



Ministry of Finance

# Newsletter Infrastructure Debentures

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

November 2017

48 th Edition

## Seae

Secretariat for Economic Monitoring

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 (articles 1 and 2 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).
- The National Monetary Council (CMN) Resolution 4,476 of April 11, 2016 authorizes the anticipated settlement of debentures at the issuer sole discretion, since it cumulatively meets the following requirements:
  - After at least four years from the debentures issuance date; and
  - If there is an express provision in the debentures indenture.
  - This resolution only applies to bonds issued between April 12, 2016 and December 31, 2017.
- CVM Ruling 400 - Public Offer. CVM Ruling 476 - limited public offering in which up to 50 qualified 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 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 Transport; (ii) Urban Mobility; (iii) Energy; (iv) Telecoms; (v) Radiofusion; (vi) Water and Sewerage (vii) Irrigation (Article 2).

Article 2 of Law No. 12,431/2011, regulated by Decree No. 8,874/2016, provides tax benefits for infrastructure projects through specific financial instruments making it a long-term funding mechanism via capital markets vis a vis traditional funding sources for infrastructure projects in strategic sectors.

In November 2017, five (05) infrastructure debentures were issued, linked to the Energy (Wind, Transmission) sector. The total volume issued in the period was R\$ 1.1 billion, corresponding to 31% of the total issued, R\$ 8.8 billion in 2017. The total volume of infrastructure debentures issued from 2012 to November 2017 was of R\$ 28.4 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\$ 11.9 billion of the total amount until November 2017, corresponding to 44% of all incentive debentures issued since 2012.

The volume of tax-benefited debentures traded in the secondary markets exceeded the volume of non-tax benefited debentures. In September, the traded volume for tax-benefited debentures was 5.3% against 2% 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 12.4% , against an increase of 8.6% in the IDA-IPCA (National Consumer Price Index (IPCA)-CPI) Infrastructure and 16.1% in the IDA-IPCA Exclusive Infrastructure. Looking at risk measures, over the past 12 months the IDA-IPCA Infrastructure outpaced the other indexes due to the longer Duration of the portfolio, with a risk rate of approximately 5.2, compared to 0.2% and 3.7% for IDA-DI (Interbank Deposits - DI) and IDA-IPCA Exclusive Infrastructure, respectively.

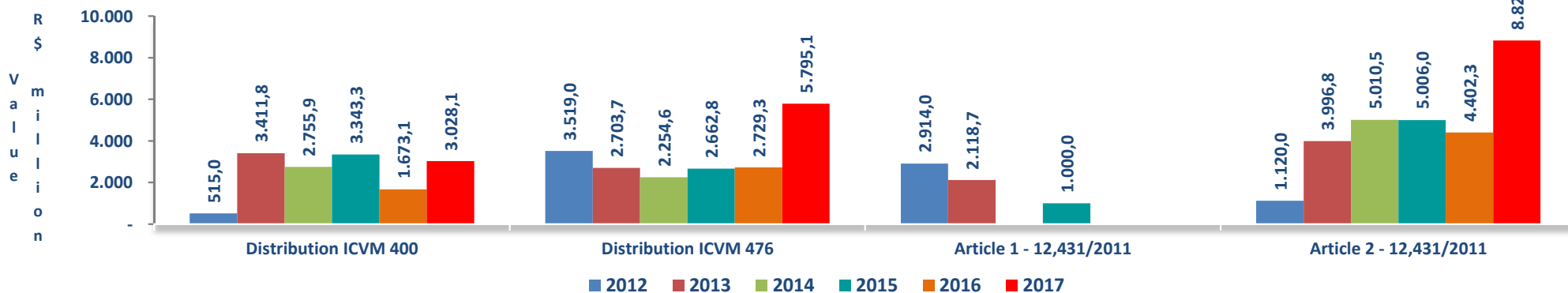
Regarding Infrastructure Funds, the percentage investment in Debentures through November 2017 in Fixed Income Funds (Fundos de Renda Fixa - FIRF), was 77%, while investments in credit rights in Investment Fund Quota Funds (Fundos em Cotas de Fundos - FIC) and Direct Credit Funds (Fundos em Direitos Creditórios - FIDC) reached 100% and 92% respectively, 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%.

Law # 12,431/2011 (Articles 1 and 2) - CAPEX and Infrastructure Bonds Issued: 2012 - 2017

INFRASTRUCTURE DEBENTURES	Value (R\$ million)						Total Value Issued
	2012	2013	2014	2015	2016	2017	
Distribution ICVM 400 (1)	515.0	3,411.8	2,755.9	3,343.3	1,673.1	3,028.1	14,727.2
Distribution ICVM 476 (2)	3,519.0	2,703.7	2,254.6	2,662.8	2,729.3	5,795.1	19,664.3
<b>Total.....</b>	<b>4,034.0</b>	<b>6,115.5</b>	<b>5,010.5</b>	<b>6,006.0</b>	<b>4,402.3</b>	<b>8,823.2</b>	<b>34,391.5</b>
Article 1 - 12,431/2011 (3)	2,914.0	2,118.7	0.0	1,000.0	0.0	0.0	6,032.7
Article 2 - 12,431/2011 (4)	1,120.0	3,996.8	5,010.5	5,006.0	4,402.3	8,823.2	28,358.8
<b>Total.....</b>	<b>4,034.0</b>	<b>6,115.5</b>	<b>5,010.5</b>	<b>6,006.0</b>	<b>4,402.3</b>	<b>8,823.2</b>	<b>34,391.5</b>

CAPEX and Infrastructure Bonds Issued - R\$ million : 2012 - 2017



Source: Anbima - Brazilian Financial and Capital Markets Association and Ministerial Orders  
 Elaborated by COGTR/Seae/MF

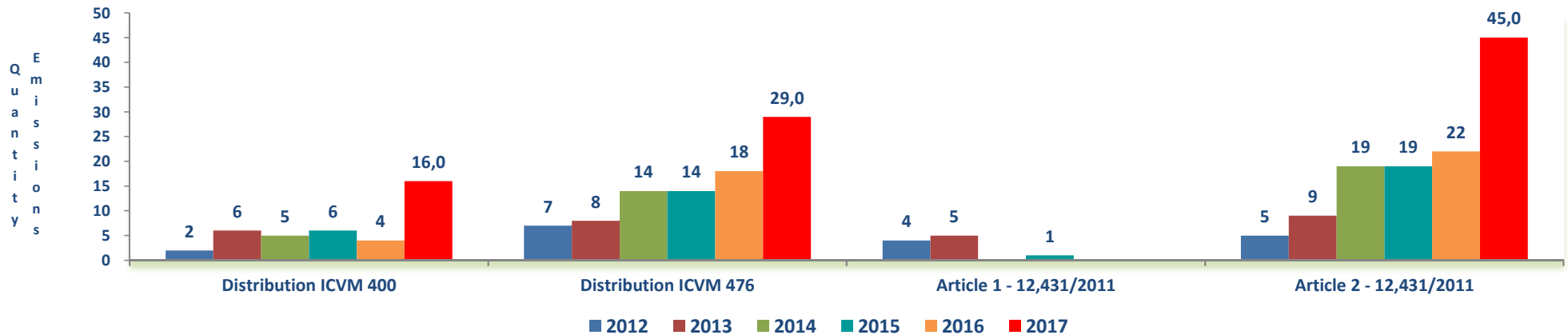
Note:

- (1) CVM Ruling 400 - Public Offer
- (2) CVM Ruling 476 - limited public offering in which up to 50 qualified investors can participate.
- (3) CAPEX Bonds (also referred to as Law # 12,431 article 1 debenture) - tax-exempt bond for non-residents. Funds raised must be used in capital expenditures.
- (4) Infrastructure Bond (also referred to as Law # 12,431 article 2 debenture) - tax-exempt bond for resident natural persons. A ten-percentage point reduction for local companies. Funds raised must be used in infrastructure investments or in research, development and innovation-intensive economic production.

Projects that have issued CAPEX and infrastructure bonds in compliance with Law # 12,431/2011 (Articles 1 and 2): 2012 - 2017

INFRASTRUCTURE DEBENTURES	Number of issuances						Total Number of Issuances
	2012	2013	2014	2015	2016	2017	
Distribution ICVM 400 (1)	2	6	5	6	4	16	39
Distribution ICVM 476 (2)	7	8	14	14	18	29	90
<b>Total.....</b>	<b>9</b>	<b>14</b>	<b>19</b>	<b>20</b>	<b>22</b>	<b>45</b>	<b>129</b>
Article 1 - 12,431/2011 (3)	4	5	0	1	0	0	10
Article 2 - 12,431/2011 (4)	5	9	19	19	22	45	119
<b>Total.....</b>	<b>9</b>	<b>14</b>	<b>19</b>	<b>20</b>	<b>22</b>	<b>45</b>	<b>129</b>

Number of CAPEX and infrastructure bonds issued - Law # 12,431/11 (Articles 1 and 2): 2012 - 2017



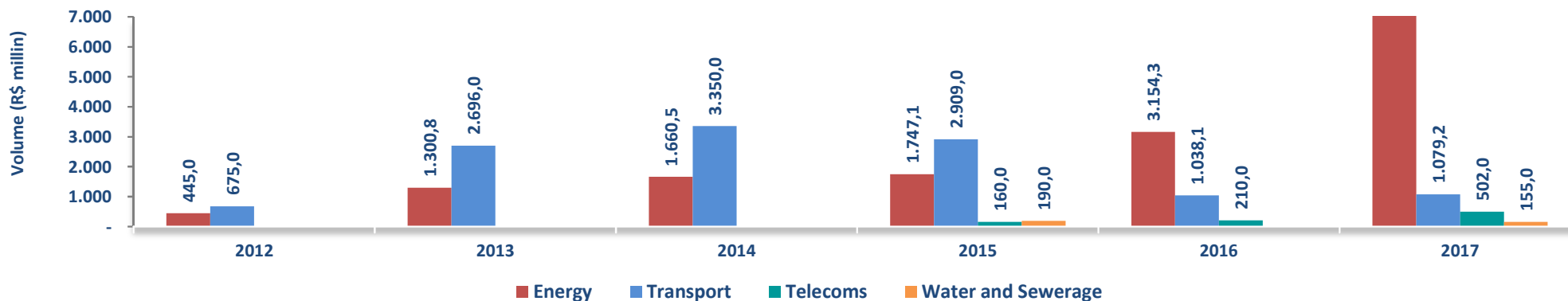
Source: Anbima - Brazilian Financial and Capital Markets Association and Ministerial Orders  
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- Note:**
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Law # 12,431/2011 (Article 2) - CAPEX and Infrastructure Bonds Issued: 2012 - 2017  
(by sector)

Sector Debenture	Value (R\$ million)						Total Value Issued
	2012	2013	2014	2015	2016	2017	
Energy	445.0	1,300.8	1,660.5	1,747.1	3,154.3	7,086.9	15,394.5
Transport	675.0	2,696.0	3,350.0	2,909.0	1,038.1	1,079.2	11,747.3
Telecoms	0.0	0.0	0.0	160.0	210.0	502.0	872.0
Water and Sewerage	0.0	0.0	0.0	190.0	0.0	155.0	345.0
<b>Total.....</b>	<b>1,120.0</b>	<b>3,996.8</b>	<b>5,010.5</b>	<b>5,006.1</b>	<b>4,402.3</b>	<b>8,823.2</b>	<b>28,358.8</b>

CAPEX - and Infrastructure Bonds Issued - 2012 a 2017



Source: Anbima and Ministerial Ordinances  
Elaborated by COGTR/Seae/MF

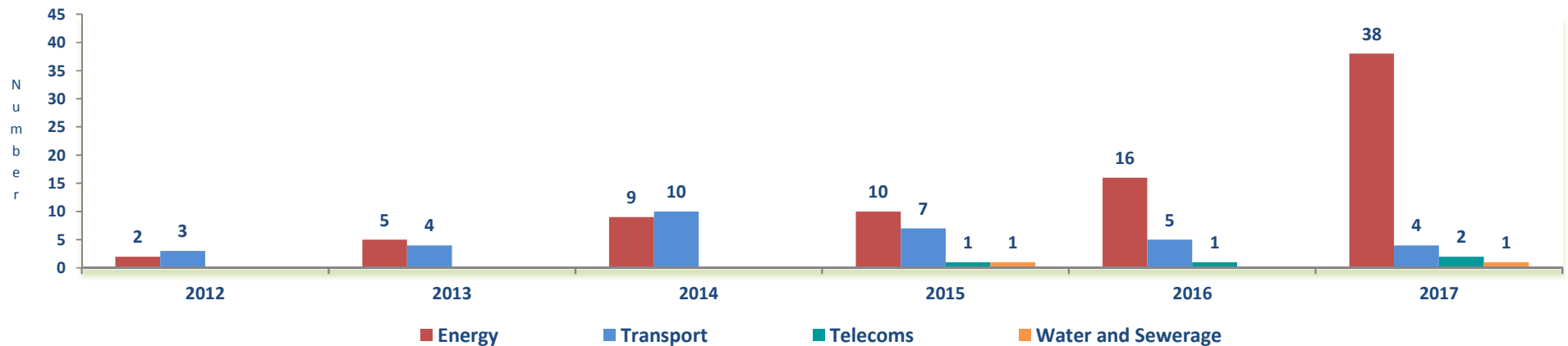
**Note:**

Securities linked to investments in infrastructure, referred to in article 2 of Law 12.431, of 2011. Local currency, exempt from Income Tax for resident individuals. A different tax rate must apply for local companies. The funds raised must be used for investments in infrastructure or in economic production intensive in research, development and innovation.

Number of CAPEX and infrastructure bonds issued - Law # 12,431/11 (Article 2): 2012 - 2017  
(by sector)

Sector Debenture	Number						Total Number of Issuances
	2012	2013	2014	2015	2016	2017	
Energy	2	5	9	10	16	38	80
Transport	3	4	10	7	5	4	33
Telecoms	0	0	0	1	1	2	4
Water and Sewerage	0	0	0	1	0	1	2
<b>Total.....</b>	<b>5</b>	<b>9</b>	<b>19</b>	<b>19</b>	<b>22</b>	<b>45</b>	<b>119</b>

Number of CAPEX and infrastructure bonds issued - 2012 a 2017

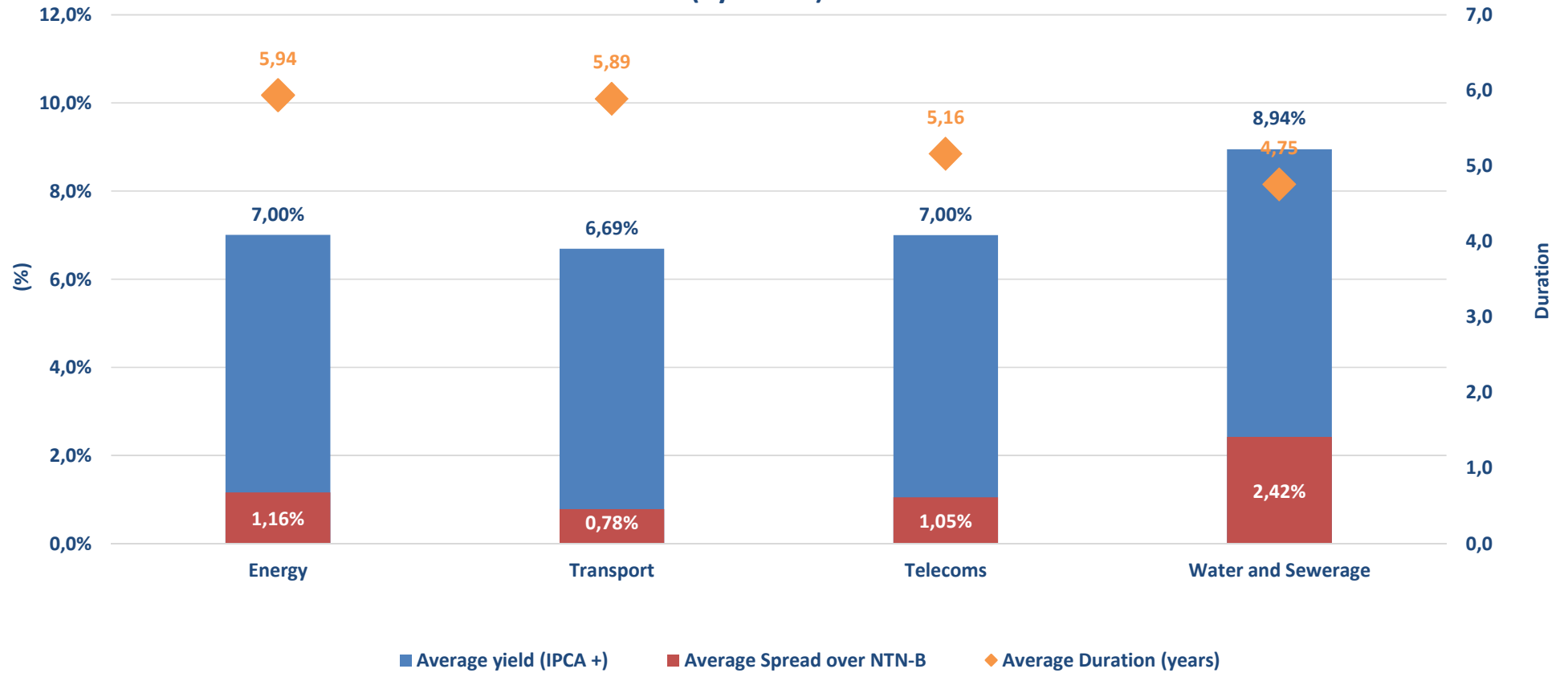


Source: Anbima and Ministerial Ordinances  
Elaborated by COGTR/Seae/MF

**Note:**

Securities linked to investments in infrastructure, referred to in article 2 of Law 12.431, of 2011. Local currency, exempt from Income Tax for resident individuals. A different tax rate must apply for local companies. The funds raised must be used for investments in infrastructure or in economic production intensive in research, development and innovation.

