvements are among the noise reduction projects with resources allocated from the green bonds.

Klabin has been constantly testing the performance and operation of silencers by measuring the sound's noise range and records indicate gradual reductions. The main point of reference is the unit's aerial tram, in which measurements indicated the volume of 52 decibels, on average, below the target limit of 60 decibels.

From the beginning to the completion of the project (April 2019 to June 2020), there was a reduction

USD, IN THOUSANDS

11.00

INVESTMENT IN THE PERIOD

in the number of complaints about noise at the Monte Alegre plant until the indicator reached zero, a fact that demonstrates the effectiveness of the applied technology.

PERFORMANCE INDICATOR	PERIOD	ENVIRONMENTAL BENEFITS
Noise level	July/2019 to June/2020	Volume reduction to 52 decibels, below the target of 60 decibels
Number of noise-related complaints from the Monte Alegre plant	April/2019 to June/2020	Number of formal complaints by the community dropped from 5 to 0

PRODUCTS THAT ARE ECO-EFFICIENT AND/OR ADAPTED TO THE CIRCULAR ECONOMY, PRODUCTION TECHNOLOGIES AND PROCESSES

# REDUCTION OF ATMOSPHERIC EMISSIONS

**USD. IN THOUSANDS** 

4,768.00

INVESTMENT IN THE PERIOD

In 2019, Klabin took another important step in managing atmospheric emissions with the project to build a new incinerator, which has a 60 meter high chimney and contributes to the dispersion of treated gases in the atmosphere at the Monte Alegre Unit (PR). The equipment captures and treats Non-Condensable Gases (NCG), contributing to the decrease of TRS (Total Reduced Sulfur) emissions, in accordance with current legislation (Conama No. 436/2011).

These gases are generated during the pulp manufacturing process. NCGs are atmospheric pollutants released with large amounts of steam and moisture and feature a characteristic bad odor. They can be classified as concentrated (CNCG) and diluted (DNCG) gases, are highly toxic and flammable.

Emissions must be encapsulated from the sources through a collection system and gases are sent for burning in the incinerator.

Resources obtained with green bonds were allocated for the execution of the work, which began in the second half of 2019 and also includes the renewal of an existing incinerator. The combination of the two pieces of equipment will provide for an increased prevention capacity in the event of failure in one of the incinerators, thus ensuring additional initiatives to prevent the release of odors in the Unit's surrounding community.

The new system is currently undergoing a thorough assessment and adjustments. It is expected that the initiatives also contribute to the reduction of particulate matter

content in the chimney, which should reach a maximum of 50 mg/Nm³; and with an SO₂ content at the outlet of the incinerator chimney of 280 mg/Nm³ or less. Its burning capacity is 54,000 Standard Cubic Meter per hour (Nm³/h) of CNCG and DNCG. The content of TRS (Total Reduced Sulphur) with H₂S (sulfidric gas or hydrogen sulfide), substances responsible for the characteristic odor of production, should be equal to or less than 10 mg/Nm³.

# **UPDATED DEADLINES**

The renovation of the existing incinerator at the Unit, scheduled for May 2020, was postponed due to the COVID-19 pandemic. The team working on the project had to be reassigned and a new front of action will be devised by the Company.

PERFORMANCE INDICATOR	PERIOD	<b>ENVIRONMENTAL BENEFITS</b>
Reduction of atmospheric emissions	From January/2020	Reduction of the atmospheric emissions concentration, such as particulate matter, SO <sub>2</sub> (280 mg/Nm <sup>3</sup> ) and TRS (total reduced sulfur)
DNCG emission during the pulp manufacturing process into the atmosphere	From January/2020	Decreased atmospheric DNCG emissions (54,000 Nm³/h)
Number of odor-related complaints by the community	From December/2020	No complaints for the period while the incinerator was in operation



In order to improve air quality and reduce particulate matter emissions from the combustion of boilers, Klabin developed a project to deploy an Electrostatic Precipitator at the Correia Pinto (SC) and Otacílio Costa (SC) Units.

The setup of the equipment is part of a plan to adjust the Company's atmospheric emissions to comply with Resolution No. 436, dated December 22, 2011, of the National Environment Council (Conama), which establishes the maximum pollutant emission thresholds for

installed fixed sources, and the Term of Commitment No. 115/2016, signed with the Santa Catarina Environment Institute (IMA).

