



**brf**

Green Bond  
Report  
**2017**



# GREEN BOND REPORT

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BRF S.A. is a company whose purpose is to feed the world. A global food company, with headquarters in Brazil, and a history of more than 80 years. Through a portfolio of more than 4,000 products, we are present in the lives of consumers in more than 140 countries and account for 16.3% of the global trade of poultry, according to Watt Global Media.

We deliver convenient, practical and proper foods that cater to the needs of the various consumer profiles. One example of this are individually frozen products, that avoid waste, or products that go directly from the freezer to the oven, for everyday convenience. Our portfolio also includes in natura protein, margarines for different occasions, desserts, sandwiches, and mayonnaise, as well as several processed foods. In 2017, we entered the ingredients and pet food segment.

In recent years, our strategy has been to consolidate our presence in the Americas, Europe, Middle East, Africa, and Asia, relying on the strength of brands such as Sadia, Perdigão, Qualy, Perdix, Paty, Bocatti, Vienissima, Speedy Polo and Hilal.

We are today one of the largest privately-held companies in Brazil, with a market cap in excess of R\$ 25 billion. Our shares have been traded in the Brazilian stock exchange - B3 - for over a decade, and our securities are traded in the New York Stock Exchange (ADR - American Depositary Receipt - level III).

Ethics, integrity and transparency have always been part of our business, as well as our commitment to the quality of the products that for decades have been present on the tables of virtually every Brazilian home. We have in place governance and compliance policies in line with best practices in the industry, at national and global levels.

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## Sustainability Vision

We work to develop our understanding and comprehension of how sustainability can guide our businesses. As an influential Company, not only in the lives of consumers, but also in the markets, in the industry and in the day-to-day of communities, we have huge potential to generate benefits and mitigate natural impacts of a Company of our size could bring.

Our view of sustainability is broad and covers the sustainable growth of our business through compliance with laws and socio-economic and environmental respect. We also wish to leave a positive legacy, taking development, fair and transparent relations, and social gains to all those within our coverage area.

BRF's journey in this aspect covered a series of policies, publicly communicated since the end of the 2000s. Since 2009, we have been conducting a materiality process - based on which we map impacts and key relationships of the business, and determine how people perceive the Company, its challenges, opportunities and responsibilities.

## ECO-EFFICIENCY

BRF operates globally and is aware of its responsibility to promote the appropriate use of natural resources in its value chain. Our mission is to have an active value chain that preserves the environment where we operate, as well as in its neighborhood that extends to the post consumption.

Through the Health, Safety and Environment (HSE) management system, our Environmental Policy, internal corporate standards and references such as the ISO 14001 guidelines. Furthermore, by BRF System of Corporate Risks Management, we address the potential impacts and opportunities regards Environment.





# GREEN BONDS

In 2015, with the purpose of (i) providing further visibility of BRF's strategy on sustainability and related investments (ii) increasing diversification of BRF's investor base, the Company issued green bonds to finance green projects in our business divisions and operations. There are more than €500 million in resources to be used in environmental investments until 2022.

From 2015 until 2017 BRF has allocated €219,5 million in projects with environmental benefits.

## ELIGIBLE CRITERIA

To be eligible for the green bond proceeds, the projects funded must meet one or more of the following business activity criteria:

	<b>Energy Efficiency</b>	Energy efficiency is an important sustainability goal for BRF and is managed through the company's Energy Excellence Program, which promotes sustainable consumption.
	<b>GHG Emission Reduction</b>	Climate Change is an important issue considered in BRF's Environmental Policy. GHG emissions are managed in compliance with best practices applicable.
	<b>Renewable Energy</b>	BRF always sought operational efficiency and, mainly, by acting through a cleaner energy matrix, prioritizes renewable sources of energy.
	<b>Water Management</b>	Water management is a key practice in BRF's operations, BRF invests in projects in order to reduce water consumption.
	<b>Waste Management</b>	BRF continuously invests in the reduction, recycling and reuse of materials during the lifecycle of industrial products and processes, aiming at higher cost efficiency and reduction of environmental impacts.
	<b>Sustainable and Efficient Packaging</b>	In the search for more sustainable and efficient packaging, the projects developed are focused on reducing overall packaging in order to reduce the material consumption and the use of sustainable or recycled materials.
	<b>Sustainable Forest Management</b>	Eucalyptus cultivation with sustainable management practices. Areas of reforestation maintaining the equality of the soil and the biodiversity.
	<b>Yield</b>	The reduction of raw material use, in the form of animal feed for example, is a key sustainability consideration for BRF. This involves, among others, improving the animal feed, resulting in reduced consumption of grains and other raw material.