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

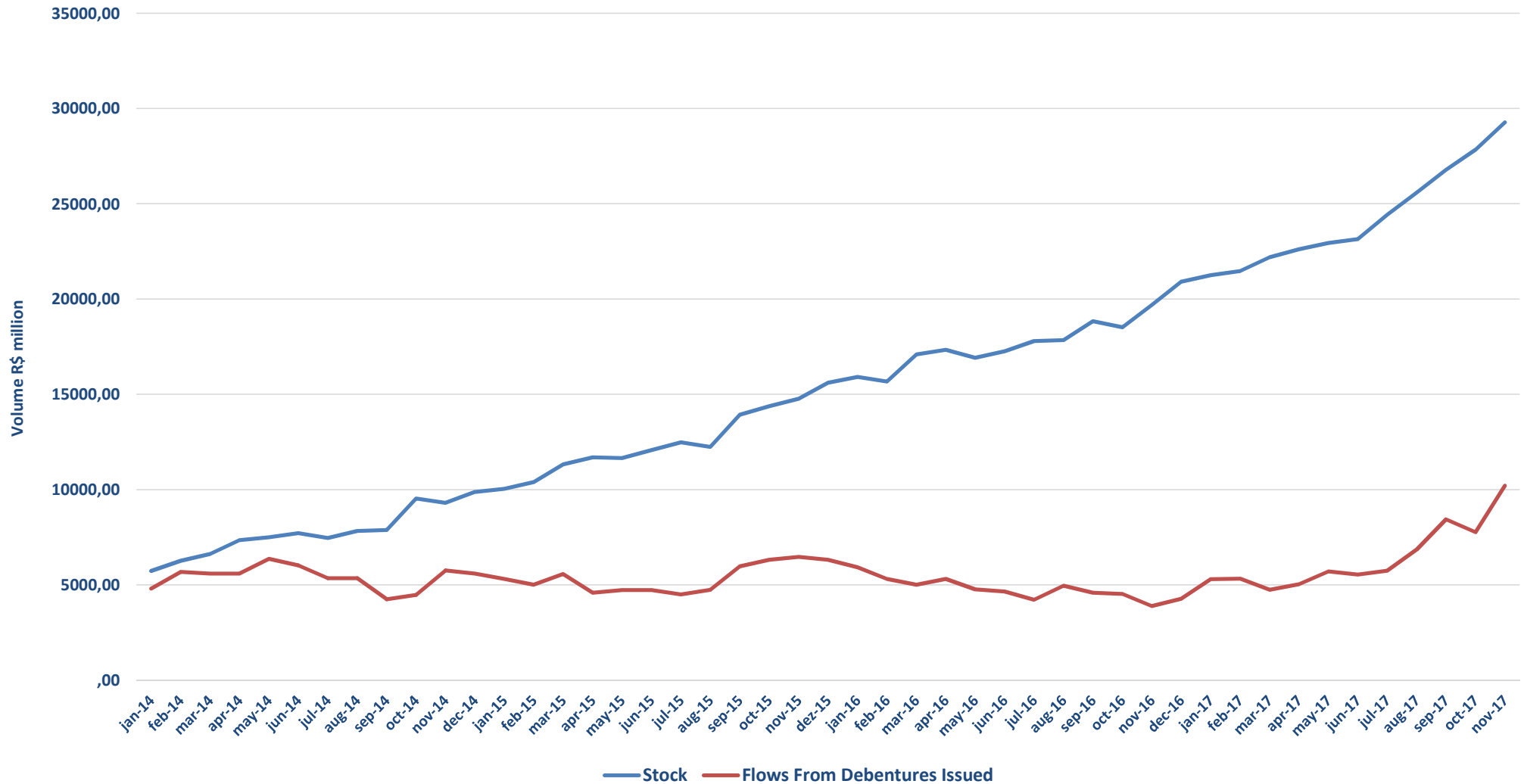


Source: Anbima  
Elaborated by COGTR/Seae/MF

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



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



Source: Anbima and Ministerial Ordinances  
 Elaborated by COGTR/Seae/MF

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

CAPEX Bonds: Law # 12,431/2011 - Project Bonds - (Article 1)<sup>1</sup> - Non-Residents/ 2012

Issuer	Ticker	Emission Date	Offer type	Maturity (years)	Value (R\$ million)	Yield	Sector	Spread Over NTN-B	Rating (local)
Minerva S/A - (advance maturity)	BEEF13	6/20/2012	ICVM 476	10	450.0	Prefixado 16,95%	Foods	N/D	BB (bra) Fitch
Rio Canoas Energia S/A.	RCNE22	8/15/2012	ICVM 476	12	75.0	IPCA + 7,89%	Energy	N/D	N/D
OGX Petróleo e Gás S/A - (legal process)	OGXP11	9/28/2012	ICVM 476	10	2,025.0	Prefixado 10,50%	Petroleum and Gas	N/D	A+ (bra) Fitch
BR Malls Participações S/A - (advance maturity)	BRML13	12/17/2012	ICVM 476	11	364.0	Prefixado 13,49%	Comercial Centers	N/D	AA+ (bra) Fitch
Total.....					2,914.0				

CAPEX Bonds: Law # 12,431/2011 - Project Bonds - (Article 1)<sup>1</sup> - Non-Residents/2013

Issuer	Ticker	Emission Date	Offer type	Maturity (years)	Value (R\$ million)	Yield	Sector	Spread Over NTN-B	Rating (local)
Marfrig Global Foods S/A.	MRFG14	3/22/2013	ICVM 476	6	570.0	Prefixado 15,85%	Foods	N/D	AA+ (bra) Fitch
OAS S/A - (legal process)	OAEP18	7/11/2013	ICVM 476	11	347.4	Prefixado 9,47%	Sanitation and Shipyard	N/D	BB+sf (bra) Fitch
	OAEP28				347.4				
Centrad - Conc. Centro Ad., Distrito Federal S/A - (advance maturity)	CTRD11 CTRD21	7/11/2013	ICVM 476	5	50.0 50.0	IPCA + 7,97%	Real State System	N/D	N/D
LafargeHolcim (BRASIL) S/A	HOLC11	10/1/2013	ICVM 476	10	450.0	Prefixado 14%	Cement	N/D	N/D
Raizen Energia S/A	RESA31	10/15/2013	ICVM 400	7	304.0	IPCA + 6,38%	Production of Sugar and Ethanol	N/D	brAAA (S&P)
Total.....					2,118.7				

Source: Anbima, Rating reports and Debentures Agreements  
Elaborated by COGTR/Seae/MF

## Note:

- (1) 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.  
(2) Consumer Price Index - CPI (IPCA)

CAPEX Bonds: Law # 12,431/2011 - Project Bonds - (Article 1)<sup>1</sup> - Non-Residents/ 2015

Issuer	Ticker	Emission Date	Offer type	Maturity (years)	Value (R\$ million)	Yield	Sector	Spread Over NTN-B	Rating (local)
AMBEV S/A	ABEV11	10/30/2015	ICVM 476	6	1,000.0	Prefixado 14,47%	Drinks	N/D	brAAA (S&P)
Total.....					1,000.0				

Source: Anbima, Rating reports and Debentures Agreements  
Elaborated by COGTR/Seae/MF

**Note:**  
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(2) Consumer Price Index - CPI (IPCA)

Infrastructure Bonds: Law # 12,431/2011 - Project Bonds - (Article 2)<sup>1</sup> - 2012

Issuer	Ticker	Emission Date	Offer type	Maturity (years)	Duration <sup>2</sup> (years)	Value (R\$ million)	Yield	Sector	Spread Over NTN-B	Rating (local)
Linhas de Transmissão de Montes Claros S/A.	LTMC12	8/15/2012	ICVM 476	17	12.9	25.0	IPCA + 8,75%	Energy	4.51%	N/D
Rumo Malha Norte S/A.	FERR18	9/25/2012	ICVM 476	8	5.7	160.0	Prefixado 10,10%	Transport	N/D	A (bra) Fitch
Concessionária Sistema Anhanguera - Bandeirantes S/A	ANHB24	10/15/2012	ICVM 400	5	4.3	135.0	IPCA + 2,71%	Transport	0.01%	brAAA (S&P)
Santo Antonio Energia S/A.	SAES12	12/27/2012	ICVM 476	10	6.2	420.0	IPCA + 6,20%	Energy	3.11%	N/D
Concessionária Auto Raposo Tavares S/A	CART12	12/15/2012	ICVM 400	12	7.9	380.0	IPCA + 5,80%	Transport	2.41%	A1 (br) Moody's
Total.....						1,120.00				

Source: Anbima, Rating reports and Debentures Agreements  
Elaborated by COGTR/Seae/MF

**Note:**  
(1) Infrastructure Bonds (also referred to as Law # 12,431 article 2 debenture) - Tax-exempt bond for resident natural persons. A ten-percentage point 15% company income tax rate (ten percentage-point reduction) for local companies. Funds raised must be used in infrastructure investments or in research, development and innovation-intensive economic production.  
(2) 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.  
(3) Consumer Price Index - CPI (IPCA)

Infrastructure Bonds: Law # 12,431/2011 - Project Bonds - (Article 2)<sup>1</sup> - 2013

Issuer	Ticker	Emission Date	Offer type	Maturity (years)	Duration <sup>2</sup> (years)	Value (R\$ million)	Yield	Sector	Spread Over NTN-B	Rating (local)
Interligação Elétrica do Madeira S/A.	IEMD12	3/18/2013	ICVM 476	12	7.0	350.0	IPCA + 5,50%	Energy	1.69%	N/D
Concessionária Ecovias dos Imigrantes S/A.	ECOV12	4/15/2013	ICVM 400	7	5.9	200.0	IPCA + 3,80%	Transport	0.00%	brAAA (S&P)
	ECOV22			11	8.3	681.0	IPCA + 4,28%		0.20%	
Concessionária Rodovias do Tietê S/A.	RDVT11	6/15/2013	ICVM 400	15	7.4	1,065.0	IPCA + 8,00%	Transport	2.16%	Aa2 (br)- Moody's
Jauru Transmissora de Energia S/A.	JAUR12	6/15/2013	ICVM 476	18	10.4	39.0	IPCA + 8,00%	Energy	2.29%	brAA- (S&P)
Norte Brasil Transmissora de Energia S/A	NRTB11	9/15/2013	ICVM 476	13	7.4	100.0	IPCA + 7,15%	Energy	1.55%	brAA+ (S&P)
	NRTB21			7.4	100.0					
CIA de Gás de São Paulo - Comgás	GASP23	9/15/2013	ICVM 400	5	3.7	269.3	IPCA + 5,10%	Energy	0.00%	Aa1 (br) Moody's
	GASP33			7	5.6	142.5	IPCA + 5,57%		0.31%	
Concessionária do Sistema Anhanguera - Bandeirantes S/A	ANHB15	10/15/2013	ICVM 400	5	4.5	450.0	IPCA + 4,88%	Transport	(0.38)%	Aaa (br) Moody's
Odebrecht Transport S/A	ODTR11	10/15/2013	ICVM 476	12	8.6	300.0	IPCA + 6,70%	Transport	1.55%	A+ (bra) Fitch
	TEPE11					75.0				
Termelétrica Pernambuco III S/A	TEPE21	11/15/2013	ICVM 400	12	5.0	75.0	IPCA + 9,11%	Energy	2.75%	AA+ (bra) Fitch
	TEPE31					75.0				
	TEPE41					75.0				
						75.0				
<b>Total.....</b>						<b>3,996.8</b>				

Source: Anbima, Rating reports and Debentures Agreements  
Elaborated by COGTR/Seae/MF

## Note:

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- (2) 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.
- (3) Consumer Price Index - CPI (IPCA)

Infrastructure Bonds: Law # 12,431/2011 - Project Bonds - (Article 2)<sup>1</sup> - 2014

Issuer	Ticker	Emission Date	Offer type	Maturity (years)	Duration <sup>2</sup> (years)	Value (R\$ million)	Yield	Sector	Spread Over NTN-B	Rating (local)
Aeroportos Brasil - Viracopos S.A.	VRCP11					75.0				
	VRCP21	1/15/2014	ICVM 476	12	7.4	75.0	IPCA + 8,79%	Transport	2.27%	AA- (bra) Fitch
	VRCP31					75.0				
	VRCP41					75.0				
Vale S/A	VALE18			7	5.5	600.0	IPCA + 6,46%		(0.15)%	
	VALE28	2/10/2014	ICVM 400	10	7.1	150.0	IPCA + 6,57%	Transport	(0.10)%	brAAA (S&P)
	VALE38					100.0				
	VALE48					150.0				
Concessionária do Aeroporto Internacional de Guarulhos S/A	AGRU11					75.0				
	AGRU21	2/15/2014	ICVM 476	11	6.0	75.0	IPCA + 7,86%	Transport	1.40%	AA (bra) Fitch
	AGRU31					75.0				
	AGRU41					75.0				
Santo Antônio Energia S/A.	STEN13	4/15/2014	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	CPGE18	4/28/2014	ICVM 476	5	4.5	70.0	IPCA + 5,86%	Energy	(0.09)%	AA+ (bra) Fitch
Ferreira Gomes Energia S/A	FGEN13	6/15/2014	ICVM 400	14	7.9	210.9	IPCA + 6,47%	Energy	0.48%	AA+ (bra) Fitch
Transmissora Sul Brasileira de Energia S/A	TSBE12	9/15/2014	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 S/A.	VOES25	9/15/2014	ICVM 476	5	4.4	150.0	IPCA + 5,67%	Transport	0.00%	Aaa (br) Moody's
Santa Vitória do Palmar Holding S/A.	RDNT14	9/15/2014	ICVM 476	14	8.0	90.0	IPCA + 7,94%	Energy	1.92%	brAAA (S&P)
Rodonorte - Conces. de Rod. Integradas S/A	ANHB16	10/15/2014	ICVM 476	5	4.4	130.0	IPCA + 5,69%	Transport	0.00	Aaa (br) Moody's
Conces. do Sistema Anhanguera-Bandeirantes S/A	AGRU12	10/15/2014	ICVM 400	5	4.4	545.0	IPCA + 5,43%	Transport	-0.15%	AA+ (bra) Fitch
Conces. do Aeroporto Internacional de Guarulhos S/A.	IVIA24	10/15/2014	ICVM 400	12	6.9	300.0	IPCA + 6,40%	Transport	0.90%	AA+ (bra) Fitch
Conces. de Rodovias do Interior Paulista S/A	SVIT11	10/15/2014	ICVM 476	5	4.5	225.0	IPCA + 5,96%	Transport	0.12%	Aa (br) Moody's

