



Mainstreaming sustainability in the Brazilian financial sector

Mário Sérgio Vasconcelos - Institutional Relations Director

Brazil's Green Bonds Market - Structure and Perspectives

27th September, 2018 - Embassy of Brazil in London

FEBRABAN - Brazilian Federations of Banks

Our mission

To contribute to the sustainable development of the country, acting on behalf of its associates and seeking continuous improvement of the financial system and its relations with society

Representativeness

121 members

98% of total assets and 97% of the net equity of the Brazilian Banking sector



<https://relatorioanual2017.febraban.org.br>

How we address sustainability issues

Main goals

- To facilitate compliance with applicable laws and regulations
- To reduce legal uncertainties
- To improve social and environmental risk management practices
- To anticipate trends
- To promote businesses opportunities aligned with sustainable development

Governance

32
banks

Sustainability and Social
Responsibility Committee

ABRAPP



ANBIMA

[B]³
BRASIL
BOLSA
BALCÃO

CNseg

FEBRABAN

Financial Sector
Sustainability Committee

Some of the topics that are in our agenda (2017-2018)

- Credit flows to the Green Economy
- Implementation of the Brazilian Forestry Code by rural clients
- Management of deforestation-related risks
- Solutions for financing forest restoration in Brazil
- Solutions for financing solar energy projects in Brazil
- Impacts of carbon pricing
- Green Bond market in Brazil
- Recommendations of the Task Force on Climate-related Financial Disclosures TCFD/FSB

Partners

- Working Groups of Banks
- Getúlio Vargas Foundation (FGVces)
- CDP
- Sitawi Finance for Good
- ABSOLAR - Brazilian Solar Photovoltaic Energy Association
- Inter-American Development Bank (IADB)
- WWF