The Correia Pinto Unit has two precipitators in operation, while the power boiler at the Otacílio Costa Unit is not yet equipped with the technology. The project is scheduled to start in January 2022 and aims at reducing the impact generated on the communities surrounding the plant, complaints arising from the occurrence of soot or particles in the houses

USD, IN THOUSANDS

331.00

# INVESTMENT IN THE PERIOD

and the risk of environmental fines due to non-compliance with current resolutions.

PERFORMANCE INDICATOR	PERIOD	<b>ENVIRONMENTAL BENEFITS</b>
Particulate matter in atmospheric emissions from boiler combustion (Correia Pinto Unit/SC)	From January/2022	Reduction of particulate matter emissions in the atmosphere by 50mg/Nm³ against the legal threshold of 240mg/Nm³
Particulate matter in atmospheric emissions from boiler combustion (Otacílio Costa Unit/SC)	As of June/2021	Reduction of particulate matter emissions in the atmosphere by 50mg/Nm³



Klabin deployed a collection, transportation and incineration system for diluted non-condensable gases (DNCG) from several sources in previously mapped areas, corresponding to the evaporation, caustification (lime kilns) and pulp processes at the Correia Pinto Unit (SC). The project, carried out from July 2018 to July 2019, as geared towards reducing the odor of gases from production and benefit the communities surrounding the plant.

The green bond resources allocated to the project financed the installation of the system that collects DNCG in generating sources and sends them for incineration in the Power Boiler. The initiative remains in operation and performs as expected in terms of reducing gas emissions and complaints due to odor.

USD, IN THOUSANDS

172.00

INVESTMENT IN THE PERIOD

PERFORMANCE INDICATOR	PERIOD	ENVIRONMENTAL BENEFITS
Percentage of DNCG emissions	July/2019 to June/2020	83% reduction in the emission of DNCG, resetting the complaints rate of the local community

# OPTIMIZATION OF FRUIT PACKAGES/REPLACEMENT OF TRAYS MADE OF PLASTIC OR CARDBOARD WITH POLYETHYLENE

USD, IN THOUSANDS

789.00

INVESTMENT IN THE PERIOD

To keep up with global behavior changes towards more sustainable manufacturing and consumption practices, Klabin developed a new corrugated paper tray which is biodegradable and replaces plastic and Styrofoam (EPS) as the product's raw material.

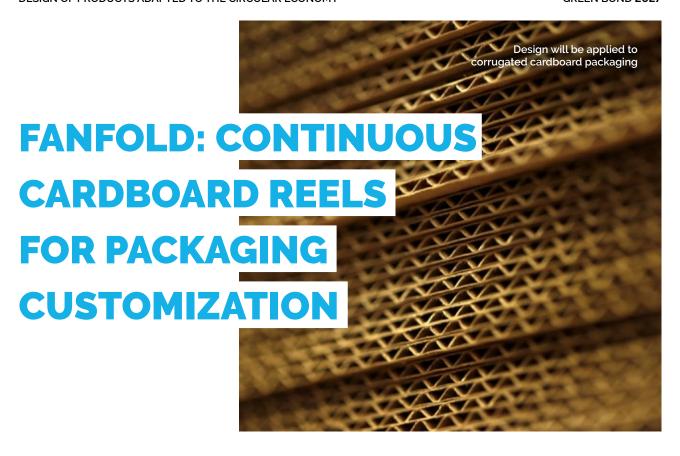
To that end, the Company purchased new box assembly machines that automatically produce trays using paper manufactured in its own facilities. The measure is expected to optimize the process and reduce the use of polyethylene and polystyrene, avoiding its application in about 720 tons of packages that would be sent to market.

After researching several options on the market, an innovative model was found that allows not only to produce the trays, but to deliver them assembled to customers. And to conform the process to the purpose of reducing the amount of plastic in the

environment, the manufacturing of packages with 100% corrugated paper closing is undergoing testing – an initiative aimed at eliminating the use of plastic for sealing or protecting the food.

The trays are intended for the packaging of vegetables and fruits. They are sold through contracts with retail chains and ensure stability of the goods from transport to display. Over 2 million paper trays have already been sold between July 2019 and June 2020. The product consists of corrugated paper from clean fibers, free from contaminants and from sustainable and renewable sources, made from Klabin's planted and certified forest.

PERFORMANCE INDICATOR	PERIOD	ENVIRONMENTAL BENEFITS
Amount of polyethylene used in production – Jundiaí Unit (SP)	July/2019 to June/2020	Reduction of 720 tons per year
Styrofoam packaging replaced by paper packaging – Goiana Unit (PE)	July/2019 to June/2020	325,000 trays



In an effort to expand the customization options for the production of corrugated cardboard to customers and to contribute to reducing environmental impacts, Klabin acquired a Fanfold reel device (folding and continuous material), which allows manufacture in shapes and amounts to fulfill specific demands.

