



MINISTÉRIO DA ECONOMIA

# Newsletter Debentures

And other financial instruments under the terms of Law # 12,431 dated June 24, 2011  
Real Estate Receivables Certificates - CRI's and Investment Funds

October 2019

71 th Edition

SECRETARIA DE  
POLÍTICA ECONÔMICA

SECRETARIA ESPECIAL DE  
FAZENDA

MINISTÉRIO DA  
ECONOMIA



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Objective: Law 12,431/11

Present the number of projects authorized to raise funds in the capital markets, as well as the number and volume of debentures issued (Investment Projects and Infrastructure Investment Projects of Law 12,431 of 2011).  
 In particular, the market for incentive debentures for infrastructure is analyzed, in accordance with current legislation.

**Brazilian  
 Infrastructure Bonds  
 (main features)**

Minimum duration of 4 years at issuance (6 years in the case of FIDC);

Fixed rate or inflation-linked;

There should be no repurchase by issuer during the first 2 years after the issuance date.

No resale commitment undertaken by the buyer.

Periodic interest payments (if applicable) of no less than 180 days.

The instrument must be registered in a regulated securities market authorized by the Central Bank of Brazil or the Brazilian Securities Commission.

Simplified procedure showing issuer's commitment to allocate raised funds in future payments or reimbursements of expenses, costs or liabilities related to investment projects;

Dollar-denominated instruments are not eligible for the tax breaks.

Public Issuance (Securities Commission Instruction 400) or Public Issuance with Restricted Efforts (Securities Commission Instruction 476).

CMN Resolution 4,751 of September 30, 2019, authorizes the possibility of early settlement of debentures may occur, at the sole discretion of the issuer, provided that the following requirements are cumulatively met;

After at least four years from the debentures issuance date; and

If there is an express prevision in the debentures indenture;

Prepayment rate less than or equal to the sum of the federal government bond rate matched by the same debenture index with the duration closest to the debenture duration at the early settlement date, with the spread over the federal government bond matched by the same index as the debenture with the duration closest to the duration of the security on the issue date;

Provision in the Deed of Issue instrument of possible early settlement dates at intervals of not less than six months between them and the calculation formula that will be used at the time of settlement;

The requirements in the last two items above may be disregarded provided that debenture holders representing at least seventy-five percent (75%) of the outstanding debentures approve the settlement, by deliberation at the debenture holders' meeting or adhering to the offer. purchase made by the issuing company, in compliance with the rules issued by the Securities Commission;

This resolution applies only to debentures issued from the 30th of september, 2019.

CVM Rulling 400 - Public Offer. CVM Ruling 476 - limited public offering in which up to 50 professional investors can participate.

CAPEX Bonds (also referred to as Law # 12,431/2011 article 1 debenture) - Local currency IOF and tax-exempt bond for non-residents. The funds raised will be used for investments.

Infrastructure Bond (also referred to as Law # 12,431 article 2 debenture) - tax-exempt bond for resident natural persons. A ten-percentage point Ten percentage-point reduction for local companies. Funds raised must be used in infrastructure investments or in research, development and innovation-intensive economic production.

Decree 8.874 / 2016, which regulates the tax benefit of DI's, currently covers seven sectors: (i) logistics and Transpor; (ii) Urban Mobility; (iii) Energy; (iv) Telecoms; (v) Radiofusion; (vi) Water and Sewerage (vii) Irrigation (Article 2).

The incentivized debentures instituted by Law 12,431 / 2011, related to investment projects in general and specifically to investment projects in the area of infrastructure defined as priority and regulated by Decree No. 8.874 / 2016, enjoy tax benefits and constitute a funding mechanism long-term via the capital market, as an alternative to traditional sources of financing.

In October 2019, it was offered in the market with restricted distribution efforts 7 (seven) debentures of infrastructure, linked to the energy sector (transmission, oil and gas, wind energy, biofuel). The total volume of the supply distributed in the period was R\$ 3,9 billion. Between 2012 and October 2019, the total volume disbursed in infrastructure debentures, with ample and restrictive efforts was R\$ 71.4 billion.

Regarding total Issuances distributed Through Public Offers (Brazilian Securities and Exchange Commission - CVM No. 400/2003) and Restricted Offers (Brazilian Securities and Exchange Commission - CVM No. 476/2009), the individual investors participation accounted for R\$ 25 billion of the total amount until October 2019, corresponding to 35% of all incentive debentures distributed since 2012.

The volume of tax-benefited debentures traded in the secondary markets exceeded the volume of non-tax benefited debentures. In July, the traded volume for tax-benefited debentures was 6.0% against 2.5% for non-tax benefited debentures.

Regarding Anbima Debentures Index (Índice de Debentures Anbima - IDA), over the past 12 months the IDA-DI's value rose 6.5% , against an increase of 14.8% in the IDA-IPCA (National Consumer Price Index (IPCA)-CPI) Infrastructure and 15.5% in the IDA-IPCA Exclusive Infrastructure. Regarding risk, in the last 12 months, IDA-IPCA Infrastructure reached a risk rate of around 2.7%, while IDA-DI and IDA-IPCA ex-infrastructure respectively reached 0.2% and 1.7%.

Regarding Infrastructure Funds, the percentage investment in Debentures through September 2019 in Fixed Income Funds (Fundos de Renda Fixa - FIRF), was 82%, while investments in Direct Credit Funds reached 90%, of Net Equity (NE).

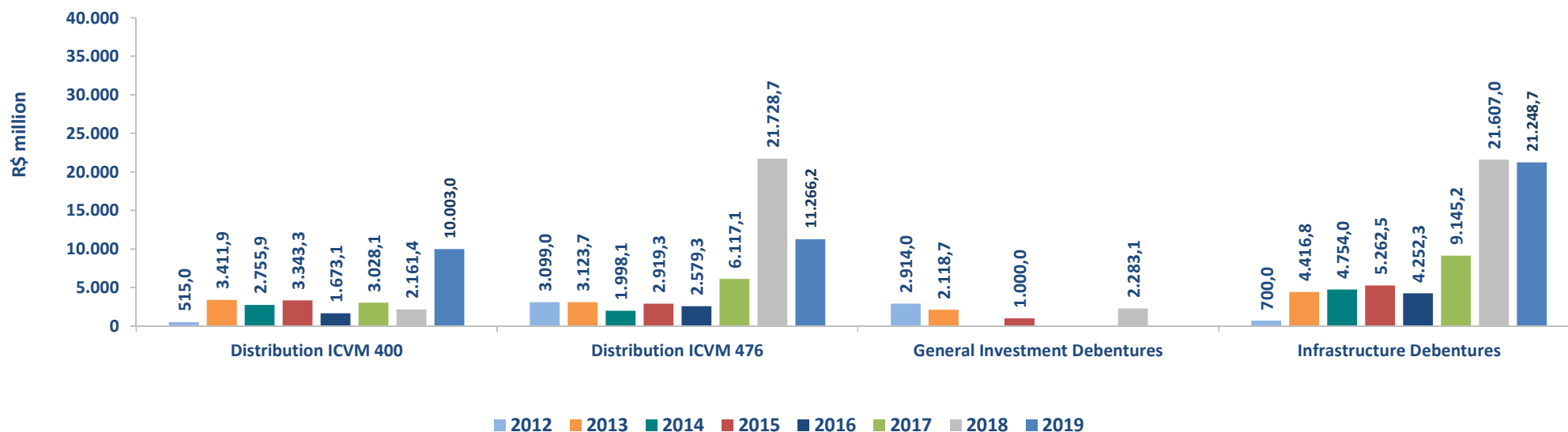
Law No. 12,431/11 prescribes a minimum investment of 85% of Net Equity in infrastructure projects (debentures, quota funds, and direct credits), although in the first two years from the first pay-in, the minimum permitted percentage of infrastructure assets relative to Net Equity is 67%.

The National Civil Aviation Agency (ANAC) made available on its website - ([www.anac.gov.br/assuntos/paginas-tematicas/concessoes](http://www.anac.gov.br/assuntos/paginas-tematicas/concessoes)) - the financial demonstrations of the airports granted. Such an initiative may contribute to the development of the secondary market for debentures in the sector.

Capex and Infrastructure Bonds: 2012 to 2019<sup>1</sup>

INFRASTRUCTURE DEBENTURE	Value (R\$ million)								Total Value
	2012	2013	2014	2015	2016	2017	2018	2019	
Distribution ICVM 400 <sup>2</sup>	515.0	3,411.9	2,755.9	3,343.3	1,673.1	3,028.1	2,161.4	10,003.0	26,891.5
Distribution ICVM 476 <sup>3</sup>	3,099.0	3,123.7	1,998.1	2,919.3	2,579.3	6,117.1	21,728.7	11,266.2	52,831.3
<b>Total.....</b>	<b>3,614.0</b>	<b>6,535.6</b>	<b>4,754.0</b>	<b>6,262.5</b>	<b>4,252.3</b>	<b>9,145.2</b>	<b>23,890.1</b>	<b>21,269.2</b>	<b>79,722.8</b>
General Investment Debentures	2,914.0	2,118.7	0.0	1,000.0	0.0	0.0	2,283.1	20.5	8,336.3
Infrastructure Debentures	700.0	4,416.8	4,754.0	5,262.5	4,252.3	9,145.2	21,607.0	21,248.7	71,386.5
<b>Total.....</b>	<b>3,614.0</b>	<b>6,535.6</b>	<b>4,754.0</b>	<b>6,262.5</b>	<b>4,252.3</b>	<b>9,145.2</b>	<b>23,890.1</b>	<b>21,269.2</b>	<b>79,722.8</b>

Capex and Infrastructure Bonds: 2012 to 2019



Source: Anbima - Brazilian Financial and Capital Markets Association and Ministerial Orders  
 Elaborated by SPE/ME

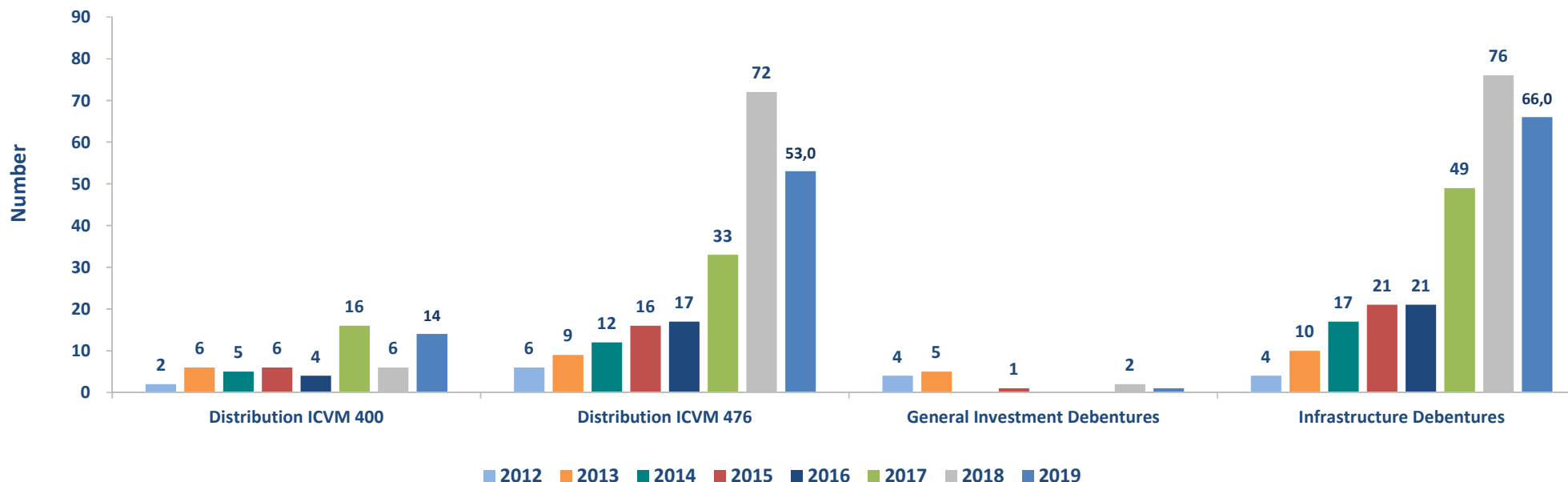
Note:

- (1) Volume by year of distribution
- (2) CVM Ruling 400 - Public Offer
- (3) CVM Ruling 476 - limited public offering in which up to 50 professional investors can participate.

Number of Infrastructure Bonds: 2012 to 2019<sup>1</sup>

INFRASTRUCTURE DEBENTURE	Number								Total Number
	2012	2013	2014	2015	2016	2017	2018	2019	
Distribution ICVM 400 <sup>2</sup>	2	6	5	6	4	16	6	14	59
Distribution ICVM 476 <sup>3</sup>	6	9	12	16	17	33	72	53	218
<b>Total.....</b>	<b>8</b>	<b>15</b>	<b>17</b>	<b>22</b>	<b>21</b>	<b>49</b>	<b>78</b>	<b>67</b>	<b>277</b>
General Investment Debentures	4	5	0	1	0	0	2	1	13
Infrastructure Debentures	4	10	17	21	21	49	76	66	264
<b>Total.....</b>	<b>8</b>	<b>15</b>	<b>17</b>	<b>22</b>	<b>21</b>	<b>49</b>	<b>78</b>	<b>67</b>	<b>277</b>

Number of Infrastructure Bonds: 2012 to 2019



Source: Anbima - Brazilian Financial and Capital Markets Association and Ministerial Orders  
 Elaborated by SPE/ME

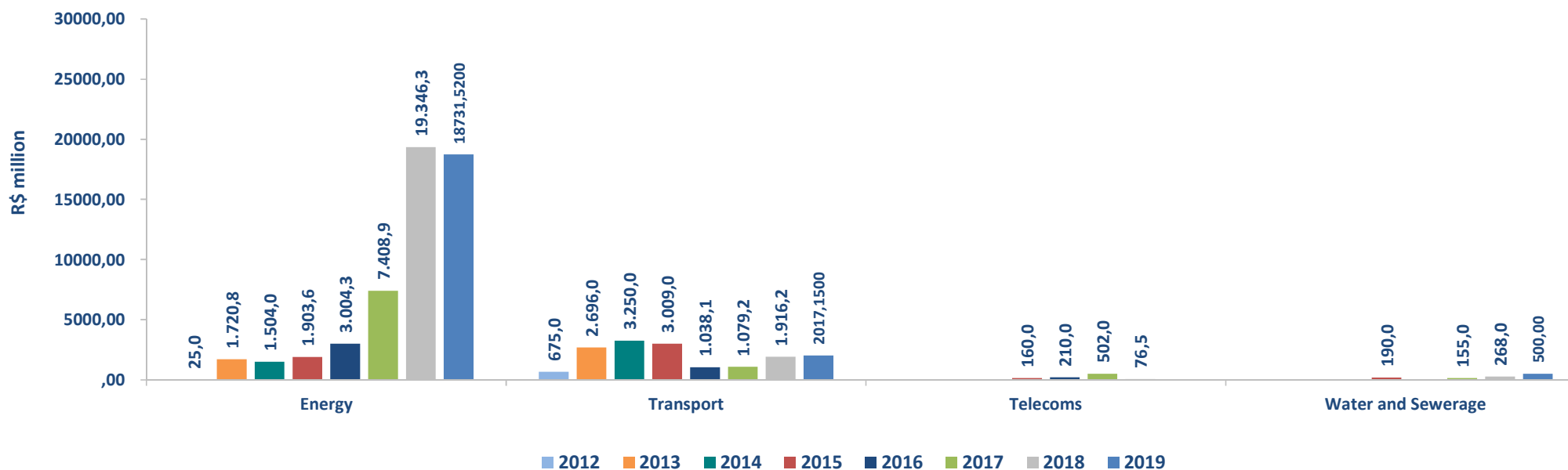
Note:

- (1) Quantity by year of distribution
- (2) CVM Ruling 400 - Public Offer
- (3) CVM Ruling 476 - limited public offering in which up to 50 professional investors can participate.

Infrastructure Bonds: 2012 to 2019<sup>1</sup>  
(by sector)

Sector Debenture	Value (R\$ million)								Total Value
	2012	2013	2014	2015	2016	2017	2018	2019	
Energy	25.0	1,720.8	1,504.0	1,903.6	3,004.3	7,408.9	19,346.3	18,731.5	53,644.4
Transport	675.0	2,696.0	3,250.0	3,009.0	1,038.1	1,079.2	1,916.2	2,017.2	15,680.6
Telecoms	0.0	0.0	0.0	160.0	210.0	502.0	76.5	0.0	948.5
Water and Sewerage	0.0	0.0	0.0	190.0	0.0	155.0	268.0	500.0	1,113.0
<b>Total.....</b>	<b>700.0</b>	<b>4,416.8</b>	<b>4,754.0</b>	<b>5,262.5</b>	<b>4,252.3</b>	<b>9,145.2</b>	<b>21,607.0</b>	<b>21,248.7</b>	<b>71,386.5</b>

Infrastructure Bonds - 2012 to 2019



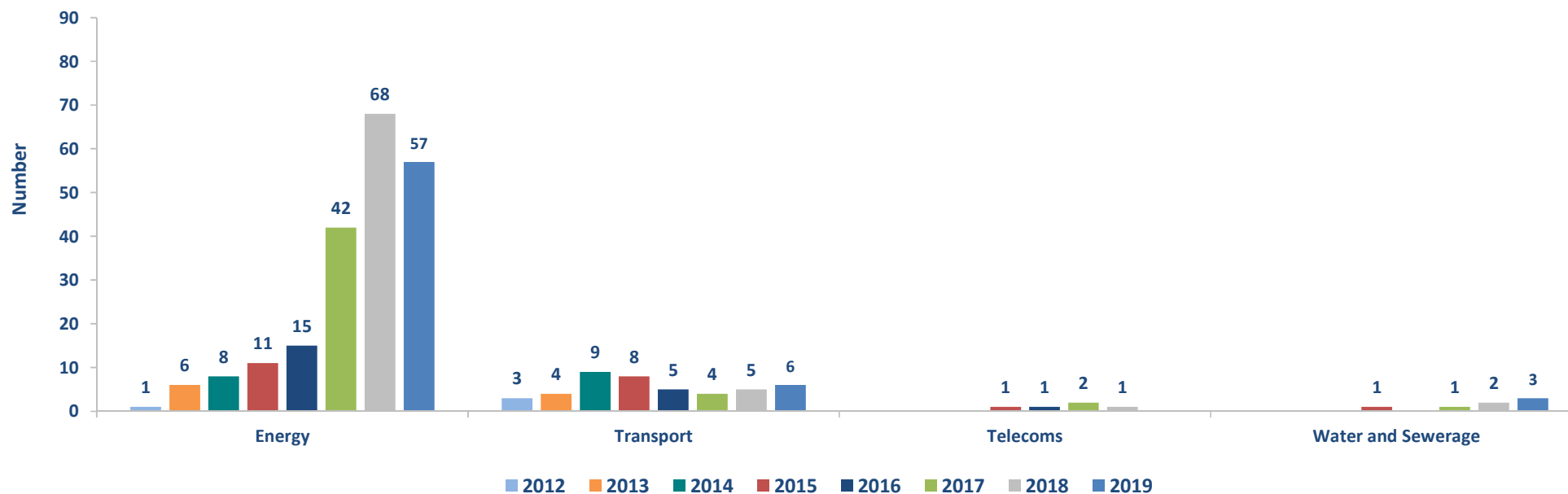
Source: Anbima and Ministerial Ordinances  
Elaborated by SPE/ME

Note:  
(1) Volume by year of distribution

Number of infrastructure Bonds: 2012 to 2019<sup>1</sup>  
(by sector)

Sector Debenture	Number								Total Number
	2012	2013	2014	2015	2016	2017	2018	2019	
Energy	1	6	8	11	15	42	68	57	208
Transport	3	4	9	8	5	4	5	6	44
Telecoms	0	0	0	1	1	2	1	0	5
Water and Sewerage	0	0	0	1	0	1	2	3	7
<b>Total.....</b>	<b>4</b>	<b>10</b>	<b>17</b>	<b>21</b>	<b>21</b>	<b>49</b>	<b>76</b>	<b>66</b>	<b>264</b>

