The Brazilian Financial System and the Green Economy

Measuring financial resources allocated to the Green Economy

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Introduction

In 2014, the Brazilian Federation of Banks, FEBRABAN, established an agenda with the Center for Studies on Sustainability of the Getulio Vargas Foundation (GVces) to analyze possible ways to promote the transition to a Green Economy in Brazil through resource allocation Intermediated by the Brazilian Financial Sector.

As a result of this partnership, in October of 2015, the first edition of the study **Measuring financial resources allocated to the Green Economy** was published, in which were presented the total amounts of funding allocated in 2013 and 2014 to representative sectors of the Green Economy and to sectors whose activities could cause an impact on the environment.

This study encourages the membership of new institutions in order to broaden the measurement of the flow of resources intermediated by the Brazilian Financial System for the Green Economy. As of 2017, there are 15 participating financial institutions that account for 87,3% of the total corporate loans in the market.

It is important to emphasize that the improvement of this methodology is an ongoing process. In 2017, with the participation of ANBIMA (Brazilian Financial and Capital Markets Association), became possible to measure the capital market issuances flows to the Green Economy.

This report presents the total balances of loans and/or financing portfolios on December 31, 2016 at the "Division" level of the CNAE structure for the two sectors previously mentioned: the Green Economy and sectors with potential to cause socio-environmental impacts, as well as a summary of the balances of portfolios in the period from 2013 to 2016. Previous reports are available at *portal.febraban.org.br* in Publications, SFN and the Green Economy.

1. Methodology

The methodology developed aims to measure the financing and/or loan resources offered by banks for non-financial companies of economic sectors that are part of the Green Economy in Brazil.

The methodology includes the identification of economic activities considered as sectors of the Green Economy by the United Nations Environment Programme (UNEP) and economic activities considered by the National Environment Council (CONAMA) as having potential to cause socio-environmental impacts. It also identifies the respective codes of the National Classification of Economic Activities (CNAE) that comprise the activities of the sectors mentioned above.

Analysis Assumptions

It uses the fifth structural level of the National Classification of Economic Activities (CNAE) for Subclasses as the basis for reporting amounts contracted and disbursed and balance of credit operations on December 31 of each year surveyed.

For Green Economy sectors, product lines of financing and/or loans focused on green agribusiness activities and specific products with socio-environmental purposes were added. To quantify these resources, FEBRABAN codes were created following the official CNAE structure.

Consider onshore credit operations and specific financing for Green Economy sectors identified in the CNAE.

Do not consider co-obligations (guarantees, sureties) for credit operations.

It should be emphasized that the data collection followed the same guidelines as the methodology used in the first editions, but with the addition of improvements that aim to allow for greater detail and clarity in the classification of resources.

Thus, to meet the recommendations for the continuous improvement of the methodology, changes were made in the processes with the aim of automatizing and standardizing the way of measuring resources allocated by banks to the various economic sectors.

The study looked at the volume of financing and/or loan operations (credit portfolio), according to the criteria mentioned below.

Balance allocated in sectors with potential to cause socio-environmental impacts

Related to financing and/or credit operations granted to economic activities identified in the CNAE in accordance with CONAMA Resolution 237/1997.

Balance allocated in the Green Economy

Related to the operations granted to economic activities identified by the CNAE that are part of the Green Economy and financing products with specific modalities presented as CNAEs FEBRABAN.

Portfolio balance

This is the amount disbursed, plus operational costs, barring the amount paid (amortized) by the customer, according to criteria and procedures established in the Accounting Plan (COSIF) National Financial System.

1.1 Sectors analyzed

The measurement of resources was defined for the two groups: the Green Economy and sectors with activities with potential to cause socio-environmental impacts.

The following is the definition of the Green Economy and the respective economic sectors, according to the United Nations Environment Programme (UNEP).

Green Economy

It results in improvements in well-being and social equality, while significantly reducing environmental risks and ecological scarcity, and has the following main pillars: low carbon emissions, efficient use of resources and social inclusion.

Sectors

Renewable energy, energy efficiency, sustainable construction, sustainable transport, sustainable tourism, water, fisheries, forestry, sustainable agriculture, waste, as well as specific agribusiness activities and some social sectors such as education, health, productive inclusion and local and regional development.