Cardboard bales are pre-marked to meet customer specifications (such as the shape and size of a box) in the process, which will be available at the Piracicaba Unit (SP) as of the first half of 2021, helping to reduce material production losses, as well as supply waste. The equipment allows the manufacture of paper in a wide range of weights and customization choices.

Through a digital scanner integrated to the box assembly device, products are measured, allowing packages to be manufactured in the minimum required size for stowage.

Klabin assessed the product's market potential, carried out feasibility calculations,

prospected customers and went after qualified suppliers

worldwide. The equipment should be delivered by the supplier in February 2021, when the Unit will be set to start production.

**USD. IN THOUSANDS** 

448.00

INVESTMENT IN THE PERIOD

PERFORMANCE INDICATOR	)R
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Percentage of raw material use in packaging

### **PERIOD**

January/2021 to December/2021

### **ENVIRONMENTAL BENEFITS**

30% reduction of raw material in packaging production



USD, IN THOUSANDS

**781** 

# **INVESTMENT IN THE PERIOD**

In March 2020, Klabin was awarded in the Innovation in Packaging category of the 11th edition of the PPI Awards, from Fastmarkets RISI's, in an event held in Lisbon – a major global acknowledgement in the paper and pulp industry. The award came as a recognition for the development of Eukaliner®, a kraftliner made exclusively with eucalyptus fiber which has already been tested by customers in Europe, the United States and Latin America.

Eukaliner® is a competitive product offering customers a great deal of benefits, from requiring reduced planted areas for paper manufacture (about 10 times less against market practice for the same final volume of paper), with

potential paper weight and volume reductions providing the same final structure for the boxes, in addition to optimizing the manufacture process of corrugated cardboard packaging (due to a lower demand for steam, better performance and speed of corrugators).

Large-scale production is scheduled for May 2021 at the Puma II Unit. A 10-15% drop in the steam consumption is expected after deployment. Green bond resources were allocated to cover the project's production costs.

PERFORMANCE INDICATOR	PERIOD	ENVIRONMENTAL BENEFITS
Water used for pulp production against the conventional product	From 2021	10% reduction (on a 10,000 box basis)
Percentage of carbon sequestration against the conventional product	From 2021	38% more CO <sub>2</sub> sequestered against other types of wood (tCO <sub>2</sub> /ha/year/ on a 10,000 box basis)
Steam consumption (energy)	From 2021	10-15% reduction



# **APPENDIX A**

# 2020 MANAGEMENT REPORT ON ELIGIBLE PROJECTS

Klabin is responsible for the completeness, accuracy and validation of the Green Bond Resource Use Statement (Appendix B). We hereby declare through this resource use report that the net resources in the amount of approximately BRL 400 million (equivalent to approximately USD 86 million) between July 2019 and July 2020 (Green Bond 27), approximately BRL 24 million (equivalent to approximately USD 5.7 million) between April 2019 and September 2020 (Green Bond 49) and approximately BRL 22.6 million (equivalent to approximately USD 4.7 million) were allocated to Retap in 2019 (Notes 2029) in qualified eligible projects that meet the following Eligibility Criteria:

CRITERIA	DESCRIPTION
Renewable Energy	Green bond resources may be allocated to capital expenditures necessary for the development, construction, installation, operation and upgrading of facilities that reduce greenhouse gas (GHG) emissions by replacing fossil fuels with renewable sources and increased energy efficiency.
Sustainable Forestry Management	Green bond resources may be allocated to capital expenditures necessary for the sustainable management of FSC® certified eucalyptus and pine forests, including new planting and maintenance activities in wholly owned and third party areas, as well as the purchase of certified timber.
Native Forest Restoration and Conservation of Biodiversity	Green bond resources may be allocated to capital expenditures necessary for activities that maintain existing restricted conservation areas or develop new restricted conservation areas, including: restoration and conservation of native forest cover on degraded lands and biodiversity, Good Forests Program and fauna conservation by the Klabin Ecological Park.
Sustainable Water Management	Green bond resources may be allocated to capital expenditures necessary to build and maintain infrastructure that reduces water consumption in the industry.
Products that are Eco-efficient and/or Adapted to the Circular Economy, Production Technologies and Processes	Green bond resources may be allocated to expenses that support Klabin's Industrial and Forestry Research Centers; facilitate the use of packaging made of FSC® certified raw materials and recycled materials; promote less use of packaging materials and prolong the shelf life of packaging materials.
Adaptation to climate change	Updating of forest, industrial and logistical processes to reduce impacts on climate patterns and local ecosystems, minimizing greenhouse gas emissions and the use of harmful substances.