Number of infrastructure Bonds - 2012 to 2019

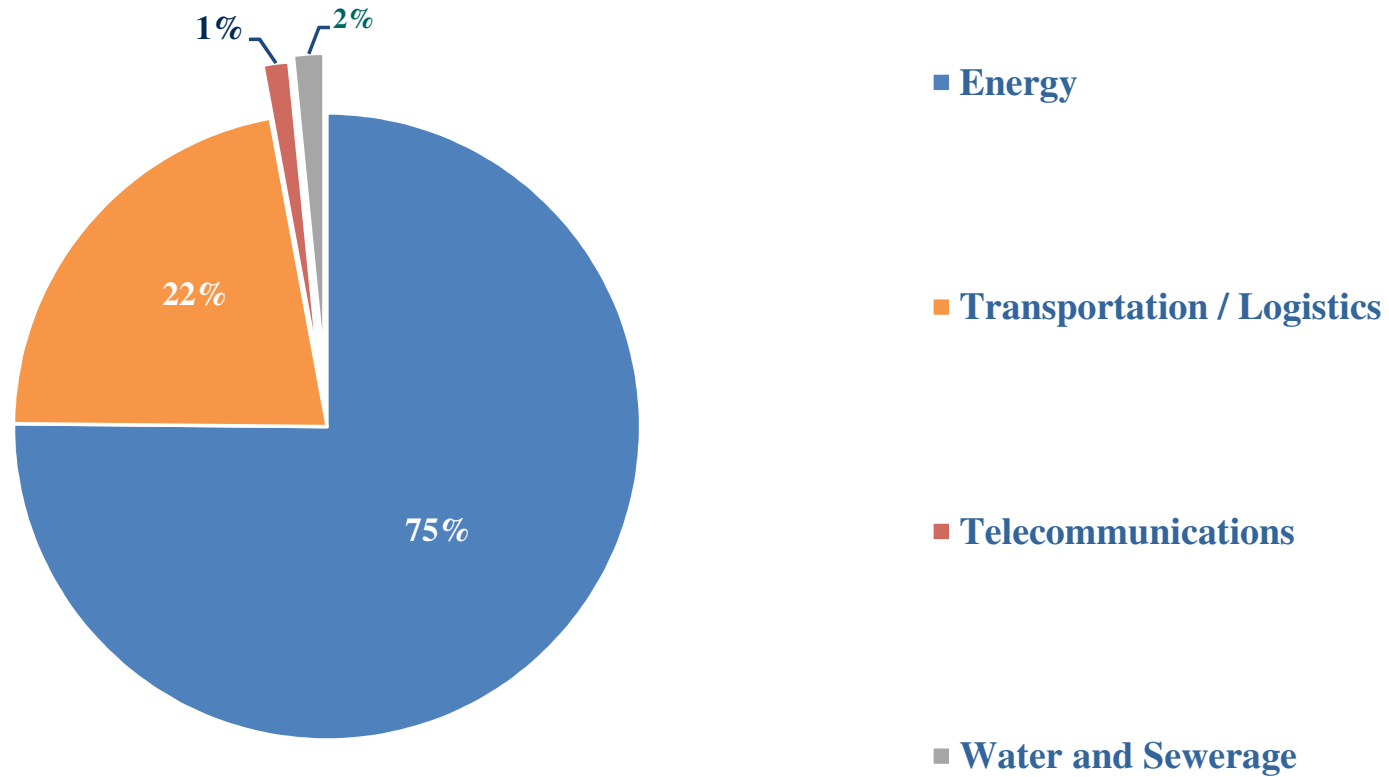


Source: Anbima and Ministerial Ordinances  
Elaborated by SPE/ME

Note:  
(1) Quantity by year of distribution

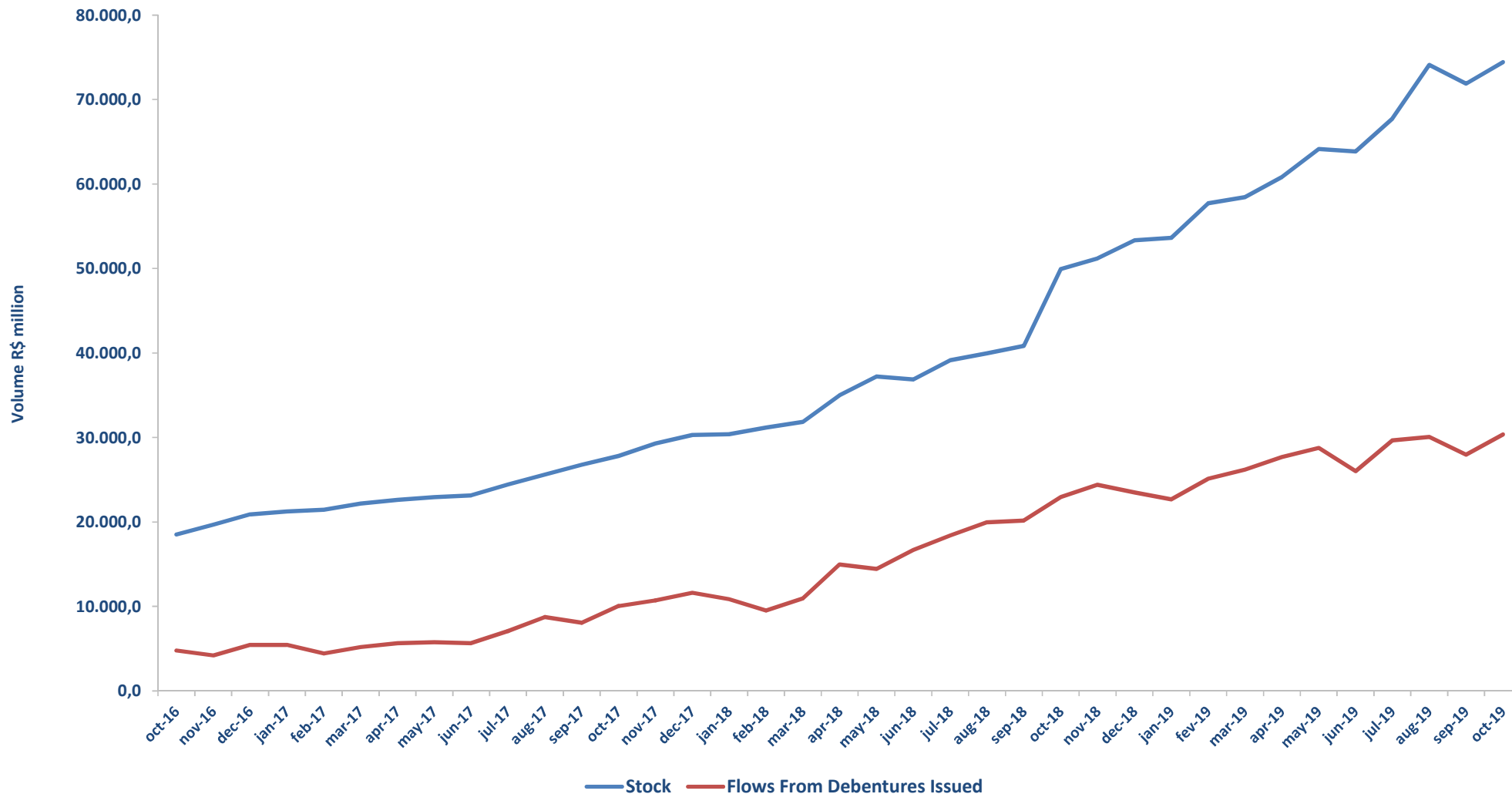


% Debentures Issuance in Infrastructure Projects - 2012 to October 2019



Source: Anbima and Ministerial Ordinances  
Elaborated by SPE/ME

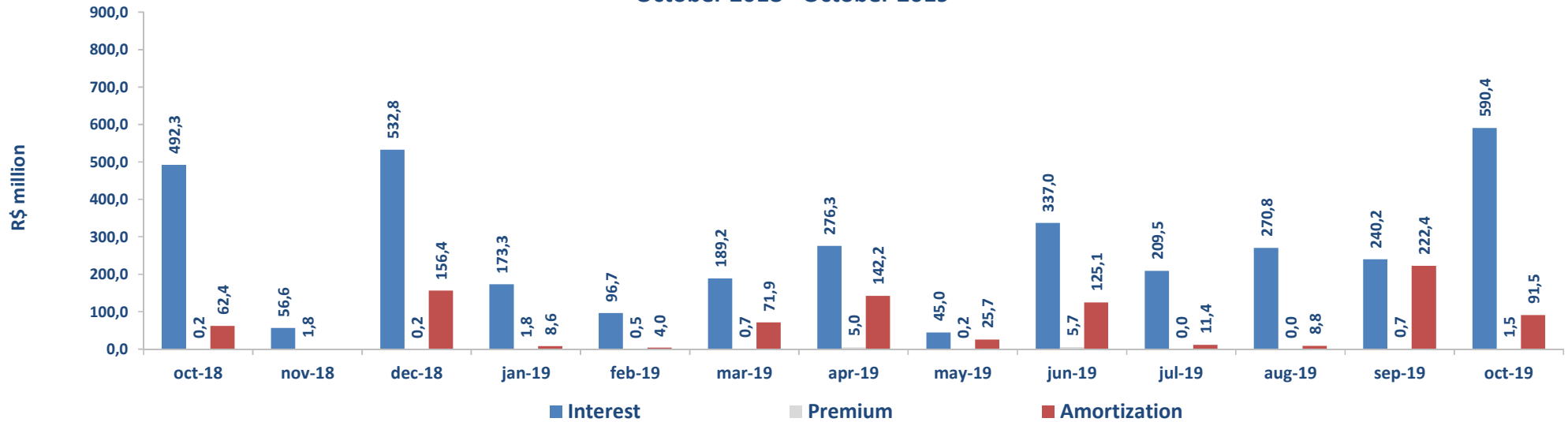
Stock and volume - Infrastructure Debentures (Volume - Rolling Average in the last 12 (twelve) months)



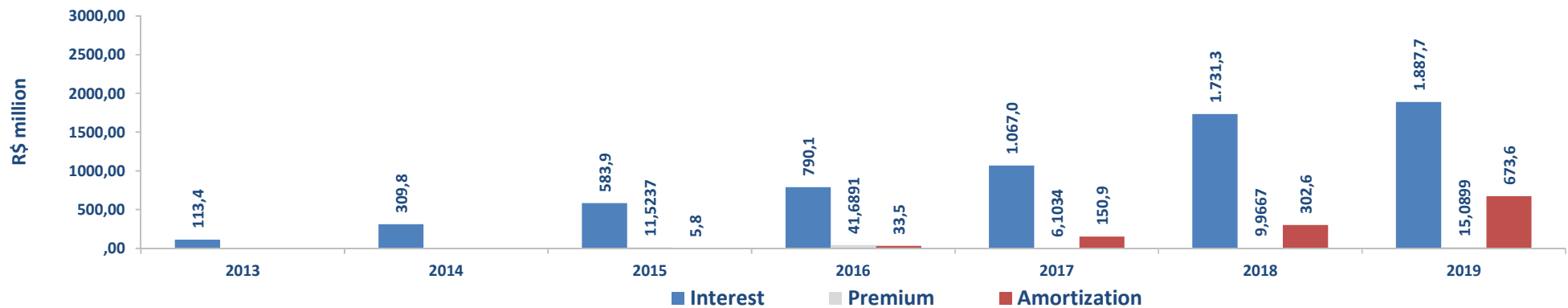
Source: Anbima and Ministerial Ordinances  
Elaborated by SPE/ME

Note: Sum of the emission values of the last 12 months.

Interest, Premium, Amortization Payments - Infrastructure Debentures  
October 2018 - October 2019

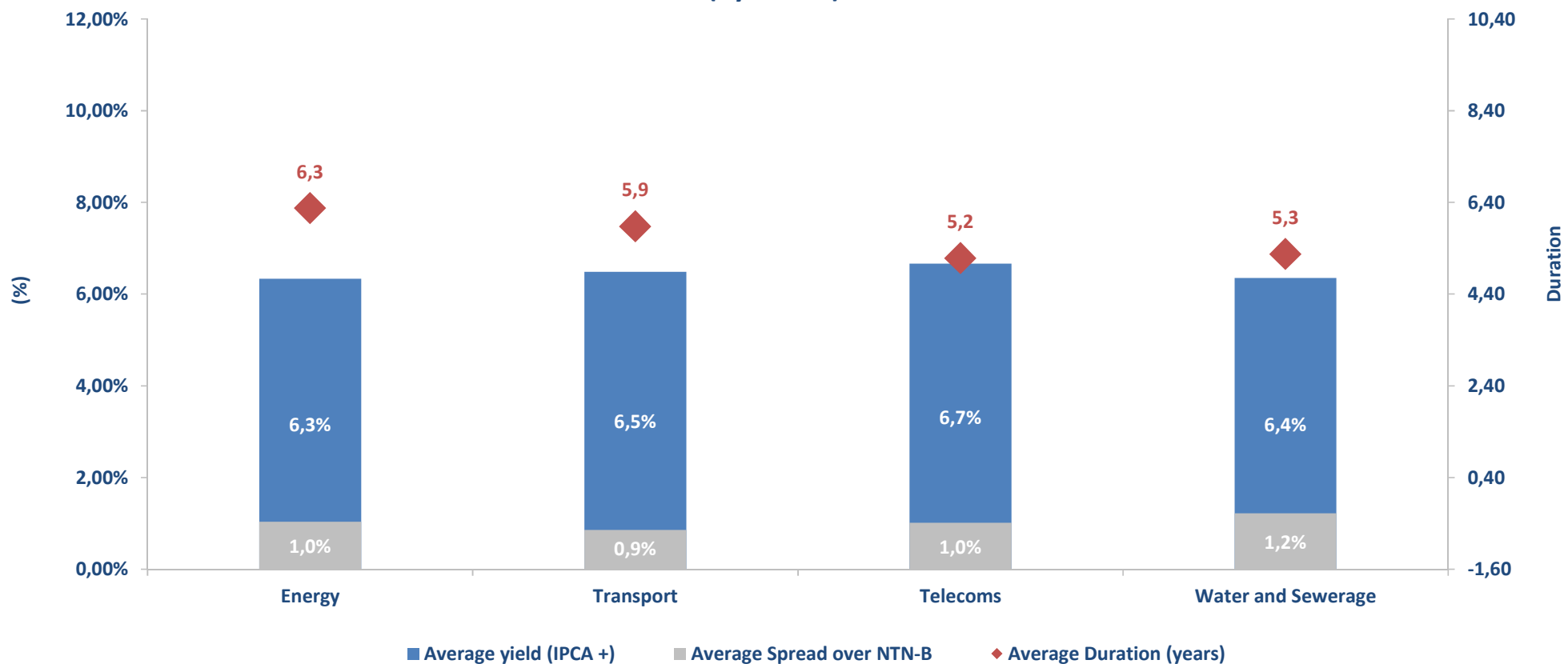


Interest, Premium, Amortization Payments (by year) - Infrastructure Debentures  
2013 and October 2019



Source: Anbima  
Elaborated by SPE/ME

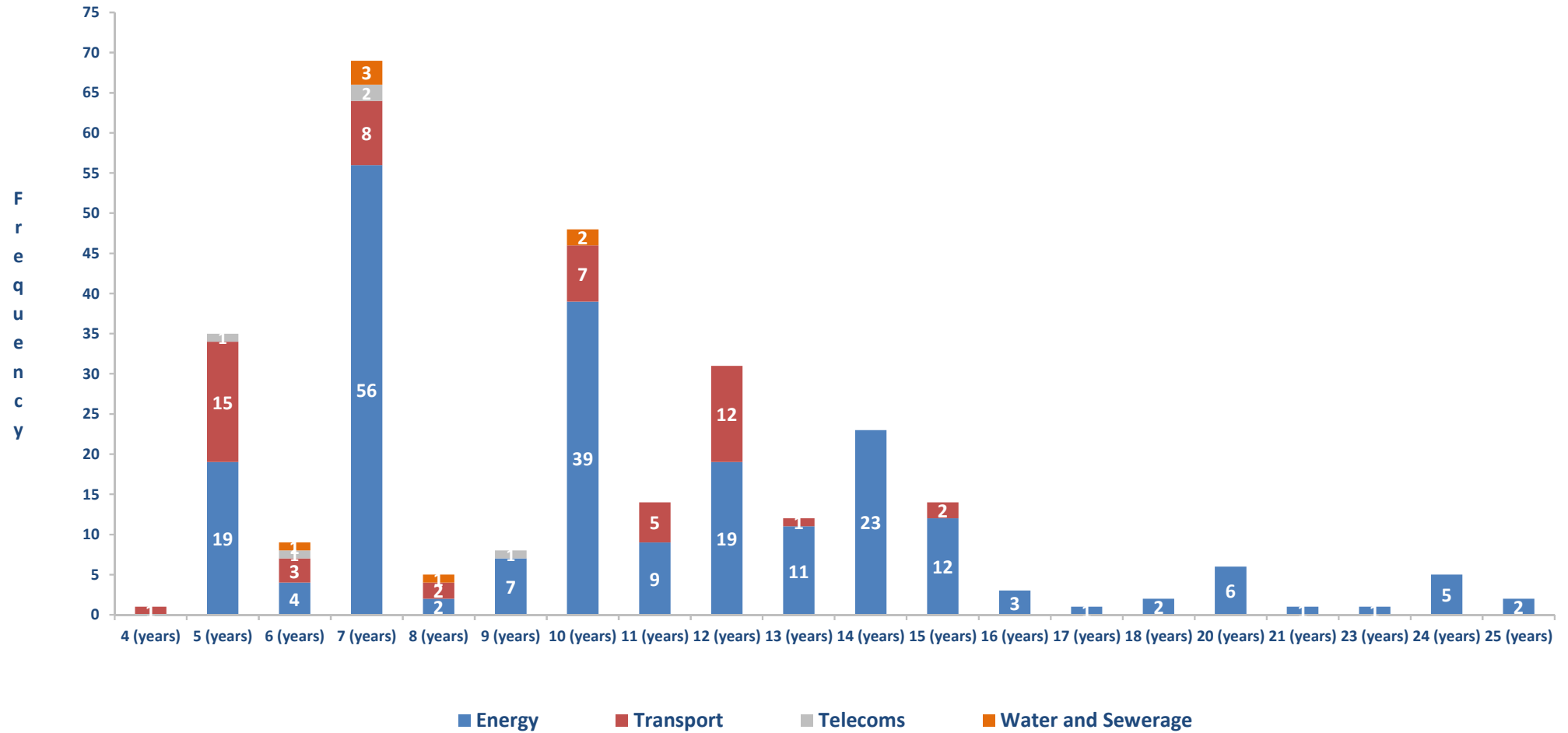
Average - Remuneration, Spread and Duration  
Debentures Infrastructure  
(by sector)



Source: Anbima  
Elaborated by SPE/ME

Note: Duration of macaulay expressed in years (252 d.u.)  
Consumer Price Index - CPI (IPCA)

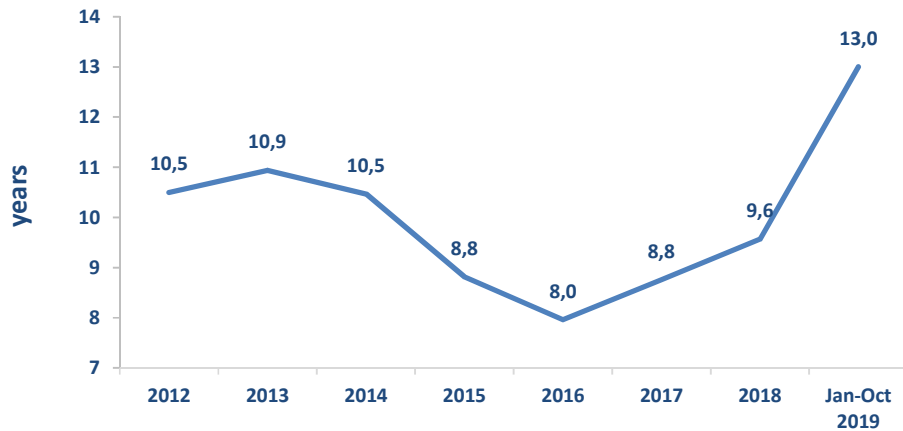
Maturity - Infrastructure Debentures by Issue Series ( in years)  
2012 to October 2019



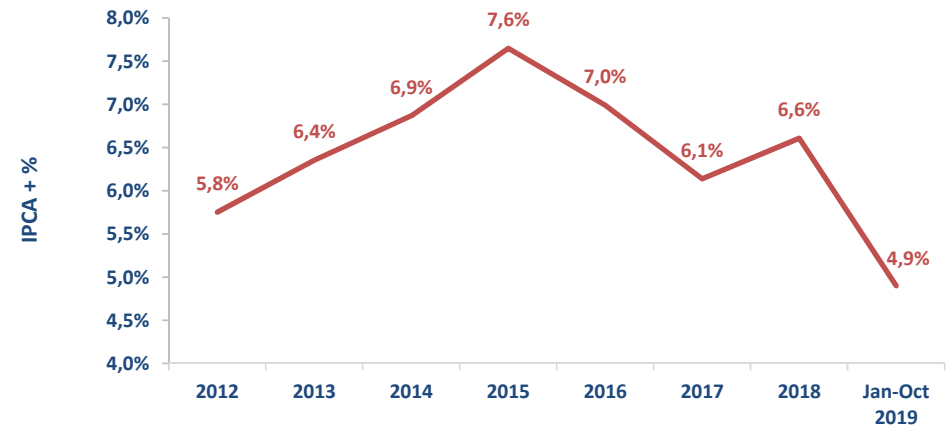
Source: Scripture of the Debentures  
Elaborated by SPE/ME

### Primary Market - Remuneration, Duration and Spread

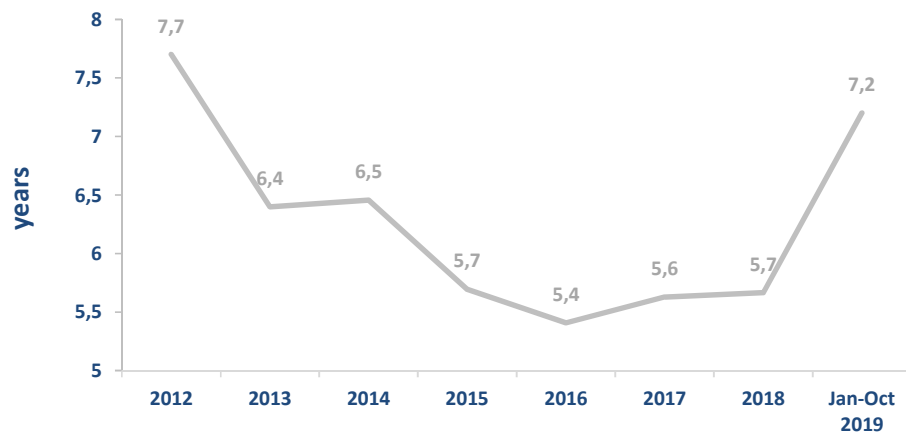
Average term



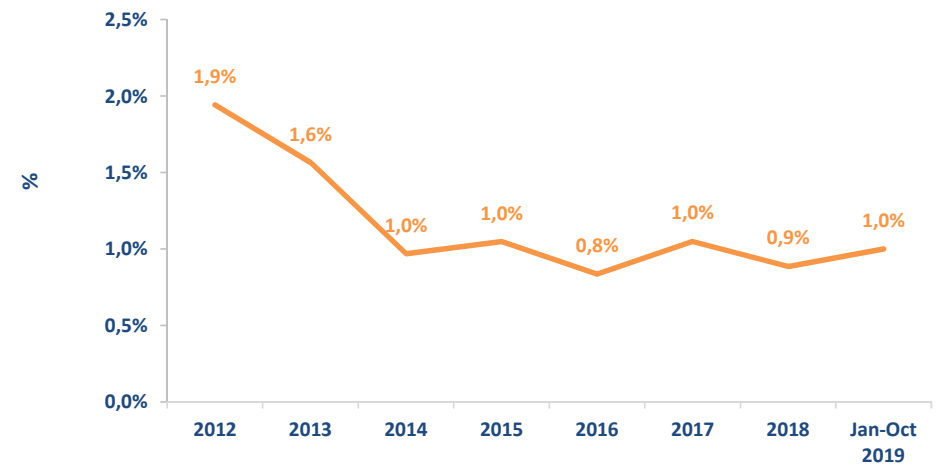
Average yield (IPCA +)



Average Duration



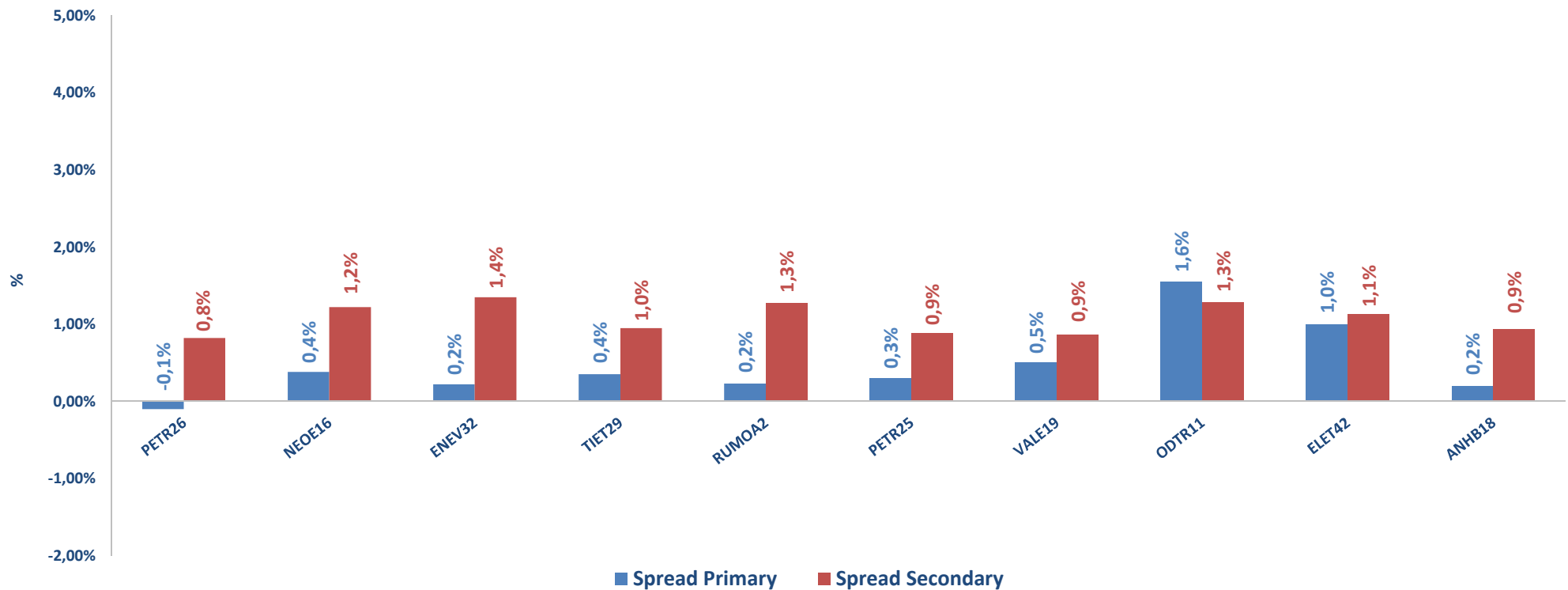
Average Spread (Over NTN B)



Source: Anbima and Scripture of the Debentures  
Elaborated by SPE/ME

### Infrastructure Debenture Spread Comparison - Primary<sup>1</sup> Market vs. Secondary<sup>2</sup> Market

(Criterion applied to graph - ten (10) top traded assets per month by volume - Infrastructure Debenture )



Rating: (AAA) ENEV32, VALE19 (AA+) NEOE16, TIET29, RUMOA2, PETR25 (AA) PETR26, ENTV12 (A+) ODTR11 (Aa1) ANHB18

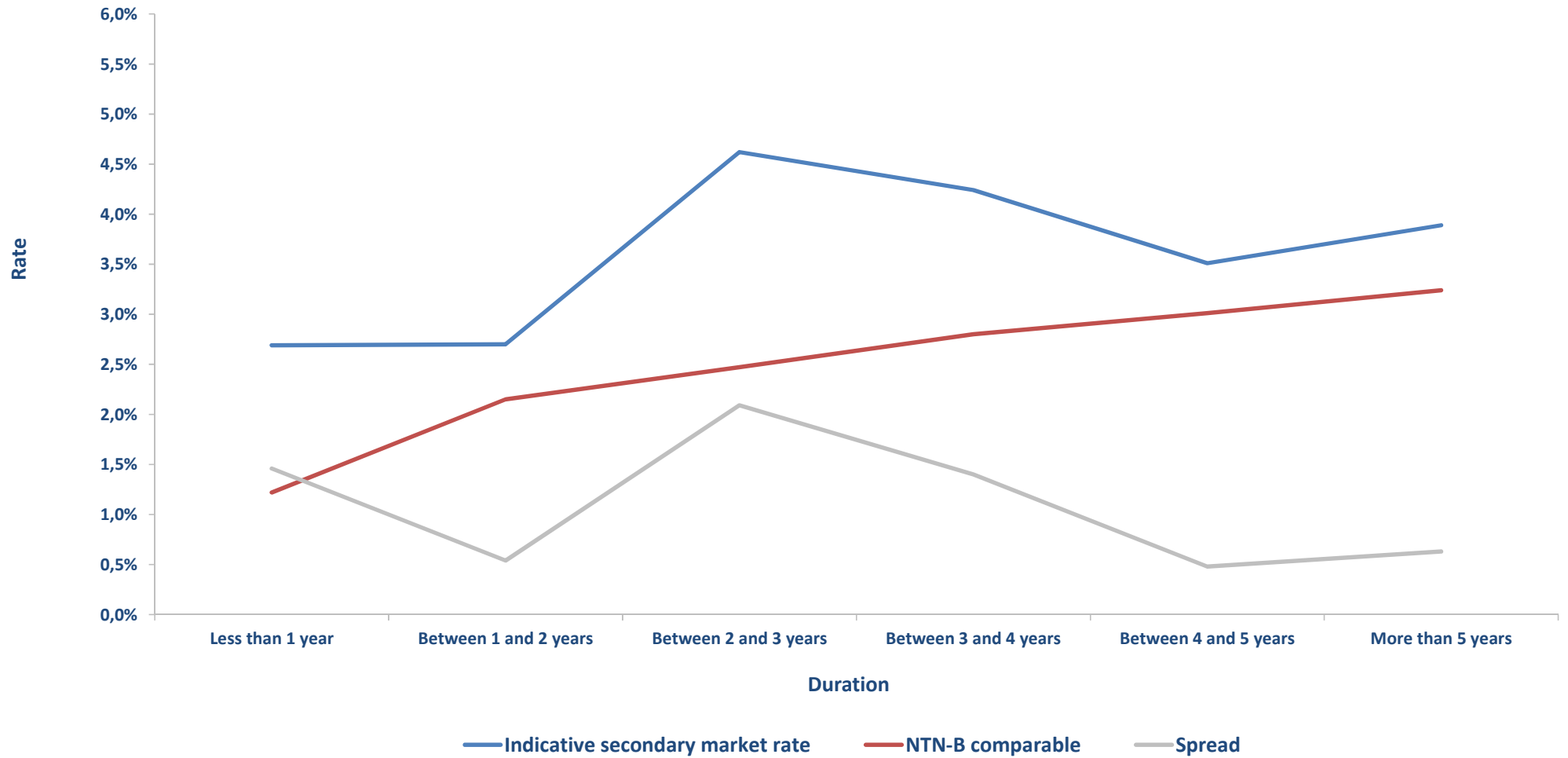
Source: Anbima and Cetip  
Elaborated by SPE/ME

**Note:**

(1) *Bookbuilding* final interest rate defined.