## Continuation – 2014

Issuer	Ticker	Emission Date	Offer type	Maturity (years)	Duration <sup>2</sup> (years)	Value (R\$ million)	Yield	Sector	Spread Over NTN-B	Rating (local)
Supervia-Concessionaria de Transporte Ferroviário S/A	SPVI12	11/15/2014	ICVM 476	12	6.04	300.0	IPCA + 7,50%	Transport	1.85%	AA- (bra) Fitch
Renova Eólica Participações S/A	RNEP11	11/15/2014	ICVM 476	11	5.40	73.0	IPCA + 7,61%	Energy	1.40%	AA- (bra) Fitch
	RNEP21				5.50	73.0	IPCA + 7,87%		1.65%	
Engie Brasil Energia S/A	TBLE15	12/15/2014	ICVM 476	10	7.09	165.0	IPCA + 6,30%	Energy	0.00%	AAA (bra) Fitch
Empresa de Energia Cachoeira Caldeirão S/A	CADR13	12/15/2014	ICVM 476	16	9.20	156.5	IPCA + 7,27%	Energy	1.40%	AA (bra) Fitch
Linhas de Taubaté Transmissora de Energia S/A	LTTE14	12/15/2014	ICVM 476	15	7.90	44.5	IPCA + 7,88%	Energy	1.50%	AA+ (bra) Fitch
Autopista Planalto Sul S/A	APPS12	12/15/2014	ICVM 476	11	7.50	100.0	IPCA + 8,17%	Transport	1.70%	brAAA (S&P)
<b>Total.....</b>						<b>5,010.45</b>				

Source: Anbima, Rating reports and Debentures Agreements  
Elaborated by COGTR/Seae/MF

## Note:

- (1) Infrastructure Bonds (also referred to as Law # 12,431 article 2 debênture) - Tax-exempt bond for resident natural persons. A ten-percentage point 15% company income tax rate (ten percentage-point reduction) for local companies. Funds raised must be used in infrastructure investments or in research, development and innovation-intensive economic production.
- (2) 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.
- (3) Consumer Price Index - CPI (IPCA)

Infrastructure Bonds: Law # 12,431/2011 - Project Bonds - (Article 2)<sup>1</sup> - 2015

Issuer	Ticker	Emission Date	Offer type	Maturity (years)	Duration <sup>2</sup> (years)	Value (R\$ million)	Yield	Sector	Spread Over NTN-B	Rating (local)
MRS Logística S/A	MRS17	2/15/2015	ICVM 400	7	5.54	336.3	IPCA + 5,98%	Transport	0.00%	brAA+ (S&P)
	MRS127			10	7.07	214.4	IPCA + 6,42%		0.35%	
Salus Infraestrutura Portuária S/A	SAIP11	3/15/2015	ICVM 400	10	5.48	320.9	IPCA + 6,79%	Transport	0.50%	AA+sf1 (br) Moody's
Rodovias Integradas do Oeste S/A	RVIO14	4/15/2015	ICVM 476	5	4.54	190.0	IPCA + 6,38%	Transport	0.15%	Aa1 (br) Moody's
Alupar Investimentos S/A	APAR16	4/15/2015	ICVM 476	6	4.60	250.0	IPCA + 7,33%	Energy	0.90%	AA+ (bra) Fitch
VLI Multimodal S/A	VLIM11	6/15/2015	ICVM 476	5	4.38	232.4	IPCA + 6,88%	Transport	0.30%	AA (bra) Fitch
Geradora Eólica Bons Ventos da Serra I S/A	GLIC11	6/15/2015	ICVM 476	12	7.35	10.3	IPCA + 9,43%	Energy	3.00%	brBBB (S&P)
Ultrafertil S/A	ULFT11	6/15/2015	ICVM 476	12	6.40	115.0	IPCA + 9,06%	Transport	1.50%	AA (bra) Fitch
CIA de Saneamento do Tocantins - Saneatins	SNTI13	6/26/2015	ICVM 476	7	4.40	50.0	IPCA + 10,33%	Water and	3.00%	Aa2 (br) Moody's
	SNTI23							Sewerage	3.00%	
Concessionária Rodovia dos Lagos S/A	RDLA12	7/15/2015	ICVM 476	5	4.29	150.0	IPCA + 7,34%	Transport	0.14%	Aa2 (br) Moody's
Ventos de São Tome Holding S/A	TOME12	7/15/2015	ICVM 476	12	6.30	89.0	IPCA + 8,86%	Energy	1.70%	AA (bra) Fitch
Vale S/A	VALE19	8/15/2015	ICVM 400	5	4.37	800.0	IPCA + 6,62%	Transport	0.50%	A (bra) Fitch
	VALE29			7	5.74	550.0	IPCA + 6,63%		0.50%	
Chapada do Piauí I Holding S/A	CHPA11	8/15/2015	ICVM 476	14	7.90	100.0	IPCA + 9,22%	Energy	1.75%	brAA (S&P)
EDP Energias do Brasil S/A	ENBR24	9/15/2015	ICVM 400	6	4.10	179.9	IPCA + 8,32%	Energy	1.00%	Aa3 (br) Moody's
	ENBR34			9	5.90	48.1	IPCA + 8,26%		1.00%	
Ventos de São Tito Holding S/A	VNTT11	9/15/2015	ICVM 476	13	5.71	111.0	IPCA + 9,24%	Energy	1.70%	AA (bra) Fitch
NC Energia S/A	NCEN11	10/1/2015	ICVM 476	10	5.70	31.6	IPCA + 7,89%	Energy	0.60%	Aa1 (br) Moody's
Centrais Eólicas Caetité S/A	CAET12	10/15/2015	ICVM 476	13	6.20	33.5	IPCA + 9,31%	Energy	1.80%	AA- (bra) Fitch
Copel Telecomunicações S/A	CTEL11	10/30/2015	ICVM 476	9	6.00	160.0	IPCA + 7,96%	Telecoms	0.60%	AA+ (bra) Fitch

## Continuation – 2015

Issuer	Ticker	Emission Date	Offer type	Maturity (years)	Duration <sup>2</sup> (years)	Value (R\$ million)	Yield	Sector	Spread Over NTN-B	Rating (local)
AES Tietê S/A	TIET34	12/15/2015	ICVM 400	5	4.20	301.8	IPCA + 8,43%	Energy	0.02	Aa2 (br) Moody's
CIA de Gás de São Paulo - Comgás	GASP14	12/15/2015	ICVM 400	5	4.36	269.6	IPCA + 7,14%	Energy	(0.30)%	AA+ (bra) Fitch
	GASP24			7	5.35	242.4	IPCA + 7,48%		0.00%	
	GASP34			10	6.77	79.9	IPCA + 7,36%		0.00%	
Total.....						5,006.0				

Source: Anbima, Rating reports and Debentures Agreements  
Elaborated by COGTR/Seae/MF

## Note:

(1) Infrastructure Bonds (also referred to as Law 12,431 article 2 debênture) - Tax-exempt bond for resident natural persons. A ten-percentage point 15% company income tax rate (ten percentage-point reduction) for local companies. Funds raised must be used in infrastructure investments or in research, development and innovation-intensive economic production.

(2) 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.

(3) Consumer Price Index - CPI (IPCA)



Infrastructure Bonds: Law # 12,431/2011 - Project Bonds - (Article 2)<sup>1</sup> - 2016

Issuer	Ticker	Emission Date	Offer type	Maturity (years)	Duration <sup>2</sup> (years)	Value (R\$ million)	Yield	Sector	Spread Over NTN-B	Rating (local)
Voltaia S. M. do Gostoso Participações S/A	VTLA11	3/8/2016	ICVM 476	13	5.50	57.0	IPCA + 8,19%	Energy	2.00%	AA (bra) Fitch
EDP Energias do Brasil S/A	ENBR15	3/22/2016	ICVM 476	6	4.50	250.0	IPCA + 8,34%	Energy	1.70%	A2 (br) Moody's
Algar Telecom S/A	ALGA15	5/15/2016	ICVM 476	6	4.55	210.0	IPCA + 7,73%	Telecoms	1.40%	brAA- (S&P)
Matrincha Transmissora de Energia (TP Norte) S/A.	TPNO12	5/15/2016	ICVM 476	13	7.60	180.0	IPCA + 7,58%	Energy	1.50%	AAA (bra) Fitch
Autopista Fernão Dias S/A	APFD14	5/15/2016	ICVM 476	10	7.16	65.0	IPCA + 7,53%	Transport	1.70%	AAA (bra) Fitch
Eólica Serra das Vacas Holding S/A	EOVC11	6/15/2016	ICVM 476	12	5.32	23.0	IPCA + 8,37%	Energy	0.02	AA+ (bra) Fitch
	EOVC21			14	7.74	45.0	IPCA + 8,58%		2.50%	
Engie Brasil Energia S/A	TBLE16	7/15/2016	ICVM 476	7	5.00	246.6	IPCA + 6,26%	Energy	0.08%	AA+ (bra) Fitch
	TBLE26			10	5.00	353.4	IPCA + 6,25%		0.00	
CTEEP-CIA Energia Paulista S/A	CTEE14	7/15/2016	ICVM 476	5	4.40	148.3	IPCA + 6,04%	Energy	(0.10)%	AA+ (bra) Fitch
VLI Operações Portuárias S/A	VLIO11	8/15/2016	ICVM 476	5	4.40	175.0	IPCA + 6,05%	Transport	0.00	AA+ (bra) Fitch
Companhia Energética do Maranhão - Cemar	CEMA17	10/15/2016	ICVM 400	5	4.48	155.0	IPCA + 5,48%	Energy	(0.35)%	brAA- (S&P)
	CEMA27			7	5.96	115.0	IPCA + 5,54%		(0.25)%	
CPFL - Geração de Energia S/A	CPGE19	10/17/2016	ICVM 476	5	4.48	50.0	IPCA + 5,48%	Energy	(0.40)%	N/D
Coelba - Estado da Bahia	CEEB29	10/15/2016	ICVM 476	5	4.20	100.0	IPCA + 6,75%	Energy	0.40%	AA- (bra) Fitch
TCP-Terminal de Contêineres de Paranaguá S/A	TCPA31	10/15/2016	ICVM 400	6	4.60	428.1	IPCA + 7,82%	Transport	1.80%	AA- (bra) Fitch
Rodonorte - Conces. de Rodovias Integradas S/A	RDNT15	11/15/2016	ICVM 476	5	4.37	100.0	IPCA + 6,06%	Transport	0.00%	brAA- (S&P)
Conces. de Rodovias do Oeste de São Paulo - Viaoeste	VOES16	11/15/2016	ICVM 476	5	4.33	270.0	IPCA + 6,3%	Transport	0.10%	Aa1 (br) Moody's
AES Tietê S/A	TIET15	11/15/2016	ICVM 476	7	5.80	180.0	IPCA + 6,54%	Energy	0.25%	AA+ (bra) Fitch
Celpa - Estado do Para	CLPP13	12/15/2016	ICVM 400	5	4.38	199.1	IPCA + 6,70%	Energy	0.40%	A+ (bra) Fitch
	CLPP23			7	5.76	100.9	IPCA + 6,87%		0.65%	
Windepar Holding S/A	WDPR11	12/15/2016	ICVM 476	12	6.90	67.5	IPCA + 7,63%	Energy	1.40%	AA+ (bra) Fitch
Marechal Rondon Energia S/A	MRHL12	12/15/2016	ICVM 476	9	6.40	15.0	IPCA + 8,00%	Energy	1.71%	N/D

## Continuation – 2016

Issuer	Ticker	Emission Date	Offer type	Maturity (years)	Duration <sup>2</sup> (years)	Value (R\$ million)	Yield	Sector	Spread Over NTN-B	Rating (local)
CIA de Gás de São Paulo - Comgás	GASP15	12/15/2016	ICVM 400	7	5.90	675.0	IPCA + 5,87%	Energy	(0.50)%	brBB (S&P)
TSLE-Sul Litorânea Energia S/A	TSLE11	12/15/2016	ICVM 476	14	7.10	150.0	IPCA + 7,57%	Energy	1.40%	A+ (bra) Fitch
Calango 6 Energia Renovável S/A	CLNG11	12/27/2016	ICVM 476	12	6.48	43.5	IPCA + 8,73%	Energy	2.50%	AA+ (bra) Fitch
<b>Total.....</b>						<b>4,402.32</b>				

Source: Anbima, Rating reports and Debentures Agreements  
Elaborated by COGTR/Seae/MF

**Note:**

(1) Infrastructure Bonds (also referred to as Law 12,431 article 2 debênture) - Tax-exempt bond for resident natural persons. A ten-percentage point 15% company income tax rate (ten percentage-point reduction) for local companies. Funds raised must be used in infrastructure investments or in research, development and innovation-intensive economic production.

(2) 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.

(3) Consumer Price Index - CPI (IPCA)

Infrastructure Bonds: Law # 12,431/2011 - Project Bonds - (Article 2)<sup>1</sup> - 2017

Issuer	Ticker	Emission Date	Offer type	Maturity (years)	Duration <sup>2</sup> (years)	Value (R\$ million)	Yield	Sector	Spread Over NTN-B	Rating (local)
Baraúnas II Energética S/A	BAUR11	1/15/2017	ICVM 476	10	4.11	8.8	IPCA + 7,96%	Energy	2.00%	N/D
Banda de Couro Energética S/A	BNDC11	1/15/2017	ICVM 476	10	4.11	14.5	IPCA + 7,96%	Energy	2.00%	N/D
Paranaíba Energia S/A	PRTE12	1/15/2017	ICVM 476	11	5.26	120.0	IPCA + 6,90%	Energy	1.50%	A+ (bra) Fitch
Extremoz Transmissora Nordeste - ETN S/A	EXTZ11	1/15/2017	ICVM 476	12	7.58	168.0	IPCA + 7,03%	Energy	1.80%	AA (bra) Fitch
CIA Energética de Pernambuco - Celpe	CEPE27	1/15/2017	ICVM 476	5	4.31	90.0	IPCA + 6,18%	Energy	0.80%	AA (bra) Fitch
Rio Grande Energia S/A	RIGE18	2/15/2017	ICVM 476	7	5.54	130.0	IPCA + 5,35%	Energy	0.05%	AAA (bra) Fitch
CIA Piratininga de Força e Luz	CPFP18	2/15/2017	ICVM 476	7	5.55	60.0	IPCA + 5,29%	Energy	(0.10)%	AA (bra) Fitch
CTEEP-CIA Energia Paulista S/A	CTEE15	2/15/2017	ICVM 400	7	5.90	300.0	IPCA + 5,04%	Energy	(0.24)%	AAA (bra) Fitch
Algar Telecom S/A	ALGA26	3/15/2017	ICVM 400	7	5.68	282.0	IPCA + 6,87%	Telecoms	1.50%	AA- (bra) Fitch
Potami Energia S/A	PTMI11	3/15/2017	ICVM 476	10	4.33	42.4	IPCA + 7,38%	Energy	2.00%	AA (bra) Fitch
Ventos de São Clemente Holding S/A	VSCL11	4/15/2017	ICVM 476	14	6.40	180.0	IPCA + 8,00%	Energy	2.56%	AA (bra) Fitch
Complexo Morrinhos Energias Renováveis S/A	CXER12	4/15/2017	ICVM 476	11	6.19	102.5	IPCA + 7,06%	Energy	1.85%	AA+ (bra) Fitch
Ventos de São Jorge Holding S/A	VSJH11	5/5/2017	ICVM 476	11	6.84	45.0	IPCA + 9,00%	Energy	2.70%	AA (bra) Fitch
Itarema Geração de Energia S/A	ITGE13	5/15/2017	ICVM 476	12	5.98	111.8	IPCA + 7,81%	Energy	0.02	AAA (bra) Fitch
Ventos de São Vicente Energias Renováveis S/A	VTSS11	6/15/2017	ICVM 476	7	5.80	100.0	IPCA + 5,47%	Energy	(0.20)%	AA+ (bra) Fitch
Energisa S/A	ENGI18	6/15/2017	ICVM 476	5	4.44	197.6	IPCA + 5,60%	Energy	0.00%	AA (bra) Fitch
	ENGI28			7	5.86	177.4	IPCA + 5,66%		0.10%	
Eólica Serra das Vacas Holding II S/A	EVOL11	6/15/2017	ICVM 476	14	6.77	48.0	IPCA + 7,31%	Energy	2.20%	Aa1 (br) Moody's
CPFL Energias Renováveis S/A	ERSA17	7/15/2017	ICVM 476	5	4.40	250.0	IPCA + 5,62%	Energia	0.00%	AA+ (bra) Fitch
Concessionária do Sistema Anhanguera-Bandeirantes S/A	ANHB18	7/15/2017	ICVM 476	5	4.41	716.5	IPCA + 5,47%	Transporte	0.20%	AA+ (bra) Fitch
Copel Telecomunicações S/A	CTEL12	7/15/2017	ICVM 476	5	4.41	220.0	IPCA + 5,43%	Telecomunicações	0.70%	N/D
Nascentes do Xingu S/A	NASX13	7/15/2017	ICVM 476	7	5.46	155.0	IPCA + 6,17%	Saneamento	1.25%	AA (bra) Fitch
Petróleo Brasileiro S/A - Petrobras	PETR15	8/15/2017	ICVM 476	5	4.55	301.0	IPCA + 4,72%	Energia	0.05%	AA+ (bra) Fitch
	PETR25			7	6.02	1,089.9	IPCA + 5,21%		0.30%	
Salus Infraestrutura Portuária S/A	SAIP12	8/15/2017	ICVM 400	7	4.30	31.2	IPCA + 5,75%	Transporte	1.00%	AA+ (bra) Fitch
Lagoa 1 Energia Renovável S/A	LGEN11	9/15/2017	ICVM 476	12	7.25	46.2	IPCA + 7,33%	Energia	0.03	AAA (bra) Fitch