# **APPENDIX B**

# **USE OF RESOURCES 2019-2020**

ELIGIBILITY CRITERIA	INITIATIVES	BRL, IN TH	IOUSANDS	<b>EQUIVALEI</b>	NT IN USD
		<b>2019</b> (JULTO DEC)	2020 (JANTO JUN)	<b>2019</b> (JUL TO DEC)	<b>2020</b> (JAN TO JUN)
Native Forest	Control of Invasive Exotic Species	697	380	172	77
Restoration and Conservation of	Matas Legais [Good Forests]	423	170	104	35
Biodiversity	Matas Legais Seedlings	7	-	2	-
	Crescer Florestal Program	38	38	9	8
	Biodiversity Monitoring Program	377	48	93	10
	Crescer Florestal Program	46	55	11	11
	Protetores Ambientais Program	16	5	4	1
	Ecological Park	1,511	1,202	373	244
	Programa Caiubi [Caiubi Program]	107	18	26	4
Adaptation to Climate	Fire prevention measures	6,237	6,829	1,538	1,387
Change	Management Microplanning	2,720	851	671	173
Sustainable Forestry	Purchase of Wood	63,284	266,819	15,609	54,195
Management	Forestry	5,522	5,250	1,362	1,066
	Producers Certification	1,667	1,315	411	267
	Forest Certification	121	-	30	-
Waste and wastewater management	Improvements in wastewater management	666	807	164	164
Sustainable Water Management	Deployment of new ETAC	4,450	18,173	1,098	3,691
Renewable Energy	Renewable Energy Generation	21,480	4,041	5,298	821
Energy Efficiency	Hydrogen pipe exchange	-	3,366	-	684
Products that are	Noise Reduction MA CD6	43	-	11	-
Eco-efficient and/or Adapted to the Circular Economy, Production	Reduction of Atmospheric Emissions	17,188	5,082	4,239	1,032
Technologies and Processes	Design of products adapted to the circular economy	7,287	1,090	1,797	221
Subtotal		133,888	315,537	33,023	64,091
TOTAL		449,425		97,113	

# HISTORY (2015 TO 2020) TOTAL X VERIFIED EMISSION

ELIGIBILITY CRITERIA	TOTAL BY CATEGORY BRL, IN THOUSANDS	TOTAL BY CATEGORY EQUIVALENT IN USD
Native Forest Restoration and Conservation of Biodiversity	41,244	11,680
Renewable Energy	139,530	39,290
Waste management	26,391	7,582
Clean Transport	82,062	23,859
Energy Efficiency	7,089	1,771
"Sustainable Forest Management"	840,064	216,347
Sustainable Water Management	22,818	4,839
Products, technologies and processes that are eco-efficient and/ or adapted to the circular economy	129,298	36,031
Adaptation to Climate Change	16,636	3,769
Total verified	1,305,131	345,168
Emission		1,200,000



For details on resource use history, see the previous reports.



### **ASSURANCE STATEMENT - BUREAU VERITAS**



Bureau Veritas Certification Brasil (Bureau Veritas) was engaged by Klabin S.A. (Klabin) to provide limited assurance over Klabin's Green Bond Report, dated September 2020.

This assurance was conducted by a multidisciplinary staff with expertise in financial and non financial data.

### CONCLUSION

Based on the work we have performed and the evidence we have obtained we believe that Klabin's Green Bond Report has been properly prepared, in all material respects, following the reporting criteria.

We evidenced the allocation of Green Bond proceeds in projects, clearly and objectively identified in the Green Bond Report.

### **SCOPE OF WORK**

The scope of work included:

- 1. Sustainable Forest Management
- 2. Restoration of native forests and conservation of biodiversity
- 3. Renewable energy
- 4. Energy efficiency
- 5. Eco efficient Products, production technology and processes
- 6. Climate change adaptation
- 7. Waste management
- 8. Sustainable water management

The verified data and information refer to the period from July 2019 to June 2020.

This assurance was performed due to the issuance of USD 1,2 billion in Green Bonds by Klabin Finance S.A. and Klabin Austria S.A. on September 2017, April 2019 and January 2020, guaranteed by Klabin S.A. In the period between March and May 2020, Klabin repurchased US \$ 9.5 million notional, related to the Bond issued in 2017, providing it with greater liquidity and reducing the debt.