(2) Rate observed in Secondary Market considers average premium over NTN-b duration equivalent of negotiations held October 1 through 31, 2019.

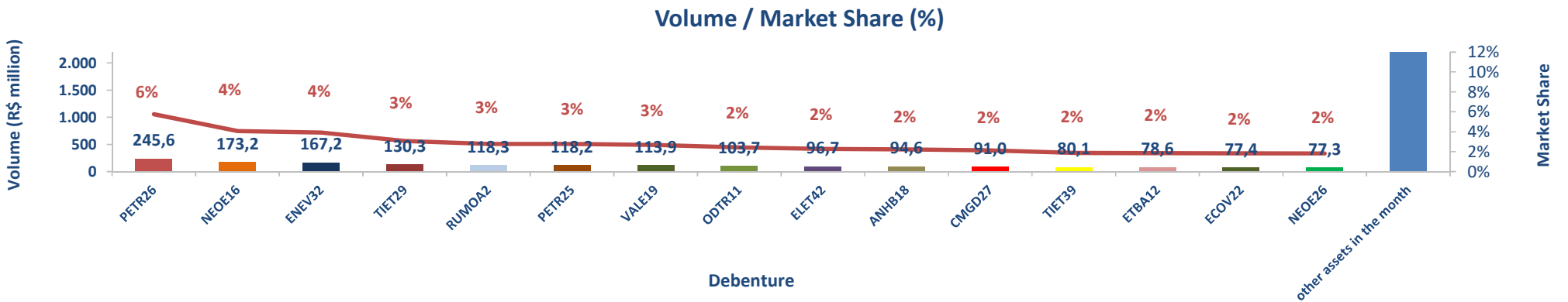
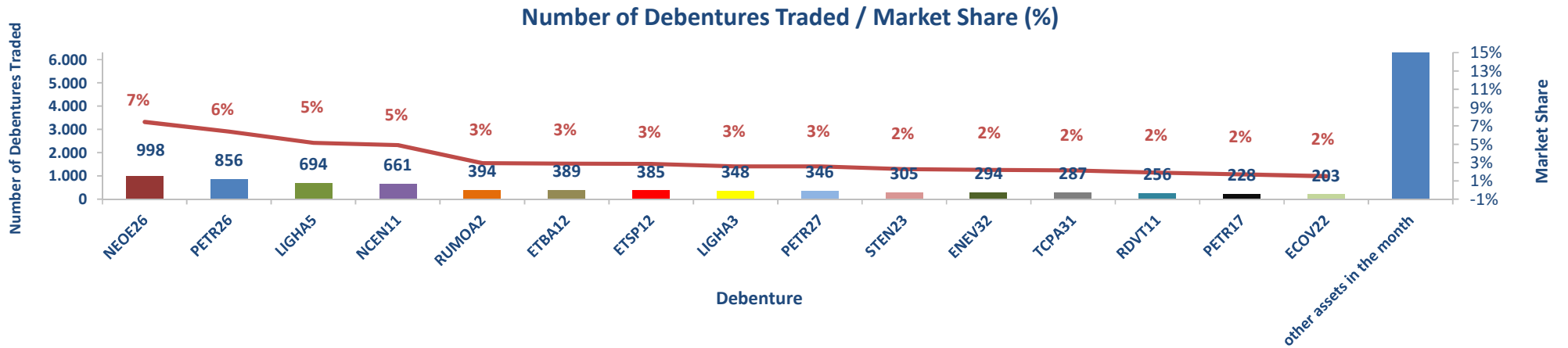
Spread Curve on NTN-B Comparable - (Secondary Market - first four-month period of 2019)  
Infrastructure Debentures



Source: Anbima  
Elaborated by SPE/ME



Secondary Market - Quantity and Volume of Debentures Traded - October 2019  
 Infrastructure Debentures - Law # 12,431/2011  
 15 most actively traded



Source : Anbima and Cetip  
 Elaborated by SPE/ME

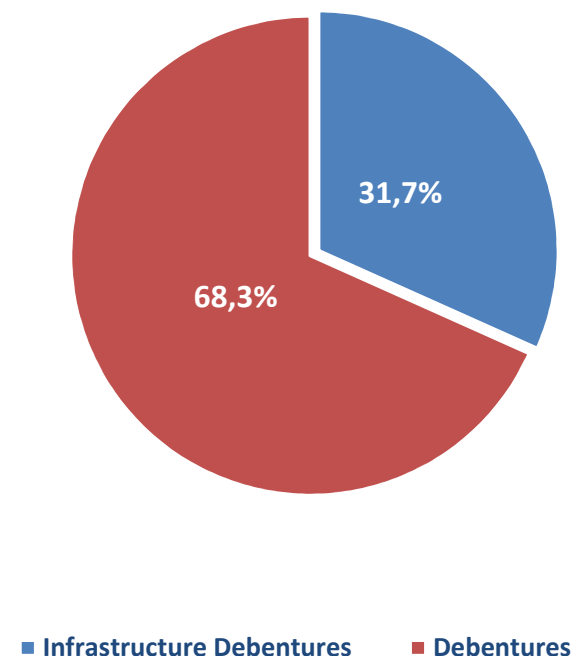
Note: Includes Intra-group and Extra-group transactions (Without Leasing).

Debentures Secondary Market - Trading Volume and Turnover

R\$ million

Period	Trading Volume <sup>1</sup>						Total Trading Volumes
	Debentures			Infrastructure Debentures-Law # 12,431/11 <sup>2</sup>			
	Trading Volume	Market Volume	Turnover	Trading Volume	Market Volume <sup>3</sup>	Turnover	
2017/10	4,534.1	230,354.7	2.0%	1,187.5	27,835.5	4.3%	5,721.6
2017/11	3,786.9	231,567.5	1.6%	1,542.3	29,266.3	5.3%	5,329.2
2017/12	7,361.9	242,485.9	3.0%	1,852.2	30,316.5	6.1%	9,214.1
2018/01	2,582.4	243,323.2	1.1%	1,374.6	30,388.3	4.5%	3,957.0
2018/02	2,200.7	246,084.2	0.9%	1,519.9	31,166.6	4.9%	3,720.6
2018/03	3,380.2	251,234.4	1.3%	2,250.8	31,849.8	7.1%	5,631.0
2018/04	3,523.8	251,455.2	1.4%	1,707.3	35,017.6	4.9%	5,231.1
2018/05	3,592.3	254,144.9	1.4%	1,530.9	37,224.2	4.1%	5,123.2
2018/06	4,468.7	257,571.5	1.7%	1,618.8	36,865.7	4.4%	6,087.5
2018/07	2,492.4	258,354.8	1.0%	1,596.6	39,137.7	4.1%	4,089.0
2018/08	3,842.5	262,431.0	1.5%	1,460.0	39,964.9	3.7%	5,302.5
2018/09	3,146.7	268,416.5	1.2%	1,693.6	40,847.4	4.1%	4,840.4
2018/10	5,256.8	287,855.3	1.8%	2,272.4	49,954.4	4.5%	7,529.2
2018/11	6,901.0	288,664.8	2.4%	1,846.3	51,210.3	3.6%	8,747.3
2018/12	4,143.5	499,475.2	0.8%	3,350.8	53,352.5	6.3%	7,494.3
2019/01	4,319.1	509,625.3	0.8%	2,349.8	53,630.2	4.4%	6,668.9
2019/02	4,807.2	298,881.4	1.6%	2,121.7	57,718.4	3.7%	6,928.9
2019/03	7,877.6	300,362.2	2.6%	2,602.7	58,461.7	4.5%	10,480.3
2019/04	2,993.2	308,697.3	1.0%	3,091.2	60,812.2	5.1%	6,084.4
2019/05	6,179.1	317,995.2	1.9%	4,334.6	64,149.7	6.8%	10,513.7
2019/06	5,078.3	344,750.0	1.5%	3,007.8	60,271.1	5.0%	8,086.1
2019/07	6,363.8	345,152.8	1.8%	3,467.3	67,740.2	5.1%	9,831.2
2019/08	10,463.0	344,721.3	3.0%	4,724.5	74,098.5	6.4%	15,187.5
2019/09	12,702.2	353,026.5	3.6%	3,803.0	71,895.0	5.3%	16,505.2
2019/10	8,951.3	361,337.1	2.5%	4,461.4	74,435.3	6.0%	13,412.7

Trading Volume  
October/2017 to October/2019



Source: Anbima

Elaborated by SPE/ME

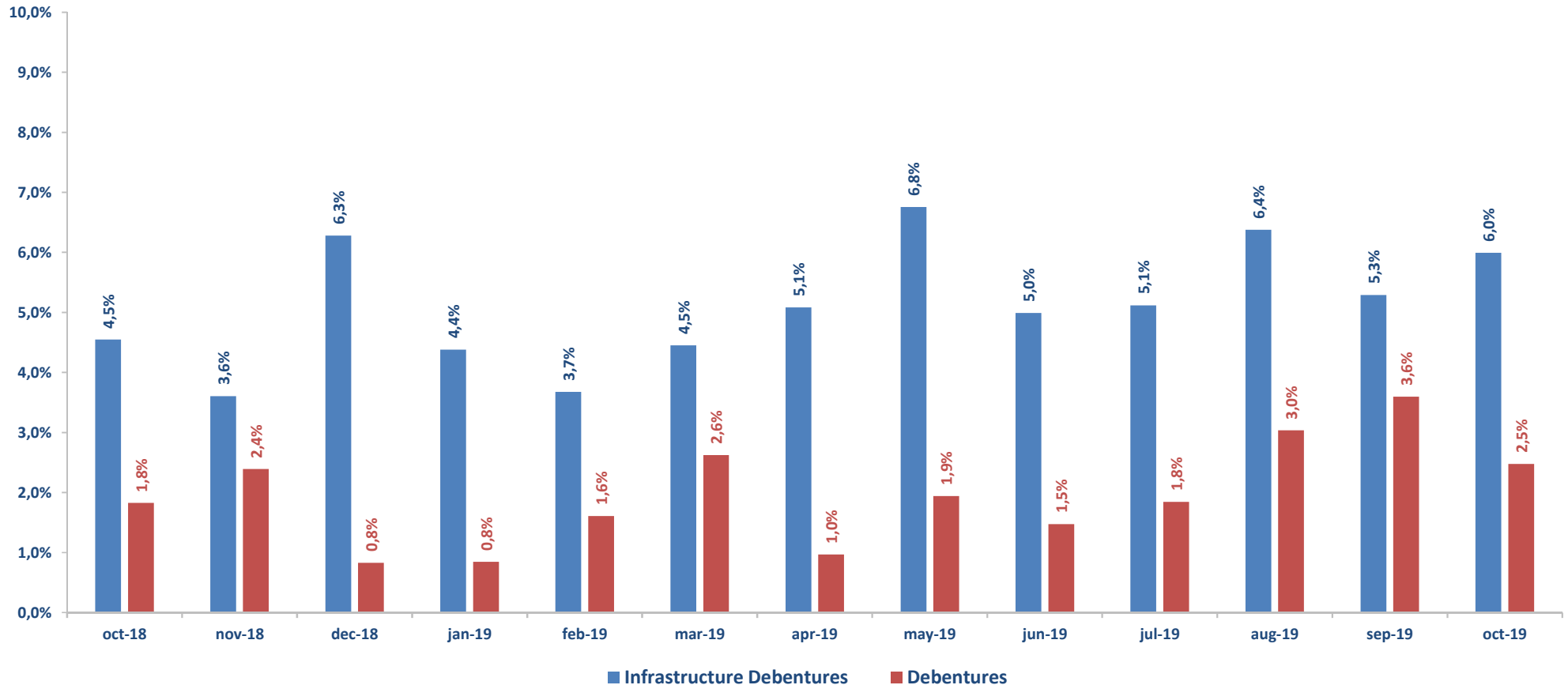
Note :

(1) Type of transaction (Intra-group and Extra-group): The intra-group transactions are negotiated between institutions belonging to the same financial conglomerate and extra-group transactions are negotiated between participants of different conglomerates and among participants with clients who are not part of the ANBIMA REUNE system. Leasing debentures are not considered.

(2) Financial trading Volume of infrastructure debentures.

(3) Financial stock of infrastructure debentures.

Secondary Market - Trading Volume<sup>1</sup>  
 Infrastructure Debentures Vs. Debentures  
 Comparative Turnover (Trading Volume<sup>2</sup>/Market Volume<sup>3</sup>)



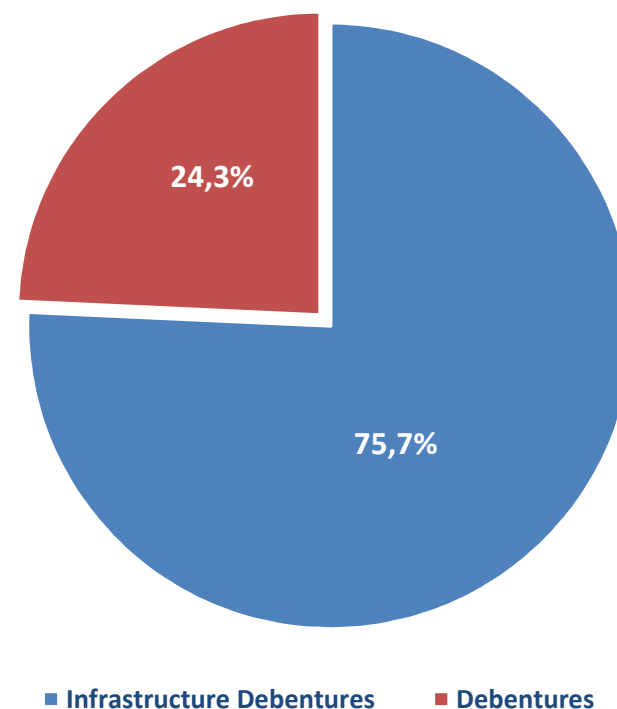
Source: Anbima  
 Elaborated by SPE/ME

**Note :**  
 (1) Type of transaction (Intra-group and Extra-group): The intra-group transactions are negotiated between institutions belonging to the same financial conglomerate and extra-group transactions are negotiated between participants of different conglomerates and among participants with clients who are not part of the ANBIMA REUNE system. Leasing debentures are not considered. (2) Financial trading Volume of infrastructure debentures. (3) Financial stock of infrastructure debentures.

Infrastructure Debentures Secondary Market - Share of Trades

Share of Trades <sup>1</sup>			
Period	Debentures	Infrastructure debentures-Law # 12,431/11 <sup>2</sup>	Share Total of Trades
	Share of Trades	Share of Trades	
2017/10	3,729	9,186	12,915
2017/11	3,188	11,355	14,543
2017/12	3,187	11,774	14,961
2018/01	6,639	8,367	15,006
2018/02	3,221	10,066	13,287
2018/03	3,771	12,375	16,146
2018/04	3,164	10,681	13,845
2018/05	3,099	12,377	15,476
2018/06	2,929	11,164	14,093
2018/07	3,081	12,671	15,752
2018/08	4,825	11,986	16,811
2018/09	3,270	8,321	11,591
2018/10	5,553	15,855	21,408
2018/11	4,034	12,019	16,053
2018/12	4,341	12,161	16,502
2019/01	3,394	12,479	15,873
2019/02	4,187	11,919	16,106
2019/03	3,423	11,351	14,774
2019/04	2,836	14,741	17,577
2019/05	5,046	18,501	23,547
2019/06	4,447	15,578	20,025
2019/07	5,077	16,260	21,337
2019/08	5,929	17,528	23,457
2019/09	5,598	15,518	21,116
2019/10	5,922	19,683	25,605

Share of Trades  
October/2017 to October/2019



Source: Anbima  
Elaborated by SPE/ME

Note:

(1) Type of transaction (Intra-group and Extra-group): The intra-group transactions are negotiated between institutions belonging to the same financial conglomerate and extra-group transactions are negotiated between participants of different conglomerates and among participants with clients who are not part of the ANBIMA REUNE system. Leasing debentures are not considered.

(2) Share of trades: infrastructure debentures.

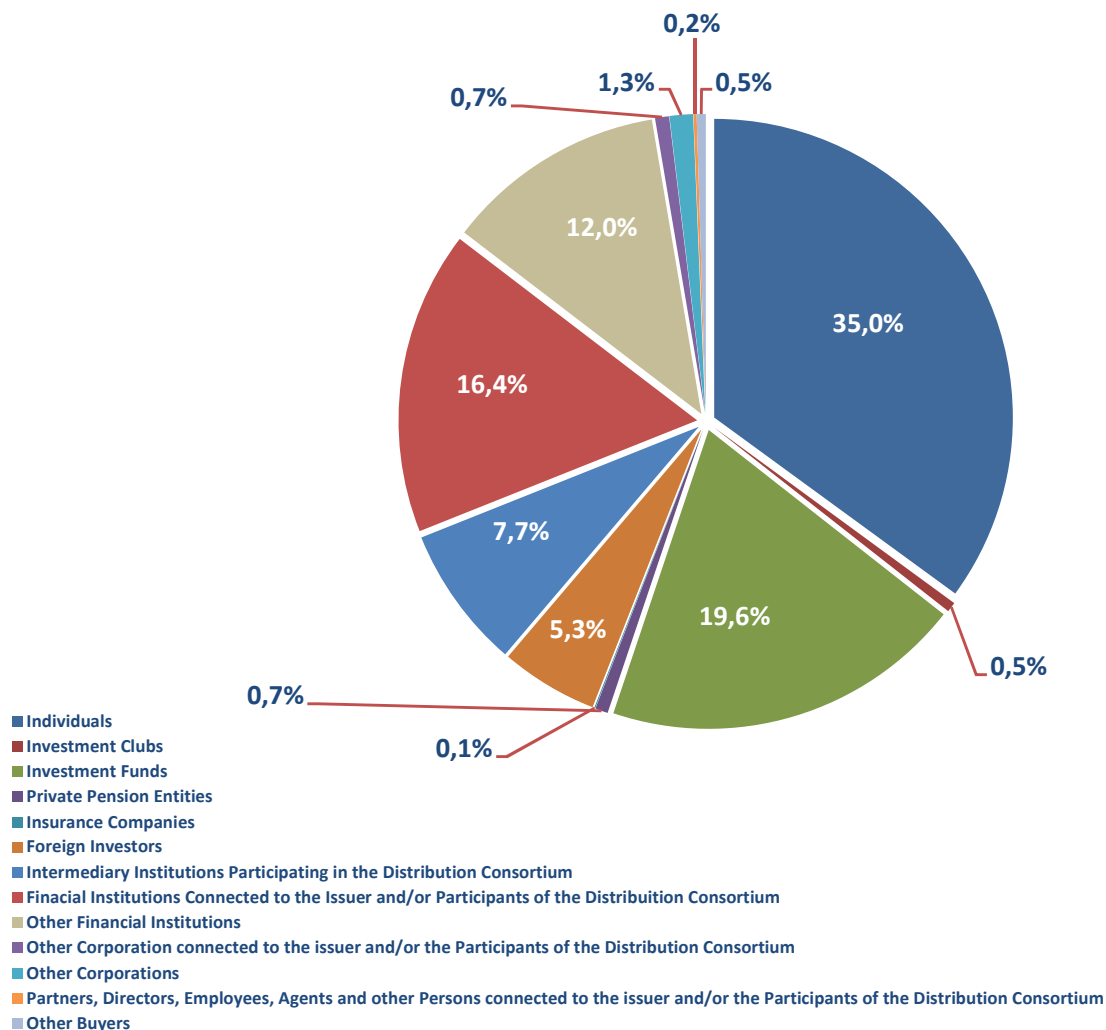
Breakdown by type of Investor - Infrastructure Debentures  
2012 to October 2019

Summary of breakdown - ICVM 400 and ICVM 476

Investor	%	R\$ million
Individuals	35.0%	25,013.9
Investment Clubs	0.5%	385.3
Investment Funds	19.6%	13,985.2
Private Pension Entities	0.7%	501.8
Insurance Companies	0.1%	43.9
Foreign Investors	5.3%	3,771.6
Intermediary Institutions Participating in the Distribution Consortium	7.7%	5,519.4
Financial Institutions Connected to the Issuer and/or Participants of the Distribution Consortium	16.4%	11,729.3
Other Financial Institutions	12.0%	8,538.6
Other Corporation connected to the issuer and/or the Participants of the Distribution Consortium	0.7%	531.1
Other Corporations	1.3%	900.1
Partners, Directors, Employees, Agents and other Persons connected to the issuer and/or the Participants of the Distribution Consortium	0.2%	116.6
Other Buyers	0.5%	349.7
<b>Total.....</b>	<b>100.0%</b>	<b>71,386.5</b>

Source: Anbima. Leading Banks and closing announcement  
Elaborated by SPE/ME

Summary of breakdown - ICVM 400 and ICVM 476



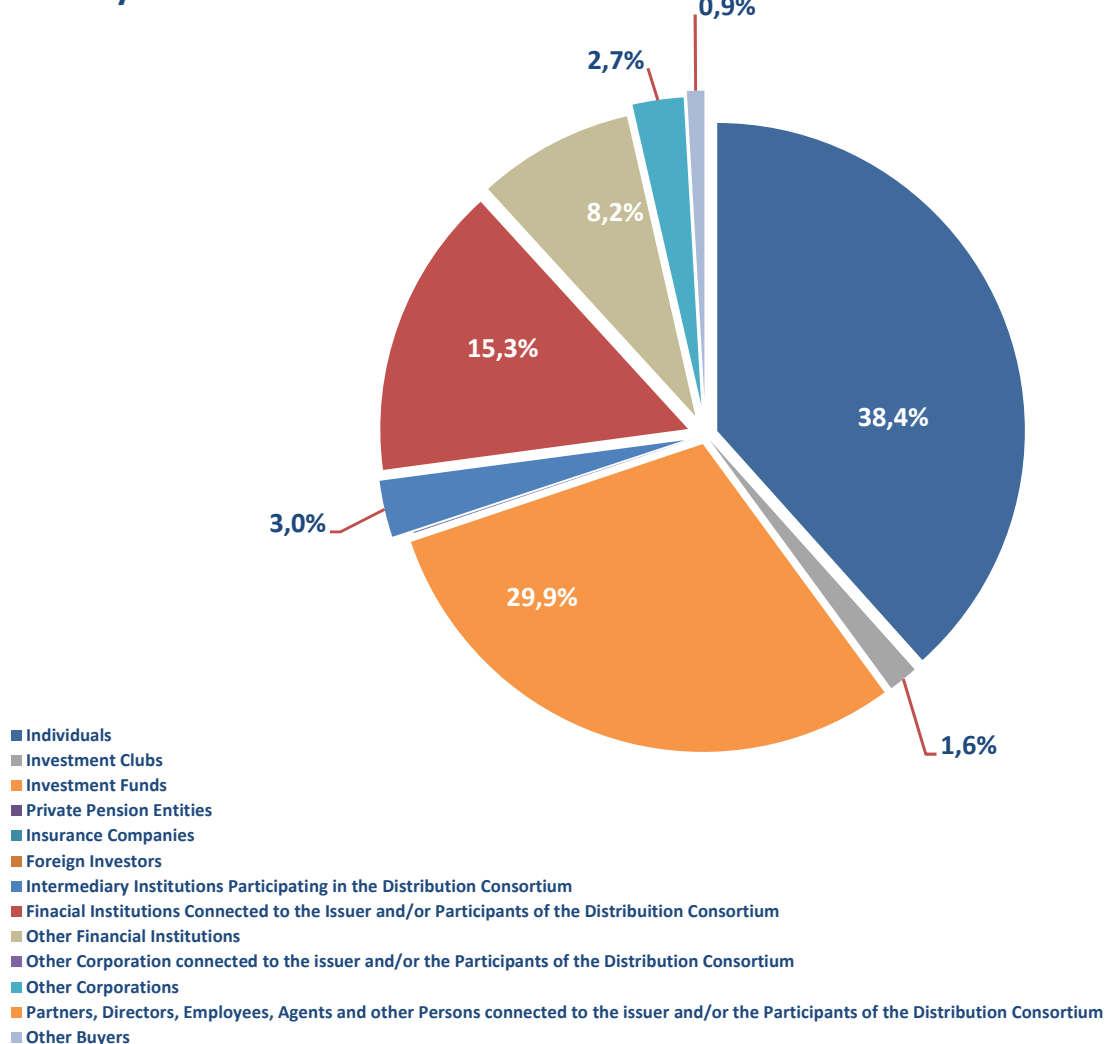
Breakdown by type of Investor - Infrastructure Debentures  
January to October 2019