## Continuation – 2017

Issuer	Ticker	Emission Date	Offer type	Maturity (years)	Duration <sup>2</sup> (years)	Value (R\$ million)	Yield	Sector	Spread Over NTN-B	Rating (local)
Transmissora Aliança de Energia S/A	TAES14	9/15/2017	ICVM 400	7	5.20	255.0	IPCA + 4,41%	Energia	(0.20)%	AAA (bra) Fitch
	PALF18			5	4.57	213.8	IPCA + 4,42%		0.00%	
Cia. Paulista de Força e Luz	PALF28	9/15/2017	ICVM 400	7	5.89	355.7	IPCA + 4,66%	Energia	0.00%	brAA- (S&P)
	PALF38			10	7.43	130.5	IPCA + 5,05%		0.26%	
CIA Energética do RN - Cosern	CSRN17	10/15/2017	ICVM 400	5	4.45	271.4	IPCA + 4,64%	Energia	0.25%	brAA- (S&P)
	CSRN27			7	5.95	98.6	IPCA + 4,91%		0.35%	
Rodonorte - Conces. de Rodovias Integradas S/A	RDNT26	10/15/2017	ICVM 476	4	4.00	170.0	IPCA + 4,50%	Transporte	0.10%	brAA+ (S&P)
Arteris S/A	ARTR35	10/15/2017	ICVM 400	7	5.67	161.5	IPCA + 5,09%	Transporte	0.50%	AA- (bra) Fitch
	ENGI19			5	4.57	61.8	IPCA + 4,49%		0.10%	
Energisa S/A	ENGI29	10/15/2017	ICVM 400	7	6.10	11.5	IPCA + 4,71%	Energia	0.20%	AA+ (bra) Fitch
	ENGI39			10	8.05	21.4	IPCA + 5,11%		0.35%	
CIA de Gás de São Paulo - Comgás	GASP16	10/15/2017	ICVM 476	7	6.16	400.0	IPCA + 4,33%	Energia	0.20%	A- (bra) Fitch
LIGHT Serviços de Eletricidade S/A	LIGHA3	10/15/2017	ICVM 400	5	4.34	458.7	IPCA + 7,44%	Energia	2.90%	AAA (bra) Fitch
Ventos de Santo Estevão Holding S/A	VSEH11	10/15/2017	ICVM 476	15	7.57	160.0	IPCA + 6,98%	Energia	2.00%	AA+ (bra) Fitch
Omega Energia e Implantação 2 S/A	OMNG12	10/15/2017	ICVM 476	12	5.83	220.0	IPCA + 7,11%	Energia	2.00%	AA+ (bra) Fitch
Equatorial Energia S/A	EQTL22	11/15/2017	ICVM 476	7	6.50	104.5	IPCA + 5,77%	Energia	0.75%	A+ (bra) Fitch
Esperanza Transmissora de Energia S/A	SPRZ11	11/15/2017	ICVM 476	13	N/D	87.0	IPCA + 6,80%	Energia	N/D	N/D
Odoya Transmissora de Energia S/A	ODYA11	11/15/2017	ICVM 476	14	6.40	74.0	IPCA + 6,80%	Energia	1.75%	AA+ (bra) Fitch
Belo Monte Transmissora Energia SPE S/A	BLMN12	11/15/2017	ICVM 476	14	N/D	580.0	IPCA + 7,14%	Energia	N/D	N/D
<b>Total.....</b>						<b>8,823.2</b>				

Source: Anbima, Rating reports and Debentures Agreements

Elaborated by COGTR/Seae/MF

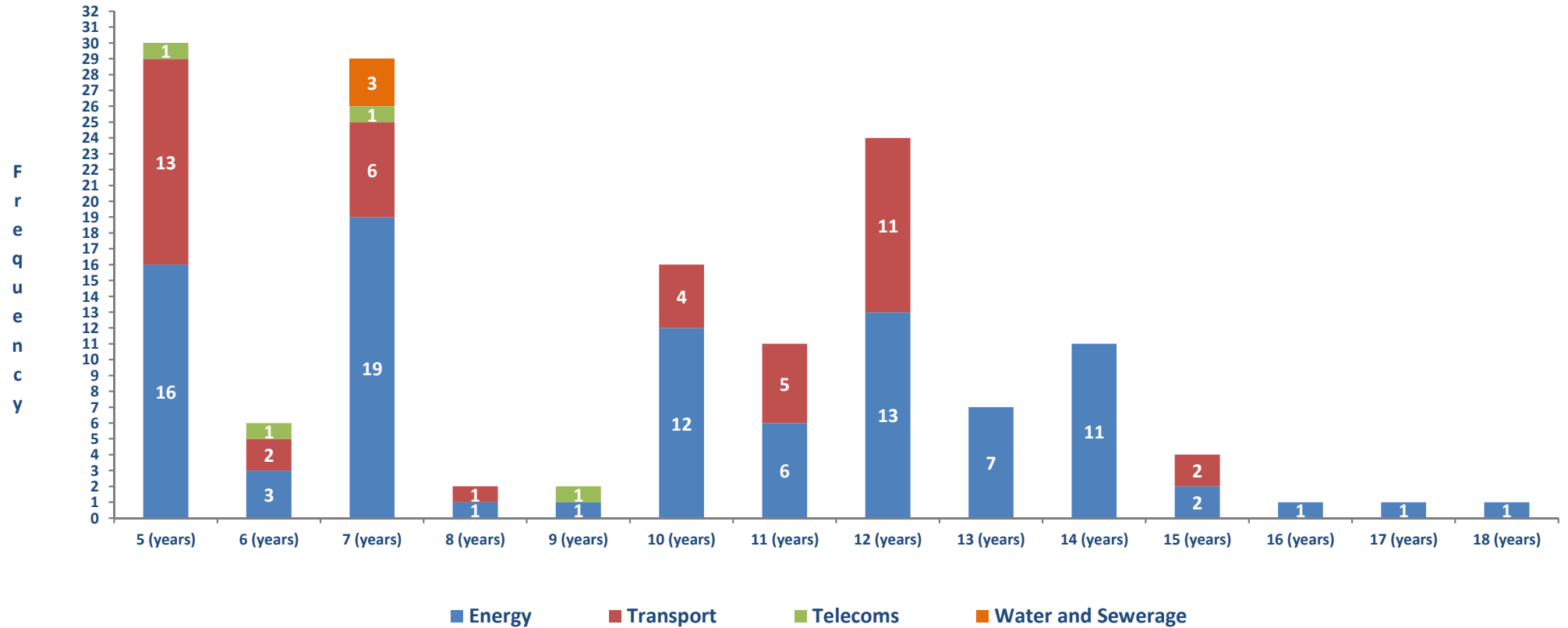
Note:

(1) Infrastructure Bonds (also referred to as Law 12,431 article 2 debênture) - Tax-exempt bond for resident natural persons. A ten-percentage point 15% company income tax rate (ten percentage-point reduction) for local companies. Funds raised must be used in infrastructure investments or in research, development and innovation-intensive economic production.

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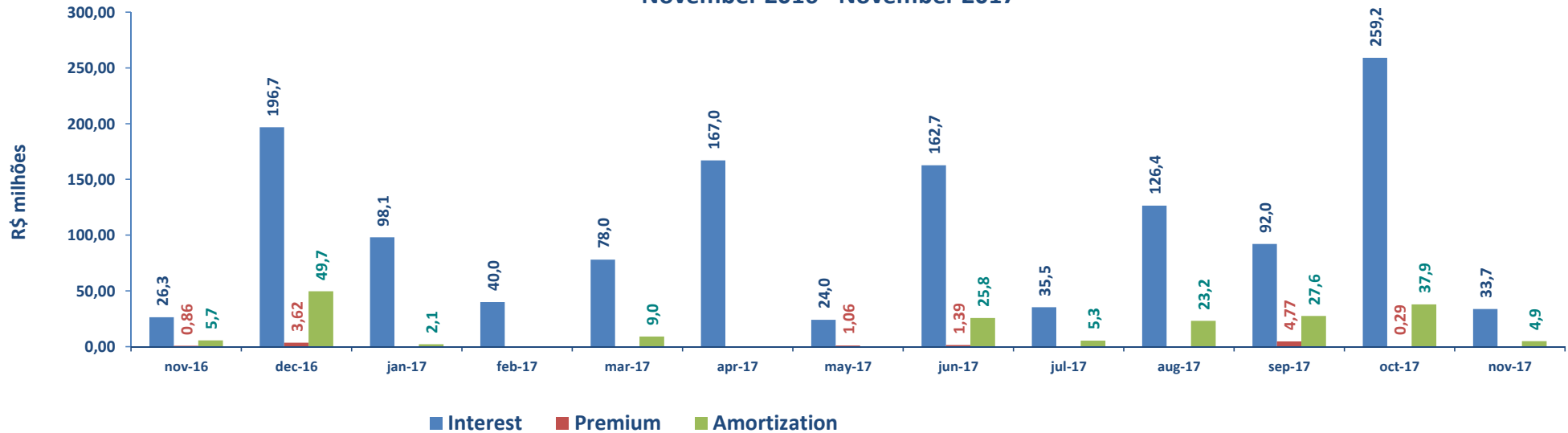
(3) Consumer Price Index - CPI (IPCA)

Maturity - Infrastructure Debentures by Issue Series ( in years)  
 2012 to November 2017  
 Law # 12,431 /2011 (Article 2)



Source: Source : Scripture of the Debentures  
 Elaborated by COGTR/Seae/MF

Interest, Premium, Amortization Payments - Infrastructure Debentures  
November 2016 - November 2017

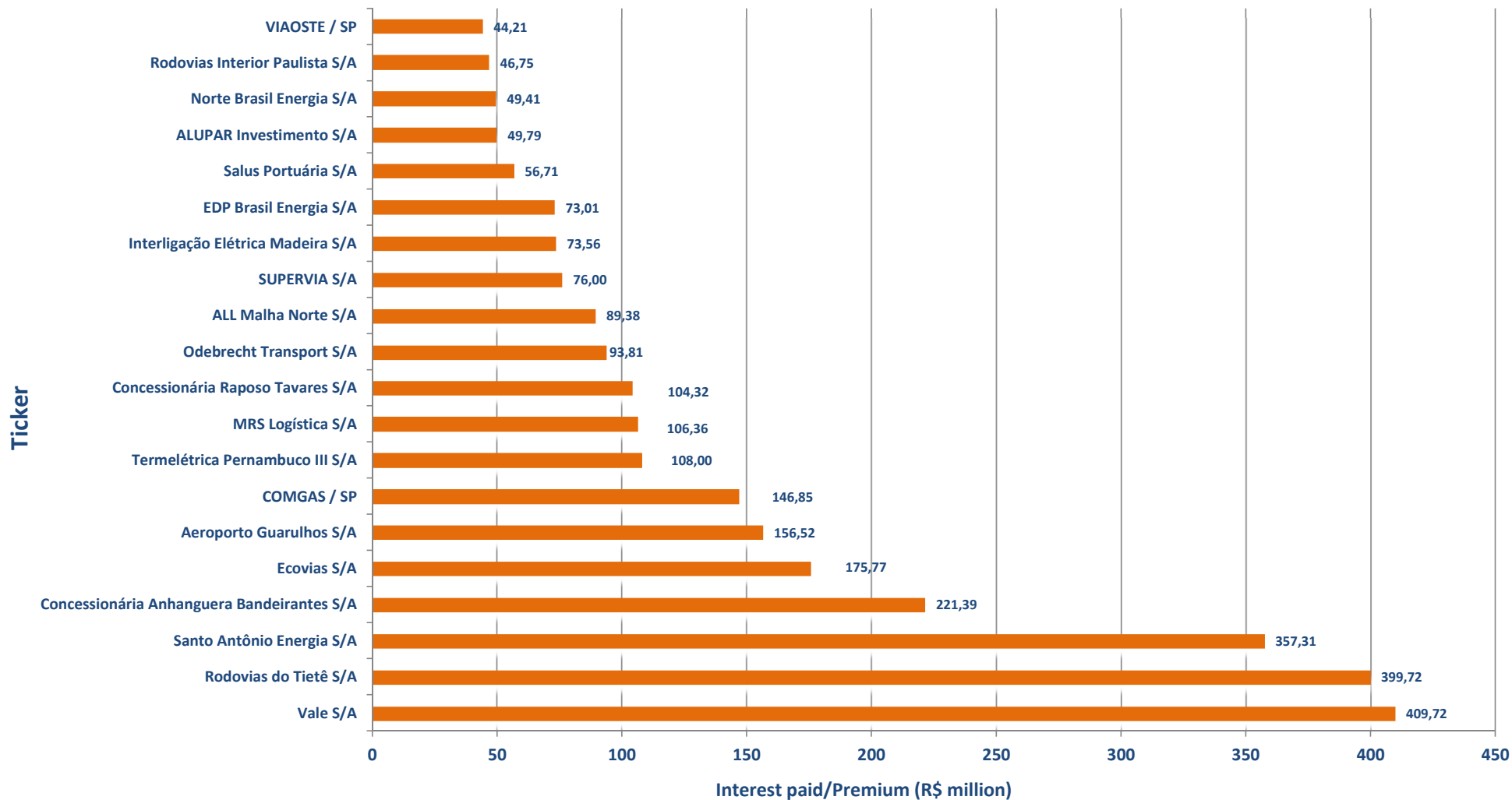


Interest, Premium, Amortization Payments (by year) - Infrastructure Debentures  
2013 and November 2017