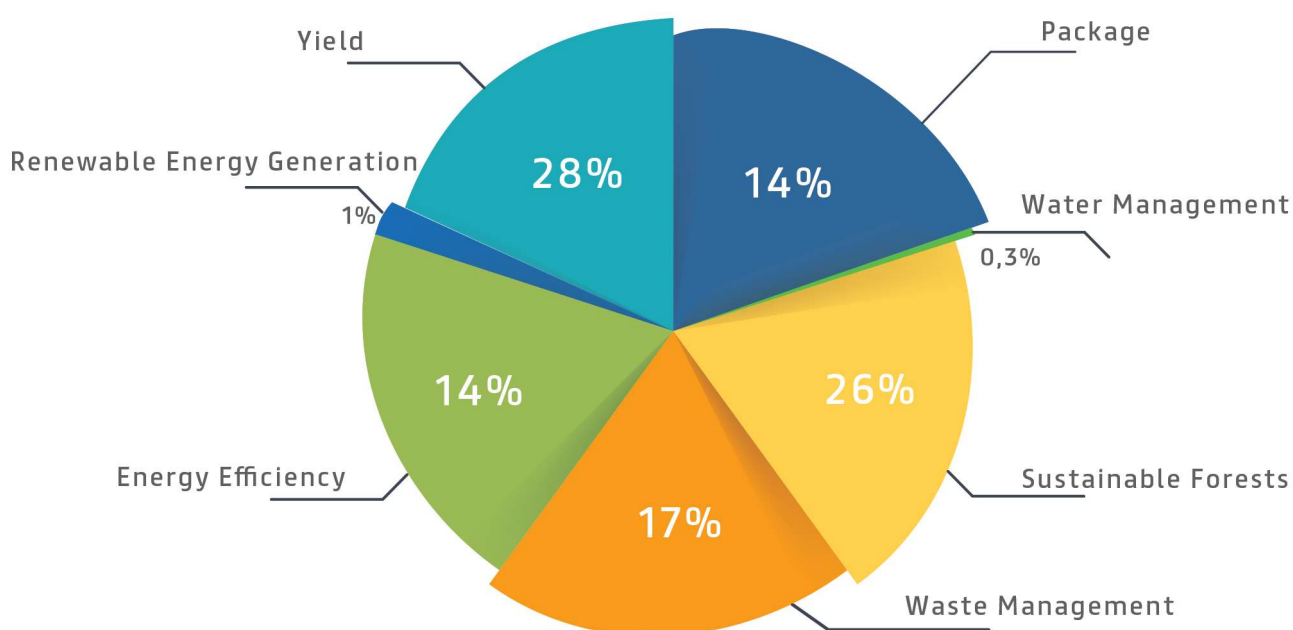




In 2017, R\$ 128.3 million were invested (€ 35.88 million<sup>1</sup>) in projects classified into one or more eligibility criteria set out in BRF green bonds.

Code	Categories	Total Allocated 2014/2015	Total Allocated 2016	Total Allocated 2017
EE	Energy Efficiency	R\$ 209,541,098	R\$ 46,157,377	R\$ 18,273,802
GE	Renewable Energy Generation	R\$ 21,958,859	R\$ 2,730,527	R\$ 693,794
SF	Sustainable Forests	R\$ 52,845,659	R\$ 31,586,045	R\$ 32,807,983
WC	Water Management	R\$ 26,832,757	R\$ 2,236,924	R\$ 384,626
WM	Waste Management	R\$ 39,912,719	R\$ 43,359,493	R\$ 21,933,797
PC	Package	R\$ 2,500,806	R\$ 28,415,050	R\$ 18,417,567
Y	Yield	R\$ 97,604,954	R\$ 31,648,297	R\$ 35,868,759
Total		R\$ 451,196,853	R\$ 186,133,714	R\$ 128,380,328

### % Cost Incurred 2017



<sup>1</sup>Brazilian official Exchange rate of the issue date: May 29th 2015 of R\$ 3.4941

## ENERGY EFFICIENCY

Energy consumption is an integral part of our risk management. BRF's Energy Excellence Program mobilizes corporate technical teams and technical teams from the units, managing efficiency in the use of this resource across the Company. We have in place the BRF Energy Committee, formed by the Engineering, Controllership and Procurement teams, which define strategies on a monthly basis to contract energy in BRF and in the value chain, considering the improvement of the acquisition cost, finding strategic partners for the development of sustainable projects, approving projects to reduce consumption and pass on guidelines to the production units.