The scope of our work was limited to assurance over the allocation of bond proceeds and impact reporting as stated in Klabin's Green Bond Report, dated September 2020.

Financial data were verified in local currency (Reais).

### KLABIN'S AND BUREAU VERITAS RESPONSIBILITIES

The collection, calculation and presentation of the data published are Klabin's management sole responsibility. Bureau Veritas is responsible for providing an independent opinion to Klabin, pursuant to the scope of work defined in this statement.

# METHODOLOGY, LIMITATIONS AND EXCLUSIONS

The Assurance covered the following activities:

- Interviews with the personnel responsible for the Green Bond Report preparation, evaluation and monitoring, specially the areas of sustainability, treasure, environmental (forestry and industry), and controlling;
- Traceability of financial and non financial data, including planning and monitoring of disbursed proceeds;
- Collection of evidences related to the use of Green Bonds Proceeds and associated projects & Assets;

The level of verification adopted was Limted, according to the requirements of the ISAE 3000 Standard<sup>1</sup>, which were incorporated to the internal assessment protocols of Bureau Veritas.

Excluded from the scope of this work was any assessment of information related to activities outside the defined assessment period.

# **TECHNICAL OPINION - SUSTAINABLE FOREST MANAGEMENT**

- We evidenced the use of Green Bonds proceeds in areas that are properly certified by FSC<sup>®</sup>:
- We evidenced appropriated systems that support process flows and operational costs control regarding the use of proceeds from green bonds issued between July 2019 and June 2020.

# TECHNICAL OPINION – RESTORATIONS OF NATIVE FOREST AND CONSERVATION OF BIODIVERSITY

- Klabin demonstrated appropriate increase of biodiversity in areas engaged with the projects Matas Sociais and Matas Legais;
- We evidenced actions regarding the control of invasive exotic species;
- Klabin's restoration areas contribute directly to carbon sequestration.

# TECHNICAL OPINION – WASTE, WATER AND ENERGY MANAGEMENT (INCL. ENERGY EFFICIENCY)

- We evidenced the installation of an intelligent blowing system in the recovery boiler at the Puma unit.
- We noticed sufficient data on the increase in (1) the capacity of the Sanitary Effluent Treatment Station and (2) the treated volume in the Industrial Treatment Station at the Monte Alegre unit;
- Klabin demonstrated sufficient data as regard to the renovation of a cooling tower to adjust the temperature of the effluents entering the biological treatment station at the Otacílio Costa unit:
- At the Puma unit we also evidenced continuation in the installation of a Crude Tall Oil production plant;

1International Standard on Assurance Engagements 3000 – Assurance Engagements other than Audits or Reviews of Historical Financial Information

### TECHNICAL OPINION - CLIMATE CHANGE ADAPTATION

 We obtained sufficient evidence on the use of proceeds in protection of the company's forest assets, such as prevention against fire and other kind of environmental damage.

# TECHNICAL OPINION – ECO EFFICIENT PRODUCTS, PRODUCTION TECHNOLOGY AND PROCESSES

 We obtained sufficient evidence of improvements actions of the incinerator that serves the Evaporation, Fiber Line and Caustification plants, with the aim of reducing emissions of TRS (total reduced sulfur) at the Monte Alegre unit.

# **DECLARATION OF INDEPENDENCE AND IMPARTIALITY**

Bureau Veritas Certification is an independent professional services firm specializing in Quality, Environmental and sustainability Management Systems, among other, with more than 185 years' experience in independent assessment.

Bureau Veritas has a quality management system that is certified by a third party, according to which policies and documented procedures are maintained for the compliance with ethic, professional and legal requirements.

The assessment team has no links with Klabin and the assessment is performed independently.

Bureau Veritas implemented and follows a Code of Ethics throughout its business, in order to assure that its staff preserve high ethical, integrity, objectivity, confidentiality and competence/professional attitude standards in the performance of their activities.

At the end of the assessment, a detailed report was drawn up, ensuring traceability of the process. This Report is kept as a Bureau Veritas management system record.

### CONTACT

Bureau Veritas Certification is available for further clarification on <a href="https://www.bureauveritascertification.com.br/faleconosco.asp">www.bureauveritascertification.com.br/faleconosco.asp</a> or by telephone (55 11) 2655-9000.

São Paulo, Brazil, September 2020.

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