



Greenhouse Gas Inventory 2020

The Greenhouse Gas Inventory (GHG) consists of the measurement and publication of Banco do Brasil's (BB) GHG emissions. The Inventory is based on the GHG Protocol Program methodology, adapted to the Brazilian context by the Center for Sustainability Studies (GVces), of the Business Administration School in São Paulo (FGV-EAESP), of the Fundação Getulio Vargas (FGV), with support from the Brazilian Business Council for Sustainable Development (CEBDS), the Ministry of the Environment (MMA), the World Resources Institute (WRI), the World Business Council for Sustainable Development (WBCSD) and 27 founding companies, including BB.

We have carried out and published our Inventory since 2008 on the Public Emissions Register website (www.registropublicodeemissoes.com.br). The current Inventory is for base year 2020 and was verified by a third party, by the Totum Institute. Emissions management is conducted in accordance with our General Policy and Socio-environmental Responsibility Policy, through which we strengthen our performance, which takes into account the interests of our stakeholders in promoting initiatives aimed at reducing risks and taking advantage of opportunities related to socio-environmental issues, including climate change.

The Inventory follows the principle of continuous improvement of our Environmental Management System (EMS) and has been advancing over the last few years. To ensure its reliability, we have hired a company specialized in environmental audits to perform the external verification of the Inventory, according to the specifications of NBR ISO 14064:3-2007 and the GHG Protocol methodology. The basic data for the Inventory's GHG emissions calculations are obtained primarily from our systems, especially from the applications for controlling administrative expenses and human resources management, and requested directly from the responsible areas.

It is worth emphasizing that we are founding members of the Empresas pelo Clima (EPC - Companies for the Climate) initiative and of the Brazilian GHG Protocol Program, both aimed at reflecting on and proposing actions to combat and adapt to climate change. We are also members of the Thematic Chamber on Climate Change (CT Clima), an initiative coordinated by CEBDS with the purpose of helping companies to adopt strategies to take advantage of opportunities and minimize risks and restrictions from GHG emissions.

METHODOLOGY AND RESULTS

Our Greenhouse Gas Emissions Inventory follows the Operational Control approach and represents our more than 4,300 facilities nationwide, including retail, wholesale and government branches, regional units and strategic units. It accounts for GHG emissions from the three Scopes, with its sources defined as follows:

- Scope 1 - we account for the tons of CO₂ equivalent (tCO₂e) emitted by our direct fuel consumption activities (mobile combustion - vehicle fleet, stationary combustion - fuel for electric power generators) and fugitive emissions (refrigerant gases and fire extinguishers);
- Scope 2 - we account for the tons of CO₂ equivalent (tCO₂e) emitted by our electricity consumption. We use in our facilities the electricity purchased from the National Interconnected System (SIN), which supplies electricity from different sources, from hydroelectric to thermoelectric plants (non-renewable), a situation that significantly interferes in the annual carbon equivalent conversion factor (SIN emission factor); and



- Scope 3 - we account for the tons of CO₂ equivalent (tCO₂e) emitted by transportation and distribution - upstream (shared transportation of mailbags and cash), solid waste from our operations (paper purchased), effluents generated by our operations (water consumption), business travels (air and land travels), transportation and distribution - downstream (various transportations) and employees commuting (home-work).

GHG Emissions Inventory - BB					
Scope	Emission source	2017	2018	2019	2020 ⁽¹⁾
Scope 1	TOTAL (tCO₂e)	11,784.097	22,347.623	24,382.317	27,611.272
	Mobile Combustion (vehicle fleet)	3,693.348	3,296.267	3,091.991	1,353.587
	Stationary Combustion (fuel for electricity generators)	857.684	674.456	912.243	458.578
	Fugitive Emissions (refrigerant gases and gases from fire extinguishers)	7,233.065	18,376.900 ⁽²⁾	20,378.083 ⁽³⁾	25,799.108 ⁽³⁾
	Biogenic	1,554.531	1,686.395	2,163.329	664.760
Scope 2	TOTAL (tCO₂e)	55,561.605	43,721.788	42,848.792	32,889.487
	Electricity	55,561.605	43,721.788	42,848.792	32,889.487
Scope 3	TOTAL (tCO₂e)	71,841.028	66,313.932	54,539.411	42,937.045
	Transportation and Distribution (upstream)	42,706.917	31,943.119	27,903.160	29,266.821
	Waste from Operations (solid and effluents)	16,995.850	20,932.800	13,101.850	7,434.000
	Business Travels	6,369.205	5,618.230	6,421.180	1,632.598
	Transportation and Distribution (downstream)	500.074	356.196	259.234	79.570
	Employees Commuting (home-work)	5,268.982	7,463.587	6,853.987	4,524.056
	Biogenic	5,852.695	6,451.247	5,113.469	5,149.846

(1) The 2020 GHG Inventory data were verified by Totum Institute.