Source: Anbima  
Elaborated by COGTR/Seae/MF

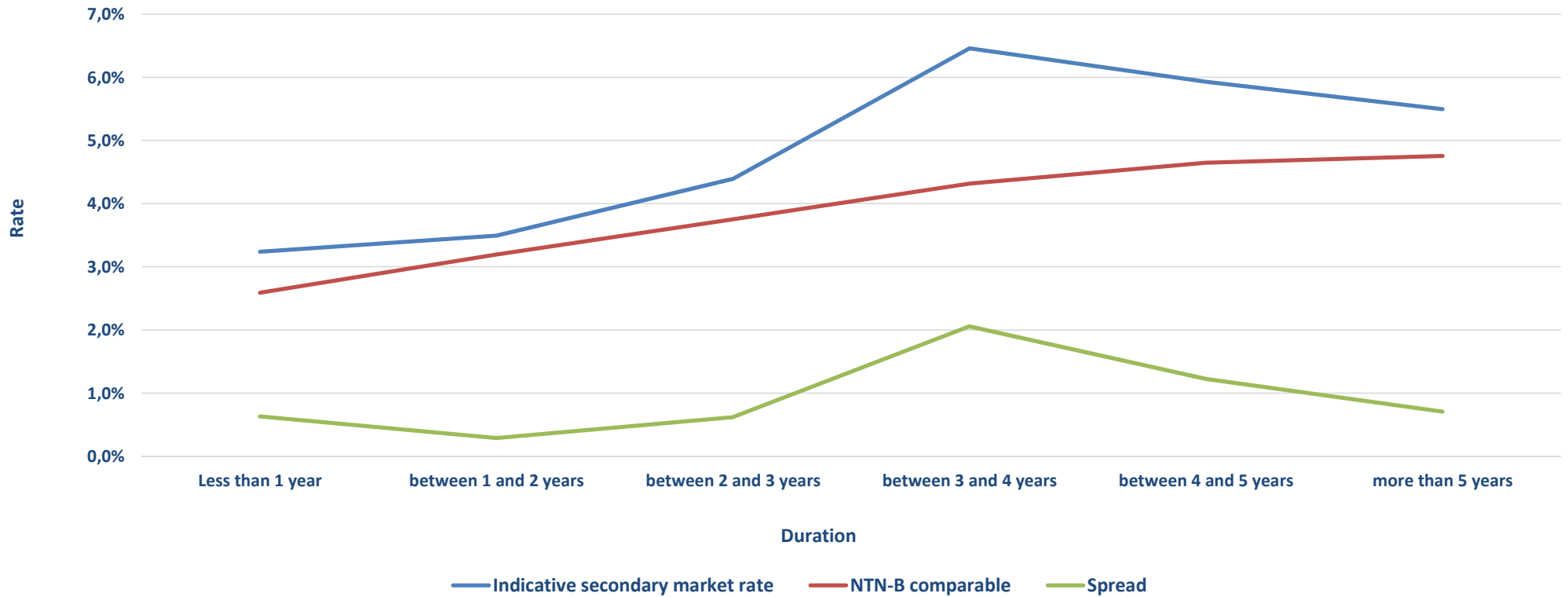
Flow Payments (Interest and Premium) - Infrastructure Debentures between January/2013 and November/2017  
Law # 12,431/2011 (Article 2) - (R\$ million)



Source: Anbima  
Elaborated by COGTR/Seae/MF

### Spread Curve on NTN-B Comparable

Infrastructure Debentures  
(november 2017)

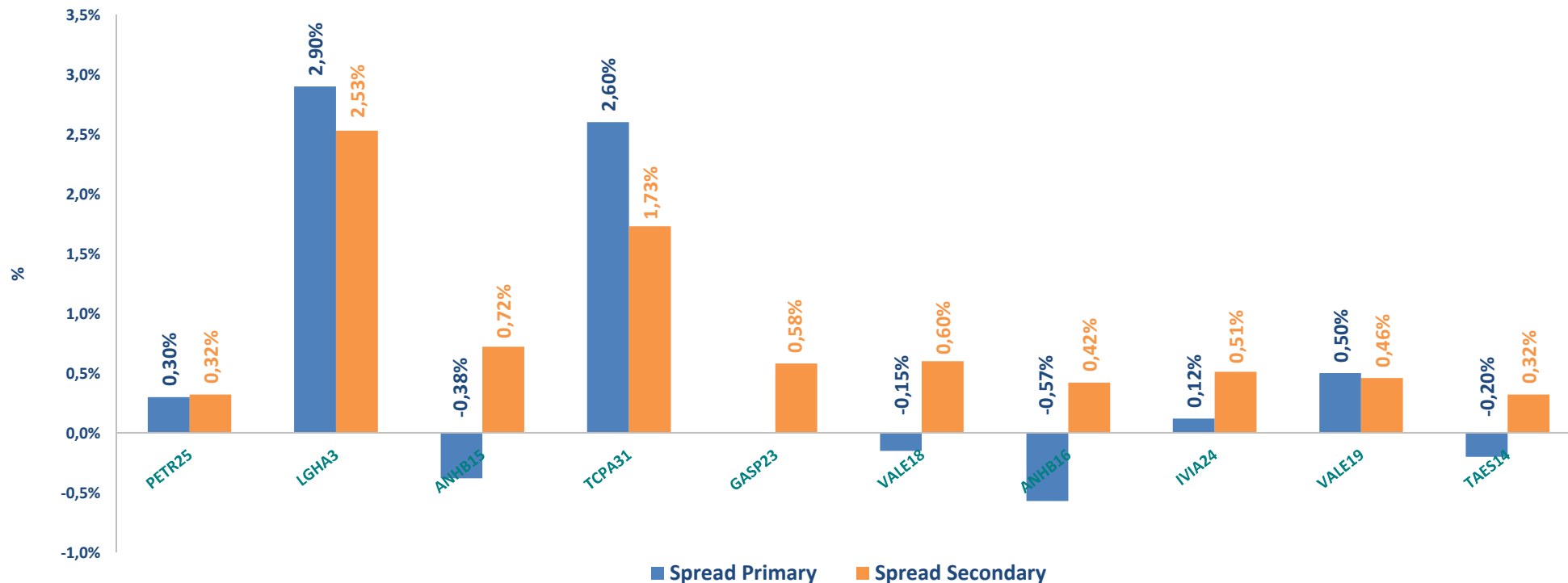


Source: Anbima  
Elaborated by COGTR/Seae/MF



### 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 - Article 2 of Law # 12,431/2011

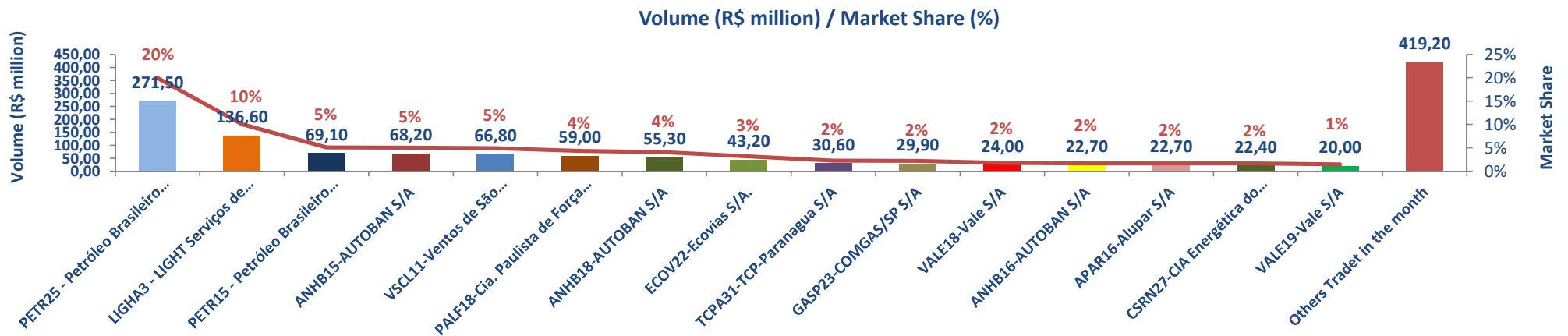
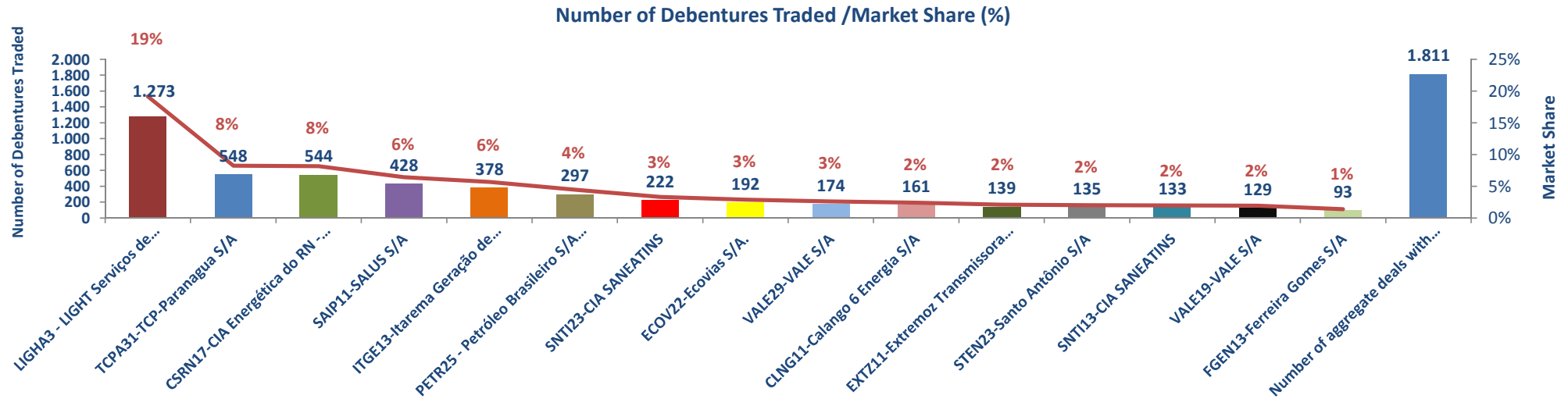


Rating: (AAA) ANHB15, VALE18, ANHB16, VALE19, TAES14 (AA+) PETR25, GASP23 (AA) IVIA24 (AA-) TCPA31 (A-) LGHA3

Source: Anbima and Cetip  
Elaborated by COGTR/Seae/MF

Note:  
 (1) **Bookbuilding** final interest rate defined.  
 (2) Rate observed in Secondary Market considers average premium over NTN-b duration equivalent of negotiations held November 1 through 30, 2017.

Secondary Market - Quantity and Volume of Debentures Traded - November 2017  
 Infrastructure Debentures - Law # 12,431/2011 (Article 2)  
 15 most actively traded



Source : Anbima and Cetip  
 Elaborated by COGTR/Seae/MF

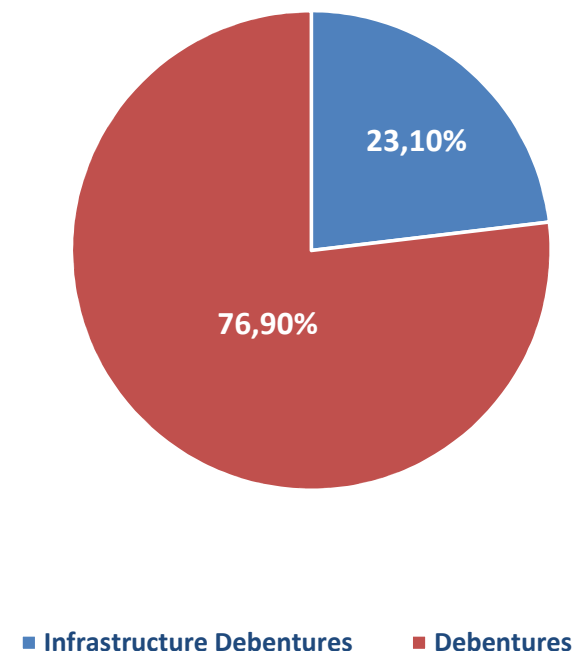
Note: Includes Intra-group and Extra-group transations (Without Leasing).

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	
2015/11	3,308.7	230,510.2	1.44%	388.4	14,767.4	2.63%	3,697.1
2015/12	5,373.2	234,677.2	2.29%	582.5	15,611.9	3.73%	5,955.7
2016/01	2,188.1	229,072.1	0.96%	471.0	15,915.2	2.96%	2,659.2
2016/02	2,098.4	233,591.0	0.90%	696.7	15,668.4	4.45%	2,795.1
2016/03	2,382.4	231,593.0	1.03%	572.6	17,091.6	3.35%	2,955.0
2016/04	1,925.6	226,327.9	0.85%	560.9	17,338.4	3.23%	2,486.5
2016/05	2,091.8	225,773.6	0.93%	638.8	16,918.6	3.78%	2,730.6
2016/06	4,684.3	217,774.1	2.15%	634.3	17,255.7	3.68%	5,318.6
2016/07	1,454.2	220,812.8	0.66%	869.7	17,794.0	4.89%	2,323.9
2016/08	1,137.1	223,462.4	0.51%	591.3	17,842.5	3.31%	1,728.4
2016/09	1,228.9	223,224.8	0.55%	482.0	18,834.6	2.56%	1,710.9
2016/10	1,417.9	220,376.3	0.64%	538.4	18,522.0	2.91%	1,956.3
2016/11	1,920.4	220,753.0	0.87%	536.2	19,688.5	2.72%	2,456.6
2016/12	2,516.3	223,287.8	1.13%	654.7	20,911.9	3.13%	3,171.0
2017/01	2,525.2	221,887.2	1.14%	735.7	21,252.2	3.46%	3,260.9
2017/02	1,675.2	221,744.7	0.76%	602.3	21,466.7	2.81%	2,277.5
2017/03	1,548.7	253,831.3	0.61%	786.7	22,184.6	3.55%	2,335.4
2017/04	3,175.1	219,198.1	1.45%	741.3	22,612.3	3.28%	3,916.4
2017/05	1,725.7	221,776.1	0.78%	841.3	22,938.2	3.67%	2,567.0
2017/06	1,584.9	220,265.9	0.72%	566.1	23,137.9	2.45%	2,151.0
2017/07	1,252.5	220,560.3	0.57%	969.7	24,431.3	3.97%	2,222.2
2017/08	2,611.7	227,542.7	1.15%	1,284.5	25,590.4	5.02%	3,896.2
2017/09	3,136.0	227,854.9	1.38%	935.2	26,773.4	3.49%	4,071.2
2017/10	4,534.1	230,354.7	1.97%	1,187.5	27,835.5	4.27%	5,721.6
2017/11	3,786.9	231,567.5	1.64%	1,542.3	29,266.3	5.27%	5,329.2

Trading Volume  
November/2015 to November/2017

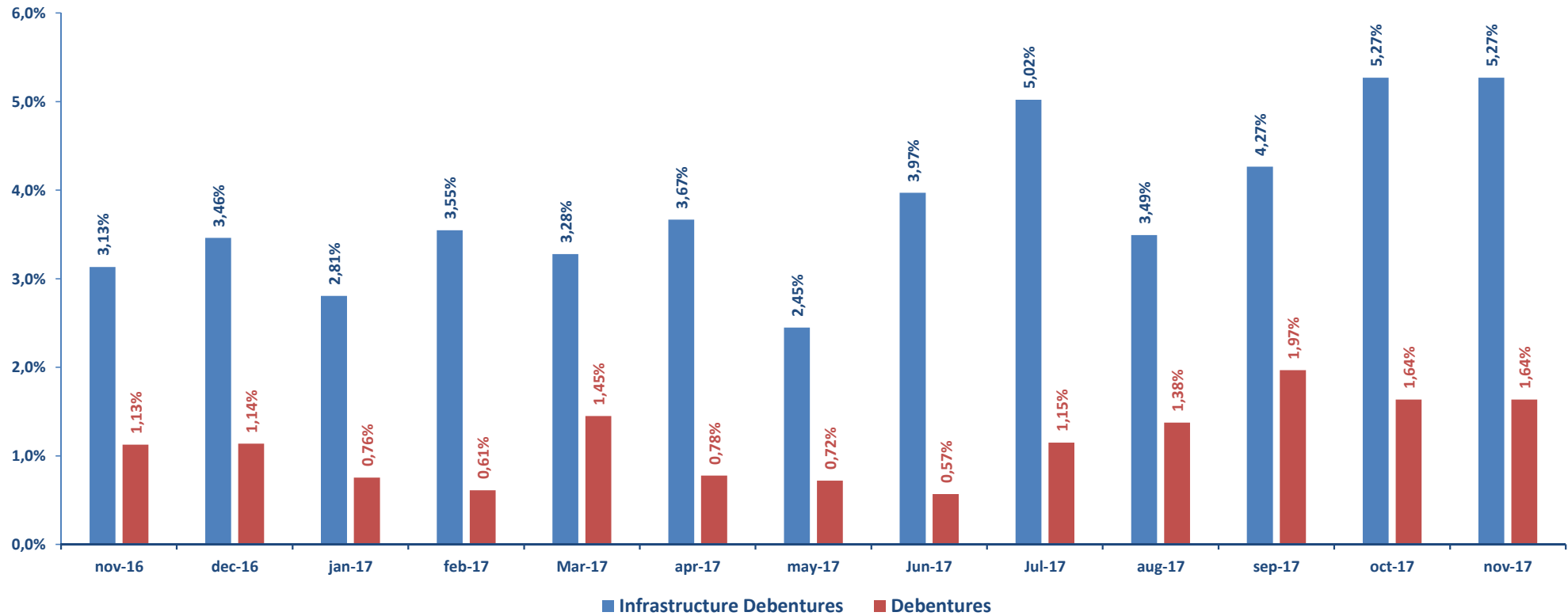


Source: Anbima Elaborated by COGTR/Seae/MF

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>)**



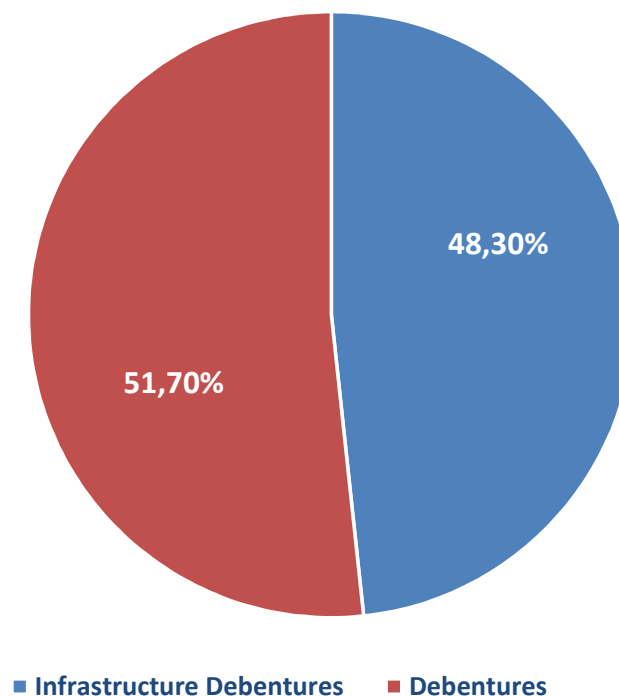
Source: Anbima  
Elaborated by COGTR/Seae/MF