**Total of costs incurred**

**R\$ 18,273,802**



Our goal is to achieve an overall reduction in energy consumption, with improvements in distribution centers, agricultural operations and plants in Brazil and abroad. In 2017, we remained 0.56% below the plan established for this global indicator for electricity (kWh/TPA), mainly as a result of operational actions and management of consumption and production processes and in critical equipment.

In 2017, there was no reduction in energy consumption. Several projects with increased energy consumption were initiated in order to address legislation and the company's quality standards, such as the increase in consumption in freezing for the Drip Test, aiming to more quickly reduce temperature. A significant number of operational and management initiatives are being developed to mitigate increasing energy consumption, with results expected for the coming years.

Subgroup	Code	Explanations	Costs Incurred in 2017
Reduction in pressure condensation	EE1	Condensation pressure reduction by replacing the current capacitors by more efficient equipment with 4%	R\$ 448,567.49
Lighting	EE3	Replacement of current illumination to for lower energy consumption and	R\$ 3,607,449.18
Reduction of fuel consumption	EE7	Automation of combustion systems by decreasing fuel consumption.	R\$ 6,858,207.13
Replacement of Equipments	EE9	Replacement of obsolete equipment for more efficient ones with lower power	R\$ 7,359,578.35

## GHG EMISSION REDUCTION

BRF is concerned in mitigate possible impacts generated by the emission of greenhouse gases (GHG) from its operations and its chain. For this, it has an Environmental Policy that includes the Climate Change Program. The program covers from Company's emissions inventory and mitigation measures, up to our adaptation and capability to analyze the risks and impacts of GHG emissions in our value chain.

BRF is a member of the Brazilian GHG Protocol Program and follows their methodology to calculate its inventory of greenhouse gases, reported externally on an annual basis. The GHG inventory is audited annually by an external company, and includes the analysis of the calculation tool, the baseline data used to calculate the emissions, as well as on-site visits to verify the information used, which issues a letter of assurance attesting to the information.

Our volume of GHG emissions is concentrated in the value chain, mainly in the agriculture of integrated producers (treatment and disposal of waste/manure) and in logistics processes (use of road transport and vessels). In the operation, we have a high ratio of renewable energy and have in place an environmental management system that results in a lower emissions profile.

BRF also has planted renewable forest as carbon stock. It has a positive impact on the environment, contributing to climate regulation and mitigating the impacts generated by its own activities.

## RENEWABLE ENERGY GENERATION

BRF prioritizes renewable sources of energy, and observes its commitments in relation to climate change.

BRF always sought operational efficiency and, mainly, by acting through a cleaner energy matrix, prioritizes renewable sources of energy, which indirectly promotes the reduction of greenhouse gases emissions.

In 2017, one hundred percent of the electricity purchased in the Brazilian free market was from renewable sources, ensuring diversification of suppliers and mitigation of climate risks.

**Total of costs incurred**

**R\$ 693,793.68**

**KPI**

94% of the total energy consumption from renewable sources



Subgroup	Code	Explanations	Costs Incurred in 2017
Power Plant Repowering	GE2	Increased capacity of hydroelectric energy generation, 100% renewable.	R\$ 693,793.68



## SUSTAINABLE FOREST

BRF always sought operational efficiency and, mainly, by acting through a cleaner energy matrix, prioritizing renewable sources of energy, which indirectly promotes the reduction of greenhouse gases emissions. As an important result, in 2017, 94 % of the direct energy consumption came from renewable sources. To achieve this goal, BRF uses forest biomass to provide energy (steam / heat) instead of using fossil fuels.

For this, BRF uses eucalyptus plantations and the investments are used to guarantee the sustainable management of the forests. It means that all trees that are harvested will be replanted, maintaining the soil quality and biodiversity. All areas of the company that are applicable to the New Forest Code (published in 2012) follow the schedule set by the Brazilian Institute of Environment and Renewable Natural Resources (IBAMA).