Summary of breakdown - ICVM 400 and ICVM 476

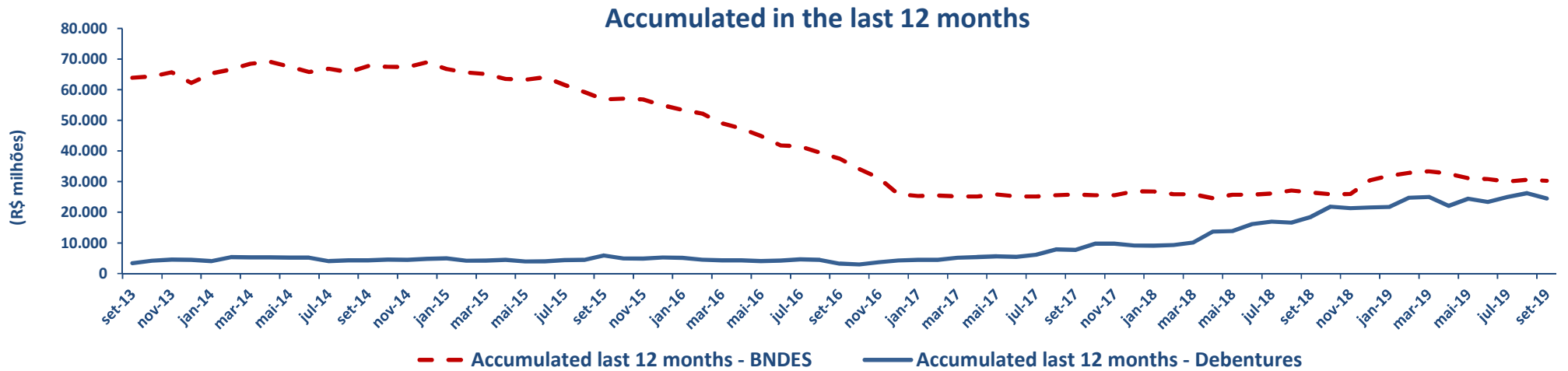
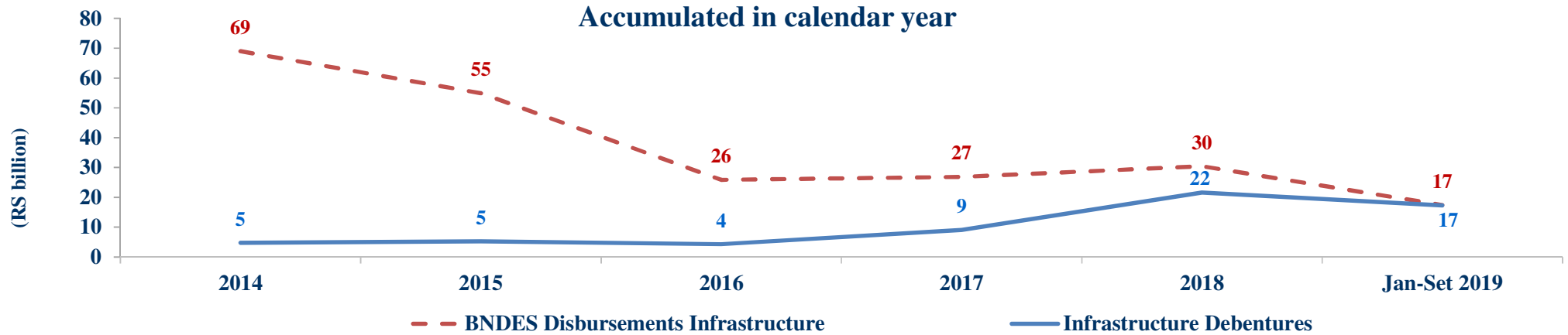
Investor	%	R\$ million
Individuals	38.4%	8,153.5
Investment Clubs	1.6%	333.5
Investment Funds	29.9%	6,355.7
Private Pension Entities	0.0%	8.5
Insurance Companies	0.0%	2.5
Foreign Investors	0.0%	0.0
Intermediary Institutions Participating in the Distribution Consortium	3.0%	631.7
Financial Institutions Connected to the Issuer and/or Participants of the Distribution Consortium	15.3%	3,260.6
Other Financial Institutions	8.2%	1,741.4
Other Corporation connected to the issuer and/or the Participants of the Distribution Consortium	0.0%	0.0
Other Corporations	2.7%	567.4
Partners, Directors, Employees, Agents and other Persons connected to the issuer and/or the Participants of the Distribution Consortium	0.0%	0.1
Other Buyers	0.9%	193.7
<b>Total.....</b>	<b>100.0%</b>	<b>21,248.7</b>

Source: Anbima. Leading Banks and closing announcement  
Elaborated by SPE/ME

Summary of breakdown - ICVM 400 and ICVM 476

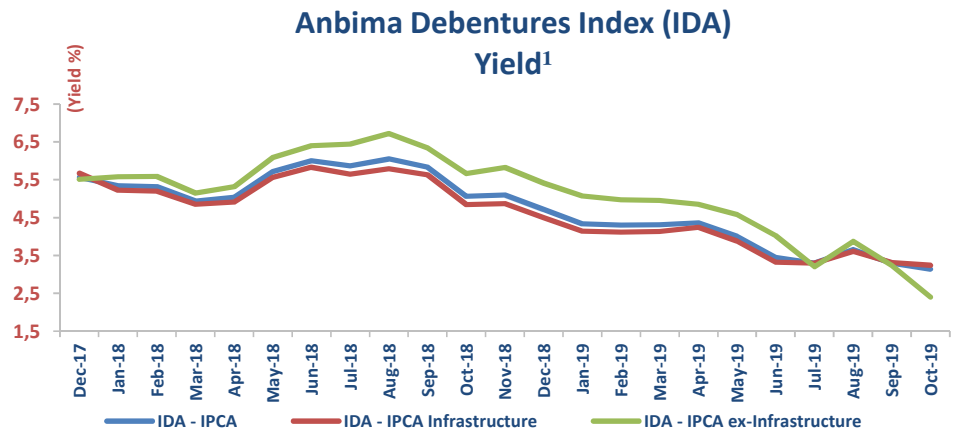
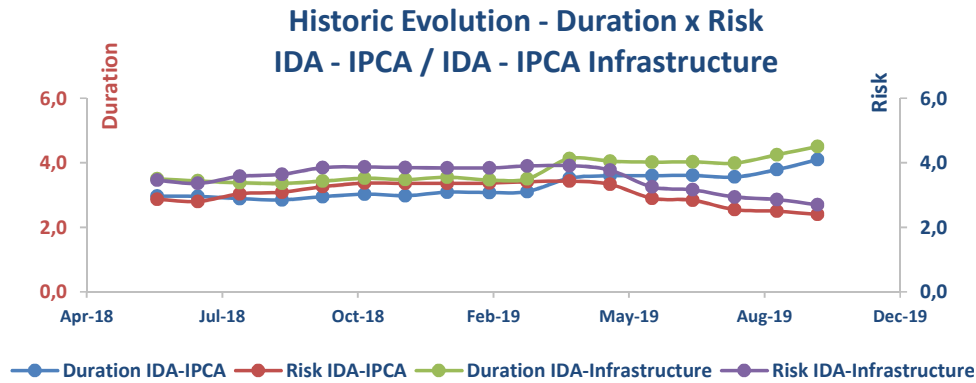
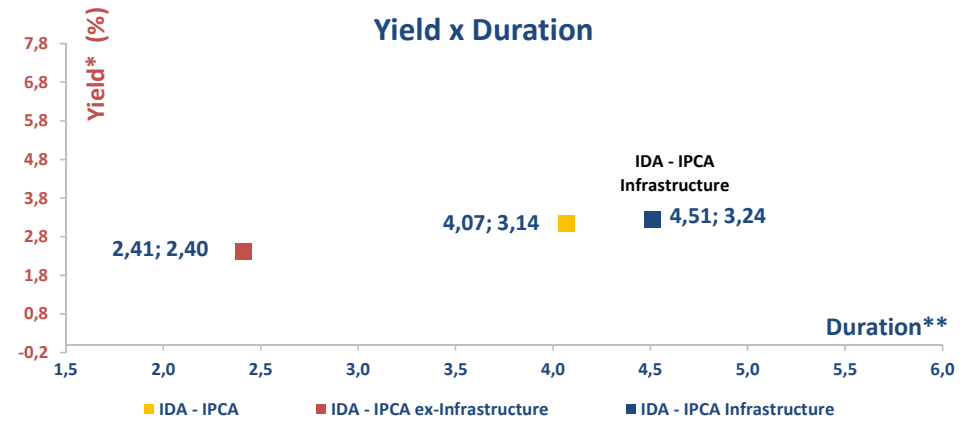
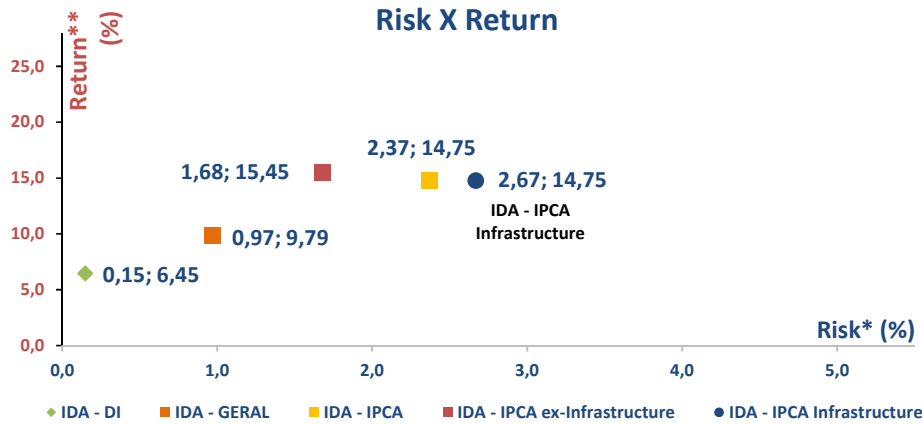


BNDES' Disbursements with Infrastructure



Source: Anbima and BNDES  
Elaborated by SPE/ME

Anbima Debentures Index (IDA)



Source: Anbima  
Elaborated by SPE/ME

- \* Annualized volatility of daily returns for the last twelve months
- \*\* 12-month cumulative return
- \*\*\* Weighted average of the index component fees for their respective holdings in the indices
- \*\*\*\* Duration of macaulay expressed in years (252 d.u.)
- \*\*\*\*\* (1) Gross income tax data

**Note:**  
Analysis based on Anbima IDA Debentures, composed of a family of indexes representing market price trends for a debenture portfolio. It is divided into two sub-indexes according to the respective securities indexers - DI (Interbank Deposits and IPCA - Consumer Price Index).



**Approved Projects up to October 2019**  
(Includes projects having or not having issued infrastructure Debentures)

Sectors	Investments million								Total CAPEX Issued	Total Investments BRL million
	2012	2013	2014	2015	2016	2017	2018	2019		
<b>Transportation</b>	<b>5,582.2</b>	<b>12,103.7</b>	<b>18,952.0</b>	<b>13,024.6</b>	<b>5,400.7</b>	<b>29,568.1</b>	<b>13,048.1</b>	<b>18,100.8</b>	<b>69,227.6</b>	<b>115,780.1</b>
Toll Road	4,109.8	8,453.3	4,726.4	974.7	4,972.7	18,021.6	5,630.6	13,898.5	34,693.5	60,787.6
Railways	1,472.4	3,650.4	2,785.8	11,796.9	0.0	11,546.5	6,331.4	3,818.0	22,448.5	41,401.5
Airports	0.0	0.0	8,887.9	0.0	0.0	0.0	0.0	0.0	8,887.9	8,887.9
Ports	0.0	0.0	2,551.9	253.0	428.1	0.0	1,086.1	384.3	3,197.8	4,703.2
<b>Energy</b>	<b>44,746.5</b>	<b>41,259.0</b>	<b>13,494.7</b>	<b>73,298.5</b>	<b>13,009.4</b>	<b>46,251.1</b>	<b>63,719.4</b>	<b>58,961.8</b>	<b>181,244.5</b>	<b>354,740.2</b>
Electric Power Transmission Line	1,329.6	3,753.9	592.0	432.7	806.1	24,952.6	7,869.9	20,923.9	38,975.3	60,660.6
Hydroelectric Power Plants	42,973.4	19,028.6	3,740.5	46,916.7	1,353.9	445.8	21,789.6	2,029.5	82,094.9	138,278.0
Thermoelectric	0.0	4,123.9	1,111.1	5,075.5	3,246.3	860.9	4,563.0	1,514.2	7,565.1	20,494.8
Small Hydro	0.0	125.5	68.5	1,017.1	587.6	939.2	461.1	695.1	979.0	3,894.0
Gas	0.0	2,033.5	0.0	2,209.4	0.0	0.0	0.0	4,713.4	4,243.0	8,956.3
Wind Farms	443.6	5,193.7	7,982.5	11,671.8	6,645.5	4,774.7	10,969.6	8,152.6	18,652.4	55,834.0
Pipelines	0.0	7,000.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7,000.0
Oil	0.0	0.0	0.0	5,975.3	0.0	0.0	0.0	0.0	5,975.3	5,975.3
Distribution	0.0	0.0	0.0	0.0	370.0	11,755.7	11,840.3	15,460.2	19,138.8	39,426.2
Photovoltaics Energy	0.0	0.0	0.0	0.0	0.0	2,522.1	6,225.9	2,657.5	2,717.9	11,405.5
Atomic Energy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	700.0	700.0	700.0
Biofuels	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2,115.4	203.0	2,115.4
Telecoms	0.0	0.0	0.0	2,882.1	2,147.6	1,733.0	3,603.0	0.0	10,243.3	10,365.7
Telecoms	0.0	0.0	0.0	2,882.1	2,147.6	1,733.0	3,603.0	0.0	10,243.3	10,365.7
<b>Sanitation/Urban Mobility</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>1,095.4</b>	<b>125.8</b>	<b>1,405.5</b>	<b>6,871.5</b>	<b>74.9</b>	<b>2,738.2</b>	<b>9,573.0</b>
Water and Sewerage	0.0	0.0	0.0	288.1	125.8	1,405.5	269.4	74.9	1,930.9	2,163.6
Urban Mobility	0.0	0.0	0.0	807.3	0.0	0.0	6,602.1	0.0	807.3	7,409.4
<b>Total.....</b>	<b>50,328.8</b>	<b>53,362.7</b>	<b>32,446.6</b>	<b>90,300.6</b>	<b>20,683.5</b>	<b>78,957.6</b>	<b>87,241.9</b>	<b>77,137.4</b>	<b>263,453.7</b>	<b>490,459.1</b>

Source: Ministerial Orders issued and Linked Entities  
Elaborated by SPE/ME

**Approved Projects up to October 2019**  
(Includes projects having or not having issued infrastructure Debentures)

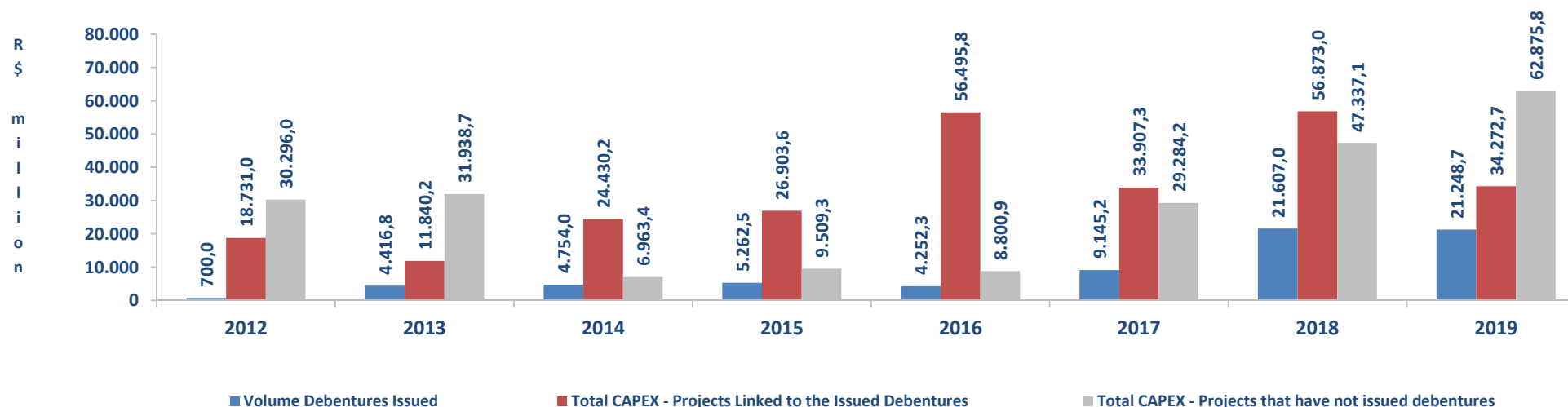
Sectors	Approved Projects								Quantity Portarias with Issuance of Debentures	Total Approved Projects
	2012	2013	2014	2015	2016	2017	2018	2019		
<b>Transportation</b>	<b>3</b>	<b>5</b>	<b>11</b>	<b>5</b>	<b>4</b>	<b>10</b>	<b>11</b>	<b>15</b>	<b>40</b>	<b>64</b>
Toll Road	2	4	5	3	3	8	1	7	25	33
Railways	1	1	2	1	0	2	4	4	8	15
Airports	0	0	2	0	0	0	0	0	2	2
Ports	0	0	2	1	1	0	6	4	5	14
<b>Energy</b>	<b>12</b>	<b>74</b>	<b>90</b>	<b>159</b>	<b>94</b>	<b>146</b>	<b>167</b>	<b>153</b>	<b>365</b>	<b>895</b>
Electric Power Transmission Line	3	9	2	3	8	51	24	29	74	129
Hydroelectric Power Plants	4	2	5	11	3	2	7	3	25	37
Thermoelectric	0	5	1	3	2	1	2	2	5	16
Small Hydro	0	1	1	9	6	4	3	8	10	32
Gas	0	1	0	1	0	0	0	2	2	4
Wind Farms	5	55	81	131	73	41	73	55	189	514
Pipelines	0	1	0	0	0	0	0	0	0	1
Oil	0	0	0	1	0	0	0	0	1	1
Distribution	0	0	0	0	2	27	19	27	37	75
Photovoltaics Energy	0	0	0	0	0	20	39	22	20	81
Atomic Energy	0	0	0	0	0	0	0	1	1	1
Biofuels	0	0	0	0	0	0	0	4	1	4
<b>Telecoms</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>4</b>	<b>5</b>
Telecoms	0	0	0	1	1	1	2	0	4	5
<b>Sanitation/Urban Mobility</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>3</b>	<b>5</b>	<b>3</b>	<b>1</b>	<b>9</b>	<b>14</b>
Water and Sewerage	0	0	0	1	3	5	2	1	8	12
Urban Mobility	0	0	0	1	0	0	1	0	1	2
<b>Total.....</b>	<b>15</b>	<b>79</b>	<b>101</b>	<b>167</b>	<b>102</b>	<b>162</b>	<b>183</b>	<b>169</b>	<b>418</b>	<b>978</b>

Source: Ministerial Orders issued and Linked Entities  
Elaborated by SPE/ME

Summary Table - Volume issued of infrastructure debentures - Capex linked to the issued debentures and Projects that have not issued debentures

Status of Projects	Investment (R\$ million)								Investment Total (R\$ million)
	2012	2013	2014	2015	2016	2017	2018	2019	
Volume - debentures issued	700.0	4,416.8	4,754.0	5,262.5	4,252.3	9,145.2	21,607.0	21,248.7	71,386.5
CAPEX - Projects Linked to the issued Debentures	18,731.0	11,840.2	24,430.2	26,903.6	56,495.8	33,907.3	56,873.0	34,272.7	263,453.7
CAPEX - Projects that have not issued Debentures	30,296.0	31,938.7	6,963.4	9,509.3	8,800.9	29,284.2	47,337.1	62,875.8	227,005.4

### Approved Projects - Volume Emission and Capex

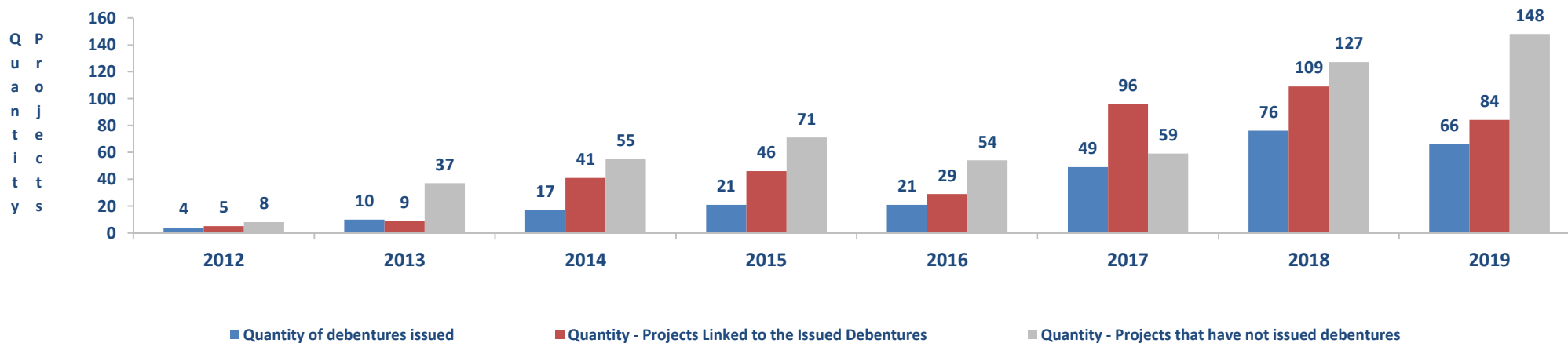


Source: Ministerial Orders issued and Linked Entities  
Elaborated by SPE/ME

Summary Table - Quantity issued of infrastructure debentures - Quantity of projects linked to the issued debentures and Quantity of projects that have not issued debentures

Status of Projects	Quantity of issued debentures and approved projects								Quantity
	2012	2013	2014	2015	2016	2017	2018	2019	
Quantity of Debentures Issued	4	10	17	21	21	49	76	66	264
Quantity - Projects Linked to the Issued Debentures	5	9	41	46	29	96	109	84	419
Quantity - Projects that have not issued Debentures	8	37	55	71	54	59	127	148	559

Approved Projects - Quantity Emission and Quantity Waiting Emission



Source: Ministerial Orders issued and Linked Entities  
 Elaborated by SPE/ME

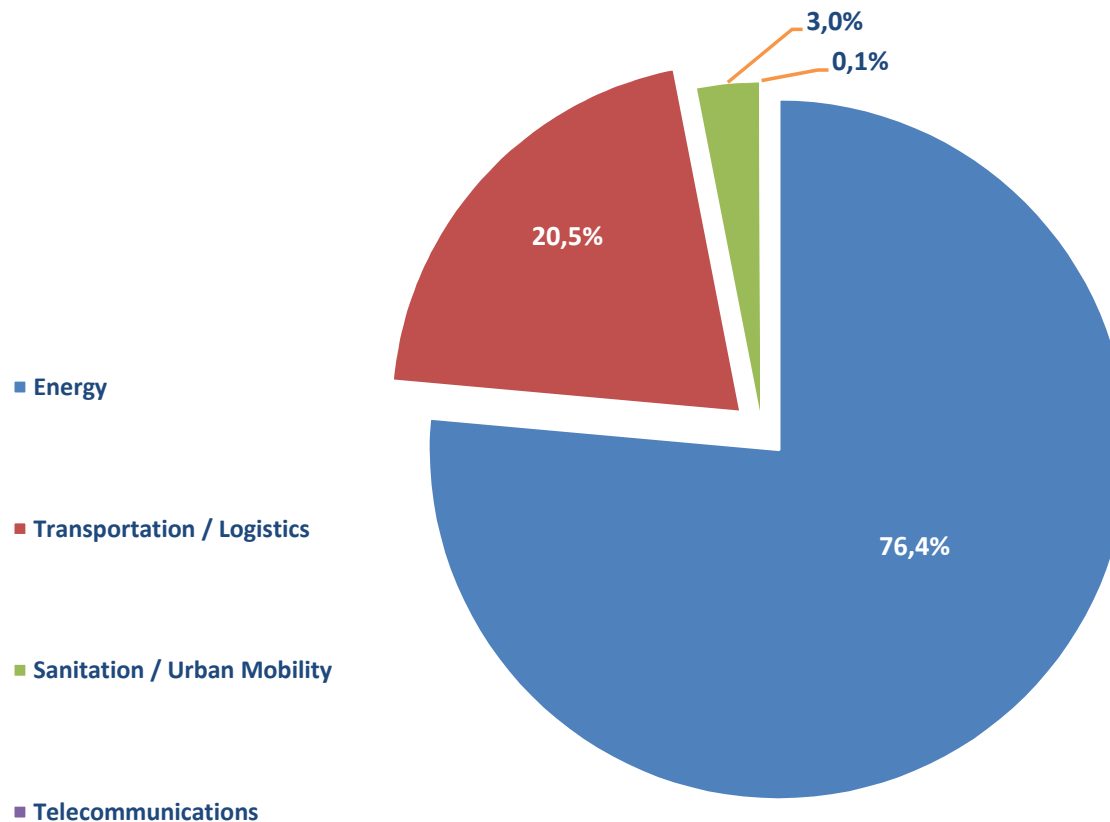
Note :  
 The difference between the amount of debentures issued and the number of Administrative Rules issued and Projects related to the debentures issued, is due to having more than one ordinance and project linked to a single debenture - example: Ventos de São Tomé Holding S / A (TOME12 ). We had 01 debenture issued for 07 (seven) Administrative Rules, therefore, 07 (seven) authorized projects.