**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

Period	Share of Trades <sup>1</sup>		
	Debentures	Infrastructure debentures- Law # 12,431/11 <sup>2</sup>	Share Total of Trades
	Share of Trades	Share of Trades	
2015/11	1,218	3,317	4,535
2015/12	1,475	3,716	5,191
2016/01	1,076	3,104	4,180
2016/02	1,157	3,947	5,104
2016/03	1,827	4,500	6,327
2016/04	1,656	4,167	5,823
2016/05	1,601	4,711	6,312
2016/06	1,656	5,886	7,542
2016/07	1,882	5,060	6,942
2016/08	2,466	4,874	7,340
2016/09	1,881	4,163	6,044
2016/10	3,874	4,616	8,490
2016/11	3,889	5,094	8,983
2016/12	6,860	4,378	11,238
2017/01	7,051	4,838	11,889
2017/02	6,555	3,907	10,462
2017/03	7,519	5,223	12,742
2017/04	6,524	4,497	11,021
2017/05	7,915	5,450	13,365
2017/06	5,997	4,705	10,702
2017/07	7,429	4,602	12,031
2017/08	9,930	5,296	15,226
2017/09	7,556	4,719	12,275
2017/10	9,186	3,729	12,915
2017/11	11,355	3,188	14,543

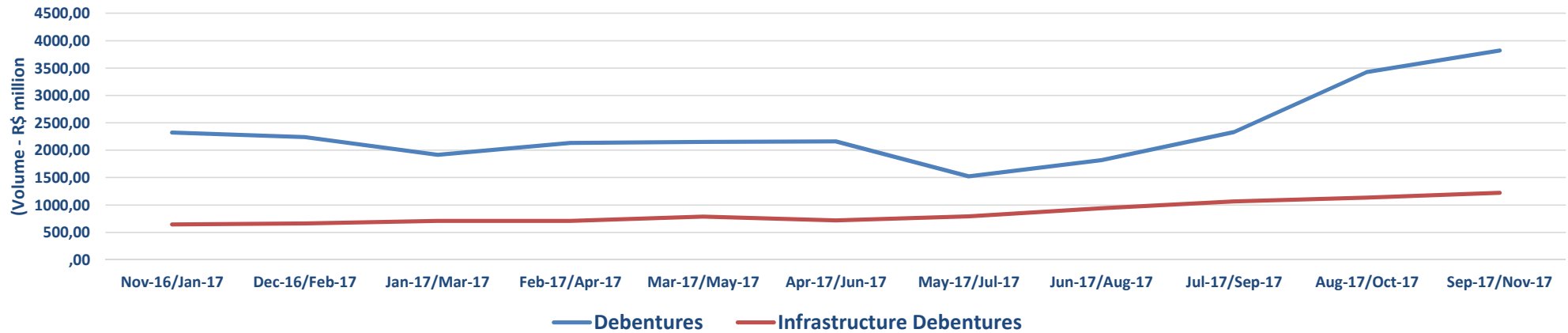
Share of Trades  
November/2015 to November/2017



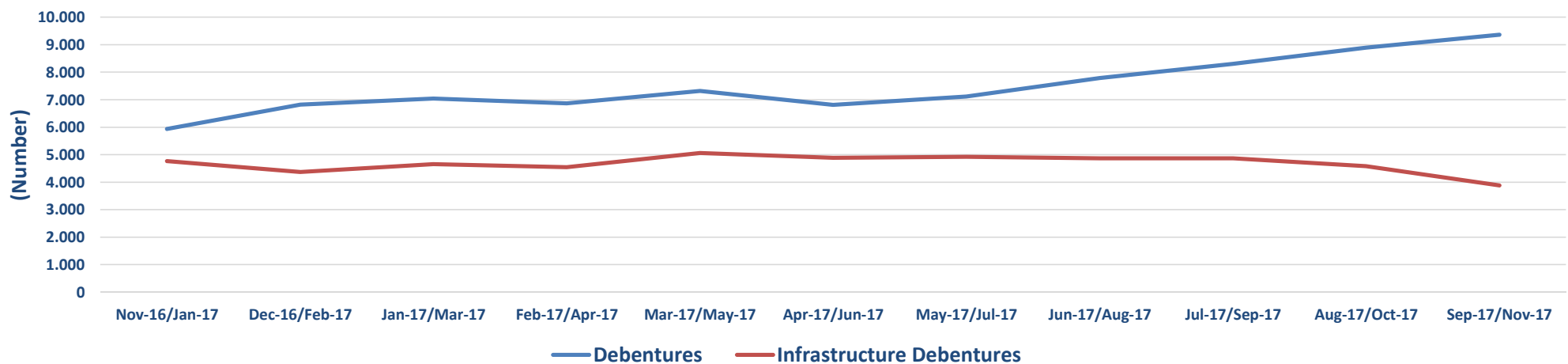
Source: Anbima  
Elaborated by COGTR/Seae/MF

**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.

**Volume of Debentures Traded - Secondary Market**  
(Volume - Rolling Average in Last 03 Months)



**Number of Debentures Traded - Secondary Market**  
(Quantity - Rolling Average in Last (3) Months)



Source: Anbima  
Elaborated by COGTR/Seae/MF

Breakdown by type of Investor  
Article 2 Law # 12,431/2011

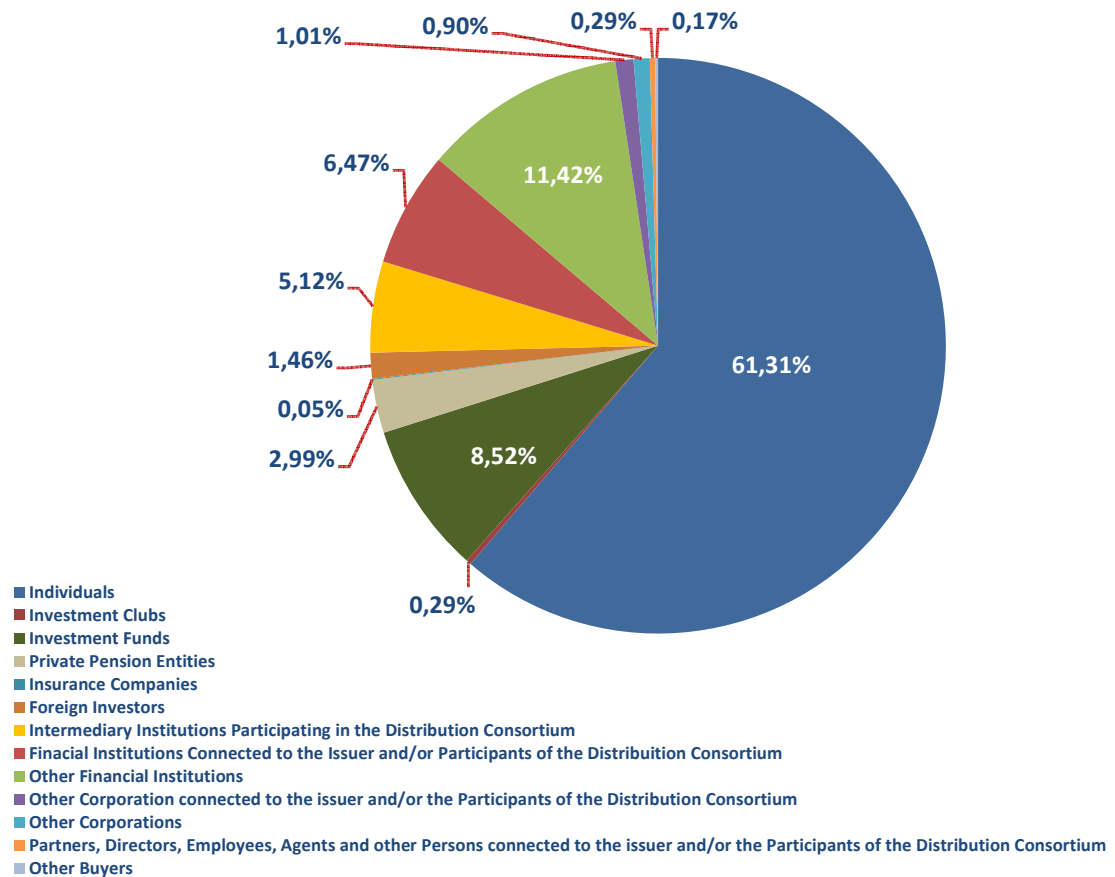
Summary of breakdown - ICVM 400

Investor	%	R\$ million
Individuals	61.31%	8,658.81
Investment Clubs	0.29%	40.50
Investment Funds	8.52%	1,202.61
Private Pension Entities	2.99%	422.90
Insurance Companies	0.05%	7.68
Foreign Investors	1.46%	205.67
Intermediary Institutions Participating in the Distribution Consortium	5.12%	722.83
Financial Institutions Connected to the Issuer and/or Participants of the Distribution Consortium	6.47%	913.18
Other Financial Institutions	11.42%	1,612.89
Other Corporation connected to the issuer and/or the Participants of the Distribution Consortium	1.01%	143.18
Other Corporations	0.90%	127.77
Partners, Directors, Employees, Agents and other Persons connected to the issuer and/or the Participants of the Distribution Consortium	0.29%	41.36
Other Buyers	0.17%	23.74
<b>Total.....</b>	<b>100.00%</b>	<b>14,123.12</b>

Source : Anbima, Leading Banks and closing announcement

Elaborated by COGTR/Seae/MF

Summary of Breakdown - ICVM 400



Breakdown by type of Investor  
Article 2 Law # 12,431/2011

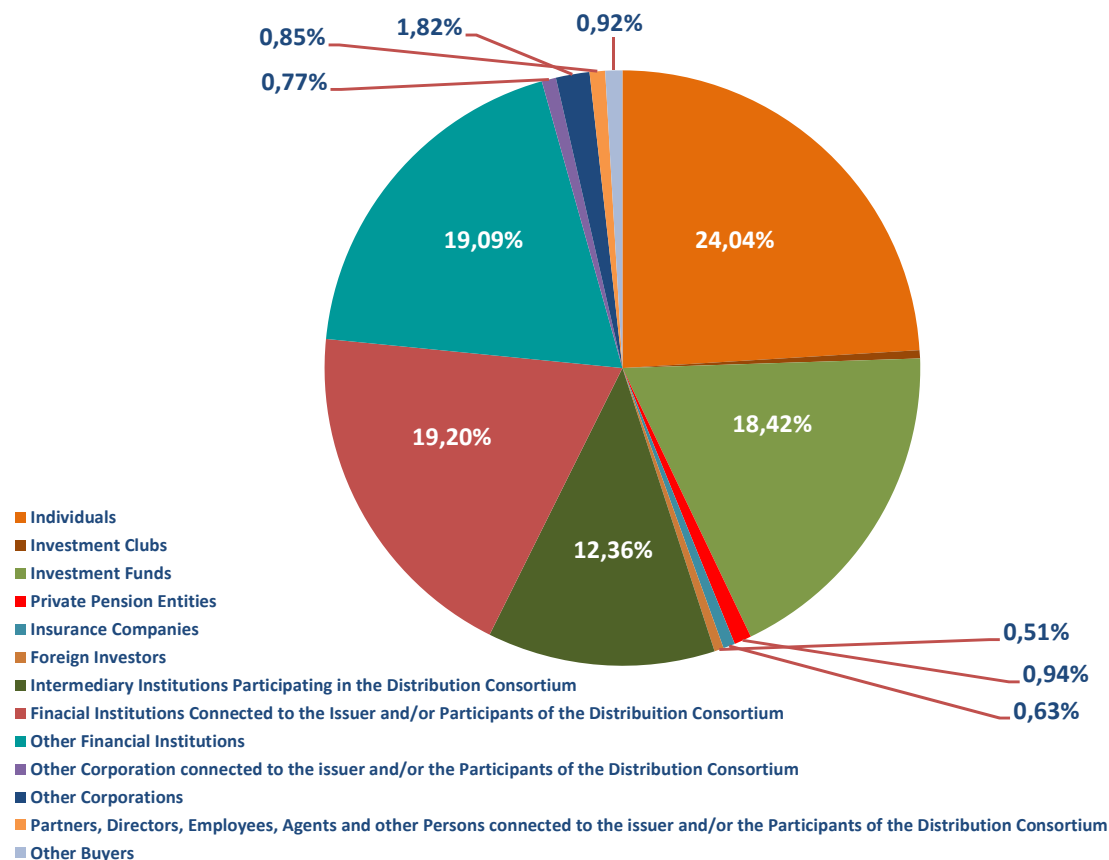
Summary of breakdown - ICVM 400

Investor	%	R\$ million
Individuals	24.04%	3,421.54
Investment Clubs	0.45%	63.62
Investment Funds	18.42%	2,622.74
Private Pension Entities	0.94%	134.00
Insurance Companies	0.63%	89.63
Foreign Investors	0.51%	73.23
Intermediary Institutions Participating in the Distribution Consortium	12.36%	1,759.24
Financial Institutions Connected to the Issuer and/or Participants of the Distribution Consortium	19.20%	2,733.79
Other Financial Institutions	19.09%	2,717.93
Other Corporation connected to the issuer and/or the Participants of the Distribution Consortium	0.77%	109.19
Other Corporations	1.82%	258.62
Partners, Directors, Employees, Agents and other Persons connected to the issuer and/or the Participants of the Distribution Consortium	0.85%	121.64
Other Buyers	0.92%	130.46
<b>Total.....</b>	<b>100.00%</b>	<b>14,235.63</b>