Green Economy Sectors

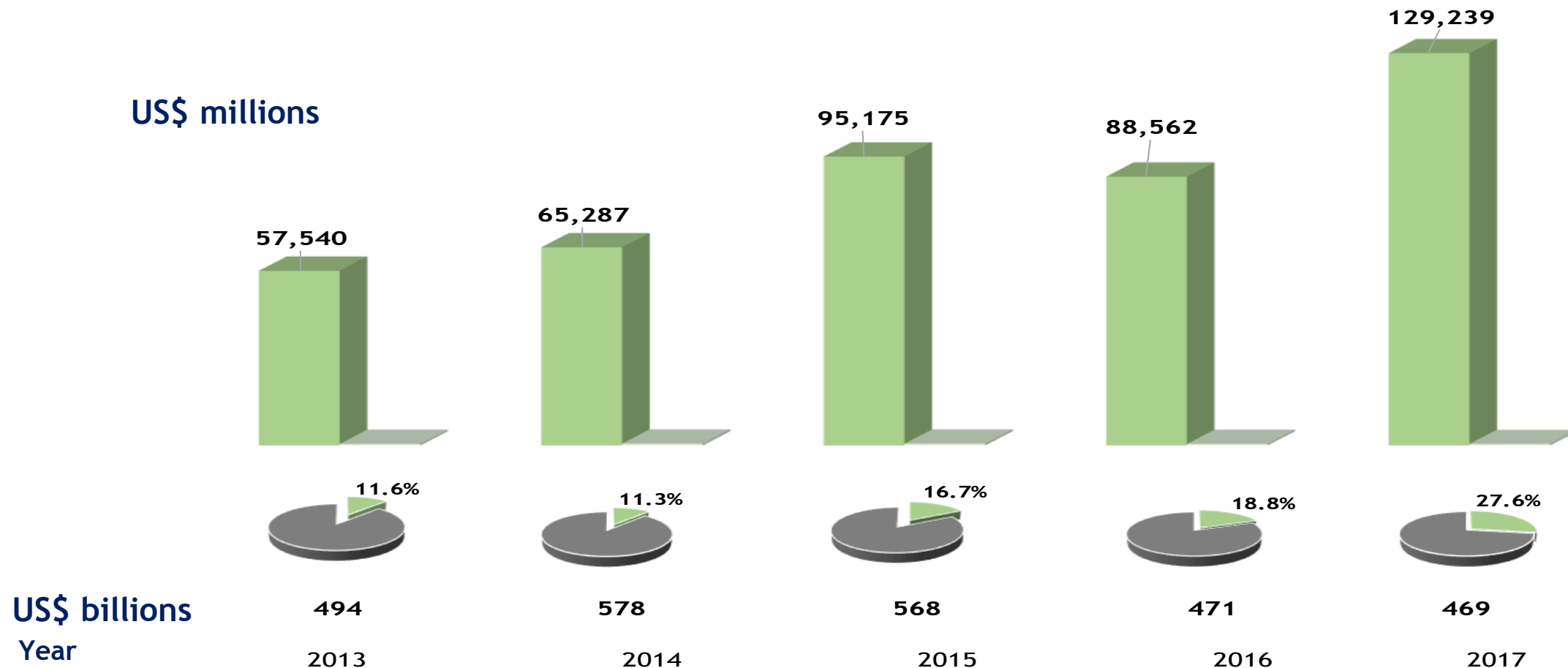
Green Economy

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
- ✓ Specific agribusiness activities
- ✓ Social sectors such as education, health, productive inclusion and local and regional development

Corporate credit flows to the Green Economy



In 2017, total credit to corporate clients of the 15 participating banks reached US\$ 469 bi¹, which represents 86.8% of the total corporate credit offered to companies by the Banking Sector in Brazil (US\$ 539 bi¹)

27.6% of this amount was directed to sector of the Green Economy

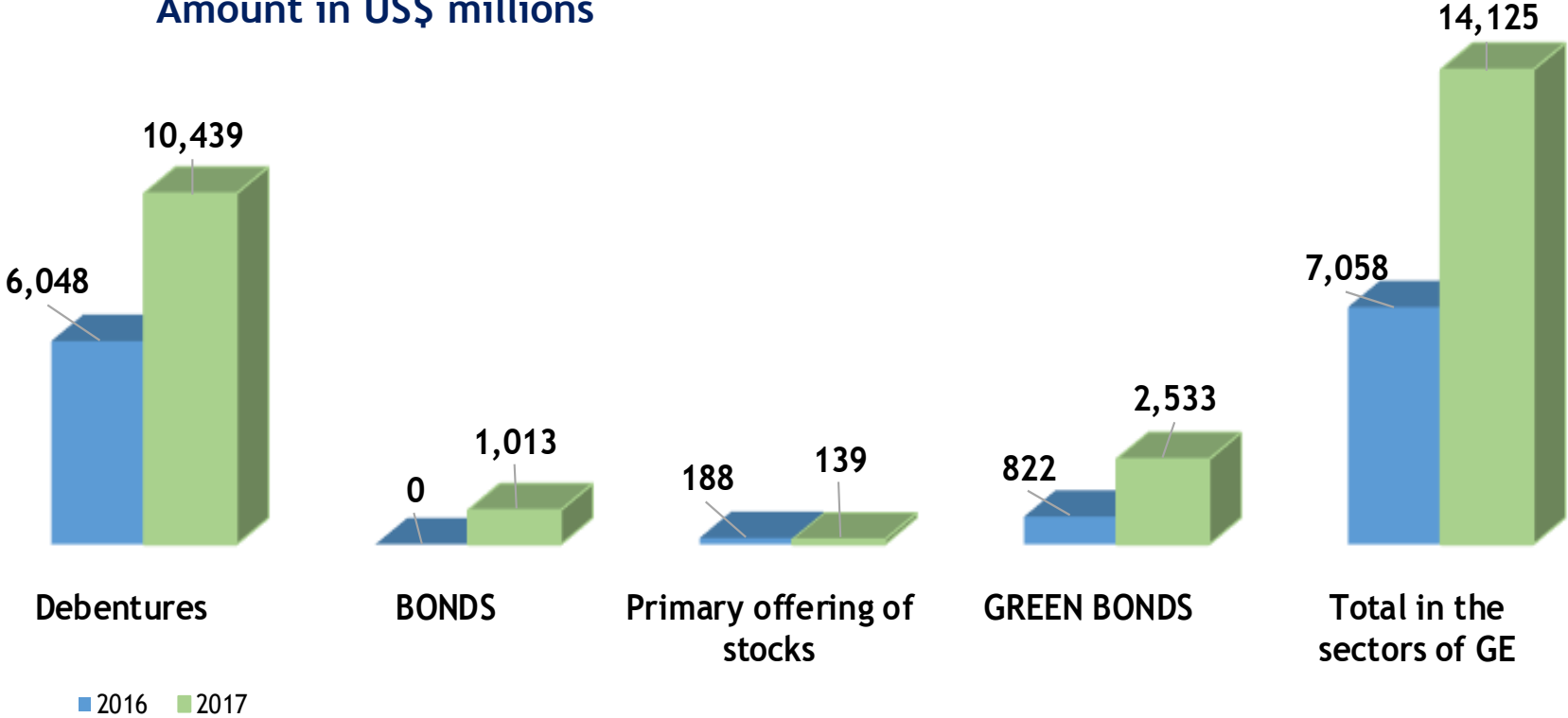
Source: ¹ Data from the Brazilian Central Bank (IF.data)

Notes: a) Corporate credit loans takes into account data from the banks that participated in the survey

b) Amounts converted from BRL to USD based on the average exchange rate of each year. Source: Central Bank of Brazil.