**Debenture Issue Potential - (Capex)<sup>1</sup>  
Infrastructure Projects Already Authorized  
(By Sector)**

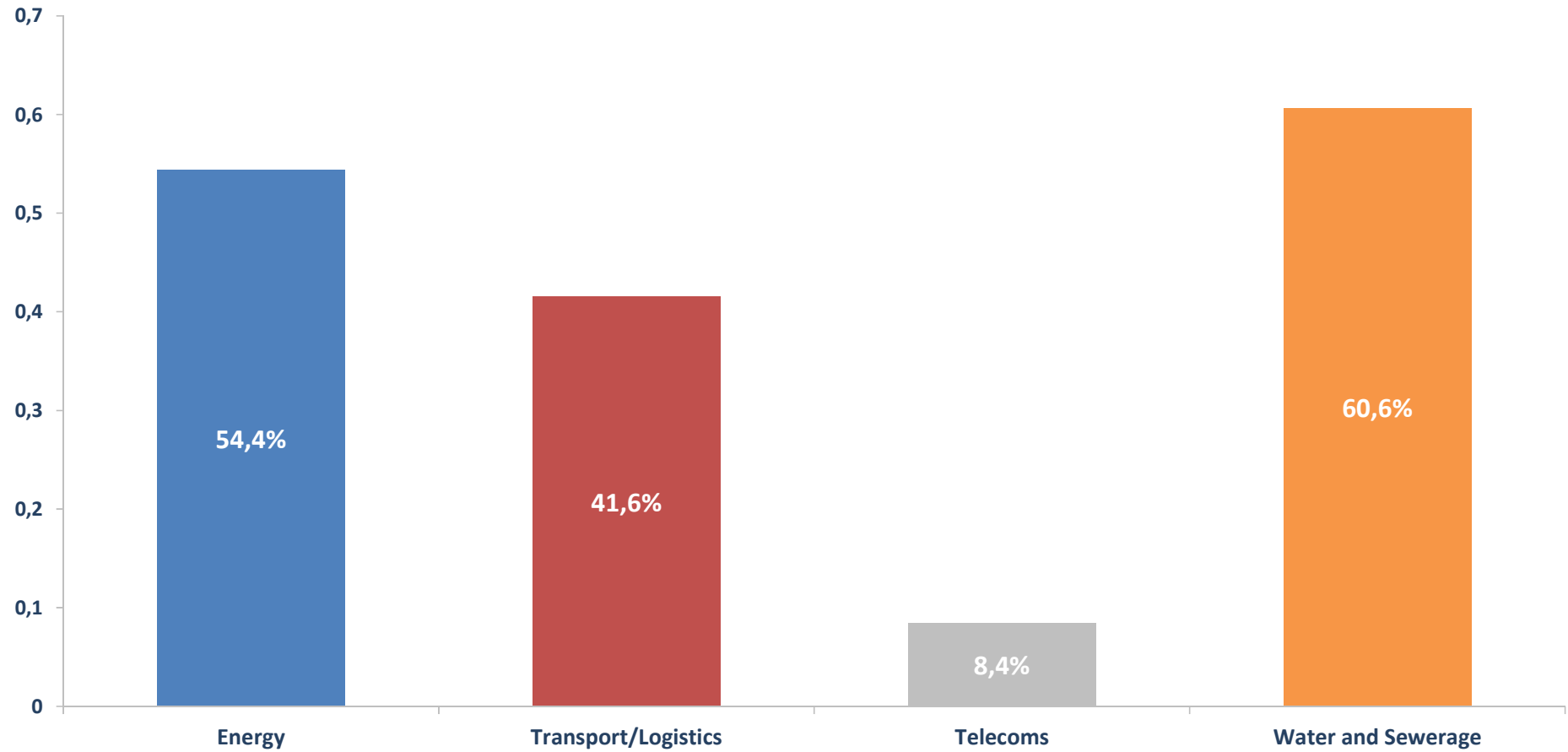
Sector	Capex Awaiting the emission (R\$ million)	(%)
Energy	173,495.7	76.4%
Transportation / Logistics	46,552.5	20.5%
Sanitation / Urban Mobility	6,834.8	3.0%
Telecommunications	122.4	0.1%
<b>Total.....</b>	<b>227,005.4</b>	<b>100%</b>

Source: Anbima and Ministerial ordinances  
Elaborated by SPE/ME

(1) Total Capex of Ordinances Awaiting Debenture Issuance.



Financial leverage in infrastructure projects  
(Sector)



Source: Ministerial Orders issued and Linked Entities  
Elaborated by SPE/ME

## Real Estate Receivables Certificate - CRI's according to Law # 12,431/2011

Summary of the Real Estate Receivables Certificates<sup>1</sup> - CRI 's

Sectors	Lead Coordinator	Quantity Issued	Total Offer (R\$ million)	Yield	Capitalization	Debtor	Due Date	Project
Oil and Gas	Banco Bradesco BBI S.A.	7,049	2,349.7	TR + 9,5 %	Anual	Petrobrás	2/26/2031	Comperj
Oil and Gas	Banco Bradesco BBI S.A.	4,949	1,649.7	TR + 9,5 %	Anual	Petrobrás	3/26/2031	RNEST - Refinaria Abreu e Lima
Drink	Banco Bradesco BBI S.A.	191	191.6	TR + 9,4 %	Anual	Cervejarias Reunidas Skol Caracu	1/15/2030	Projeto Rural Uberlândia
Real estate	Banco Bradesco BBI S.A.	78	78.0	TR + 9,5 %	Semestral	CCP Magnólia Empreendimentos Imobiliários Ltda	12/12/2031	Shopping Metropolitan Barra/RJ
Real estate	Banco Bradesco BBI S.A.	272	272.0	TR + 9,5 %	Semestral	Cyrela Commercial Properties S/A Empreendimentos e Participações	12/12/2031	Cédula de Crédito Imobiliário - CCI 02
Steel	Banco Bradesco BBI S.A.	59	59.0	TR + 9,8 %	Anual	Usinas Siderúrgicas de Minas Gerais - Usiminas	4/27/2025	Cédula de Crédito Bancário - CCB
Chemical and Pharmaceutical	Banco Bradesco BBI S.A.	170	170.0	TR + 9,6 %	Anual	Brainfarma, Cosmed e Hypermarcas	12/26/2026	Cédula de Crédito imobiliário - CCI Brainfarma
Metals and Mining	Banco Bradesco BBI S.A.	700	700.0	TR + 8,8 %	Anual	Vale S/A	4/20/2022	Complexo Portuário de Ponta Madeira/MA
Total .....		13,468	5,470.0					

Source : Cibrasec

Elaborated by SPE/ME

## Note:

(1) Mortgage-Backed securities guaranteed by real estate credits - real estate credit certificate - CCI representative of bank credit notes - CCB issued by Petrobras to Bradesco .

(2) Investment Amount may reach up to R \$ 25 billion in civil works and R\$ 20 billion in industrial assembly.

(3) Benefits for non-resident investors: zero income tax rate (IR) and zero tax. In case of investments from countries which are not subject to income tax rate of 20% or more ("tax havens"), tax benefits do not apply.

(4) Concerning non-resident investors in financial and capital markets.

## Minimum Requirements:

(i) Fixed rate or linked to price index-linked or TR - Referential Rate-linked. Total of partial use of floating rates is forbidden.

(ii) Weighted average term over four years;

(iii) No repurchase by the issuer or related party, in the first two years after issuing, nor bond redemption before its due date except in cases to be regulated by the National Monetary Council (CMN);

(iv) No resale commitment undertaken by the buyer;

(v) Coupon payments, if any, must be at least semi-annual;

(vi) Proof that the security is registered in clearing houses duly authorized by the Central Bank of Brazil or the CVM (Brazilian SEC); and

(vii) Simplified procedure to demonstrate the purpose of allocating the proceeds towards the future payment or reimbursement of expenses, costs or liabilities related to investment projects, including those relating to RD&amp;I.

## Brazilian Infrastructure Bonds Investment Funds - Fixed-Income Investment - October 2019

Infrastructure Bonds Investment funds	Quota-holder	Debentures	Net Equity	Debentures / Net Equity	Infrastructure Bonds Investment funds	Quota-holder	Debentures	Net Equity	Debentures / Net Equity
		(R\$ million)	(R\$ million)				(R\$ million)	(R\$ million)	
CA Indosuez Master	24,763	754.50	852.07	89%	Sparta Deb Inc M B FI Rf	1	198.14	275.68	72%
VIC Infra Inv Inc Rf	249	68.32	7.43	920%	Pasárgada Deb Inc	35	24.01	24.41	98%
BNP Paribas Plus Deb FI	53	18.01	20.66	87%	RB Cap Vitória Deb Inc FI	13,365	225.30	255.34	88%
Bradesco Rf C. Priv	29	105.25	117.30	90%	Crodo FI	35	69.25	77.17	90%
CSHG AS 7.7 Rf	230	39.88	46.23	86%	TAO Infra FI Inc Rf	182	95.89	107.42	89%
CSHG Inf 392 Rf	230	452.46	508.44	89%	SPEED Infra FI Rf Infra Inc	182	39.91	41.59	96%
XP Deb Inc M FI	14,376	610.06	710.72	86%	II Alocação Deb Inc FI	223	182.46	196.88	93%
Fator Deb Inc Rf	813	114.34	128.63	89%	Precioso FI Inc Rf	182	49.54	55.24	90%
TFO CSHG FI Rf	31	51.12	57.45	89%	Votorantim FI Hedge Rf	418	235.67	287.83	82%
CSHG Omega Infra Rf	8	181.72	205.94	88%	G5 Infra FI	94	55.92	58.20	96%
Brasil Plural M Deb FI	553	31.03	34.07	91%	Safra Infra Premium FI	226	268.26	307.13	87%
FI Turmalina Inv Exterior	151	127.05	141.81	90%	Monte Alegre FI Rf Inc	182	55.02	73.31	75%
SDEUX Deb Inc FI	365	10.77	12.29	88%	IDA Deb inc FI	35	48.47	52.15	93%
Sul América Deb FI	531	43.54	48.77	89%	Capitânea Deb Inc FI	188	43.00	48.94	88%
XPCE II FI	364	220.37	315.25	70%	HIGH Income FI	87	87.63	98.63	89%
Pedra Negra FI Infra	19	0.00	382.51	0%	Iridium Pioneer Deb Inc FI	4,485	503.08	616.61	82%
Butia Deb FI Rf	685	45.44	51.75	88%	Esposende FI Exterior	1	22.33	25.59	87%
Alocação Deb FI	216	187.36	201.81	93%	ZETA FI	4	90.11	102.84	88%
Águia FI Infra	12,611	24.00	26.00	92%	Journey Cap Nammos	27	8.27	11.56	72%
CA I Deb Inc M II FI Inf Rf	24,763	998.29	1,197.54	83%	XP 60 Deb Inc Hedge M I FI	3,493	173.82	203.52	85%
Scorpio Deb Inc FI	364	174.70	172.55	101%	Finor FI	35	69.41	82.02	85%
Órama Deb Inc FI	5,388	120.39	134.47	90%	III Alocação Deb Inc FI	219	174.33	220.78	79%
Brasil Plural M II Deb Inc	13,694	364.04	397.35	92%	AndBank Deb Inc	74	9.40	18.13	52%
AZ Quest M Deb Inc FI	1,317	115.14	130.27	88%	Santander Hermes Rf FI	1	0.00	879.95	0%
VIC Supra FI Rf Infra	370	437.11	494.08	88%	Santander FI Infla Rf FI	4,668	0.00	138.09	0%
BNP Paribas FI Deb Rf	1,806	498.54	553.76	90%	Santander Deb Inc CDI Rf FI	1	0.00	0.49	0%
Dayacoval Deb Inc FI	5,299	145.01	162.25	89%	Silver OAK Deb Inc FI	35	16.48	21.07	78%
RB Cap M Deb Inc FI	3,083	213.11	235.85	90%	AF 1644 Deb Inc FI	35	45.66	61.19	75%
Brasil PI M Deb Inc TFO FI	1	71.28	79.08	90%	Riska Deb Inc FI	35	18.94	25.18	75%
Safra Infra M FI	1,787	509.72	586.18	87%	Deb Inc Pedra Azul FI	35	65.43	76.63	85%



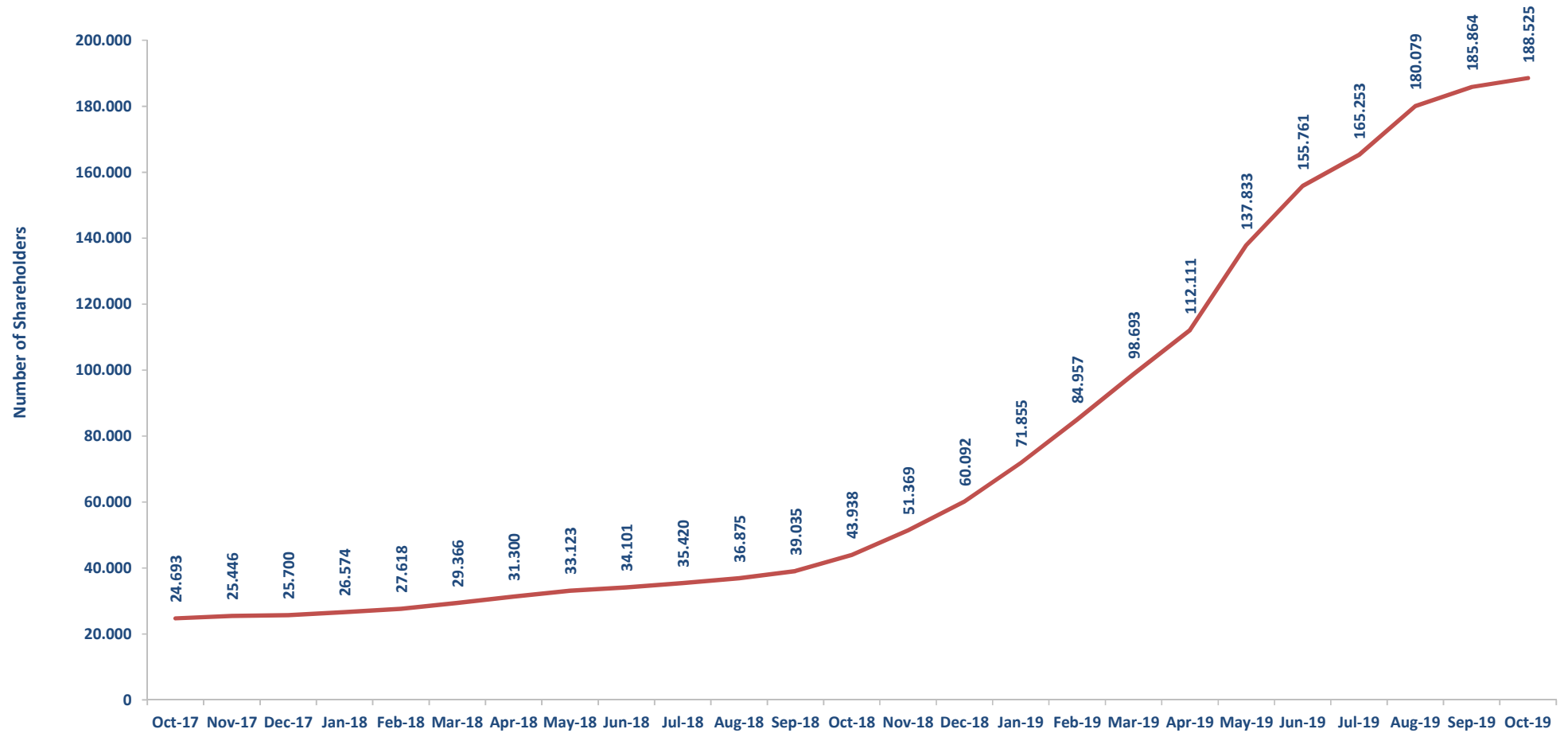
## Continuation - Brazilian Infrastructure Bonds Investment Funds - Fixed-Income Investment - October 2019

Infrastructure Bonds Investment funds	Quota-holder	Debentures	Net Equity	Debentures / Net Equity	Infrastructure Bonds Investment funds	Quota-holder	Debentures	Net Equity	Debentures / Net Equity
		(R\$ million)	(R\$ million)				(R\$ million)	(R\$ million)	
EPL Deb Inc FI	35	40.63	48.21	84%	ARX Hedge Deb Inc FI Rf	4,139	219.26	279.10	79%
Agadir Rf FI Inc Em Infra	205	71.62	111.89	64%	JGP Deb Incet M FI Rf	78	18.77	23.88	79%
Brasil Plu D In H M FI Mult	1,051	35.80	49.84	72%	ARX Elb M II Deb Inc FI Mult	13,550	406.79	568.15	72%
Sparta M A Deb Inc	4	423.63	489.12	87%	Bram Rf Deb Inc Infra	1,019	157.66	312.14	51%
DLM Deb Inc FI Rf	2,208	143.89	167.86	86%	Voto FI Inc Hedge Plus Rf	62	17.78	27.07	66%
Devant Deb Inc FI Rf	897	13.78	18.02	77%	Guigui Fdo Inc de Inv Rf	182	41.87	43.64	96%
ARX Elbrus Deb Inc	5,476	132.09	191.55	69%	BB Top Rf FI Inc Infra	1,989	198.85	274.48	72%
Panama K F Inc Inv e Inf Rf	1	19.22	23.84	81%	Syco Inc Invest Em Infra Rf	182	12.22	17.85	68%
Varese Kinea Infra FI Mult	1	30.21	43.01	70%	Cordia Deb Inc FI Rf	1	44.10	48.50	91%
Journey Cap Endur Rf	7,600	277.49	369.47	75%	Safra Infra M III Rf FI	141	258.99	462.42	56%
Ypsilon FI	4	106.92	125.96	85%	Safra Premiun Prof II Rf FI	156	141.33	173.12	82%
Deri Deb Inc FI	35	26.19	32.43	81%	Safra Infra Master Rf	383	5.92	43.21	14%
Avião III Deb Inc FI	35	45.41	55.47	82%	Journey Cap Endur Plus FI	3	67.46	122.49	55%
VBA Deb Inc FI	35	18.17	23.07	79%	Sul Am Deb Hedge Adv FI Rf	216	6.32	11.95	53%
Safra Infra M II FI Mult	389	254.63	321.75	79%	Visconde FI Inc Infra Rf	1	16.47	18.33	90%
Triplaris K FI Em I Rf	1	22.07	32.34	68%	RFT Volga FI Rf	21	5.44	14.05	39%
Quasar Deb Inc FI Rf	2,715	165.33	207.29	80%	Balista Deb Inc FI Mult C Priv	1	41.42	217.00	19%
RB Cap Deb Inc M II FI Mult	2,719	40.89	48.61	84%	Lididu K FI Infra Rf	1	4.34	10.58	41%
Neblus Deb Inc FI	35	10.20	14.69	69%	BTG Pac D IN M FI De Inv Rf	129	9.79	20.11	49%
G5 SHLIMS FI Inc Infra	27	18.11	21.94	83%	Vênus FI Infra Rf	4	9.05	29.40	31%
BB Primordium Rf FI Inc	3	37.38	47.84	78%	Journey CA Ed J R M FI Rf	18	9.17	11.73	78%
G5 Max Infra FI Mult	27	4.56	5.67	80%	Ativa FI Infra Rf	7	3.08	8.79	35%
G3 Kinea FI Infra	4	12.03	28.49	42%					
Prata 51 Kinea FI Inc Rf	1	12.03	31.28	38%					
Setola Kinea FI RF	1	8.02	17.89	45%					
Rosa dos Ventos Kinea FI Rf	1	5.99	10.60	56%					
					<b>Total.....</b>	<b>188,525</b>	<b>13,280.70</b>	<b>17,732.18</b>	<b>82%</b>

Source : Brazilian Securities Commission - CVM  
Elaborated by SPE/ME

Note: (i) Requirements: Investments in Brazilian Infrastructure Bonds, as previously defined, must correspond to at least 67% of the Fund portfolio within the first two years and at least 85% in the remaining years. After the incorporation of the fund, there is a 180 days period to fulfill the investment requirements above.

Fund quota-holders number Evolution - Infrastructure Funds  
October 2017 to October 2019



Source : Brazilian Securities Commission - CVM  
Elaborated by SPE/ME

## Infrastructure Credit Rights Investment Fund – FIDC - October 2019

Infrastructure Credit Rights Investment Fund	Credit Rights	Time Deposits and Other Financial	Quotas of Investment Funds	Government Securities Repurchase	Brazilian Government Bonds	Other	Net Equity	Credit Rights / Net Equity
	(R\$ million)	(R\$ million)	(R\$ million)	(R\$ million)	(R\$ million)	(R\$ million)	(R\$ million)	
BB Infra Votorantim Highland	323.24	0.00	0.00	0.00	23.06	(0.39)	345.91	93%
Kinea Infra I	779.68	0.00	0.00	92.76	18.47	(0.03)	890.86	88%
<b>Total .....</b>	<b>1,102.92</b>	<b>0.00</b>	<b>0.00</b>	<b>92.76</b>	<b>41.52</b>	<b>(0.43)</b>	<b>1,236.77</b>	

Source : Brazilian Securities Commission - CVM

Elaborated by SPE/ME

**Note :**

(i) Benefits for non-resident investors: zero income tax rate (IR) and zero tax. In the case of investments from countries which are not subject to an income tax rate of 20% or more ("tax havens"), tax benefits don't not apply.

(ii) The fund must have a minimum term of six years.

(iii) No full or partial payment for the main quotas during the first two years counted as of the closing date of the public offering of quotas that make up the initial assets of the fund, except in cases of early settlement of the fund provided for in its regulations;

(iv) No acquisition of quotas by their seller or transferor or by parties related to these except in the case of quotas subordinated to others for purposes of e payment and redemption;

(v) Deadlines for partial redemption of quotas, including those from incorporated income, if any, must be at least 180 days one hundred eighty days apart;

(vi) Proof that the quotas are admitted to trading on an organized securities market or registered in a registry system duly authorized by the Central Bank of Brazil or the CVM (Brazilian SEC) under their respective areas of competence;

(vii) Simplified procedure to demonstrate the purpose of allocating the proceeds of the transaction to investment projects, including those focused on research, development and innovation;

(viii) At least eighty-five percent of equity represented by receivables, and the remaining portion by federal government securities, repurchase agreements backed by government bonds or quotas from mutual funds that invest in federal government bonds.