(2) The increase is due to the change in methodology to include fire extinguishers and expand the mapping of refrigerant gases.

(3) The increase is due to the continued expansion of the mapping of refrigerant gases. Moreover, by conservatism, we consider 10% of fugitive gases.

We calculate a Carbon Emission Intensity Indicator, expressed by the quotient of total GHG emissions (Scopes 1 and 2) by the number of employees, as shown in the table below.

BB's Carbon Emission Intensity - Employees	2017	2018	2019	2020
GHG Emissions (Scope 1 and 2) (tCO ₂ e)	67,346	66,069	67,231	60,501
Number of Employees ⁽¹⁾	99,161	96,889	93,190	91,673
Carbon Emission Intensity (tCO ₂ e/employee)	0.679	0.682	0.721	0.660

(1) Only the number of employees contracted under the CLT labor laws was considered.



According to the GHG methodology, for the purpose of emissions calculations, we considered the gases according to the table below:

Gases Included in GHG Emissions Calculations	Global Warming Potential (GWP) ⁽¹⁾
CO ₂	1
CH ₄	25
N ₂ O	298
HFCs	12 – 14,800
PFCs	7,390 - 12,200
SF ₆	22,800
NF ₃	17,200

(1) Source: IPCC (2007)

The sources of GWP factors used in the Inventory are based on those indicated by the GHG Protocol methodology.

EMISSION TARGETS

By the end of 2019, GHG reduction targets for Scopes 1 and 2 were set at 30% by 2030, in line with and contributing to the Brazilian targets (NDC - Nationally Determined Contributions) for reduction stipulated in the Paris Agreement, and the UN's Sustainable Development Goals (SDG).

The target-setting process was based on the Science-Based Targets initiative (SBTi) methodology, and used the initiative's own tool, calculating the targets using the metrics for the well-below 2 degrees temperature scenario (WB2C). The reduction target of 30% by 2030 is based on the emissions reported in the BB's Emissions Inventory (GHG Protocol) for the year 2018, and encompasses the Scopes 1 and 2.

In 2020, BB's mandatory reporting emissions (Scopes 1 and 2) exceeded the annual reduction, estimated at 3%, and reduced by 8.4% compared to the base year, from 66,069.411 tCO₂e in 2018 to 60,500.759 tCO₂e in 2020. There was a 24.78% reduction in Scope 2 emissions, from 43,721.788 tCO₂e in 2018 to 32,889.487 tCO₂e in 2020, but there was a 23.55% increase in Scope 1 emissions, from 22,347.623 tCO₂e in 2018 to 27,611.272 tCO₂e in 2020.

The financial market plays an essential role in driving economic growth on a sustainable basis. And to continue as protagonists in the search for an increasingly sustainable world, we launched 10 Commitments with targets up to 2030, in alignment with global goals (Paris Agreement and Sustainable Development Goals - SDGs). Among them are the following goals:

- Offset 100% of BB's direct GHG emissions as of 2021;
- Purchase 90% renewable energy by 2024;
- Reinforcing the commitment to reduce direct GHG emissions by 30% by 2030.



ANALYSIS

In 2020, BB's mandatory reporting emissions (Scopes 1 and 2) exceeded the annual reduction target of 3%, and reduced 8.4% compared to the base year, from 66,069.411 tCO₂e in 2018 to 60,500.759 tCO₂e in 2020. In Scope 3, we reduced 21.27%, from 54,539.411 tCO₂e in 2019 to 42,937.045 tCO₂e in 2020.

SCOPE 1

In 2018 there was a revision in the methodology for calculating fugitive emissions, which included fire extinguishers emissions and the mapping expansion of the types of air conditioning equipment, in compliance with the objective of continuous improvement of our Inventory. In 2019, this work was continued and, globally, fugitive emissions increased 10.89% due to the greater comprehensiveness of information on the types of air conditioning equipment, the types of refrigerant gas and the calculation of refrigerant gases volume installed in BB's air conditioning base of equipments. In 2020, the scenario was the same, with the continuity of this work developed in 2019. This caused the tons of carbon equivalent to increase, going from 20,378.083 tCO₂e in 2019 to 25,799.108 tCO₂e in 2020.

In contrast, we reduced the consumption of gasoline, diesel and ethanol, which represented a 56.22% reduction in the fleet's mobile combustion emissions, going from 3,091.991 tCO₂e in 2019 to 1,353.587 tCO₂e in 2020.