Source : Anbima, Leading Banks and closing announcement

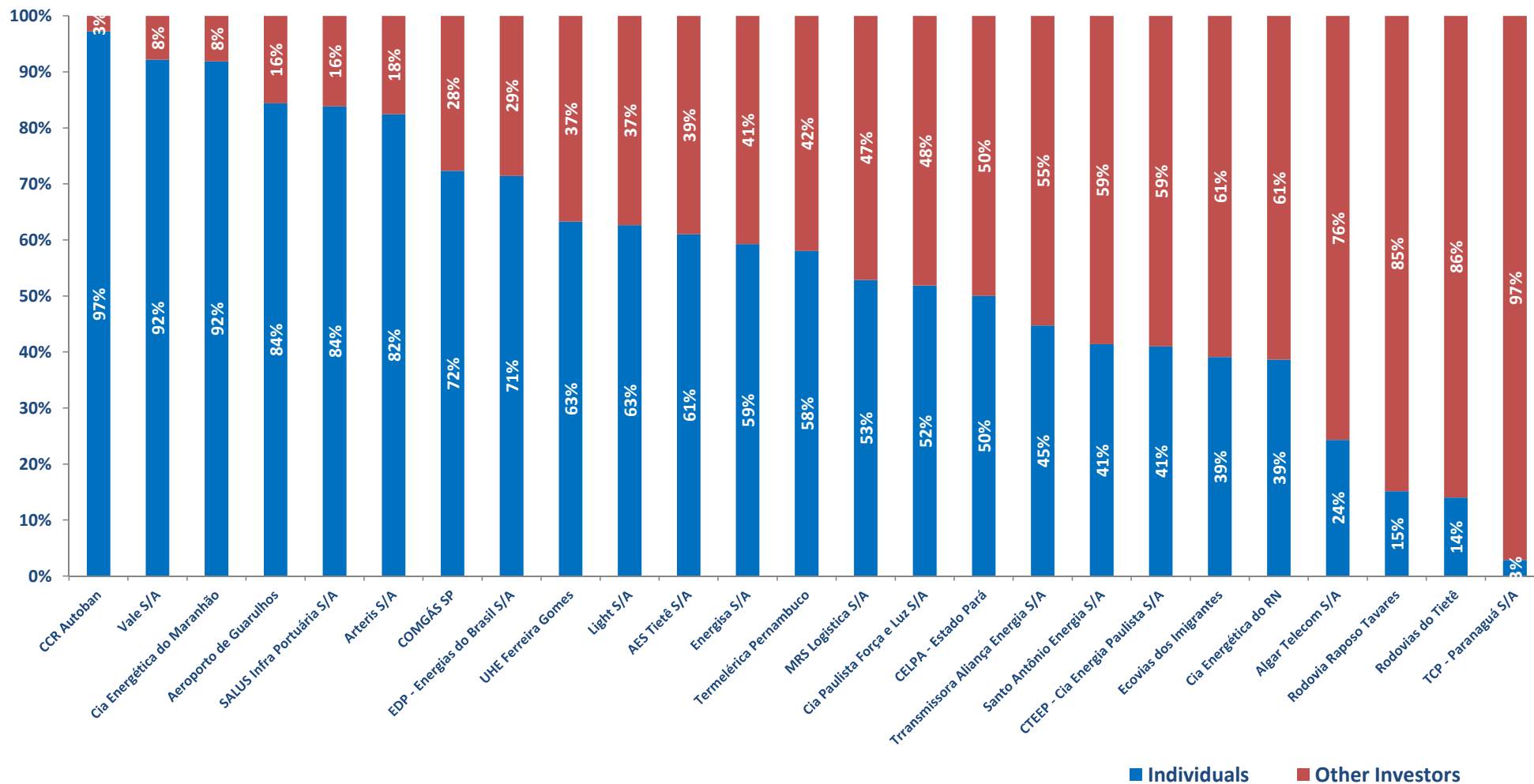
Elaborated by COGTR/Seae/MF

Summary of Breakdown - ICVM 476



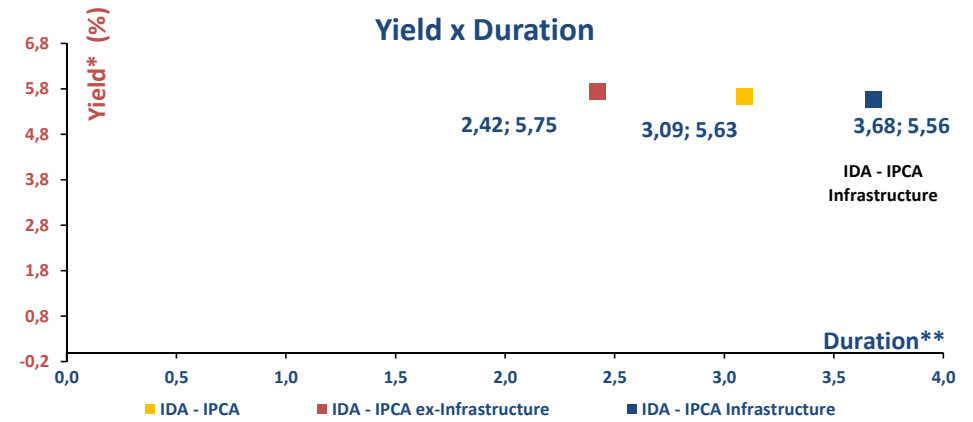
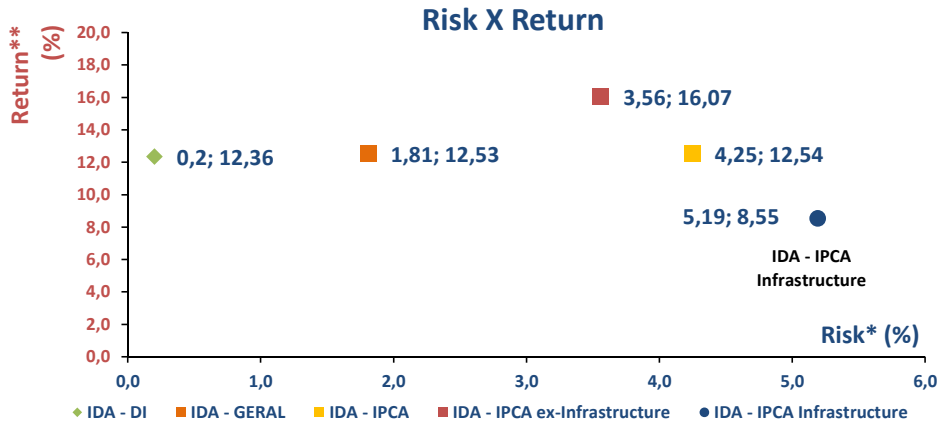


Demand for Individuals - Article 2 of Law # 12,431/2011  
 Infrastructure Debentures - Only Issuance ICVM 400 (% of volume issued)

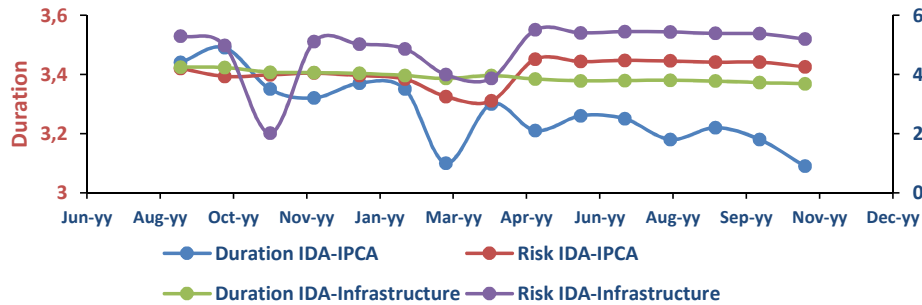


Source: Anbima  
 Elaborated by COGTR/Seae/MF

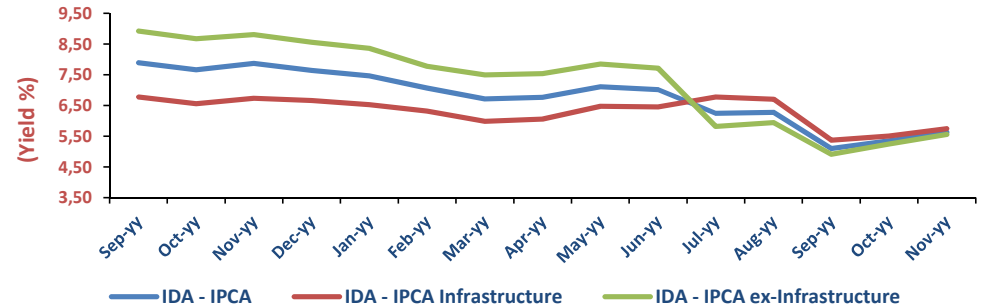
Anbima Debentures Index (IDA)



Historic Evolution - Duration x Risk  
IDA - IPCA / IDA - IPCA Infraestrutura



Anbima Debentures Index (IDA)  
Yield<sup>1</sup>



Source: Anbima

Elaborated by COGTR/Seae/MF

\* 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 indexes - DI (Interbank Deposits and IPCA - Consumer Price Index).

## Approved Projects up to February 2017 - Article 2 Law # 12,431/2011

(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		
<b>Ministry of Transportation</b>	<b>5,582.2</b>	<b>12,602.3</b>	<b>18,952.0</b>	<b>15,141.9</b>	<b>32,141.4</b>	<b>29,344.4</b>	<b>60,761.6</b>	<b>113,764.2</b>
Toll Road	4,109.8	8,951.9	4,726.4	974.7	19,009.0	17,021.6	29,188.2	54,793.3
Railways	1,472.4	3,650.4	2,785.8	11,796.9	7,704.4	11,546.5	19,705.6	38,956.5
Airports	0.0	0.0	8,887.9	143.4	5,000.0	0.0	8,887.9	14,031.3
Ports	0.0	0.0	2,551.9	2,226.8	428.1	776.3	2,979.9	5,983.0
<b>Ministry of Mines and Energy</b>	<b>44,746.5</b>	<b>41,259.0</b>	<b>13,494.7</b>	<b>73,367.9</b>	<b>12,743.6</b>	<b>39,988.3</b>	<b>104,686.2</b>	<b>225,600.0</b>
Electric Power Transmission Line	1,329.6	3,753.9	592.0	449.2	802.7	20,186.4	15,565.0	27,113.7
Hydroelectric Power Plants	42,973.4	19,028.6	3,740.5	47,166.7	1,353.9	217.3	60,619.5	114,480.3
Thermoelectric	0.0	4,123.9	1,111.1	5,075.5	3,246.3	860.9	2,387.9	14,417.6
Small Hydro	0.0	125.5	68.5	877.1	587.6	939.2	605.4	2,597.8
Gas	0.0	2,033.5	0.0	2,209.4	0.0	0.0	4,243.0	4,243.0
Wind Farms	443.6	5,193.7	7,982.5	11,614.8	6,383.1	3,812.7	10,987.7	35,430.5
Pipelines	0.0	7,000.0	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	5,975.3	5,975.3
Distribution	0.0	0.0	0.0	0.0	370.0	11,449.7	4,302.6	11,819.7
Energy Photovoltaics	0.0	0.0	0.0	0.0	0.0	2,522.1	0.0	2,522.1
<b>Ministry of Science, Technology, Innovation and Communications</b>	<b>0.0</b>	<b>800.0</b>	<b>1,605.0</b>	<b>2,882.1</b>	<b>2,147.6</b>	<b>1,733.0</b>	<b>6,762.7</b>	<b>9,167.7</b>
Telecoms	0.0	800.0	1,605.0	2,882.1	2,147.6	1,733.0	6,762.7	9,167.7
<b>Ministry of Cities</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>18,288.3</b>	<b>4,864.8</b>	<b>890.4</b>	<b>533.4</b>	<b>24,043.5</b>
Water and Sewerage	0.0	0.0	0.0	406.0	125.8	890.4	533.4	1,422.1
Urban Mobility	0.0	0.0	0.0	17,882.4	4,739.0	0.0	0.0	22,621.4
<b>Total.....</b>	<b>50,328.8</b>	<b>54,661.3</b>	<b>34,051.6</b>	<b>109,680.2</b>	<b>51,897.4</b>	<b>71,956.1</b>	<b>172,743.9</b>	<b>372,575.4</b>

Source: Ministerial Orders issued and Linked Entities  
Elaborated by COGTR/Seae/MF

## Approved Projects up to February 2017 - Article 2 Law # 12,431/2011

(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		
<b>Ministry of Transportation</b>	<b>5</b>	<b>6</b>	<b>11</b>	<b>6</b>	<b>12</b>	<b>10</b>	<b>32</b>	<b>50</b>
Toll Road	4	5	5	3	7	7	22	31
Railways	1	1	2	1	3	2	5	10
Airports	0	0	2	1	1	0	2	4
Ports	0	0	2	1	1	1	3	5
<b>Ministry of Mines and Energy</b>	<b>12</b>	<b>74</b>	<b>90</b>	<b>160</b>	<b>94</b>	<b>129</b>	<b>194</b>	<b>559</b>
Electric Power Transmission Line	3	9	2	4	8	45	33	71
Hydroelectric Power Plants	4	2	5	12	3	1	17	27
Thermoelectric	0	5	1	3	2	1	2	12
Small Hydro	0	1	1	8	6	4	6	20
Piped Gas	0	1	0	1	0	0	2	2
Wind Farms	5	55	81	131	73	32	117	377
Pipelines	0	1	0	0	0	0	0	1
Oil	0	0	0	1	0	0	1	1
Distribution	0	0	0	0	2	26	16	28
Energy Photovoltaics	0	0	0	0	0	20	0	20
<b>Ministry of Science, Technology, Innovation and Communications</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>6</b>
Telecoms	0	1	2	1	1	1	3	6
<b>Ministry of Cities</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>4</b>	<b>4</b>	<b>5</b>	<b>13</b>
Water and Sewerage	0	0	0	2	3	4	5	9
Urban Mobility	0	0	0	3	1	0	0	4
<b>Total.....</b>	<b>17</b>	<b>81</b>	<b>103</b>	<b>172</b>	<b>111</b>	<b>144</b>	<b>234</b>	<b>628</b>

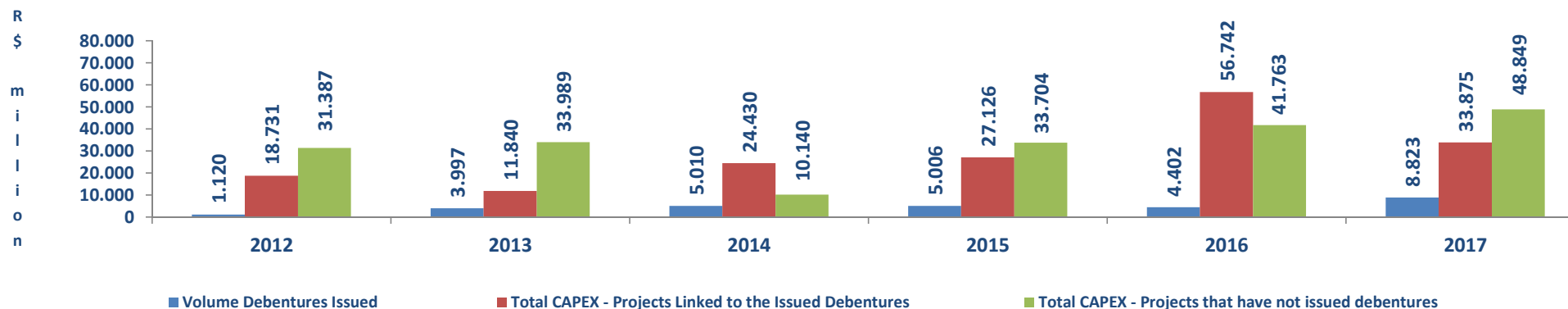
Source: Ministerial Orders issued and Linked Entities

Elaborated by COGTR/Seae/MF

Summary Table - Volume issued of infrastructure debentures - Law # 12,431 / 2011 (Article 2) / CAPEX linked to the issued debentures /Projects that have not issued debentures

Status of Projects	Investment (R\$ million)						Investment Total (R\$ million)
	2012	2013	2014	2015	2016	2017	
Volume debentures issued	1,120.00	3,996.80	5,010.45	5,006.04	4,402.32	8,823.15	28,358.76
Total CAPEX - Projects Linked to the issued Debentures	18,730.98	11,840.21	24,430.16	27,125.93	56,742.40	33,874.50	172,744.18
Total CAPEX - Projects that have not issued Debentures	31,386.88	33,988.70	10,139.95	33,703.74	41,763.06	48,849.10	199,831.43