FIP-IE and FIP-PD&I<sup>1</sup> under the terms of Laws # 11,478/2007 and # 12,431/2011 - October 2019

Infrastructure funds <sup>2</sup>	Stocks	Investment Fund Quotas	Federal Government Bonds	Government Securities Repurchase	Simple Debentures	Other Applications	Forward Market Buyer	Other Values	Net Equity
	(R\$ million)	(R\$ million)	(R\$ million)	(R\$ million)	(R\$ million)	(R\$ million)	(R\$ million)	(R\$ million)	(R\$ million)
FIP Infra Energias Renováveis	875.14	0.03	0.00	0.00	0.00	0.00	0.00	(45.98)	829.18
FIP Infra BB Votorantim Energia Sust II	161.42	58.06	0.00	0.00	0.00	0.00	0.00	(7.85)	211.62
FIP Infra BB Votorantim Energia Sust III	155.17	73.37	0.00	0.00	0.00	0.00	0.00	(7.50)	221.03
FIP Infra BB Votorantim Energia Sust I	32.86	13.27	0.00	0.00	0.00	0.00	0.00	(1.43)	44.70
FIP CZ infra	7.67	0.00	0.00	0.00	0.00	0.00	0.00	(0.02)	7.66
FIP ANESSA Infra	121.66	0.00	0.00	0.00	0.00	0.00	0.00	0.03	121.69
FIP Olime Infra	10.00	9.10	0.00	0.00	0.00	0.00	0.00	(0.06)	19.03
FIP Porto Sudeste Royalties Infra	288.33	1.01	0.00	0.00	0.00	0.00	0.00	(0.14)	289.20
FIP Paranaguá Infra	39.35	0.00	0.00	0.00	0.00	0.00	0.00	(0.09)	39.26
FIP Prisma Hélios Infra	47.69	0.00	0.00	6.60	0.00	157.62	0.00	(0.20)	211.70
FIP Logística Granéis I Infra	12.49	0.12	0.00	0.00	0.00	0.00	0.00	0.96	13.57
FIP Prosperidade Infra	131.10	0.89	0.00	0.00	0.00	0.00	0.00	(4.22)	127.77
FIP Origem Infra	177.57	0.14	0.00	0.00	0.00	0.00	0.00	(128.52)	49.19
FIP Perfin Ares I	0.00	0.00	0.00	0.38	0.00	0.00	0.00	0.78	1.16
FIP Perfin Ares 2	60.03	0.00	0.00	0.52	0.00	0.00	0.00	(48.11)	12.45
<b>Total .....</b>	<b>2,120.50</b>	<b>155.98</b>	<b>0.00</b>	<b>7.50</b>	<b>0.00</b>	<b>157.62</b>	<b>0.00</b>	<b>(242.37)</b>	<b>2,199.22</b>

Source : Brazilian Securities Commission - CVM

Produced by SPE/ME

## Note:

(1) FIP-IE: Investment Fund (investment in infrastructure) and FIP-PD &amp; I: Investment Fund for Participation in Research, Development and Innovation-Intensive Economic Production.

(2) (i) The FIP-IE and FIP-PD&amp;I must have a minimum of 5 quota holders and no quota holder may hold more than 40% of the quotas issued by Fund (FIP-IE or FIP-PD&amp;I) or earnings above 40% of the fund's earnings.

(ii) The FIP-IE and FIP-PD&amp;I must be closed-end fund.

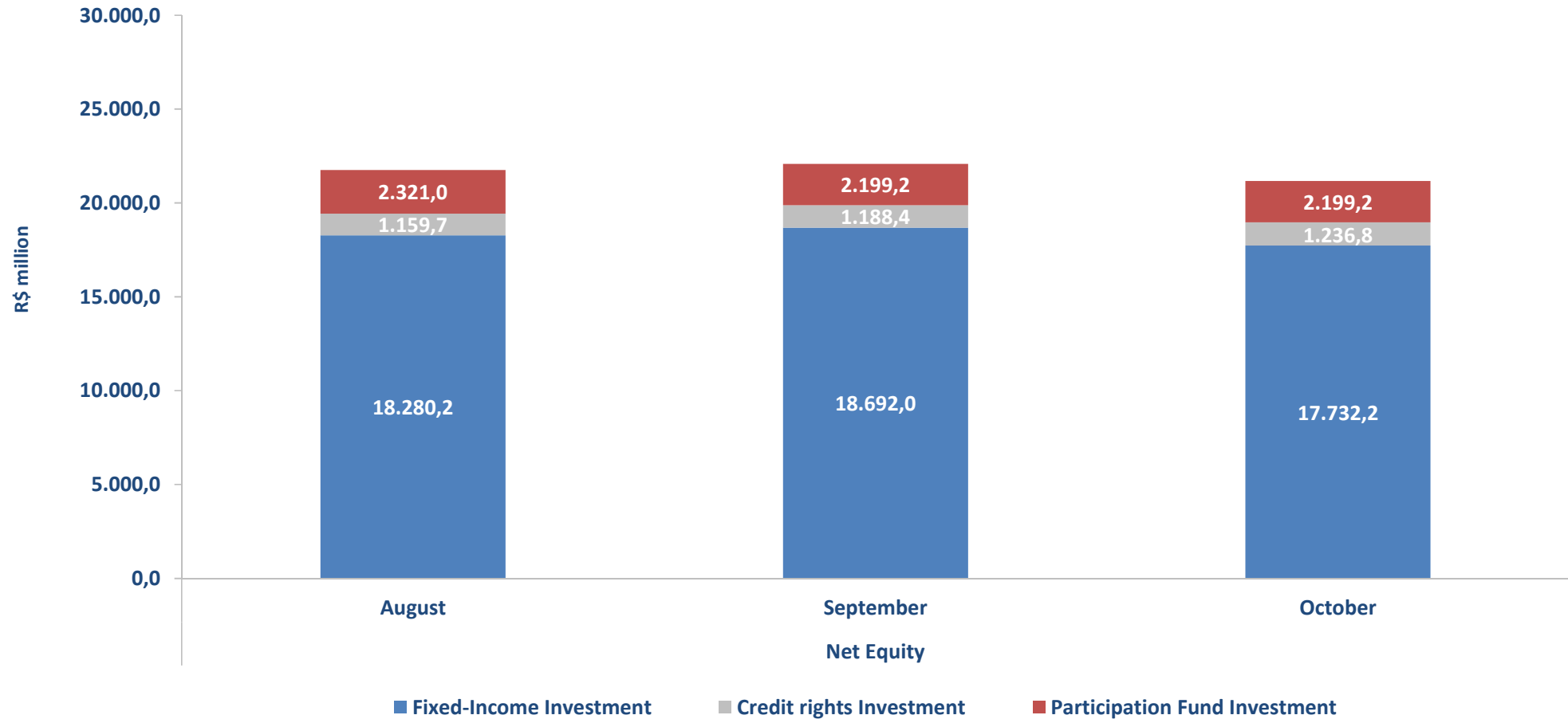
(iii) The FIP-IE and FIP-PD&amp;I must maintain a minimum of 90% of its net worth invested in shares, subscription bonds, debentures (convertible or not into shares) or other bonds issued by either a publicly or closely-held company.

(iv) The company must be aware of infrastructure projects related to the energy, transportation, water and sewage treatment, and irrigation sectors.

(v) The FIP-IE and the FIP-PD&amp;I must participate in the decision-making process of the issuer company with effective influence on the definition of its strategic policy and management.

(vi) Taxes: exemption for individuals and 15% rate for companies.

Brazilian Infrastructure Bonds Investment Funds - Net Worth Growth  
August/September/October 2019



Source: Brazilian Securities Commission - CVM  
Produced by SPE/ME

## Annex 1

## Infrastructure Bonds: Infrastructure Investment Projects - 2019

Issuer	Ticker	Distribution Date	Due Date	Offer type	Maturity (years)	Duration <sup>1</sup> (years)	Value (R\$ million)	Yield <sup>2</sup>	Sector	Spread Over NTN-B	Rating (local)
Januba Transmissora de Energia S.A.	JTEE11	1/16/2019	7/15/2033	ICVM 476	15	8.10	224.0	IPCA + 4,50%	Energy	0.20%	Aaa (br) Moody's
Equatorial Transmissora 1 SPE S.A.	EQTS11	2/2/2019	1/15/2033	ICVM 476	14	7.92	55.0	IPCA + 4,85%	Energy	0.48%	AA+ (bra) Fitch
Equatorial Transmissora 3 SPE S.A.	EQSP11	2/4/2019	1/15/2033	ICVM 476	14	7.92	45.0	IPCA + 4,80%	Energy	0.43%	AA+ (bra) Fitch
Equatorial Transmissora 3 SPE S.A.	EQSP21	2/4/2019	1/15/2034	ICVM 476	15	8.03	45.0	IPCA + 4,65%	Energy	0.28%	AA+ (bra) Fitch
Equatorial Transmissora 2 SPE S.A.	EQTN11	2/4/2019	1/15/2033	ICVM 476	14	7.92	45.0	IPCA + 4,85%	Energy	0.48%	AA+ (bra) Fitch
Petróleo Brasileiro S/A - Petrobras	PETR16	2/12/2019	1/15/2026	ICVM 400	7	6.12	898.4	IPCA + 4,05%	Energy	(0.20)%	AA (bra) Fitch
Petróleo Brasileiro S/A - Petrobras	PETR26	2/12/2019	1/15/2029	ICVM 400	10	8.13	1,694.1	IPCA + 4,22%	Energy	(0.10)%	AA (bra) Fitch
Rumo Malha Norte S/A.	RUMOB1	2/22/2019	2/15/2026	ICVM 476	7	7.50	500.0	IPCA + 4,68%	Transport	0.22%	AA+ (bra) Fitch
Porto Primavera Transmissora S.A.	PPTE11	3/1/2019	2/15/2029	ICVM 476	10	6.20	112.3	IPCA + 4,45%	Energy	0.31%	AAA (bra) Fitch
COELCE - Estado do Ceará	COCE27	3/15/2019	2/15/2026	ICVM 476	7	4.57	300.0	IPCA + 4,50%	Energy	0.37%	AAA (bra) Fitch
AES Tietê S/A	TIET29	3/17/2019	3/15/2029	ICVM 476	10	7.43	641.1	IPCA + 4,71%	Transport	0.35%	AA+ (bra) Fitch
Rumo Malha Norte S/A.	RUMOA2	3/19/2019	2/15/2029	ICVM 400	10	8.00	600.0	IPCA + 4,50%	Water and Sewerage	0.23%	Ba3 (br) Moody's
Cia Águas de Itapema	ITPE12	3/22/2019	2/15/2029	ICVM 476	10	4.35	100.0	IPCA + 7,07%	Energy	0.30%	Ba3 (br) Moody's
Eólica Bons Ventos da Serra 2 S.A.	GEBV11	3/29/2019	6/30/2033	ICVM 476	14	6.44	56.5	IPCA + 6,50%	Energy	2.44%	Aa3 (br) Moody's
AES Tietê S/A	TIET39	4/17/2019	3/15/2029	ICVM 476	10	7.51	178.9	IPCA + 4,71%	Energy	0.35%	AA+ (bra) Fitch
Mata de Santa Genebra Transmissão S/A	MSGT12	4/22/2019	11/15/2030	ICVM 476	12	6.10	210.0	IPCA + 4,95%	Energy	0.69%	AA- (bra) Fitch
Cutia Empreendimentos Eólicos S.A.	CUTI11	4/29/2019	12/15/2031	ICVM 476	13	6.00	360.0	IPCA + 5,88%	Energy	1.55%	AA- (bra) Fitch
MRS Logística S.A.	MRS19	4/30/2019	4/15/2024	ICVM 476	5	4.50	367.2	IPCA + 4,10%	Transport	1.06%	AAA (bra) Fitch
Energisa S.A.	ENGIA1	5/3/2019	4/15/2026	ICVM 476	7	6.13	500.0	IPCA + 4,62%	Energy	0.35%	AAA (bra) Fitch
CIA. Energética Canoas	KNOA11	5/10/2019	1/15/2031	ICVM 476	12	5.91	21.8	IPCA + 6,96%	Energy	2.50%	AA- (bra) Fitch

## Continuation – 2019

Issuer	Ticker	Distribution Date	Due Date	Offer type	Maturity (years)	Duration <sup>1</sup> (years)	Value (R\$ million)	Yield <sup>2</sup>	Sector	Spread Over NTN-B	Rating (local)
Centrais Elétricas Bras S.A - Eletrobras	ELET42	5/17/2019	5/15/2029	ICVM 476	10	7.50	700.0	IPCA + 5,18%	Energy	1.00%	AAA (bra) Fitch
CIA Energética do RN - Cosern	CSRN19	5/22/2019	4/15/2026	ICVM 476	7	6.12	179.5	IPCA + 4,25%	Energy	0.13%	AAA (bra) Fitch
	CSRN29		4/15/2024		5	7.48	38.5	IPCA + 4,50%		0.22%	
Equatorial Transmissora 5 SPE S.A.	EQTC11	5/23/2019	4/15/2039	ICVM 476	20	11.26	66.0	IPCA + 4,85%	Energy	0.56%	AA+ (bra) Fitch
Equatorial Transmissora 8 SPE S.A.	EQTR11	5/23/2019	4/15/2039	ICVM 476	20	11.26	102.0	IPCA + 4,85%	Energy	0.56%	AA+ (bra) Fitch
	EQTR21				20	11.26	87.0			0.56%	
Equatorial Transmissora 7 SPE S.A.	ETSP12	5/23/2019	4/15/2039	ICVM 476	20	11.26	130.0	IPCA + 4,85%	Energy	0.56%	AA+ (bra) Fitch
Transmissora Aliança S.A.	TAEE26	5/24/2019	5/15/2044	ICVM 476	25	14.00	210.0	IPCA + 5,50%	Energy	0.95%	AAA (bra) Fitch
Omega Geração S.A.	OMGE41	5/24/2019	5/15/2027	ICVM 476	8	6.50	150.0	IPCA + 5,00%	Energy	0.83%	AA (bra) Fitch
Eneva S.A.	ENEV32	5/31/2019	5/15/2029	ICVM 476	10	7.33	500.0	IPCA + 5,05%	Energy	0.96%	AAA (bra) Fitch
São Bartolomeu Energia S.A	BTLM11	6/5/2019	9/15/2031	ICVM 476	12	4.04	12.7	IPCA + 6,14%	Energy	2.01%	AAA (bra) Fitch
	BTLM21		4/15/2031		12	4.81	12.5			2.01%	
	BTLM31		5/15/2031		12	4.98	12.7			2.01%	
	BTLM41		6/16/2031		12	5.04	12.3			2.01%	
	BTLM51		7/15/2031		12	5.11	12.4			2.01%	
	BTLM61		8/15/2031		12	5.20	12.4			2.01%	
ViaPaulista S.A	VPLT12	6/18/2019	6/15/2027	ICVM 476	8	4.90	400.0	IPCA + 3,94%	Transport	0.40%	brAAA (S&P)
Eletropaulo SP S.A.	ELPLB4	6/28/2019	5/15/2026	ICVM 476	7	6.17	800.0	IPCA + 4,01%	Energy	0.02%	AAA (bra) Fitch
Babilônia Holding S.A.	BBLN11	7/2/2019	11/15/2033	ICVM 476	14	8.75	87.0	IPCA + 4,24%	Energy	0.75%	Ba3 (br) Moody's
Hidrelétrica Fockink S.A.	HFCK11	7/5/2019	5/15/2034	ICVM 476	15	7.43	22.0	IPCA + 7,95%	Energy	4.45%	A- (bra) Fitch
Aliança Geração Energia S.A.	ALIG12	7/8/2019	12/15/2029	ICVM 476	11	5.75	77.0	IPCA + 3,65%	Energy	0.43%	AAA (bra) Fitch
Ageo Terminais e Armazéns Gerais S.A.	AGEO24	7/11/2019	7/15/2025	ICVM 476	6	4.60	30.0	IPCA + 3,99%	Transport	0.96%	N/D
Neoenergia S.A.	NEOE16	7/17/2019	6/15/2029	ICVM 400	10	7.68	802.8	IPCA + 4,07%	Energy	0.20%	brAAA (S&P)
	NEOE26		6/15/2033		14	7.40	491.7	IPCA + 4,22%		0.30%	
Cemig Distribuição S.A.	CMGD27	7/19/2019	6/15/2026	ICVM 476	7	5.76	1,500.0	IPCA + 4,10%	Energy	0.25%	brA+ (S&P)
VDB F2 Geração Energia S.A.	VDBF12	7/19/2019	4/15/2033	ICVM 476	14	7.70	106.0	IPCA + 3,87%	Energy	0.65%	AAA (bra) Fitch
CIA Saneamento Básico SP- SABESP	SBSPC4	7/24/2019	7/15/2026	ICVM 400	7	6.37	100.0	IPCA + 3,20%	Water and Sewerage	0.19%	brAAA (S&P)
	SBSPD4		7/15/2029		10	7.89	300.0	IPCA + 3,37%		0.93%	

## Continuation – 2019

Issuer	Ticker	Distribution Date	Due Date	Offer type	Maturity (years)	Duration <sup>1</sup> (years)	Value (R\$ million)	Yield <sup>2</sup>	Sector	Spread Over NTN-B	Rating (local)
Tropicália Transmissora Energia S.A.	TRPI13	7/26/2019	8/15/2043	ICVM 476	24	12.00	407.0	IPCA + 5,09%	Energy	1.45%	Aaa (br) Moody's
EDP-Transmissão SP-MG S.A.	MGSP12	8/6/2019	7/15/2039	ICVM 476	20	10.50	800.0	IPCA + 4,45%	Energy	0.85%	AA (bra) Fitch
Copel Geração e Transmissão S.A.	CPGT26	8/7/2019	7/15/2025	ICVM 476	6	5.50	200.0	IPCA + 3,90%	Energy	0.80%	AA- (bra) Fitch
Engie Brasil Energia S.A.	EGIE19	8/7/2019	7/15/2026	ICVM 400	7	5.86	576.1	IPCA + 3,70%	Energy	0.48%	AAA (bra) Fitch
	EGIE29		7/15/2029		10	7.72	539.7	IPCA + 3,90%		0.58%	
	EGIE39		7/15/2026		7	5.84	378.8	IPCA + 3,60%		0.38%	
	EGIE49		7/15/2029		10	7.72	105.4	IPCA + 3,70%		0.38%	
Tibagi Energia SPE S.A.	TBEG11	8/30/2019	7/15/2035	ICVM 476	16	7.72	210.0	IPCA + 5,32%	Energy	1.85%	AAA (bra) Fitch
VLI Multimodal S/A	VLIM12	9/16/2019	8/15/2025	ICVM 476	6	5.00	120.0	IPCA + 3,31%	Transport	0.18%	AAA (bra) Fitch
LEST - Linhas do Sertão Transmissora S.A.	LELE11	9/23/2019	3/15/2034	ICVM 476	14	7.89	27.0	IPCA + 5,36%	Energy	2.25%	A (bra) Fitch
Arcoverde Transmissão Energia S.A.	ARCV12	9/27/2019	7/15/2042	ICVM 476	23	7.97	52.0	IPCA + 5,02%	Energy	1.60%	AA+ (bra) Fitch
Transmissora Energia Campinas-Itatiba S.A	TEGT11	10/3/2019	9/18/2039	ICVM 476	20	7.13	70.0	IPCA + 9,00%	Energy	5.66%	AAA (bra) Fitch
	TEGT21		3/18/2040		21	7.13	20.0	IPCA + 9,00%		5.66%	
Petróleo Brasileiro S/A - Petrobras	PETR17	10/9/2019	6/15/2029	ICVM 400	10	8.47	1,529.3	IPCA + 3,60%	Energy	0.39%	AAA (bra) Fitch
	PETR27		9/15/2034		15	11.50	1,478.7	IPCA + 3,90%		0.46%	
Pirapora II Energias Renováveis S.A	PRPO12	10/18/2019	12/15/2031	ICVM 476	12	7.00	118.0	IPCA + 4,22%	Energy	1.20%	AAA (bra) Fitch
Ipiranga Agroindustrial	IPIA11	10/23/2019	10/15/2026	ICVM 476	7	5.08	200.0	IPCA + 2,61%	Energy	0.44%	AAA (bra) Fitch
Transmissora Aliança Energia Elétrica S.A	TAEE17	10/25/2019	9/15/2044	ICVM 400	25	13.60	508.0	IPCA + 4,50%	Energy	1.01%	AAA (bra) Fitch
<b>Total.....</b>							<b>21,248.7</b>				

Source: Anbima, Rating reports and Debentures Agreements  
Elaborated by SPE/ME

## Note:

(1) In this presentation we consider duration (Macaulay duration) as a measure of the sensitivity of the price (value of principal) of a infrastructure Bond expressed as a number of years. This indicator involving present value, yield, coupon and final maturity.

(2) Consumer Price Index - CPI (IPCA)



## Infrastructure Bonds: Infrastructure Investment Projects - 2018

Issuer	Ticker	Distribution Date	Due Date	Offer type	Maturity (years)	Duration <sup>1</sup> (years)	Value (R\$ million)	Yield <sup>2</sup>	Sector	Spread Over NTN-B	Rating (local)
Cantareira Transmissora Energia S/A	CTRR11	1/9/2018	8/15/2032	ICVM 476	15	6.19	100.00	IPCA + 6,91%	Energy	1.65%	AA+ (bra) Fitch
Cia de Saneamento de Minas Gerais - Copasa	CSMGA1	2/8/2018	1/15/2024	ICVM 400	6	3.94	187.39	IPCA + 5,06%	Water and Sewerage	0.30%	AA (bra) Fitch
	CSMGA2		1/15/2026		8	4.82	80.61	IPCA + 5,27%		0.50%	
Concessionária de Rodovias Minas Gerais Goiás S/A	RMGG11	3/2/2018	12/15/2029	ICVM 476	12	6.57	90.00	IPCA + 9,00%	Transport	3.86%	N/D
Entrevias Concessionária de Rodovias S.A.	ENTV12	3/13/2018	12/15/2030	ICVM 476	13	7.11	1,000.00	IPCA + 7,75%	Transport	2.75%	AA (bra) Fitch
Concessionária da Linha 4 Metrô de SP S.A.	CNLM25	3/29/2018	4/15/2028	ICVM 476	10	5.42	500.00	IPCA + 7,07%	Transport	2.53%	AA (bra) Fitch
CELSE - Centrais Elétricas de Sergipe S.A.	CESE11	4/4/2018	4/15/2032	ICVM 476	14	5.94	3,337.00	Pré 9,85%	Energy		AA (bra) Fitch
Algar Telecom S/A	ALGA27	4/18/2018	3/15/2025	ICVM 476	7	5.26	76.48	IPCA + 5,34%	Telecoms	0.85%	brAA- (S&P)
CTEEP-CIA Energia Paulista S/A	CTEE17	4/23/2018	4/15/2025	ICVM 400	7	6.05	621.00	IPCA + 4,70%	Energy	0.06%	AAA (bra) Fitch
CEA II Centrais Elétricas Eólicas Assurua II SPE S.A.	CEAD11	5/16/2018	6/15/2030	ICVM 476	12	6.10	158.00	IPCA + 6,66%	Energy	1.90%	Aa2 (br) Moody's
EDP Transmissão S.A.	EDPT11	5/30/2018	5/15/2033	ICVM 476	15	6.80	115.00	IPCA + 7,03%	Energy	1.70%	Aa2 (br) Moody's
Ultrafertil S/A	ULFT12	6/4/2018	5/15/2025	ICVM 476	7	2.19	175.00	IPCA + 5,33%	Transport	0.30%	AA+ (bra) Fitch
AES Tietê S/A	TIET18	6/7/2018	5/15/2033	ICVM 476	15	6.50	200.00	IPCA + 6,02%	Energy	0.90%	Aa1 (br) Moody's
COELCE - Estado do Ceará	CEAR26	6/15/2018	6/15/2025	ICVM 476	7	5.80	270.00	IPCA + 6,20%	Energy	0.75%	AAA (bra) Fitch
Rio Paraná S.A.	RIPR21	6/15/2018	6/15/2025	ICVM 476	7	5.80	240.00	IPCA + 6,15%	Energy	0.75%	Ba1 (br) Moody's
Fospar S.A - Fertilizantes	FOSP11	6/25/2018	5/15/2026	ICVM 476	8	7.00	151.23	IPCA + 6,53%	Transport	0.50%	N/D
Cia Energética Jaguará S.A.	ENJG21	6/28/2018	6/15/2027	ICVM 476	9	5.50	634.00	IPCA + 6,50%	Energy	0.75%	AAA (bra) Fitch
Cia Energética Miranda S.A.	ENMI21	6/28/2018	6/15/2027	ICVM 476	9	5.70	386.00	IPCA + 6,50%	Energy	0.75%	AAA (bra) Fitch
Elektro Redes S/A	ELEK37	6/28/2018	5/15/2025	ICVM 476	7	4.50	300.00	IPCA + 5,95%	Energy	0.50%	AA- (bra) Fitch
Centrais Eólicas Assurá I S.A.	SSRU11	6/29/2018	11/28/2030	ICVM 476	13	6.58	35.00	IPCA + 7,81%	Energy	1.90%	Ba3 (br) Moody's
Cia Energética Sinop S.A.	CSNP12	7/3/2018	6/15/2032	ICVM 476	14	7.30	236.00	IPCA + 7,94%	Energy	2.10%	AA (bra) Fitch
Transmissora Aliança de Energia S/A	TAES15	7/17/2018	7/15/2025	ICVM 400	7	6.50	525.77	IPCA + 5,95%	Energy	0.30%	AAA (bra) Fitch
Verde 08 Energia S.A.	VDEN12	7/19/2018	7/15/2025	ICVM 476	7	5.80	140.00	IPCA + 5,96%	Energy	0.25%	AAA (bra) Fitch