Note: Due to the scope of the topic, and because it is not connected to any specific branch of activity, it was not possible to identify the Energy Efficiency sector in this report.

The second is more comprehensive and encompasses sectors whose activities have potential environmental impacts, where risk management is fundamental, either to mitigate negative effects or to potentialize positive ones. Most are sectors subject to special risk assessments by banks.

These sectors are presented below, according to the Resolution 237/1997 of the National Environmental Council (CONAMA).

Sectors with activities with potential to cause environmental impacts, according to CONAMA

✓ **Extraction and processing of minerals**

✓ **Non-metallic mineral products industry metallurgy**

✓ **Mechanical engineering**

✓ **Metallurgy**

✓ **Electrical, electronic and communications equipment industry**

✓ **Transportation industry**

✓ **Forest products industry**

✓ **Pulp and paper industry**

✓ **Rubber industry**

✓ **Tanning industry**

✓ **Chemical industry**

✓ **Plastic products industry**

✓ **Textile, clothing, footwear and fabrics industry**

✓ **Food and beverage industry**

✓ **Tobacco industry**

✓ **Civil works**

✓ **Utility services**

✓ **Transportation, terminals and warehouses**

✓ **Tourism**

✓ **Agricultural and livestock activities and the use of natural resources**

The following is the definition and structure of the National Classification of Economic Activities - CNAE, according to CONCLA (National Classification Commission)

National Classification of Economic Activities (CNAE)

CNAE

CNAE is a standardization of codes of the productive units in the country in the registries of the public administration in the three spheres of government. The CNAE is organized in five hierarchical levels: section, division, group, class and subclass and is elaborated under the coordination of the Federal Revenue Secretariat and with the technical guidance of IBGE (Brazilian Institute of Geography and Statistics), with Federal, State and Municipal representatives on the CNAE Technical Subcommittee, which acts on a permanent basis within the National Classification Commission (CONCLA).

1.2. Participating financial institutions

In 2017, the following financial institutions took part in the study: ABC Brasil; Banco do Brasil; Banco Votorantim; Banco da Amazônia (BASA); Banco Nacional de Desenvolvimento Econômico e Social (BNDES); Banco do Nordeste (BNB); Bradesco; BTG Pactual; Caixa Econômica Federal; Daycoval; Itaú Unibanco; Rabobank; Santander; Sicredi and Triângulo. In December of 2016, these 15 institutions represented 87.3% of the total balance of the Corporate loans of the Brazilian banking sector.

2. 2016 Results

The study considered the amounts contracted, disbursed and the balances of financial operations. However, only the results of the balances are presented, once they are disclosed into the outside financial filings.

The results are reported in aggregated form, in order to protect the identity of the institutions studied.

The following are the results of the balances of loans and financing portfolios (credit portfolio) on December 31, 2016 in both sectors, as per the methodology.

The balances of sectors of previous years are available at *portal.febraban.org.br*.

2.1. Representative sectors of the Green Economy

For these sectors, the financial amounts of specific products for socio-environmental purposes and the financing of low-carbon agriculture activities and good agricultural practices were added.

In 2016, the portfolio balance for the Green Economy sectors was

BRL 309,080 million

Tabela 1 – Balances for Sectors of the Green Economy in 2016

Sectors	Balances – BRL million
Renewable energy*	95,041
Sustainable transport	84,382
Sustainable agriculture	66,609
Products for specific ends	25,190
Education	10,919
Health	8,552
Productive inclusion and local and regional development	7,578
Water	5,768
Forests	2,490
Waste efficiency	1,030
Cities	788
Fisheries	723
Sustainable tourism	9
Total	**309.080**

* According to the criteria of the National Electricity System Operator (ONS), an organ of the Ministry of Mines and Energy, for the CNAE related to the generation, transmission and distribution of electricity, only 81% of the total resources reported by financial institutions were considered – a considerable amount of non-CO_2 emitting energy (excluding thermonuclear sources).
Source: www.ons.org.br.

2.2. Sectors with activities that may have potential to cause socio-environmental impacts

The total portfolio balance of operations in these sectors on December 31, 2016 amounted to BRL 605,866 million.