Issuances of securities in the Green Economy

Amount in US\$ millions



Share of Securities issued by sectors of the Green Economy
 2016: 21.1% of US\$ 7.058 bi
 2017: 24.3% of US\$ 14.124 bi

Takes into account primary offerings of stocks, issuances of 'debentures' and bonds converted on the settlement date of the public offering. Treasury Bonds were not considered

Source: Data provided by ANBIMA - Brazilian Financial and Capital Markets Association
 Note: Amounts converted from BRL to USD based on the average exchange rate of each year. Source: Central Bank of Brazil.

Renewable energy sources: favorable outlook for Brazil

According to the Energy Research Company - EPE (attached to Brazil's Ministry for Mining and Energy), solar and wind power's share of the electric matrix will rise from 8% to 18% between 2017 and 2026, requiring investments totaling US\$ 55 billion.

In 2017, solar energy accounted for 0.8% (1.3 MW) of the country's installed capacity. Bloomberg New Energy Finance (BNEF) is projecting solar energy delivering 32% (126 GW) of Brazil's electricity by 2040.

From August 2016 to May 2018, the number of photovoltaic solar energy installations rose from 5,040 to 27,803 buildings, of which 77% were in residences. The National Energy Agency (Aneel) estimates that the country will have 1.2 million buildings (commercial and residence) producing and consuming solar energy by 2024.

Annual solar irradiance ranges from 1,500 to 2,400 kWh/m². Brazil's lowest is about 20% greater than Germany's highest according to the Brazilian Photovoltaic Solar Energy Association (ABSOLAR).

Photovoltaic Solar Energy - new analysis model

For transactions over US\$ 313,000

To assess the photovoltaic solar energy project risk

Payback + Technical and financial guarantees = project risk

New !

To assess the operation's total risk

Project risk + Customer risk

Photovoltaic Solar Energy - project risk analysis

$$\text{Project risk} = \text{Payback} + (\text{Technical Guarantees} + \text{Financial Guarantees})$$