## Continuation – 2018

Issuer	Ticker	Distribution Date	Due Date	Offer type	Maturity (years)	Duration <sup>1</sup> (years)	Value (R\$ million)	Yield <sup>2</sup>	Sector	Spread Over NTN-B	Rating (local)
Transmissão José Maria de Melo de Eletricidade S.A.	TJMM11	7/23/2018	3/15/2036	ICVM 476	18	8.20	395.00	IPCA + 8,28%	Energy	2.50%	N/D
CIA Energética do RN - Cosern	CSRN18	7/23/2018	7/15/2023	ICVM 476	5	4.50	130.00	IPCA + 5,98%	Energy	0.50%	AAA (bra) Fitch
Engie Brasil Energia S.A.	EGIE17	7/25/2018	7/15/2025	ICVM 400	7	5.60	515.35	IPCA + 5,66%	Energy	0.92%	AAA (bra) Fitch
	EGIE27		7/15/2028		10	8.20	231.26	IPCA + 5,90%	Energy	0.28%	
Central Hidrelétrica Sucuri S.A.	CHSU11	7/27/2018	11/30/2027	ICVM 476	9	4.53	2.50	IPCA + 8,42%	Energy	0.73%	N/D
Central Hidrelétrica Sucuri S.A.	CHSU21	7/27/2018	12/29/2027	ICVM 476	9	4.53	2.26	IPCA + 8,42%	Energy	0.73%	N/D
Central Hidrelétrica Palmeira do Tocantins S.A.	CHPT11	7/30/2018	11/30/2027	ICVM 476	9	4.53	2.86	IPCA + 8,42%	Energy	0.73%	AA- (bra) Fitch
Central Hidrelétrica Palmeira do Tocantins S.A.	CHPT21	7/30/2018	12/29/2027	ICVM 476	9	4.53	2.59	IPCA + 8,42%	Energy	0.73%	AA- (bra) Fitch
Central Hidrelétrica Palmeira do Tocantins S.A.	CHPT31	7/30/2018	1/28/2028	ICVM 476	10	4.53	2.58	IPCA + 8,42%	Energy	0.73%	AA- (bra) Fitch
Central Hidrelétrica Palmeira do Tocantins S.A.	CHPT41	7/30/2018	3/3/2028	ICVM 476	10	4.53	2.59	IPCA + 8,42%	Energy	0.73%	AA- (bra) Fitch
Central Hidrelétrica Palmeira do Tocantins S.A.	CHPT51	7/30/2018	3/29/2028	ICVM 476	10	4.53	2.56	IPCA + 8,42%	Energy	0.73%	AA- (bra) Fitch
Central Hidrelétrica Palmeira do Tocantins S.A.	CHPT61	7/30/2018	4/28/2028	ICVM 476	10	4.53	2.84	IPCA + 8,42%	Energy	0.73%	AA- (bra) Fitch
Central Hidrelétrica Sucuri S.A.	CHSU31	7/30/2018	1/28/2028	ICVM 476	10	4.53	2.26	IPCA + 8,42%	Energy	0.73%	N/D
Central Hidrelétrica Sucuri S.A.	CHSU41	7/30/2018	3/3/2028	ICVM 476	10	4.53	2.26	IPCA + 8,42%	Energy	0.73%	N/D
Central Hidrelétrica Sucuri S.A.	CHSU51	7/30/2018	3/29/2028	ICVM 476	10	4.53	2.24	IPCA + 8,42%	Energy	0.73%	N/D
Central Hidrelétrica Sucuri S.A.	CHSU61	7/30/2018	4/28/2028	ICVM 476	10	4.53	2.49	IPCA + 8,42%	Energy	0.73%	N/D
Santa Vitória do Palmar Energias Renováveis S.A.	SAVI13	7/30/2018	9/15/2031	ICVM 476	13	5.60	105.00	IPCA + 5,95%	Energy	0.60%	AAA (bra) Fitch
Serras Holding S.A.	SRRH11	8/3/2018	7/31/2032	ICVM 476	14	6.80	40.00	IPCA + 7,64%	Energy	2.02%	AAA (bra) Fitch
Argo Transmissão de Energia S.A.	TRGO11	8/24/2018	12/15/2031	ICVM 476	13	7.60	454.50	IPCA + 7,02%	Energy	1.40%	AA+ (bra) Fitch
CIA Energética de Pernambuco - Celpe	CEPE19	8/29/2018	7/15/2025	ICVM 476	7	4.91	600.00	IPCA + 6,04%	Energy	0.50%	AAA (bra) Fitch

## Continuation – 2018

Issuer	Ticker	Distribution Date	Due Date	Offer type	Maturity (years)	Duration <sup>1</sup> (years)	Value (R\$ million)	Yield <sup>2</sup>	Sector	Spread Over NTN-B	Rating (local)
EDP SP Distribuição de Energia S.A.	EBEN19	8/31/2018	8/15/2025	ICVM 476	7	5.11	260.00	IPCA + 5,91%	Energy	0.60%	AAA (bra) Fitch
EDP ES Distribuição de Energia S.A.	ESCE17	8/31/2018	7/15/2025	ICVM 476	7	5.11	190.00	IPCA + 5,91%	Energy	0.60%	AAA (bra) Fitch
Cia Eletrc. Est. Da Bahia - Coelba	CEEBA1	9/3/2018	8/15/2025	ICVM 476	7	5.10	800.00	IPCA + 6,22%	Energy	0.50%	AA- (bra) Fitch
CIA Piratininga de Força e Luz	CPFPA0	9/5/2018	8/15/2025	ICVM 476	7	5.50	197.00	IPCA + 5,80%	Energy	0.20%	AAA (bra) Fitch
RGE Sul Distribuidora de Energia S/A	AESL17	9/6/2018	8/15/2025	ICVM 476	7	5.50	219.60	IPCA + 5,80%	Energy	(0.02)%	AAA (bra) Fitch
Empresa de Energia São Manoel S/A	ESAM14	9/10/2018	6/15/2033	ICVM 476	15	5.80	340.00	IPCA + 7,31%	Energy	1.60%	AA (bra) Fitch
Copacabana Geração de Energia e Participações S.A.	CGEP12	9/13/2018	4/15/2033	ICVM 476	15	6.32	127.78	IPCA + 8,47%	Energy	2.60%	AAA (bra) Fitch
ETC - Emp. Transmissora Capixaba S.A.	CPXB22	9/19/2018	9/15/2025	ICVM 476	7	5.50	85.30	IPCA + 6,17%	Energy	0.30%	AAA (bra) Fitch
ETAP - Empr. Transmissora Agreste Potiguar S.A.	ETAP22	9/19/2018	9/15/2025	ICVM 476	7	5.50	114.70	IPCA + 6,17%	Energy	0.30%	AAA (bra) Fitch
Guaraciaba Transmissora de Energia TP Sul S.A	TPSU12	10/3/2018	12/15/2030	ICVM 476	12	6.10	118.00	IPCA + 7,39%	Energy	1.50%	AA (bra) Fitch
Sobral I Solar Energia SPE S.A	SISE11	10/4/2018	12/15/2033	ICVM 476	15	5.10	135.00	IPCA + 7,89%	Energy	1.95%	AAA (bra) Fitch
Copel Geração e Transmissão S.A.	CPGT15	10/11/2018	9/15/2025	ICVM 476	7	4.25	290.00	IPCA + 7,65%	Energy	1.85%	AA- (bra) Fitch
Pirapora Solar Holding S.A	PRAS11	10/15/2018	8/15/2034	ICVM 476	16	7.60	220.00	IPCA + 5,77%	Energy	0.00%	AAA (bra) Fitch
TCC - Transmissora Caminho do Café S.A.	TRCC11	10/17/2018	9/15/2028	ICVM 476	10	7.12	680.00	IPCA + 6,53%	Energy	0.70%	AAA (bra) Fitch
TPE - Transmissora Paraíso de Energia S.A.	TPEN11	10/17/2018	9/15/2028	ICVM 476	10	7.12	1,070.00	IPCA + 6,53%	Energy	0.70%	AAA (bra) Fitch
Energisa Sul-Sudeste S.A	EDVP14	10/19/2018	9/15/2025	ICVM 476	7	4.90	70.00	IPCA + 5,08%	Energy	0.20%	AAA (bra) Fitch
Energisa Sergipe S.A.	ENSE16	10/19/2018	9/15/2025	ICVM 476	7	4.90	65.00	IPCA + 5,08%	Energy	0.20%	AAA (bra) Fitch
Energisa Mato Grosso do Sul S.A.	ESULA1	10/19/2018	9/15/2025	ICVM 476	7	4.90	155.00	IPCA + 5,08%	Energy	0.20%	AAA (bra) Fitch
Energisa Mato Grosso S.A.	CEMT19	10/19/2018	9/15/2025	ICVM 476	7	4.90	385.00	IPCA + 5,08%	Energy	0.20%	AAA (bra) Fitch
Energisa Tocantins S.A.	CTNS14	10/19/2018	9/15/2025	ICVM 476	7	4.90	240.00	IPCA + 5,09%	Energy	0.20%	AAA (bra) Fitch
Energisa Minas Gerais S.A.	FLCLA0	10/19/2018	9/15/2025	ICVM 476	7	4.90	50.00	IPCA + 5,09%	Energy	0.20%	AAA (bra) Fitch
Energisa Paraíba S.A.	SAEL15	10/19/2018	9/15/2025	ICVM 476	7	4.90	135.00	IPCA + 5,08%	Energy	0.20%	AAA (bra) Fitch

## Continuation – 2018

Issuer	Ticker	Distribution Date	Due Date	Offer type	Maturity (years)	Duration <sup>1</sup> (years)	Value (R\$ million)	Yield <sup>2</sup>	Sector	Spread Over NTN-B	Rating (local)
Sertão I Solar Energia SPE S.A.	SRTI11	10/23/2018	12/12/2032	ICVM 476	14	5.60	130.00	IPCA + 7,09%	Energy	1.20%	AAA (bra) Fitch
LIGHT Serviços de Eletricidade S/A	LIGHA5	10/24/2018	10/15/2025	ICVM 476	7	4.71	540.00	IPCA + 6,83%	Energy	1.10%	AA+ (bra) Fitch
EDP Transmissão Aliança SC S.A.	EDPA11	10/25/2018	10/15/2028	ICVM 476	10	8.27	1,200.00	IPCA + 6,72%	Energy	0.01%	AA (bra) Fitch
Integração Transmissora Energia S.A.	ITGT11	11/1/2018	10/15/2025	ICVM 476	7	5.21	100.00	IPCA + 5,42%	Energy	0.72%	brAAA (S&P)
Parnaíba I Geração Energia S.A.	PNBI11	11/26/2018	11/15/2025	ICVM 476	7	4.10	315.00	IPCA + 7,22%	Energy	2.50%	AAA (bra) Fitch
Subestação Água Azul SPE S.A.	SAAS11	12/26/2018	12/15/2029	ICVM 476	11	5.80	35.00	IPCA + 6,40%	Energy	1.50%	N/D
EDTE - Diamantina Transmissão de Energia S.A.	EDTE12	12/26/2018	12/15/2028	ICVM 476	10	8.44	315.00	IPCA + 5,29%	Energy	0.50%	AAA (bra) Fitch
Energisa Transmissão Energia S.A.	ETEN11	12/27/2018	12/15/2025	ICVM 476	7	6.06	75.50	IPCA + 4,92%	Energy	0.30%	AAA (bra) Fitch
Energisa Transmissão Energia S.A.	ETEN21	12/27/2018	12/15/2025	ICVM 476	7	7.38	51.46	IPCA + 5,14%	Energy	0.45%	AAA (bra) Fitch
Energisa Transmissão Energia S.A.	ETEN31	12/27/2018	12/15/2025	ICVM 476	7	6.11	123.04	IPCA + 4,98%	Energy	0.35%	AAA (bra) Fitch
ETB - Empresa de Transmissão Baiana S.A.	ETBA12	12/27/2018	2/15/2029	ICVM 476	10	8.80	715.00	IPCA + 5,34%	Energy	0.60%	AAA (bra) Fitch
<b>Total.....</b>							<b>21,607.0</b>				

Source: Anbima, Rating reports and Debentures Agreements

Elaborated by SPE/ME

Note:

(1) In this presentation we consider duration (Macaulay duration) as a measure of the sensitivity of the price (value of principal) of a infrastructure Bond expressed as a number of years. This indicator involving present value, yield, coupon and final maturity.

(2) Consumer Prince Index - CPI (IPCA)

## Infrastructure Bonds: Infrastructure Investment Projects - 2017

Issuer	Ticker	Distribution Date	Due Date	Offer type	Maturity (years)	Duration <sup>1</sup> (years)	Value (R\$ million)	Yield <sup>2</sup>	Sector	Spread Over NTN-B	Rating (local)
TSLE-Sul Litorânea Energia S/A	TSLE11	1/12/2017	12/15/2030	ICVM 476	14	7.10	150.0	IPCA + 7,57%	Energy	1.40%	AA+ (bra) Fitch
Baraúnas II Energética S/A	BAUR11	1/16/2017	1/15/2027	ICVM 476	10	4.11	8.8	IPCA + 7,96%	Energy	2.00%	N/D
Banda de Couro Energética S/A	BNDC11	1/16/2017	12/15/2030	ICVM 476	14	4.11	14.5	IPCA + 7,96%	Energy	2.00%	N/D
Rio Grande Energia S/A	RIGE18	3/8/2017	2/15/2024	ICVM 476	7	5.54	130.0	IPCA + 5,35%	Energy	0.05%	AA (bra) Fitch
CIA Piratininga de Força e Luz	CPFP18	3/16/2017	2/15/2024	ICVM 476	7	5.55	60.0	IPCA + 5,29%	Energy	(0.10)%	AA (bra) Fitch
Paranaíba Energia S/A	PRTE12	3/17/2017	3/15/2028	ICVM 476	11	5.26	120.0	IPCA + 6,90%	Energy	1.50%	AA+ (bra) Fitch
Extremoz Transmissora Nordeste - ETN S/A	EXTZ11	3/22/2017	1/15/2029	ICVM 476	12	7.58	168.0	IPCA + 7,03%	Energy	1.80%	AA+ (bra) Fitch
CTEEP-CIA Energia Paulista S/A	CTEE15	3/30/2017	2/15/2024	ICVM 400	7	5.90	300.0	IPCA + 5,04%	Energy	(0.24)%	AAA (bra) Fitch
Algar Telecom S/A	ALGA26	4/19/2017	3/15/2024	ICVM 400	7	5.68	282.0	IPCA + 6,87%	Telecoms	1.50%	AA- (bra) Fitch
Ventos de São Clemente Holding S/A	VSCL11	4/24/2017	10/15/2030	ICVM 476	14	6.40	180.0	IPCA + 8,00%	Energy	2.56%	AA (bra) Fitch
Delta 2 Energia S/A	PTMI11	5/11/2017	12/15/2026	ICVM 476	10	4.33	42.4	IPCA + 7,38%	Energy	2.00%	AA (bra) Fitch
CIA Energética de Pernambuco - Celpe	CEPE27	5/15/2017	1/15/2022	ICVM 476	5	4.31	90.0	IPCA + 6,18%	Energy	0.80%	AA- (bra) Fitch
Ventos de São Jorge Holding S/A	VSJH11	5/18/2017	7/15/2028	ICVM 476	11	6.84	45.0	IPCA + 9,00%	Energy	2.70%	AA (bra) Fitch
Itarema Geração Energia S/A	ITGE13	6/16/2017	12/15/2028	ICVM 476	12	5.98	111.8	IPCA + 7,81%	Energy	2.10%	AA (bra) Fitch
Ventos de São Vicente Energias Renováveis S/A	VTSS11	7/7/2017	6/15/2024	ICVM 476	7	5.55	100.0	IPCA + 5,47%	Energy	(0.20)%	AAA (bra) Fitch
CPFL Energias Renováveis S/A	ERSA17	7/17/2017	7/15/2022	ICVM 476	5	4.40	250.0	IPCA + 5,62%	Energy	0.00%	AA (bra) Fitch
Energisa S/A	ENGI18	7/19/2017	6/15/2022	ICVM 400	5	4.44	197.6	IPCA + 5,60%	Energy	0.00%	AA+ (bra) Fitch
	ENGI28	7/19/2017	6/15/2024	0	7	5.86	177.4	IPCA + 5,66%		0.10%	
Concessionária do Sistema Anhanguera-Bandeirantes S/A	ANHB18	7/28/2017	6/15/2024	ICVM 476	5	4.41	716.5	IPCA + 5,47%	Transport	0.20%	Aa1 (br) Moody's
Copel Telecomunicações S/A	CTEL12	8/8/2017	7/15/2022	ICVM 476	5	4.41	220.0	IPCA + 5,43%	Telecoms	0.70%	AA+ (bra) Fitch
Petróleo Brasileiro S/A - Petrobras	PETR15	8/25/2017	8/15/2022	ICVM 476	5	4.55	301.0	IPCA + 4,72%	Energy	0.05%	AA+ (bra) Fitch
	PETR25	8/25/2017	8/15/2024	ICVM 476	7	6.02	1,089.9	IPCA + 5,21%		0.30%	
Complexo Morrinhos Energias Renováveis S/A	CXER12	8/31/2017	12/15/2027	ICVM 476	11	6.19	102.50	IPCA + 7,06%	Energy	1.85%	AA+ (bra) Fitch

## Continuation – 2017

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Nascentes do Xingu S/A	NASX13	8/31/2017	8/15/2024	ICVM 476	7	5.46	155.00	IPCA + 6,17%	Water and Sewerage	1.25%	AA (bra) Fitch
Salus Infraestrutura Portuária S/A	SAIP12	9/13/2017	10/15/2024	ICVM 400	7	4.30	31.17	IPCA + 5,75%	Transport	1.00%	AA+ (bra) Fitch
Lagoa 1 Energia Renovável S/A	LGEN11	9/29/2017	3/15/2029	ICVM 476	12	7.25	46.21	IPCA + 7,33%	Energy	0.03	AAA (bra) Fitch
Transmissora Aliança de Energia S/A	TAES14	10/9/2017	9/15/2024	ICVM 400	7	5.20	255.00	IPCA + 4,41%	Energy	(0.20)%	AAA (bra) Fitch
Rodonorte - Conces. de Rodovias Integradas S/A	RDNT26	10/19/2017	11/15/2021	ICVM 476	4	4.00	170.00	IPCA + 4,50%	Transport	0.10%	brAA- (S&P)
Cia. Paulista de Força e Luz	PALF18	10/24/2017	9/15/2022	ICVM 400	5	4.57	213.80	IPCA + 4,42%	Energy	0.00%	AAA (bra) Fitch
	PALF28				7	5.89	355.72	IPCA + 4,66%		0.00%	
	PALF38				10	7.43	130.48	IPCA + 5,05%		0.26%	
CIA Energética do RN - Cosern	CSRN17	10/24/2017	10/15/2022	ICVM 400	5	4.45	271.44	IPCA + 4,64%	Energy	0.25%	brAA- (S&P)
	CSRN27				7	5.95	98.56	IPCA + 4,91%		0.35%	
Energisa S/A	ENGI19	10/30/2017	10/15/2022	ICVM 400	5	4.57	61.81	IPCA + 4,49%	Energy	0.10%	AA+ (bra) Fitch
	ENGI29				7	6.10	11.52	IPCA + 4,71%		0.20%	
	ENGI39				10	8.05	21.44	IPCA + 5,11%		0.35%	
Arteris S/A	ARTR35	10/31/2017	10/15/2024	ICVM 400	7	5.67	161.54	IPCA + 5,09%	Transport	0.50%	AA- (bra) Fitch
CIA de Gás de São Paulo - Comgás	GASP16	10/31/2017	10/15/2024	ICVM 476	7	6.16	400.00	IPCA + 4,33%	Energy	0.20%	AAA (bra) Fitch
LIGHT Serviços de Eletricidade S/A	LIGHA3	11/1/2017	10/15/2022	ICVM 400	5	4.34	458.67	IPCA + 7,44%	Energy	2.90%	A- (bra) Fitch
Ventos de Santo Estevão Holding S/A	VSEH11	11/7/2017	7/15/2032	ICVM 476	15	7.57	160.00	IPCA + 6,98%	Energy	2.00%	AA+ (bra) Fitch
Omega Energia e Implantação 2 S/A	OMNG12	11/24/2017	12/15/2029	ICVM 476	12	5.83	220.00	IPCA + 7,11%	Energy	2.00%	AA+ (bra) Fitch
Eólica Serra das Vacas Holding II S/A	EVOL11	12/11/2017	6/15/2031	ICVM 476	14	6.77	48.00	IPCA + 7,31%	Energy	2.20%	AA (bra) Fitch
Equatorial Energia S/A	EQTL22	12/11/2017	11/15/2024	ICVM 476	7	6.50	104.50	IPCA + 5,77%	Energy	0.75%	A+ (bra) Fitch
Belo Monte Transmissora Energia SPE S/A	BLMN12	12/11/2017	12/15/2031	ICVM 476	14	6.84	580.00	IPCA + 7,14%	Energy	2.10%	AA+ (bra) Fitch
Esperanza Transmissora de Energia S/A	SPRZ11	12/12/2017	9/15/2030	ICVM 476	13	6.13	87.00	IPCA + 6,80%	Energy	1.75%	AA+ (bra) Fitch

## Continuation – 2017

Issuer	Ticker	Distribution Date	Due Date	Offer type	Maturity (years)	Duration <sup>1</sup> (years)	Value (R\$ million)	Yield <sup>2</sup>	Sector	Spread Over NTN-B	Rating (local)
Odoya Transmissora de Energia S/A	ODYA11	12/12/2017	9/15/2031	ICVM 476	14	6.40	74.0	IPCA + 6,80%	Energy	1.75%	AA+ (bra) Fitch
Cia Energética do Ceará-Coelce	CEAR25	12/26/2017	12/15/2024	ICVM 476	7	5.13	150.0	IPCA + 6,00%	Energy	0.80%	AAA (bra) Fitch
Enel Green Power Maniçoba Eólica	EGME11	12/28/2017	12/15/2028	ICVM 476	11	5.22	10.8	IPCA + 7,62%	Energy	2.60%	AA- (bra) Fitch
Enel Green Power Damascena Eólica	ENDE11	12/28/2017	6/15/2029	ICVM 476	12	5.28	11.3	IPCA + 7,62%	Energy	2.60%	AA (bra) Fitch
<b>Total.....</b>							<b>9,145.2</b>				

Source: Anbima, Rating reports and Debentures Agreements  
Elaborated by SPE/ME

**Note:**

(1) In this presentation we consider duration (Macaulay duration) as a measure of the sensitivity of the price (value of principal) of a infrastructure Bond expressed as a number of years. This indicator involving present value, yield, coupon and final maturity.