Table 2 – Balances for sectors with activities with potential socio-environmental impacts (Division level of the CNAE structure)

Sectors	Balances – BRL million
Electricity, gas and other utilities industry	88,499
Food industry	53,825
Agriculture, livestock and related services	53,637
Coke, petroleum products and fuels industry	47,667
Waterborne transportation	34,480
Manufacturing of other transport equipment, except motor vehicles	29,456
Manufacturing of motor vehicles, trucks and buses	26,378
Warehousing and related transport activities	25,776
Metallurgy	25,621
Infrastructure works	24,787
Wholesale trade, except motor vehicles and motorcycles	19,152
Pulp and paper industry	17,626
Chemical industry	16,901
Manufacturing of machinery and equipment	15,377
Ground transportation	13,886
Real estate construction	11,327
Manufacturing of non-metallic mineral products	11,057
Extraction of metallic minerals	10,311
Retail trade	9,217
Rubber and plastic industry	7,524
Textiles industry	7,356
Metal products, except machinery and equipment	6,808
Clothes and accessories industry	5,250
Beverages Industry	4,769
Others	39.180
Total	**605,866**

Note: The balances of previous years are available at *portal.febraban.org.br.*

2.3. Amount of allocated resources

In order to determine the amount of resources allocated to Green Economy sectors and to sectors with a potential socio-environmental impact, we considered the total amount of corporate loan portfolios of all banks in the market (BRL 1,884 billion) and the total amount of corporate loan portfolios of the banks participating in the study (BRL 1,645 billion).

To calculate the share, in addition to the information provided by the participating banks, the reports on Selected Data of Supervised Entities (IF.data) of the Brazilian Central Bank were used.
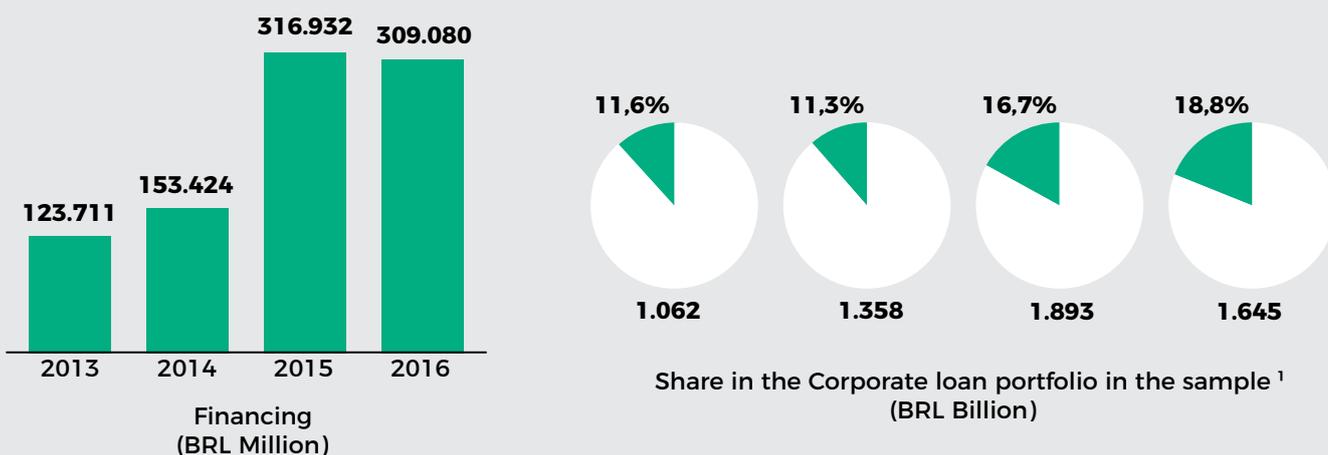
Financing and/or loan balances for Green Economy sectors accounted for 18.8% of total corporate loan in 2016 by the banks participating in the study. The share of these balances in the total amount of corporate loan portfolios of banks in the financial system was 16.4%.

The balances of financing for sectors with potential to cause socio-environmental impacts accounted for 36.8% of the operations carried out by participating banks for non-financial companies in the same period. These balances corresponded to 32.2% of the total amount of corporate loan portfolio of the banks in the market.