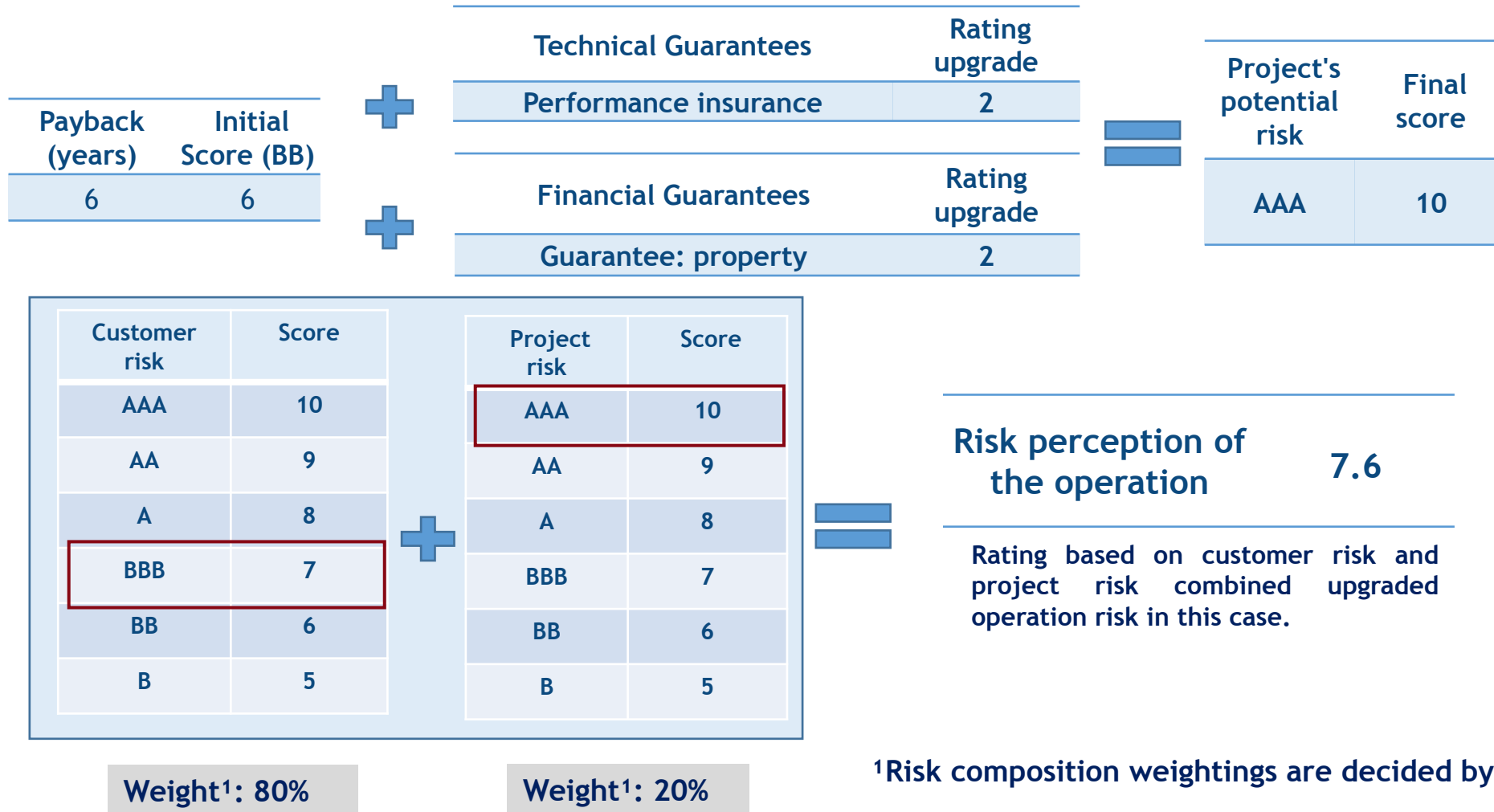
Project's potential risk	Score(3)	Payback (years)	Score (3)	Technical Guarantee Options (3)	Risk perception upside potential
AAA	10	1-2	10	Performance insurance(1)	2
AA	9	3	9	Weather performance insurance	2
A	8	4	8	O&M insurance	1
BBB	7	5	7	Implementation insurance: engineering	1
BB	6	6	6	Software to measure system performance	0.5
B	5	7	5	Guarantee: return equipment	0.2
		8	4	In-loco implementer audit	0.3
		9	3	Supplier and implementer pre-qualification list (2)	0.2
		10	2		
				Financial Guarantee Options (3)	Risk perception upside potential
				Physical guarantee: property	2
				Guarantee: receivables	1
				Cash collateral or shares for company	1

1 BID is articulating with Insurers

2 FEBRABAN and ABNT, with support from WG banks, drew up a list of supplier and implementer requirements that will become ABNT certification

3 Score for each risk level, payback and guarantees defined by the bank

Photovoltaic Solar Energy - project and customer risks



¹Risk composition weightings are decided by the bank

Actions to promote the Green Bonds market in Brazil - national initiatives

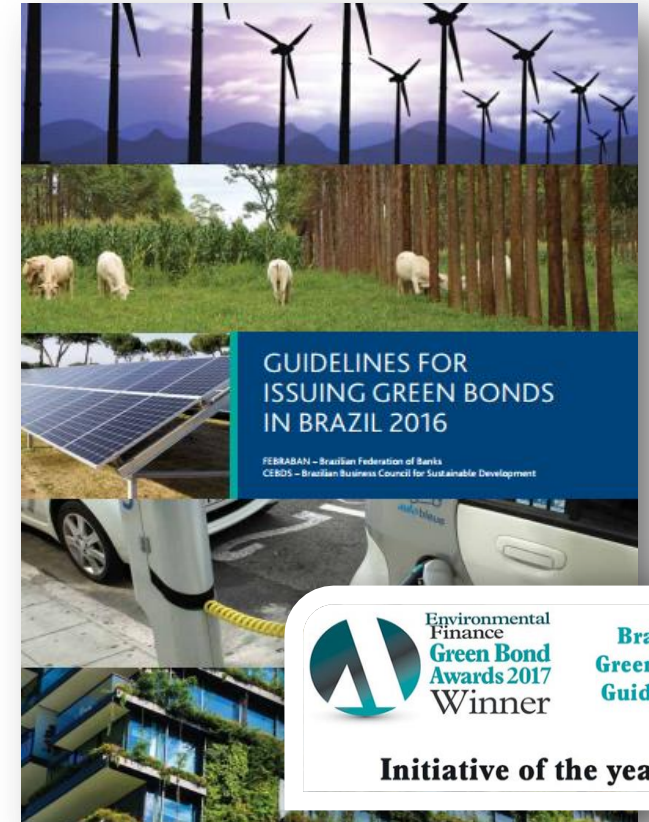
Publication: Guidelines for issuing Green Bonds in Brazil