### Total of costs incurred

R\$ 32,807,983

### KPI

34,680 ha are the Renewable Forest area



Subgroup	Code	Explanations	Costs Incurred in 2017
Biomass production for power and steam generation in BRF plants. One of the main commitments of BRF today is the use of renewable energy.	SF1	Production of biomass in order to produce energy generation provide from renewable sources: own reforestation with sustainable management (assuring that all trees that are used are replanted, maintaining the soil quality and biodiversity).	R\$ 32,807,983

## WATER MANAGEMENT

The water management is a key practice in BRF's operations since the 90s. To reduce dependence on this resource BRF develops initiatives and efficiency projects to optimize and control water demand in the productive processes and reuse of water.

At BRF, we have goals and indicators for water consumption at each plant, regardless of the external thresholds set out by the abstraction grant, when applicable.

In 2017, we had an increase of 7.7% in BRF's total water consumption, compared with the previous year. This result is associated with the increased consumption in broiler cooling process which, in addition to complying with standards set out by the applicable legislation, was intended to improve the quality of our products.

We work on several fronts to improve our performance, including projects to reduce the use of water in equipment and modernization of infrastructure. We have energy excellence groups formed by members who are responsible for shutting down consumption points during breaks and nonproduction periods.

**Total of costs incurred**

**R\$ 384,626**

**KPI**

31% of water recirculation




Subgroup	Code	Explanations	Costs Incurred in 2017
Process optimization	WC6	Optimization on the processes of capturing, processing, storage and distribution of water supply.	R\$ 384,626.46

## WASTE MANAGEMENT

BRF operates in three fronts to control solid waste: reduction, recycling, and reuse of materials throughout its entire value chain, from suppliers to post-consumption. In the operation, the Company seeks cost efficiency combined with impact management. BRF also establishes goals to reduce the volume of waste, one of them linked to its Environmental Compliance Index: reducing the amount of waste generated, both recyclable and non-recyclable.

**Total of costs incurred**

**R\$ 21,922,797**



BRF also adopted measures to reuse byproducts in our production processes - in the case of sludge, a byproduct generated in treatment of effluents and used as a fuel mixture for the boilers, in compliance with legal requirements. In certain units, practically 100% of the sludge used comes from production, enabling a reduction in consumption of woodchips.

For composting, its main method for final disposal is transforming waste into organic fertilizer, with proper disposal from legal and environmental standpoints. Sorting for disposal of organic waste and other categories (recyclable and non-recyclable) is also adopted in administrative operations. All logistics centers also have a waste sorting structure.

Subgroup	Code	Explanations	Costs Incurred in 2017
Waste Reuse	WM1	Reuse of processes wastes as an alternative fuel for power generation.	R\$ 252,722.66
Reduce of waste generation	WM2	Equipments installation and process standardization in order to reduce waste generation.	R\$ 4,013,392.45
Process optimization	WM4	Optimization of storage processes, treatment and disposal of solid waste, wastewater, air emissions.	R\$ 259,171.37



## PACKAGE

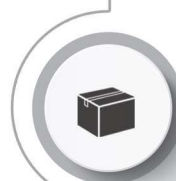
The search for more intelligent and sustainable ways to use materials is part of the routine at BRF. We developed a number of initiatives to restrict the impacts of materials associated with our products. Among them: we invested in projects to reduce grammage and the use of raw material in packaging, without prejudice to the needs of safety and stability of the product; and we initiated projects to mobilize and support the structuring of cooperatives and associations of waste collectors in regions close to our operations.

### Total of costs incurred

R\$ 18,417,567

### KPI

Review of 90% of corrugated cardboard packaging portfolio



In 2017, we consolidated the actions to replace paper packaging with flexible packaging and completed the work to review 90% of our corrugated cardboard packaging portfolio.

Packaging lost in production processes was sent to recycling, thereby reducing the impacts related to final products. For the products, the idea was to minimize environmental impacts related to loss of products, allowing for greater process efficiency, with a positive financial effect. Reduction in cases of product loss is directly associated with the business and with the sales, logistics and production processes, so that customer demand is met without generating excess inventory and recall of expired products.