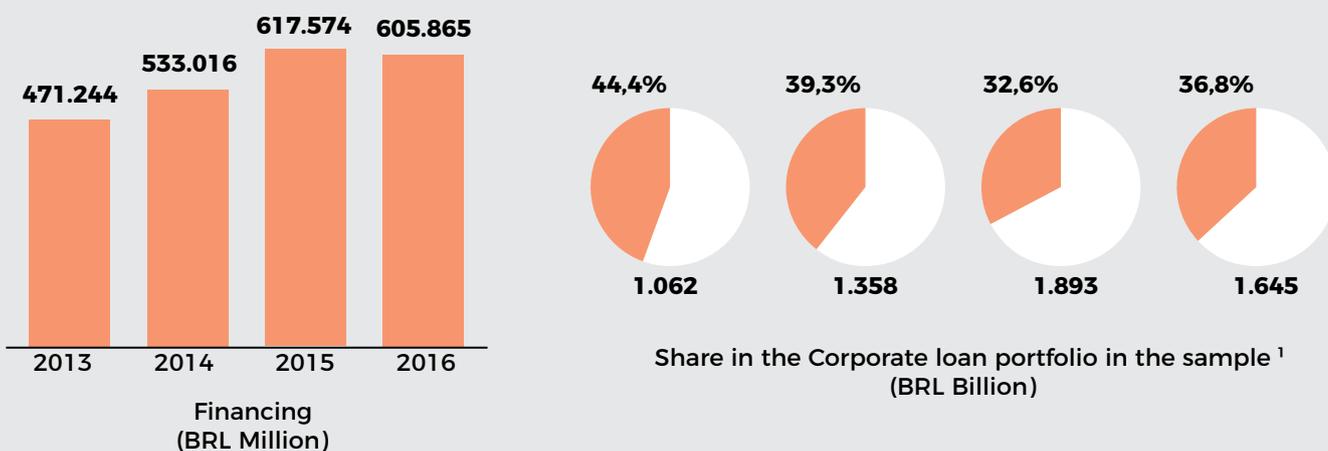# 3. Summary of the period 2013 to 2016

The following Figures show the credit volumes provided by banks participating in the survey to sectors of the green economy and to sectors with potential socio-environmental impact, as of December 31, 2013, 2014, 2015 and 2016.

Figure 1 – Financing and/or loans for Green Economy sectors

2013	2014	2015	2016
123.711	153.424	316.932	309.080

Financing
(BRL Million)

11,6%	11,3%	16,7%	18,8%
1.062	1.358	1.893	1.645

Share in the Corporate loan portfolio in the sample [1]
(BRL Billion)

[1] Data from Supervised Entities (IF.data) of the Central Bank of Brazil.
Note: The corporate loan portfolio in the sample considers the participating banks in the year of the survey.

Figure 2 – Financing and/or loans for sectors with potencial to cause socio-environmental impacts

2013	2014	2015	2016
471.244	533.016	617.574	605.865

Financing
(BRL Million)

44,4%	39,3%	32,6%	36,8%
1.062	1.358	1.893	1.645

Share in the Corporate loan portfolio in the sample [1]
(BRL Billion)

[1] Data from Supervised Entities (IF.data) of the Central Bank of Brazil.
Note: The corporate loan portfolio in the sample considers the participating banks in the year of the survey.

4. Improvements: inclusion of the capital market

In 2017, with the participation of ANBIMA (Brazilian Financial and Capital Markets Association), for the first time was possible to measure the capital market flows to the Green Economy Sectors.

Due to the specific characteristics of the capital market, the following aspects were considered in the methodology.

4.1. Capital market securities

All securities issued in the capital market classified as green bonds, shares, debentures and bonds, were included in the study.

The listed securities were considered according to the issuer's CNAE using the methodology adopted for the classification of sectors of the Green Economy and sectors with activities with potential to cause socio-environmental impacts, mentioned before.

4.2. Capital raising date entry

To the date entry of the financial resources (total volume raised by the issuer), the closing date of the offering of shares and debentures, and the settlement date of bonds, were considered.
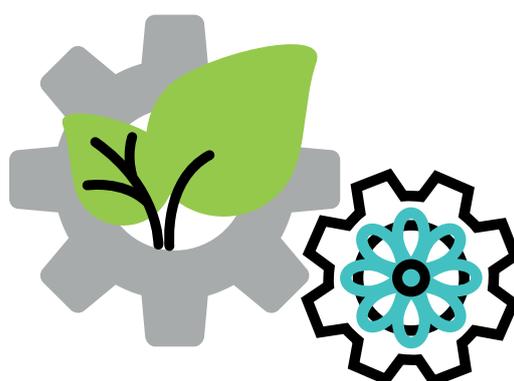
4.3. Details of securities measurement

Shares: only the primary offerings of shares, whose resources go to the issuing company, were considered.