Main references

- Green Bond Principles 2016
- Climate Bonds Initiative (CBI)
- World Bank
- International Finance Corporation (IFC)

Target audience: potential issuers, financial institutions, investors, second opinion and certification providers

The Guide does not suggest changing on the existing regulations or creating new financial instruments, but rather provide guidance to help market players in the process of issuing Green Bonds



Actions to promote the Green Bonds market in Brazil - international initiatives



- Development of the ISO 14030 standard on Green Bonds
- The Brazilian Federation of Banks is actively involved and participates as a Brazilian expert member
- Standard publication expected for July-2020



- Brazil (Central Bank and FEBRABAN) is a member of the initiative
- FEBRABAN is a member of its Green Bond Working Group, launched to support members in their efforts to develop green bond markets and facilitate increased flow of international and domestic investment to achieve national sustainable development goals.



- Report “*Creating Green Bond Markets*” - *Insights, Innovation and Tools for Emerging Markets*” will be published in October 2018

Actions to promote the Green Bonds market in Brazil - national initiatives

- Laboratory of Financial Innovation
- Initiative of the Brazilian Securities and Exchange Commission (CVM), Brazilian Association of Development Banks (ABDE) and the Inter American Development Bank (IDB)
- FEBRABAN participates in the LAB's Green Bonds and Green Finance Working Groups



Actions to promote the Green Bonds market in Brazil - national initiatives

Brazilian Ministry of Finance established a Working Group on Capital Markets with the aim of studying measures to increase long term savings, financial intermediation and private investments efficiency and reducing the costs of capital in Brazil.

- Proposal on Green Bonds suggests the prioritization of infrastructure projects with proven environmental and/or social benefits so they can be eligible to reduced income tax rates associated with returns from infrastructure “debentures” (bonds).
- Sectors/projects to be prioritized: a) urban mobility (subways, rail, light rail vehicles); b) renewable energy: solar, wind, small hydro; c) basic sanitation facilities: water, sewage, drainage and urban solid waste.

Proposal of the Working Group - in process to be approved by the Ministry of Finance.

Opportunities ahead in Brazil

Examples of relevant projects and industries with potential for Green Bonds issuances

- **Renewable energy:** Wind, Solar, Bioenergy, Biofuels, efficiency, distribution
- **Forestry:** conservation, restoration, timber, pulp & paper
- **Agriculture and livestock:** low carbon agriculture, restoration of degraded areas
- **Real Estate:** Green buildings, green residential condos
- **Transport:** Railway, waterway, subway and Bus Rapid Transit (BRT) infrastructure, electric and hybrid vehicles
- **Sanitation facilities:** water, sewage, urban waste management
- **Financial sector:** to finance/refinance portfolios of green projects

National Green Bonds issuances

Issuer	Issuance year	Amount issued BRL (million)	Amount issued US\$ (million)	Proceeds
CPFL Renováveis	2016	200	57	Wind energy
Suzano Papel & Celulose	2016	1,000	286	Forestry
Ômega Energia	2017	42	13	Wind energy
Rio Energy	2017	112	35	Wind energy
Ômega Energia	2017	220	69	Wind energy
PEC Energia	2017	48	15	Wind energy
Enel Green Power	2017	22	7	Wind energy
ISA CTEEP	2018	621	172.5	Energy distribution
Total		2,265	654.5	

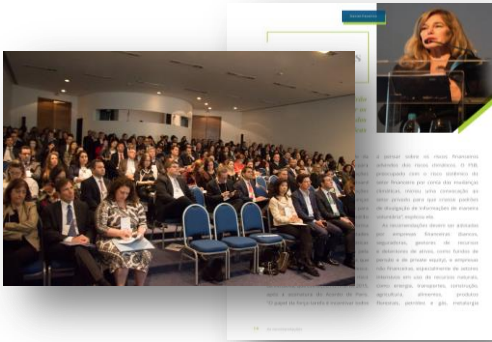
Note: Amounts converted from BRL to USD based on the average exchange rate of each year. 2016/3,49 - 2017/3,19 - 2018/3,60. Source: Central Bank of Brazil.