The reduction of emissions by fuel consumption was obtained, among other ways, by establishing clauses in contracts with suppliers of our vehicle fleet, which require eco-efficient models, with flex engines, which allow the use of ethanol, less polluting and from a renewable source. In addition, concerned with the health of our employees, because of the Covid-19 pandemic, a large part of the staff migrated to home-office mode, encouraging the use of electronic means (web videoconferencing) for meetings, which reduced the amount of travel, and the implementation of the Alelo Auto card to pay for fuel, which generated greater control of supplies and consumption.

In 2020, there was also the activation of a smaller number of power generators at the Technology Directorship due to the reduction in the level of on-site activities. For this reason, consumption went from 384,258 liters in 2019 to 195,333 liters in 2020, a variation of -49.17%, causing emissions from this source to reduce by 49.73%, from 912.243 tCO₂e to 458.578 tCO₂e.

SCOPE 2

Scope 2 emissions corresponded to 32,889.487 tCO₂e in 2020, a reduction of 23.24% compared to 2019 (42,848.792 tCO₂e). Our electricity consumption, meanwhile, was reduced by 6.68%, falling from 571,000 MWh in 2019 to 532,839 MWh in 2020. The 38 million kWh saved in 2020 would be enough to supply electricity to more than 16 thousand homes a year.

Besides the actions priming for the health of the staff, such as the migration to home-office in 2020, among other actions developed to optimize the consumption and expenses of electric energy, we highlight:

- Automated electricity management: initiative carried out in the units that may reduce expenses with this input by more than R\$ 500 thousand, as well as increasing operational efficiency and improving consumption indicators;
- Integrated control of energy, water and building utilities: start-up of installations for a group of 300 service units, with the expectation of reaching 15% savings in consumption over the four-year service contract.



- BB assumed, in 2020, the commitment to increase the participation of renewable sources in its energy matrix: the goal is to reach, by 2024, a 90% renewable energy supply level. The goal will be achieved through remote distributed generation, with 22%, and by the free market, with 68%.
- The first solar power plant in the distributed generation modality was inaugurated in March 2020. In October, the second plant was inaugurated and another five plants are planned to come on stream by the end of 2021.

The two projects in operation have a combined installed capacity of 6 MW, generating 15 GWh/year and will guarantee the supply of renewable energy to 141 branches, allowing the institution to save R\$ 53.7 million over 15 years. They will also enable an average 45% reduction in the energy bill of our branches and will contribute to the diversification of the renewable energy matrix in Brazil. When all the plants are in operation, 3,150 tons of carbon dioxide will no longer be emitted per year, which corresponds to the planting of about 21 thousand trees.

It is important to highlight that BB has committed to reduce its Scope 2 emissions through the acquisition of Renewable Energy Certificates, acquiring certificates equivalent to 100% of the energy consumed in 2020. Thus, the 532,839 MWh consumed in 2020 are backed by certificates issued by the company Matrix, with traceability of the energy generated and I-REC Brazil certification, with international validity. In this way, BB's Scope 2 GHG emissions were offset, according to the GHG Protocol Brazil methodology.

For additional information on the energy topic see [BB's Annual Report 2020](#).

SCOPE 3

In 2020 there was a 21.27% reduction in Scope 3 emissions, from 54,539.411 tCO₂e in 2019 to 42,937.045 tCO₂e in 2020.

This reduction was due to the decrease in emissions in all Scope 3 sources, except Transportation and Distribution - Upstream where there was an increase of 4.89%. It is well known that the restrictions imposed by the Covid-19 pandemic directly impacted the Scope 3 BB's GHG emissions. The source Waste from Operations (solid and effluents) showed a 43.26% reduction from 13,101.850 tCO₂e in 2019 to 7,434,000 tCO₂e in 2020 - driven by the reduction in paper and water consumption. The Transportation and Distribution - Upstream and Waste from Operations sources, together, accounted for 85.48% of BB's total Scope 3 emissions in 2020.

The sources Employees Commuting (home-work), Business Travels and, Transportation and Distribution - Downstream reduced their emissions respectively by 33.99%, 74.57% and 69.31% in 2020, when compared to 2019.



Verification of Greenhouse Gas (GHG) Inventory

Totum Institute declares that

Banco do Brasil S.A

Quadra 05, Lote B, Edifício Banco do Brasil, Brasília/Distrito Federal –
CEP 70.040-912

Had its GHG inventory verified and it complies to

Specifications of the Brazilian GHG Protocol Program

Verification Standard : Brazilian Program Verification Specifications GHG
Protocol – Edition 2011 and ABNT NBR ISO 14064-3

Process number: 337-21

Certificate Number: 337-21

Inventory Year: 2020

Confidence Level: Limited

Details: Declaration of Verification Nº337-21 attached to this Certificate

São Paulo, 27th May 2021.

TOTUM INSTITUTE

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