Subgroup	Code	Explanations	Costs Incurred in 2017
Reduction of the consumption of raw materials in packaging of BRF's portfolio products; Substitution of raw material by alternative ones with lower environmental impact; Increase of the recyclability of the materials	PC1	Acquisition of equipments that allow the decrease of raw material or the use of recycled material on packages.	R\$ 18,417,567

## YIELD

The reduction of raw material use, in the form of animal feed, is a key sustainability consideration for BRF. This is related to the animal feed production and one of the main objectives is to improve the energy use of inputs/raw materials, always maintaining the proper nutrition of the animals. A project example is the change in feed format to a more adapted to the needs /feed capacity of the animals, preventing feed wastage.

Subgroup	Code	Explanations	Costs Incurred in 2017
Optimize the process in order to reduce the consumption of raw material	Y1	Improve the consistency of the feed resulting in a smaller consumption of grains and other raw material.	R\$ 35,868,759

One example of project implemented in 2017 in each Green Bond categories eligible.

## ENERGY EFFICIENCY AND RENEWABLE ENERGY

Project	Unit	Category	Description	Environmental benefits
Acquisition of capacitors sl maq. 1 and 4.	Chapecó (Brazil)	MR\$ 338	Project to reduce condensation pressure from 11.7 kgf/cm <sup>2</sup> to 11.3kgf/cm <sup>2</sup> . With this reduction it will be possible to reduce energy consumption to reach condensation pressure.	Reduction of 30,555 kWh/Month
LED lighting of Duque de Caxias Distribution Center	Duque de Caxias (Brazil)	MR\$ 488	Replacement of traditional lamps (metal vapor, solid vapor, fluorescente) by LED lighting of high performance.	Reduction of 102,126 kWh/month
Construction of new warehouse in Uberlandia	Uberlândia (Brazil)	MR\$ 17,540	Construction of new warehouse in Uberlandia, with structure to meet the needs of unit manufacturing plant, reducing the freight.	The project implementation was responsible to reduce 652 liter of fuel / month. So, it was possible to reduce the emissions of 19.48 tCO <sub>2</sub> e / year.
Project COPEL Toledo	Toledo (Brazil)	MR\$ 3,435	Replacement of low performance engines for equipment of high performance.	Savings of 485,000 kW/h



## RENEWABLE ENERGY GENERATION

Project	Unit	Category	Costs Incurred	Description	Environmental benefits
Repowering of Salto de Leão plant	Herval D'Oeste (Brazil)	WC6	MR\$ 693,794	Installation of a generator set with a generating capacity of 3100 kW, with a one-pass power generation of 4000 kW, with a total of 1,764,000 kWh / month	Increase of 400% of generation of renewable energy. Total of 1,764,000kWh/month of renewable energy for plant.

## WATER EFFICIENCY AND WASTE MANAGEMENT

Project	Unit	Category	Costs Incurred	Description	Environmental benefits
Acquisition of new water pipeline in Marau.	Marau (Brazil)	WC6	MR\$ 1,600	The water conduit was manufactured in 8-inch cast iron, presenting a high degree of corrosion, with water leakage. The energy consumption to transport the water is not indicated for the abstracted flow. The project foresees a acquisition of new water pipeline.	Reduction of water consume ~300m <sup>3</sup> /Month.
Fertilization - Farm PAMPA 1 and 2	C.Austral (Argentina)	WM1	M US\$ 470	Repair the internal drains of pampa 1 and pampa 2, close the lagoons, change the final disposal of the pampa 2 effluent for fertilization.	100% of local effluents will receive adequacy treatment and disposal.
Suitability of Effluent Treatment Station of farm.	Porcinos Cordobeses Farm (Argentina)	WM2	M US\$ 1,400	Installation of an automatic compost separator in each Farm (Swines, Hybrids and Degesa).	Reduction of 50% in volume of waste discharged with installation of automatic compost.
Effluent Treatment System through activated sludge.	Dois Vizinhos (Brazil)	WM4	MR\$ 12,600	Construction and installation of effluent treatment system through activated sludge with the construction and waterproofing of the aeration pond and the decanter, acquisition of equipment, construction of other civil infrastructures and electrical installations.	Meet the follow parameters: COD From 200mg/l To 120mg/l BOD From 60mg/l To 30mg/l

## SUSTAINABLE FORESTS

Project	Unit	Category	Costs Incurred	Description	Environmental benefits
Eucalyptus plantation	Toledo (Brazil)	SF1	R\$ 2,615,550	Production of biomass in order to produce energy generation provided from renewable source. The project is an investment in the development of eucalyptus plantation, which are sustainable managed.	1,285 acre of eucalyptus plantation that production 420 m st