International Green Bonds issuances by companies in Brazil

Issuer	Issuance year	Amount issued (US\$ million)	Proceeds
BRF	2016	US\$ 545 (EUR 500)	Mixed use: Energy efficiency, renewables, water and waste management, material usage and packaging efficiency and forestry
Suzano Papel & Celulose	2016	500	Mixed use: <u>Forestry</u> , conservation, water management, energy efficiency and renewable energy
	2017	200	
Fibria	2017	750	Mixed use: <u>Forestry</u> , conservation, waste and water management and renewable energy
BNDES	2017	1.000	Wind and Solar
Klabin	2017	500	Mixed use: energy, energy efficiency, forestry, agriculture, transport and adaptation
Faro Energy	2018	confidential	Solar
Total		3,495	

Our reaction to the publication of the TCFD recommendations

Event to present the recommendations



FEBRABAN

Working Group of banks

Technical support:



Results of project's 1st phase

June 2017

August 2017

April 2018

July 2018

December 2018



Final report published by the TCFD/FSB

UNEP FI Pilot Reports



Brazilian banks in the pilot of UNEP FI



Bradesco

How should banks in Brazil implement the TCFD recommendations?

Project scope (2018)

1

• Analysis of the alignment of existing reporting frameworks with the TCFD recommendations

2

• Definition of criteria for assessing the exposure of banks/banks' portfolios to climate-related risks

3

• Revision of practices currently adopted by banks in Brazil

4

• Benchmarking analysis - companies and financial institutions around the globe

5

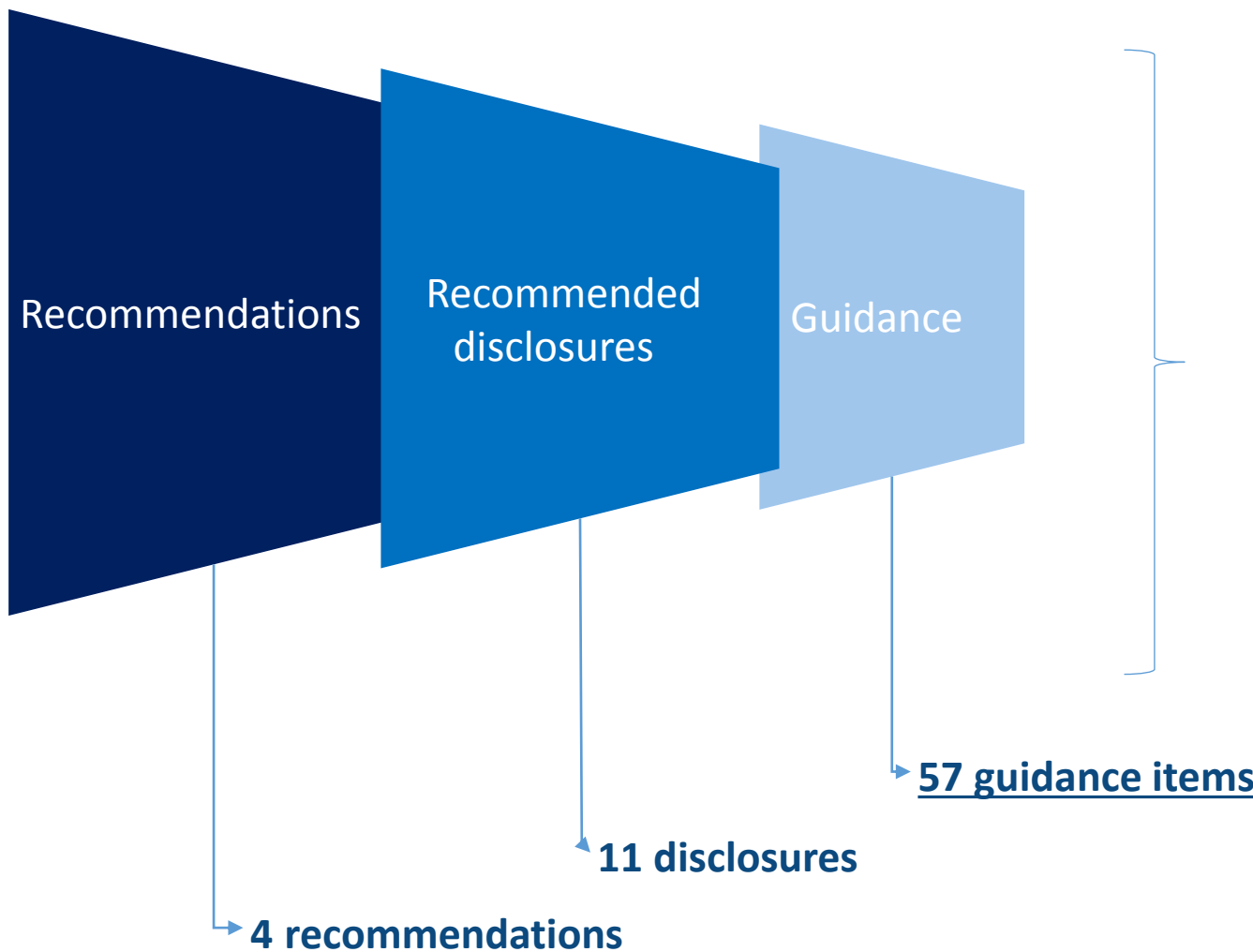
• Analysis of UNEP FI Pilot project results - lessons learned