Shares and debentures: offers that had the resources destined entirely for the redemption of an earlier issue, as informed in the deed or in a material fact disclosed by the issuer, were excluded from the sample.

Bonds: the amounts raised were converted with the rate (BACEN) of the settlement date of the offer and are presented in Brazilian reais (BRL). In the data, the offers of National Treasury bonds were not considered.

4.4. Green bonds

Debt securities classified as green bonds were considered as "Green Economy," regardless of the stated destination in the offer documents and the CNAE.
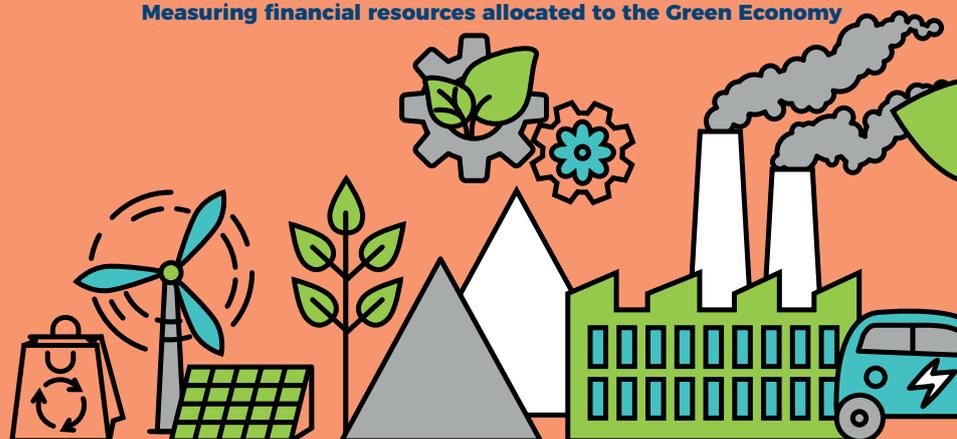
4.5. Outcomes

4.5.1. Capital Markets in the Green Economy in 2016

Securities	Amount (BRL million)
Issuance of debt in the domestic market (debentures)	21,107
Issuance of debt in the foreign market (bonds)	0
Primary issuance of shares	656
Green bonds	2,869
Total	**24,633**

In 2016, the total issuance in the Green Economy accounted for 21.1% of the total market issuance of BRL 116 million.

4.5.2. Capital markets in sectors with potential socio-environmental impacts in 2016

Securities	Amount (BRL million)
Issuance of debt in the domestic market (debentures)	16,117
Issuance of debt in the foreign market (bonds)	57,455
Primary issuance of shares	300
Total	**73,872**

The sectors with activities with potential to cause socio-environmental impacts account for 63.3% of the total issuance of BRL 116 million.

It should be noted that 15.6% of capital market issuances are from issuers that were not classified in either sector.

5. The strategic importance of the measurement

Continuous improvements in processes, especially the implementation of the Low Carbon Economy Database and the Secure Sector Information Environment (ISSA), implemented in the previous year, guarantee greater quality and security, as well as making it possible to produce historical surveys and clearer sectoral analyses.

The participating institutions, in turn, in addition to evaluating their own performance, are able to compare themselves to the sectoral group in each of the economic sectors identified in the CNAE.

Thus, the value of the analysis can be seen in the ability to:

identify and evaluate the amounts of loans and/or financing by sector of economic activity and the potential of markets

understand and manage the different types of portfolios

evaluate the evolution of loans and financing intermediated by the banking sector for the Green Economy (low-carbon economy)

allow comparative analyses in the future for countries developing a similar methodology

It should be emphasized that this survey is annual and aims to encourage the membership of new institutions.

Improvements in the methodology are frequent, aimed at carrying out more in-depth analysis each year, and to support Brazil's advancement in the sustainable development agenda, as well as to evaluate the best allocation of resources and their efficiency.