## PACKAGE

Project	Unit	Category	Costs Incurred	Description	Environmental benefits
Reduction of package material	Ponta Grossa (Brazil)	PC1	R\$ 7,366,059	Acquisition of equipment. Reducing the package in each product from 90 – 200g per kg of product to 73 – 118 per kg of product.	Average reduction of 49.5 g of material per kg of product

## YIELD

Project	Unit	Category	Costs Incurred	Description	Environmental benefits
Installation of liquid applicator (batcher)	Concórdia (Brazil)	Y1	MR\$ 2,524	Installation of two dosing system in the poultry feed.	Reduction of 3,637 ton/year in the feed consume.



[www.brf-global.com](http://www.brf-global.com)



## BRF Green Bond Annual Review 2018

**Type of Engagement:** Annual Review

**Date:** May 21, 2018

**Engagement Leader:** Ankita Shukla, [ankita.shukla@sustainalytics.com](mailto:ankita.shukla@sustainalytics.com), +1-617-603-3329

### Introduction

From the inaugural issuance by BRF in June 2015 to September 2017, a total of nine labelled Brazilian green bonds have been issued aimed at funding green projects across other Companies.

In May 2018, BRF engaged Sustainalytics to review the projects funded in the year 2017 with the proceeds of the green bonds, and to provide an assessment as to whether the projects met the Use of Proceeds criteria and the Reporting Commitments outlined in the BRF Green Bond Framework<sup>1</sup>. Similar compliance reviews for green bond projects were performed by Sustainalytics in 2016 and 2017 for projects implemented between 2014 - 2016.

### Evaluation Criteria

Sustainalytics evaluated the projects and assets funded in 2017 based on whether the projects and programmes:

1. Met the Use of Proceeds and Eligibility Criteria outlined in the Green Bond Framework; and
2. Reported on at least one of the Key Performance Indicators (KPIs) for each Use of Proceeds criteria outlined in the Green Bond Framework.

### Use of Proceeds Criteria and KPI Reporting Metrics

Use of Proceeds criteria	Key Performance Indicator (KPI)
<b>Energy Efficiency</b>	Energy saved (kWh)
	CO <sub>2</sub> emissions or other GHG emissions avoided
<b>GHG Emission Reduction</b>	Energy saved (kWh)
	CO <sub>2</sub> emissions or other GHG emissions avoided
<b>Renewable Energy Generation</b>	Energy produced from renewable sources (kWh)
	CO <sub>2</sub> emissions or other GHG emissions avoided
<b>Water Management</b>	Water consumption reduced or recycled (m <sup>3</sup> )
<b>Waste Management</b>	Waste reduced or recycled (tons)
<b>Sustainable and Efficient Packaging</b>	Raw material use avoided in packaging (tons saved/reduced)
	Sustainable and efficient material used (tons used)
<b>Sustainable Forest Management</b>	Number of acres of sustainably managed forests (acres)
<b>Reduction of Raw Material Use (Yield)</b>	Sustainable and efficient material used (tons used)
	Raw material use avoided (tons saved/reduced)

<sup>1</sup> BRF Green Bond Framework Overview and Sustainalytics Second-Party Opinion:  
[http://www.sustainalytics.com/sites/default/files/brf\\_green\\_bond\\_framework\\_opinion.pdf](http://www.sustainalytics.com/sites/default/files/brf_green_bond_framework_opinion.pdf)

### Issuing Entity’s Responsibility

BRF is responsible for providing accurate information and documentation relating to the details of the projects that have been funded, including description of projects, estimated and realized costs of projects, and project impact.

### Independence and Quality Control

Sustainalytics, a leading provider of ESG and corporate governance research and ratings to investors, conducted the verification of BRF’s Green Bond Use of Proceeds. The work undertaken as part of this engagement included collection of documentation from BRF employees and review of documentation to confirm the conformance with the BRF Green Bond Framework.

Sustainalytics made all efforts to ensure the highest quality and rigor during its assessment process and enlisted its Sustainability Bonds Review Committee to provide oversight over the assessment of the review.

### Conclusion

Based on the limited assurance procedures conducted<sup>2</sup>, nothing has come to Sustainalytics’ attention that causes us to believe that, in all material respects, the reviewed bond projects, funded through proceeds of BRF’s green bonds, are not in conformance with the Use of Proceeds and Reporting Criteria outlined in the BRF Green Bond Framework.