(2) Consumer Price Index - CPI (IPCA)

## Infrastructure Bonds: Infrastructure Investment Projects - 2016

Issuer	Ticker	Distribution Date	Due Date	Offer type	Maturity (years)	Duration <sup>1</sup> (years)	Value (R\$ million)	Yield <sup>2</sup>	Sector	Spread Over NTN-B	Rating (local)
Voltalia S. M. do Gostoso Participações S/A	VTLA11	3/23/2016	12/15/2028	ICVM 476	13	5.50	57.00	IPCA + 8,19%	Energy	2.00%	A+ (bra) Fitch
EDP Energias do Brasil S/A	ENBR15	4/7/2016	4/15/2022	ICVM 476	6	4.50	250.00	IPCA + 8,34%	Energy	1.70%	A (bra) Fitch
Algar Telecom S/A	ALGA15	6/9/2016	5/15/2022	ICVM 476	6	4.55	210.00	IPCA + 7,73%	Telecoms	1.40%	AA- (bra) Fitch
CTEEP-CIA Energia Paulista S/A	CTEE14	7/15/2016	7/15/2021	ICVM 476	5	4.40	148.27	IPCA + 6,04%	Energy	(0.10)%	AA+ (bra) Fitch
Engie Brasil Energia S/A	TBLE16	7/27/2016	7/15/2023	ICVM 476	7	5.00	246.60	IPCA + 6,26%	Energy	0.08%	AAA (bra) Fitch
	TBLE26	7/27/2016	7/15/2026		10	5.00	353.40	IPCA + 6,25%		0.08%	
VLI Operações Portuárias S/A	VLIO11	8/25/2016	8/15/2021	ICVM 476	5	4.40	175.00	IPCA + 6,05%	Transport	0.00%	AA+ (bra) Fitch
Matrincha Transmissora de Energia (TP Norte) S/A.	TPNO12	9/9/2016	6/15/2029	ICVM 476	13	7.60	180.00	IPCA + 7,58%	Energy	1.50%	AA+ (bra) Fitch
Coelba - Estado da Bahia	CEEB29	10/18/2016	10/15/2021	ICVM 476	5	4.20	100.00	IPCA + 6,75%	Energy	0.40%	AA- (bra) Fitch
CPFL - Geração de Energia S/A	CPGE19	10/20/2016	10/17/2021	ICVM 476	5	4.48	50.00	IPCA + 5,48%	Energy	(0.40)%	AAA (bra) Fitch
Companhia Energética do Maranhão - Cemar	CEMA17	11/1/2016	10/15/2021	ICVM 400	5	4.48	155.00	IPCA + 5,48%	Energy	(0.35)%	AA+ (bra) Fitch
	CEMA27	11/1/2016	10/15/2023		7	5.96	115.00	IPCA + 5,54%		(0.25)%	
TCP-Terminal de Contêineres de Paranaguá S/A	TCPA31	11/7/2016	10/15/2022	ICVM 400	6	4.60	428.05	IPCA + 7,82%	Transport	0.02	AA- (bra) Fitch
Autopista Fernão Dias S/A	APFD14	11/14/2016	9/15/2026	ICVM 476	10	7.16	65.00	IPCA + 7,53%	Transport	1.70%	brAA- (S&P)
Rodonorte - Conces. de Rodovias Integradas S/A	RDNT15	11/16/2016	11/15/2021	ICVM 476	5	4.37	100.00	IPCA + 6,06%	Transport	0.00%	brAA- (S&P)
Conces. de Rodovias do Oeste de São Paulo - Viaoeste	VOES16	12/5/2016	11/15/2021	ICVM 476	5	4.33	270.00	IPCA + 6,3%	Transport	0.10%	Aa1 (br) Moody's
Eólica Serra das Vacas Holding S/A	EOVC11	12/13/2016	6/15/2028	ICVM 476	12	5.32	23.00	IPCA + 8,37%	Energy	2.30%	AA- (bra) Fitch
	EOVC21	12/13/2016	6/15/2030		14	7.74	45.00	IPCA + 8,58%		2.50%	
AES Tietê S/A	TIET15	12/14/2016	12/15/2023	ICVM 476	7	5.80	180.00	IPCA + 6,54%	Energy	0.25%	AA+ (bra) Fitch
Windepar Holding S/A	WDPR11	12/15/2016	12/15/2028	ICVM 476	12	6.90	67.50	IPCA + 7,63%	Energy	1.40%	AA+ (bra) Fitch
Celpa - Estado do Para	CLPP13	12/26/2016	12/15/2023	ICVM 400	5	4.38	199.07	IPCA + 6,70%	Energy	0.40%	A+ (bra) Fitch
	CLPP23				7	5.76	100.93	IPCA + 6,87%		0.65%	
Calango 6 Energia Renovável S/A	CLNG11	12/27/2016	6/27/2028	ICVM 476	12	6.48	43.50	IPCA + 8,73%	Energy	2.50%	AA+ (bra) Fitch



Continuation – 2016

Issuer	Ticker	Distribution Date	Due Date	Offer type	Maturity (years)	Duration <sup>1</sup> (years)	Value (R\$ million)	Yield <sup>2</sup>	Sector	Spread Over NTN-B	Rating (local)
Comgás	GASP15	12/28/2016	12/15/2023	ICVM 400	7	5.90	675.00	IPCA + 5,87%	Energy	(0.50)%	AAA (bra) Fitch
Marechal Rondon Energia S/A	MRHL12	12/29/2016	6/30/2026	ICVM 476	10	6.40	15.0	IPCA + 8,00%	Energy	1.71%	N/D
<b>Total.....</b>							<b>4,252.3</b>				

Source: Anbima, Rating reports and Debentures Agreements  
 Elaborated by SPE/ME

**Note:**

(1) In this presentation we consider duration (Macaulay duration) as a measure of the sensitivity of the price (value of principal) of a infrastructure Bond expressed as a number of years. This indicator involving present value, yield, coupon and final maturity.

(2) Consumer Price Index - CPI (IPCA)

## Infrastructure Bonds: Infrastructure Investment Projects - 2015

Issuer	Ticker	Distribution Date	Due Date	Offer type	Maturity (years)	Duration <sup>1</sup> (years)	Value (R\$ million)	Yield <sup>2</sup>	Sector	Spread Over NTN-B	Rating (local)
Empresa de Energia Cachoeira Caldeirão S/A	CADR13	1/26/2015	6/15/2030	ICVM 476	16	9.20	156.5	IPCA + 7,27%	Energy	1.40%	AA (bra) Fitch
MRS Logística S/A	MRSL27	2/15/2015	2/15/2025	ICVM 400	10	7.07	214.4	IPCA + 6,42%	Transport	0.35%	AA+ (bra) Fitch
	MRSL17	2/26/2015	2/15/2022		7	5.54	336.3	IPCA + 5,98%		0.00%	
Salus Infraestrutura Portuária S/A	SAIP11	3/15/2015	10/15/2024	ICVM 400	10	5.48	320.9	IPCA + 6,79%	Transport	0.50%	AA+sf1 (br) Moody's
Autopista Planalto Sul S/A	APPS12	4/7/2015	12/15/2025	ICVM 476	11	7.50	100.0	IPCA + 8,17%	Transport	1.70%	AAA (bra) Fitch
Rodovias Integradas do Oeste S/A	RVIO14	4/24/2015	4/15/2020	ICVM 476	5	4.54	190.0	IPCA + 6,38%	Transport	0.15%	Aa1 (br) Moody's
Alupar Investimentos S/A	APAR16	5/14/2015	4/15/2021	ICVM 476	6	4.60	250.0	IPCA + 7,33%	Energy	0.90%	AA+ (bra) Fitch
VLI Multimodal S/A	VLIM11	7/16/2015	6/15/2020	ICVM 476	5	4.38	232.4	IPCA + 6,88%	Transport	0.30%	AA (bra) Fitch
Concessionária Rodovia dos Lagos S/A	RDLA12	7/24/2015	7/15/2020	ICVM 476	5	4.29	150.0	IPCA + 7,34%	Transport	0.14%	Aa2 (br) Moody's
Geradora Eólica Bons Ventos da Serra I S/A	GLIC11	7/30/2015	12/15/2026	ICVM 476	12	7.35	10.3	IPCA + 9,43%	Energy	3.00%	brBBB (S&P)
CIA de Saneamento do Tocantins - Saneatins	SNTI13	8/12/2015	7/31/2022	ICVM 476	7	4.40	50.0	IPCA + 10,33%	Water and Sewerage	3.00%	A (bra) Fitch
	SNTI23		7		4.40	140.0	3.00%				
Ventos de São Tome Holding S/A	TOME12	8/20/2015	12/15/2027	ICVM 476	12	6.30	89.0	IPCA + 8,86%	Energy	1.70%	AA (bra) Fitch
Vale S/A	VALE19	9/11/2015	8/15/2020	ICVM 400	5	4.37	800.0	IPCA + 6,62%	Transport	0.50%	AAA (bra) Fitch
	VALE29		7		5.74	550.0	IPCA + 6,63%	0.50%			
Chapada do Piauí I Holding S/A	CHPA11	9/17/2015	3/15/2029	ICVM 476	14	7.90	100.0	IPCA + 9,22%	Energy	1.75%	brAA (S&P)
NC Energia S/A	NCEN11	10/1/2015	12/15/2025	ICVM 476	10	5.70	31.6	IPCA + 7,89%	Energy	0.60%	Aa1 (br) Moody's
EDP Energias do Brasil S/A	ENBR24	10/13/2015	9/15/2021	ICVM 400	6	4.10	179.9	IPCA + 8,32%	Energy	1.00%	Aa3 (br) Moody's
	ENBR34	10/14/2015	9/15/2024		9	5.90	48.1	IPCA + 8,26%		1.00%	
Ultrafertil S/A	ULFT11	10/28/2015	6/15/2027	ICVM 476	12	6.40	115.0	IPCA + 9,06%	Transport	1.50%	AA- (bra) Fitch
Copel Telecomunicações S/A	CTEL11	11/10/2015	10/15/2024	ICVM 476	9	6.00	160.0	IPCA + 7,96%	Telecoms	0.60%	AA+ (bra) Fitch
Ventos de São Tito Holding S/A	VNTT11	12/14/2015	6/15/2028	ICVM 476	13	5.71	111.0	IPCA + 9,24%	Energy	1.70%	AA (bra) Fitch
AES Tietê S/A	TIET34	12/15/2015	12/15/2020	ICVM 400	5	4.20	301.8	IPCA + 8,43%	Energy	1.50%	ba1 (br) Moody's

Continuation – 2015

Issuer	Ticker	Distribution Date	Due Date	Offer type	Maturity (years)	Duration <sup>1</sup> (years)	Value (R\$ million)	Yield <sup>2</sup>	Sector	Spread Over NTN-B	Rating (local)
CIA de Gás de São Paulo - Comgás	GASP14				5	4.36	269.6	IPCA + 7,14%		(0.30)%	
	GASP24	12/23/2015	12/15/2020	ICVM 400	7	5.35	242.4	IPCA + 7,48%	Energy	0.00%	AA+ (bra) Fitch
	GASP34				10	6.77	79.9	IPCA + 7,36%		0.00%	
Centrais Eólicas Caetité S/A	CAET12	12/30/2015	12/15/2028	ICVM 476	13	6.20	33.5	IPCA + 9,31%	Energy	1.80%	AA- (bra) Fitch
<b>Total.....</b>							<b>5,262.5</b>				

Source: Anbima, Rating reports and Debentures Agreements  
 Elaborated by SPE/ME

Note:

(1) In this presentation we consider duration (Macaulay duration) as a measure of the sensitivity of the price (value of principal) of a infrastructure Bond expressed as a number of years. This indicator involving present value, yield, coupon and final maturity.

(2) Consumer Price Index - CPI (IPCA)

## Infrastructure Bonds: Infrastructure Investment Projects - 2014

Issuer	Ticker	Distribution Date	Due Date	Offer type	Maturity (years)	Duration <sup>1</sup> (years)	Value (R\$ million)	Yield <sup>2</sup>	Sector	Spread Over NTN-B	Rating (local)
Aeroporos Brasil - Viracopos S.A. (Vencimento Antecipado)	VRCP11	2/5/2014	9/15/2025	ICVM 476	12	7.4	75.0	IPCA + 8,79%	Transport	2.27%	AA- (bra) Fitch
	VRCP21						75.0				
	VRCP31						75.0				
	VRCP41						75.0				
Vale S/A	VALE18	2/10/2014	1/15/2021	ICVM 400	7	5.5	600.0	IPCA + 6,46%	Transport	(0.15)%	brAAA (S&P)
	VALE28				10	7.1	150.0	IPCA + 6,57%		(0.10)%	
	VALE38				12	8.1	100.0	IPCA + 6,71%		0.00%	
	VALE48				15	8.8	150.0	IPCA + 6,78%		0.00%	
Concessionária do Aeroporto Internacional de Guarulhos S/A	AGRU11	3/21/2014	3/15/2025	ICVM 476	11	6.0	75.0	IPCA + 7,86%	Transport	1.40%	AA (bra) Fitch
	AGRU21						75.0				
	AGRU31						75.0				
	AGRU41						75.0				
Santo Antônio Energia S/A.	STEN13	5/2/2014	4/15/2022	ICVM 400	8	5.8	200.0	IPCA + 7,05%	Energy	0.85%	AA+ (bra) Fitch
	STEN23				10	6.7	500.0	IPCA + 7,49%		1.18%	
CPFL - Geração de Energia S/A - (vencida)	CPGE18	5/28/2014	4/28/2019	ICVM 476	5	4.5	70.0	IPCA + 5,86%	Energy	(0.09)%	AA+ (bra) Fitch
Ferreira Gomes Energia S/A	FGEN13	8/1/2014	12/15/2027	ICVM 400	14	7.9	210.9	IPCA + 6,47%	Energy	0.48%	AA+ (bra) Fitch
Rodonorte - Conces. de Rod. Integradas S/A - (vencida)	RDNT14	10/15/2014	10/15/2019	ICVM 476	5	4.4	130.0	IPCA + 5,69%	Transport	0.10%	Aaa (br) Moody's
Transmissora Sul Brasileira de Energia S/A	TSBE12	10/22/2014	9/15/2028	ICVM 476	14	8.2	77.6	IPCA + 6,80%	Energy	1.00%	AA+ (bra) Fitch
Concessionária de Rodovias do Oeste de São Paulo - Viaoeste	VOES25	10/27/2014	9/15/2019	ICVM 476	5	4.4	150.0	IPCA + 5,67%	Transport	0.00%	brAAA (S&P)
Conces. Sistema Anhanguera-Bandeirantes S/A - (vencida)	ANHB16	10/27/2014	10/15/2019	ICVM 400	5	4.4	545.0	IPCA + 5,43%	Transport	(0.15)%	AAA (bra) Fitch
Conces. do Aeroporto Internacional de Guarulhos S/A.	AGRU12	10/27/2014	10/15/2026	ICVM 400	12	6.9	300.0	IPCA + 6,40%	Transport	0.90%	AA (bra) Fitch
Santa Vitória do Palmar Holding S/A.	SVIT11	10/31/2014	6/15/2028	ICVM 476	14	8.0	90.0	IPCA + 7,94%	Energy	1.92%	AA (bra) Fitch
Conces. de Rodovias do Interior Paulista S/A - (vencida)	IVIA24	11/4/2014	10/15/2019	ICVM 476	5	4.5	225.0	IPCA + 5,96%	Transport	0.12%	Aa (br) Moody's

Continuation – 2014

Issuer	Ticker	Distribution Date	Due Date	Offer type	Maturity (years)	Duration <sup>1</sup> (years)	Value (R\$ million)	Yield <sup>2</sup>	Sector	Spread Over NTN-B	Rating (local)
Linhas de Taubaté Transmissora de Energia S/A	LTTE14	12/15/2014	3/15/2030	ICVM 476	15	7.90	44.5	IPCA + 7,88%	Energy	1.50%	AA+ (bra) Fitch
Supervia-Concessionaria de Transporte Ferroviário S/A	SPVI12	12/23/2014	12/15/2026	ICVM 476	12	6.04	300.0	IPCA + 7,50%	Transport	1.85%	AA- (bra) Fitch
Engie Brasil Energia S/A	TBLE15	12/23/2014	12/15/2024	ICVM 476	10	7.09	165.0	IPCA + 6,30%	Energy	0.00%	AAA (bra) Fitch
Renova Eólica Participações S/A	RNEP11 RNEP21	12/29/2014	12/15/2025	ICVM 476	11 11	5.40 5.50	73.0 73.0	IPCA + 7,61% IPCA + 7,87%	Energy	1.40% 1.65%	AA- (bra) Fitch
<b>Total.....</b>							<b>4,754.0</b>				

Source: Anbima, Rating reports and Debentures Agreements  
Elaborated by SPE/ME

Note:

(1) In this presentation we consider duration (Macauley duration) as a measure of the sensitivity of the price (value of principal) of a infrastructure Bond expressed as a number of years. This indicator involving present value, yield, coupon and final maturity.

(2) Consumer Price Index - CPI (IPCA)

## Infrastructure Bonds: Infrastructure Investment Projects - 2013

Issuer	Ticker	Distribution Date	Due Date	Offer type	Maturity (years)	Duration <sup>1</sup> (years)	Value (R\$ million)	Yield <sup>2</sup>	Sector	Spread Over NTN-B	Rating (local)
Santo Antonio Energia S/A.	SAES12	1/24/2013	12/27/2022	ICVM 476	10	6.2	420.0	IPCA + 6,20%	Energy	3.11%	N/D
Interligação Elétrica do Madeira S/A.	IEMD12	3/18/2013	3/18/2025	ICVM 476	12	7.0	350.0	IPCA + 5,50%	Energy	1.69%	AA+ (bra) Fitch
Concessionária Ecovias dos Imigrantes S/A.	ECOV12	5/7/2013	4/15/2020	ICVM 400	7	5.9	200.0	IPCA + 3,80%	Transport	0.00%	AAA (bra) Fitch
	ECOV22	5/7/2013	4/15/2024		11	5.7	681.0	IPCA + 4,28%		0.20%	
Concessionária Rodovias do Tietê S/A.	RDVT11	7/5/2013	6/15/2028	ICVM 400	15	7.4	1,065.0	IPCA + 8,00%	Transport	2.16%	Aa2 (br)- Moody's
CIA de Gás de São Paulo - Comgás - (Vencida)	GASP23	10/9/2013	9/15/2018	ICVM 400	5	3.7	269.3	IPCA + 5,10%	Energy	0.00%	AA+ (bra) Fitch
	GASP33	10/10/2013	9/15/2020		7	5.6	142.5	IPCA + 5,57%		0.31%	
Concessionária do Sistema Anhanguera - Bandeirantes S/A	ANHB15	10/17/2013	10/15/2018	ICVM 400	5	4.5	450.0	IPCA + 4,88%	Transport	(0.38)%	AA+ (bra) Fitch
Norte Brasil Transmissora de Energia S/A	NRTB11	10/21/2013	9/15/2026	ICVM 476	13	7.4	100.0	IPCA + 7,15%	Energy	1.55%	AAA (bra) Fitch
	NRTB21				13	7.4	100.0			1.55%	
Odebrecht Transport S/A	ODTR11	11/14/2013	10/15/2025	ICVM 476	12	8.6	300.0	IPCA + 6,70%	Transport	1.55%	A+ (bra) Fitch
Jauru Transmissora de Energia S/A.	JAUR12	11/25/2013	12/15/2030	ICVM 476	18	10.4	39.0	IPCA + 8,00%	Energy	2.29%	AA- (bra) Fitch
Termelétrica Pernambuco III S/A-(Vencimento Antecipado)	TEPE11	12/20/2013	11/15/2025	ICVM 400	12	5.0	75.0	IPCA + 9,11%	Energy	2.75%	AA+ (bra) Fitch
	TEPE21						75.0				
	TEPE31						75.0				
	TEPE41						75.0				
Total.....							4,416.8				

## Infrastructure Bonds: Infrastructure Investment Projects - 2012

Issuer	Ticker	Distribution Date	Due Date	Offer type	Maturity (years)	Duration <sup>1</sup> (years)	Value (R\$ million)	Yield <sup>2</sup>	Sector	Spread Over NTN-B	Rating (local)
Linhas de Transmissão de Montes Claros S/A.	LTMC12	9/27/2012	4/15/2029	ICVM 476	17	12.9	25.0	IPCA + 8,75%	Energy	4.51%	AA+ (bra) Fitch
Rumo Malha Norte S/A.	FERR18	10/18/2012	10/18/2020	ICVM 476	8	5.7	160.0	Prefixado 10,10%	Transport	N/D	A (bra) Fitch
Concessionária Sistema Anhanguera - Bandeirantes S/A - (Vencida)	ANHB24	10/22/2012	10/15/2017	ICVM 400	5	4.3	135.0	IPCA + 2,71%	Transport	0.01%	brAAA (S&P)
Concessionária Auto Raposo Tavares S/A	CART12	12/26/2012	12/15/2024	ICVM 400	12	7.9	380.0	IPCA + 5,80%	Energy	2.41%	AA+ (bra) Fitch
<b>Total.....</b>							<b>700.00</b>				

Source: Anbima, Rating reports and Debentures Agreements  
Elaborated by SPE/ME

**Note:**

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(2) Consumer Price Index - CPI (IPCA)

## Annex 2

## Capex Bonds: General Investment Debentures - 2019

Issuer	Ticker	Distribution Date	Due Date	Offer type	Maturity (years)	Value (R\$ million)	Yield <sup>1</sup>	Sector	Rating (local)
Attend Ambiental S.A	ATAM21	10/1/2019	10/15/2026	ICVM 476	7	20.5	IPCA + 8,11%		N/D
Total.....						20.5			

## Capex Bonds: General Investment Debentures - 2018

Issuer	Ticker	Distribution Date	Due Date	Offer type	Maturity (years)	Value (R\$ million)	Yield <sup>1</sup>	Sector	Rating (local)
Rede D'OR São Luiz S/A	HSLZA0	1/4/2018	1/13/2028	ICVM 476	10	1,628.1	Pré 11,82%	Health	AA (bra) Fitch
Heinz Brasil S/A	HENZ11	4/11/2018	4/15/2028	ICVM 476	10	655.0	Pré 11,50%	Foods	N/D
Total.....						2,283.1			

## Capex Bonds: General Investment Debentures - 2015

Issuer	Ticker	Distribution Date	Due Date	Offer type	Maturity (years)	Value (R\$ million)	Yield <sup>1</sup>	Sector	Rating (local)
AMBEV S/A	ABEV11	10/30/2015	10/30/2021	ICVM 476	6	1,000.0	Pré 14,47%	Drink	brAAA (S&P)
Total.....						1,000.0			

## Capex Bonds: General Investment Debentures - 2013

Issuer	Ticker	Distribution Date	Due Date	Offer type	Maturity (years)	Value (R\$ million)	Yield <sup>1</sup>	Sector	Rating (local)
Marfrig Global Foods S/A. - (Vencida)	MRFG14	4/15/2013	1/22/2019	ICVM 476	6	570.0	Pré 15,85%	Foods	AA+ (bra) Fitch
Centrad - Conc. Centro Adm. Distrito Federal S/A. - (Vencimento Antecipado)	CTRD11	7/11/2013	3/15/2018	ICVM 476	5	50.0	IPCA + 7,97%	Real Estate Industry	N/D
	CTRD21					50.0			
OAS S.A. - (Em Recuperação Judicial)	OAEP18	7/25/2013	7/21/2024	ICVM 476	11	347.4	Pré 9,47%	Sanitation and Shipyard	BB+sf (bra) Fitch
	OAEP28					347.4			
LafargeHolcim (BRASIL) S/A - (Resgate Total Antecipado)	HOLC11	10/21/2013	10/1/2023	ICVM 476	10	450.0	Pré 14%	Cement	AAA
Raizen Energia S/A	RESA31	10/29/2013	10/15/2020	ICVM 400	7	304.0	IPCA + 6,38%	Production of Sugar and Ethanol	brAAA (S&P)
Total.....						2,118.7			

Source: Anbima, Rating reports and Debentures Agreements  
Elaborated by SPE/ME

Note:  
(1) Consumer Price Index - CPI (IPCA)



## Capex Bonds: General Investment Debentures - 2012

Issuer	Ticker	Distribution Date	Due Date	Offer type	Maturity (years)	Value (R\$ million)	Yield <sup>1</sup>	Sector	Rating (local)
Minerva S/A. - (Vencimento Antecipado)	BEEF13	6/20/2012	1/29/2022	ICVM 476	10	450.0	Pré 16,95%	Foods	BB (bra) Fitch
Rio Canoas Energia S/A.	RCNE22	8/15/2012	12/15/2024	ICVM 476	12	75.0	IPCA + 7,89%	Energy	N/D
OGX Petróleo e Gás S/A. - (Em Recuperação Judicial)	OGXP11	9/28/2012	3/28/2022	ICVM 476	10	2,025.0	Pré 10,50%	Oil and Gas	A+ (bra) Fitch
BR Malls Participações S/A. - (Vencimento Antecipado)	BRML13	12/17/2012	1/17/2024	ICVM 476	11	364.0	Pré 13,49%	Comercial Centers	AA+ (bra) Fitch
<b>Total.....</b>						<b>2,914.0</b>			

Source: Anbima, Rating reports and Debentures Agreements  
Elaborated by SPE/ME

**Note:**

(1) Consumer Price Index - CPI (IPCA)

## Annex 3



## Green Certificated Infrastructure Debentures



Issuer	Ticker	Distribution Date	Value (R\$ million)	Sector
Delta 2 Energia S/A	PTMI11	5/11/2017	42.4	Energy
Itarema Geração Energia S/A	ITGE13	6/16/2017	111.8	Energy
Omega Energia e Implantação 2 S/A	OMNG12	11/24/2017	220.0	Energy
Eólica Serra das Vacas Holding II S/A	EVOL11	12/11/2017	48.0	Energy
Enel Green Power Maniçoba Eolica	EGME11	12/28/2017	10.8	Energy
Enel Green Power Damascena Eólica	ENDE11	12/28/2017	11.3	Energy
CTEEP-CIA Energia Paulista S/A	CTEE17	4/23/2018	621.0	Energy
AES Tietê S/A	TIET29	3/17/2019	641.1	Energy
	TIET39	4/17/2019	178.9	
Transmissora Aliança S.A.	TAAE26	5/24/2019	210.0	Energy
Transmissora Aliança Energia Elétrica S.A	TAAE17	10/25/2019	508.0	Energy
Total.....			2,603.19	

Source: Anbima, Rating reports and Debentures Agreements

Elaborated by SPE/ME

Nota: (1) These debentures are already included in the respective slides above linked to the year of their distribution.

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