6

• Analysis of the main challenges and proposals to overcome them

Outcome: Roadmap with recommendations to be implemented by banks and by FEBRABAN

Alignment of existing frameworks with the TCFD recommendations



Voluntary frameworks:

- GRI - Global Reporting Initiative Standards
- GRI Financial Sector Disclosures
- CDP Climate Change
- DJSI - Dow Jones Sustainability Index
- ISE - Índice de Sustentabilidade Empresarial (B3)

Regulatory frameworks:

- Reference form for issuers of securities (SEC 480)
- Securities and Exchange Commission Form 20F
- Form 10-k (Annual Report Required by SEC)
- Brazil Central Bank Resolutions 4327/2014 and 4557/2017
- FEBRABAN self-regulation SARB 14

Alignment of existing frameworks with the TCFD recommendations

Recommendations	% OF TCFD GUIDANCE CONSIDERED BY EXISTING FRAMEWORKS ⁽¹⁾								
	GRI	GRI Financial Service sector disclosures	CDP	ISE	DJSI	Reference form (CVM)	SEC Form 20-F	BR Central Bank regulations	FEBRABAN resolutions
GOVERNANCE - Disclose the organization's governance around climate related risks and opportunities.	14% H 57% M	0%	71% H 14% M	0% H 43% M	0% H 43% M	0% H 29% M	0%	0% H 100% M	0% H 29% M
STRATEGY - Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material	13% H 13% M	0%	73% H 7% M	0% H 20% M	27% H 7% M	0% H 13% M	0% H 27% M	0% H 67% M	0% H 13% M
RISK MANAGEMENT - Disclose how the organization identifies, assesses, and manages climate-related risks.	11% H 11% M	0%	78% H 0% M	33% H 11% M	0% H 11% M	0% H 22% M	0% H 11% M	0% H 78% M	0% H 11% M
METRICS AND TARGETS - Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material	29% H 18% M	18% H 6% M	59% H 24% M	59% H 18% M	41% H 18% M	0%	0%	0% H 12% M	6% H 6% M