### Detailed Findings

Eligibility Criteria	Procedure Performed	Factual Findings	Error or Exceptions Identified
<b>Use of Proceeds Criteria</b>	Verification of the projects funded by the green bonds in 2017 to determine if projects aligned with the Use of Proceeds Criteria outlined in the BRF Green Bond Framework and above in Table 1.	All thirteen projects reviewed complied with the Use of Proceeds criteria.	None
<b>Reporting Criteria</b>	Verification of the projects funded by the green bond in 2017 to determine if impact of projects was reported in line with the KPIs outlined in the BRF Green Bond Framework and above in Table 1.	All thirteen projects reviewed reported on at least one KPI per Use of Proceeds criteria.	None

<sup>2</sup> Sustainalytics limited assurance process includes reviewing the documentation relating to the details of the projects that have been funded, including description of projects, estimated and realized costs of projects, and project impact, which were provided by the Issuer. The Issuer is responsible for providing accurate information. Sustainalytics has not conducted on-site visits to projects.

## Appendix 1: Proceeds Allocated in 2017

Use of Proceeds Category	Total allocated in 2017 (R\$)
Energy Efficiency	18,273,802
Renewable Energy Generation	693,794
Water Management	384,626
Waste Management	21,933,797
Sustainable and Efficient Packaging	18,417,567
Sustainable Forest Management	32,807,983
Reduction of Raw Material Use (Yield)	35,868,759

## Appendix 2: List of Projects Reviewed

Energy Efficiency	
Improving efficiency in evaporative condenser	Condensation pressure reduction by replacing the current capacitors by more efficient equipment, lowering the processure from 11.7 kgf/cm <sup>2</sup> to 11.3 kgf/cm <sup>2</sup> , resulting in energy savings.
Lighting	Replacement of current illumination with LED fixtures for lower energy consumption and greater durability.
Reduction of fuel consumption	Construction of new warehouse to decrease freight shipping distance, resulting fuel savings.
Replacement of equipment	Replacement of obsolete equipment for more efficient ones with lower power consumption.
Renewable Energy Generation	
Power Plant Repowering	Repowering of hydroelectric generating station for increased capacity of 100% renewable electricity.
Sustainable Forest Management	
Biomass production for power and steam generation in BRF plants	The production of biomass in order to produce energy from a renewable source. The project is an investment in the development of eucalyptus plantation, which are sustainably managed (assuring that all trees that are used are replanted, maintaining the soil quality and biodiversity).
Water Management	
Process optimization	Process optimization to automate water supply valve closure to decrease use.
Process optimization	Replacement of obsolete water pipeline to reduce water.
Waste Management	
Waste Reuse	Treatment and dsposal of waste effluents at farms PAMPA 1 & 2
Reduce of waste generation	Installation of compost equipment in order to reduce waste generation.
Process optimization	Optimization of treatment and disposal process of waste effluents.
Sustainable and Efficient Packaging	
Reduction of package material	Acquisition of equipment that allow the decrease of raw material or the use of recycled material on packages
Reduction of Raw Material Use (Yield)	
Optimize the process in order to reduce the consumption of raw material (animal feed)	Improve the consistency of the feed system resulting in a smaller consumption of grains and other raw material

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## Sustainalytics

Sustainalytics is a leading independent ESG and corporate governance research, ratings and analytics firm that support investors around the world with the development and implementation of responsible investment strategies. With 13 offices globally, the firm partners with institutional investors who integrate ESG information and assessments into their investment processes. Spanning 30 countries, the world's leading issuers, from multinational corporations to financial institutions to governments, turn to Sustainalytics for second-party opinions on green and sustainable bond frameworks. Sustainalytics has been certified by the Climate Bonds Standard Board as a verifier organization, and supports various stakeholders in the development and verification of their frameworks. Global Capital named Sustainalytics the "Most Impressive Second Party Opinion Provider in 2017". In 2018, the firm was recognized as the "Largest External Reviewer" by the Climate Bonds Initiative as well as Environmental Finance. In addition, Sustainalytics received a Special Mention Sustainable Finance Award in 2018 from The Research Institute for Environmental Finance Japan for its contribution to the growth of the Japanese Green Bond Market.

For more information, visit [www.sustainalytics.com](http://www.sustainalytics.com)

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