(1) Level of alignment H = High, M = Medium

Suggested criteria for assessing credit exposure to climate-related risks

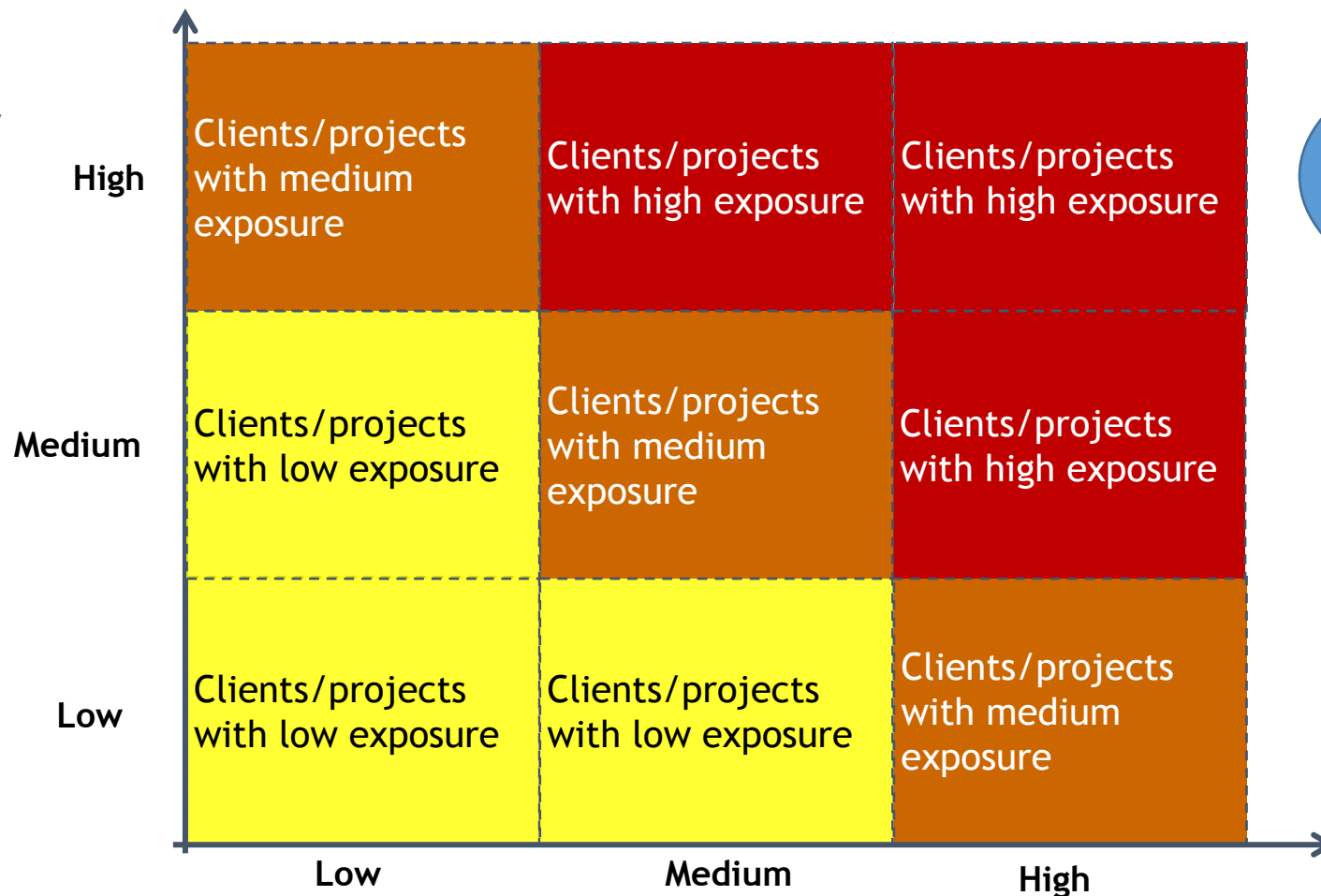
RELEVANCE

Characteristics of the financed sector

- GHG emissions
- Energy use
- Water use

Location sensitivity

Proxy: Risk of droughts and floods



Estimation of loan book exposure to climate-related risks

PROPORTIONALITY

Type of FI and credit operation

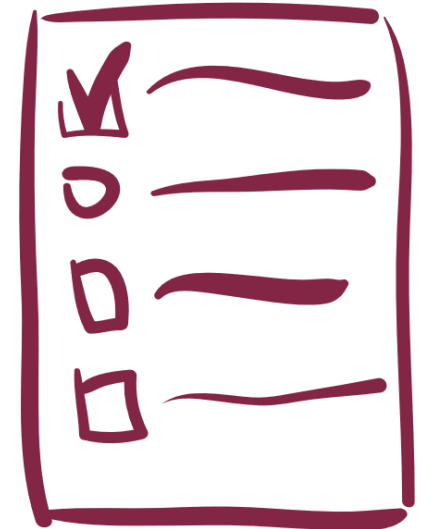
- Financial operation
- Maturity
- Value (\$)

Review of practices currently adopted by banks and companies

- Questionnaire with 28 banks in Brazil, responsible for 80% of the Brazilian credit portfolio
 - 64% of respondents are already aware of TCFD recommendations
- Interviews with selected banks
- Benchmarking analysis with companies (+200) and financial institutions

Sources of information:

- CDP Climate Change (2017)
- VigeoEiris
- Companies' and third party reports



Expected outcomes

Roadmap will be structured taking into account



- The associated pillar: Governance, Strategy, Risk Management, Metrics & Targets
- Who should implement it: banks or sectoral approach (FEBRABAN)
- Type of recommendation for banks: disclosure vs supporting
- Priorities and challenges
- Time Period for implementation

Recently published studies



[Download publications at:](https://portal.febraban.org.br/pagina/3085/43/en-us/financial-system-green-economy)

<https://portal.febraban.org.br/pagina/3085/43/en-us/financial-system-green-economy>



Thank you!

sustentabilidade@febraban.org.br

www.febraban.org.br