### Approved Projects - Volume Emission / CAPEX

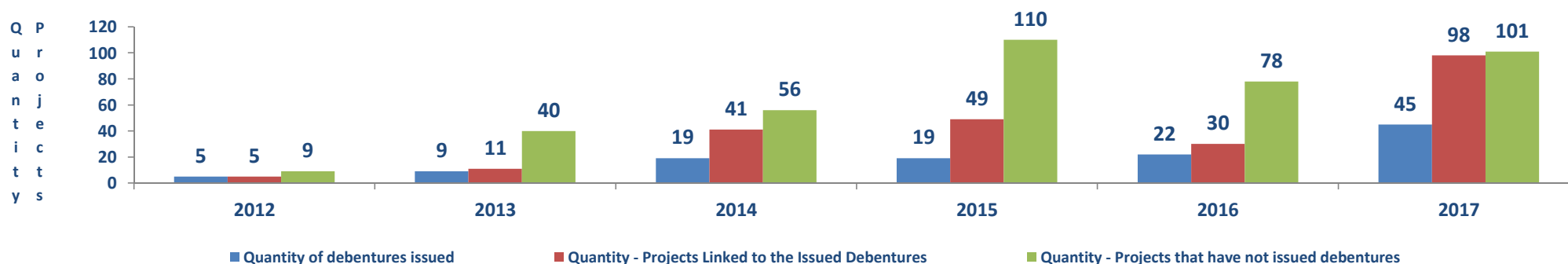


Source: Ministerial Orders issued and Linked Entities  
 Elaborated by COGTR/Seae/MF

Summary Table - Quantity issued of infrastructure debentures - Law # 12,431 / 2011 (Article 2) / Quantity of projects linked to the issued debentures /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	
Quantity of Debentures Issued	5	9	19	19	22	45	119
Quantity - Projects Linked to the Issued Debentures	5	11	41	49	30	98	234
Quantity - Projects that have not issued Debentures	9	40	56	110	78	101	394

Approved Projects - Quantity Emission / Quantity Waiting Emission

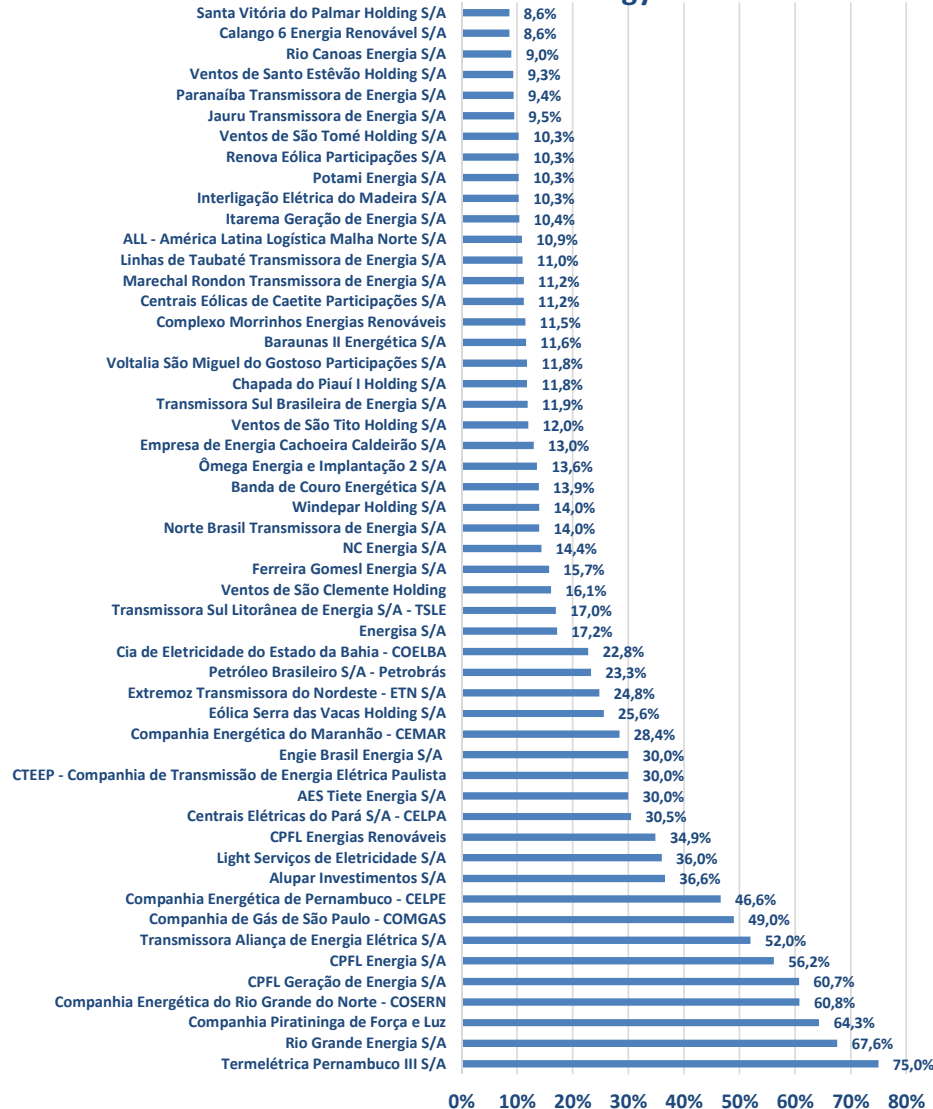


Source: Ministerial Orders issued and Linked Entities  
 Elaborated by COGTR/Seae/MF

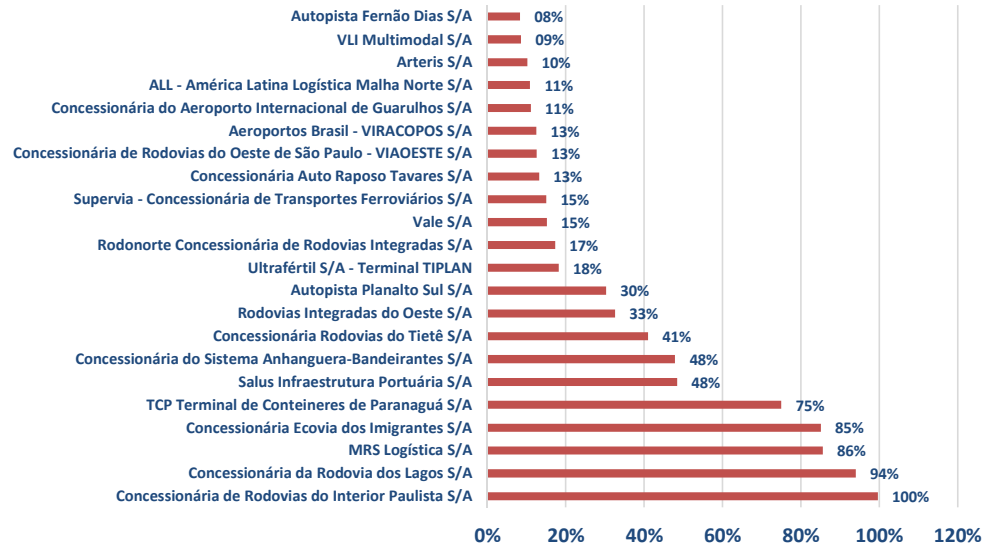
**Note :**  
 The difference between the amount of debentures issued and the number of Administrative Rules issued and Projects related to the debentures issued, is due to having more than one ordinance and project linked to a single debenture - example: Ventos de São Tomé Holding S / A (TOME12 ). We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

Infrastructure Incentive Debentures Art. 2º Law nº 12.431 / 2011  
Participation of Debentures in the Financial Needs of Projects

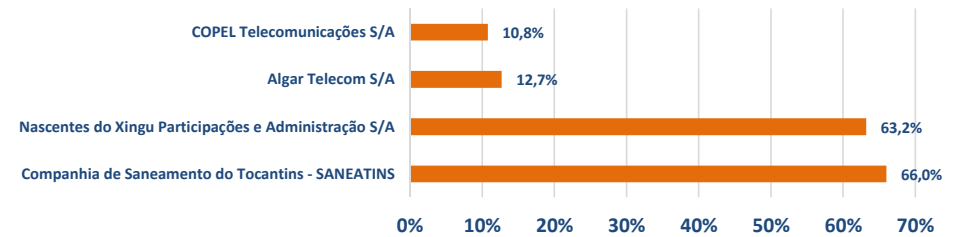
Sector of Energy



Sector of Transport



Sectors de Water and Sewerage and Telecoms



Fonte: Source: Prospectuses and Deeds of issuance of debentures, rating reports, concession contracts and Coordinating Banks  
Elaborated by COGTR/Seae/MF

## Real Estate Receivables Certificate - CRI's according to Law # 12,431/2011 (Article 3) - 2014

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

Sectors	Shareholders of Petrobras	Issuer	Series	Issued Value - R\$ million	Term Loan	Yield	Value of Investments <sup>2</sup>	Use of Resources
Oil and Gas	Brazilian Government; BNDES Participations S/A - BNDESPAR; Brazilian Development Bank's - BNDES; Social Participation Fund (FPS), managed by BNDES; Brazilian sovereign wealth fund - Fiscal Fund for Investment and Stabilization - (FFIE); ADR (common stock); ADR (preferred stock); FMP - FGTS Petrobras; Non-Resident Investor (CMN Resolution # 2,689 <sup>4</sup> , dated October 31, 2001) and Other Investors: Individuals and corporation.	CIBRASEC	232 <sup>a</sup>	2,350.00	17 years	TR <sup>(i)</sup> + 9,5 % year	Até R\$ 25 billion	Civil construction project of the Petrochemical Complex of Rio de Janeiro - COMPERJ - in Itaboraí (in the State of Rio de Janeiro).
			234 <sup>a</sup>	1,650.00	17 years	TR + 9,5 % year	R\$ 26 billion	Civil construction project of Abreu e Lima Refinery in the metropolitan region of Recife - PE (in the State of Pernambuco).
			<b>Total .....</b>	<b>4,000.00</b>				

Source : Cibrasec and Terms of Securitization of Real Estate Credit  
Elaborated by COGTR/Seae/MF

## 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&I.



## Brazilian Infrastructure Bonds Investment Funds - Fixed-Income Investment - Law # 12,431/2011 - October 2017

Infrastructure Bonds Investment funds	Debentures (Infrastructure Bonds)	Time Deposits and Other Financial Securities	Quotas of Investment Funds	Government Securities Repurchase	Brazilian Government Bonds	Other	Net Equity	Debentures / Net Equity
	(R\$ million)	(R\$ million)	(R\$ million)	(R\$ million)	(R\$ million)	(R\$ million)	(R\$ million)	
FIRF - CA Indosuez Master c. Privado	155.12	1.05	0.57	3.32	15.18	0.07	175.31	88%
FIRF - VIC C. Privado	35.10	0.00	5.07	1.81	0.00	(0.01)	41.97	84%
FIRF - BNP Paribas Plus C. Privado	11.89	0.00	0.00	3.64	0.00	(0.02)	15.51	77%
FIRF - Bradesco C. Privado	92.71	0.00	0.00	3.22	6.57	(0.05)	102.45	90%
FIRF - CSHG AS 7.7 C. Privado	29.96	0.00	0.00	3.19	0.95	(0.01)	34.09	88%
FIRF - CSHG 392 C. Privado	224.72	0.00	0.00	12.95	14.39	(0.02)	252.03	89%
FIRF - XP C. Privado	161.57	0.00	6.95	4.46	0.00	(5.55)	167.43	96%
FIRF - Fator C. Privado	105.20	1.19	0.00	7.24	0.00	0.63	114.27	92%
FIRF - TFO CSHG C. Privado	45.23	0.00	0.00	0.00	2.17	(0.01)	47.40	95%
FIRF - CSHG Omega C. Privado	152.45	0.00	3.56	11.34	4.61	(0.03)	171.93	89%
FIRF - Azienda C. Privado	67.17	0.00	0.00	11.18	0.15	(0.02)	78.49	86%
FIRF - Brasil Plural Master C. Privado	69.63	1.62	0.36	1.23	1.30	(0.21)	73.93	94%
FIRF - Turmalina C. Privado	45.57	21.09	0.00	0.00	2.56	(0.02)	69.20	66%
FIRF - SDEUX C. Privado	9.61	0.00	0.00	0.40	0.00	(0.26)	9.75	99%
FIRF - Sul América C. Privado	2.41	0.00	0.00	1.06	0.68	(0.01)	4.15	58%
FIRF - BNP Paribas II C. Privado	21.13	0.00	0.00	24.94	0.00	(0.03)	46.03	46%
FIRF - XPCE II C. Privado	69.50	5.34	33.27	8.49	0.00	0.29	116.89	59%
FIRF - Pedra Negra C. Privado	109.82	0.00	1.29	24.58	0.00	44.17	179.86	61%
FIRF - Bonsucesso C. Privado	23.40	0.00	0.22	0.00	0.00	(0.02)	23.61	99%
FIRF - Alocação C. Privado	176.20	9.17	4.45	0.00	0.00	(0.13)	189.70	93%
FIRF - Águia C. Privado	0.00	0.00	0.00	0.00	0.57	(0.01)	0.56	0%
FIRF - Newbery C. Privado	186.78	0.59	81.57	27.70	0.00	21.08	317.73	59%
FIRF - Órama C. Privado	25.39	0.00	0.76	0.00	0.00	(0.08)	26.07	97%
FIRF - Brasil Plural Master II C. Privado	194.86	6.52	0.07	1.34	7.64	4.74	215.16	91%
FIRF - AZ Quest Master C. Privado	74.57	0.93	1.01	4.20	7.29	(0.03)	87.97	85%
FIRF - VIC Supra C. Privado	180.96	0.00	24.44	4.95	0.00	0.01	210.36	86%
FIRF - BNP Paribas C. Privado	115.30	0.00	0.00	4.42	5.71	(0.18)	125.26	92%
FIRF - Daycoval C. Privado	22.15	0.83	2.36	0.95	5.25	(0.02)	31.53	70%

## Continuation - Brazilian Infrastructure Bonds Investment Funds - Fixed-Income Investment - October 2017

Infrastructure Bonds Investment funds	Debentures (Infrastructure Bonds)	Time Deposits and Other Financial Securities	Quotas of Investment Funds	Government Securities Repurchase	Brazilian Government Bonds	Other	Net Equity	Debentures / Net Equity
	(R\$ million)	(R\$ million)	(R\$ million)	(R\$ million)	(R\$ million)	(R\$ million)	(R\$ million)	
FIRF - RB Capital Master C. Privado	50.83	1.95	5.93	0.00	0.00	0.11	58.82	86%
FIRF - Brasil Plural Master TFO C. Privado	61.64	0.00	0.30	5.41	3.74	(0.04)	71.05	87%
FIRF - Safra Master C. Privado	202.60	0.00	0.00	40.77	57.72	(6.29)	294.80	69%
FIRF - Pasárgada C. Privado	15.64	0.00	0.49	0.00	0.00	(0.02)	16.11	97%
FIRF - RB Capital Vitória C. Privado	14.43	6.26	2.20	7.03	10.00	(0.01)	39.92	36%
FIRF - Sparta C. Privado	3.25	0.00	1.08	0.25	0.00	(0.01)	4.58	71%
FIRF - TAO Infra C. Privado	32.31	0.00	12.81	8.12	0.00	(0.01)	53.24	61%
FIRF - SPEED Infra C. Privado	26.05	0.00	5.25	1.08	0.00	(0.00)	32.37	80%
FIRF - II Alocação C. Privado	49.76	2.99	8.97	7.58	0.00	(0.05)	69.25	72%
FIRF - G5 Infra C. Privado	18.89	1.47	1.04	2.22	0.00	(0.00)	23.62	80%
FIRF - Safra Premium C. Privado	31.92	0.00	0.00	1.02	59.13	(0.07)	92.00	35%
FIRF - Monte Alegre C. Privado	24.93	0.00	20.73	0.42	0.00	0.88	46.95	53%
FIRF - IDA C. Privado	15.17	0.00	1.45	4.01	0.00	(0.01)	20.62	74%
FIRF - XP Energia C. Privado	17.35	0.00	1.32	1.57	0.00	0.00	20.24	86%
<b>Total .....</b>	<b>2,973.16</b>	<b>61.01</b>	<b>227.55</b>	<b>246.10</b>	<b>205.62</b>	<b>58.78</b>	<b>3,772.21</b>	

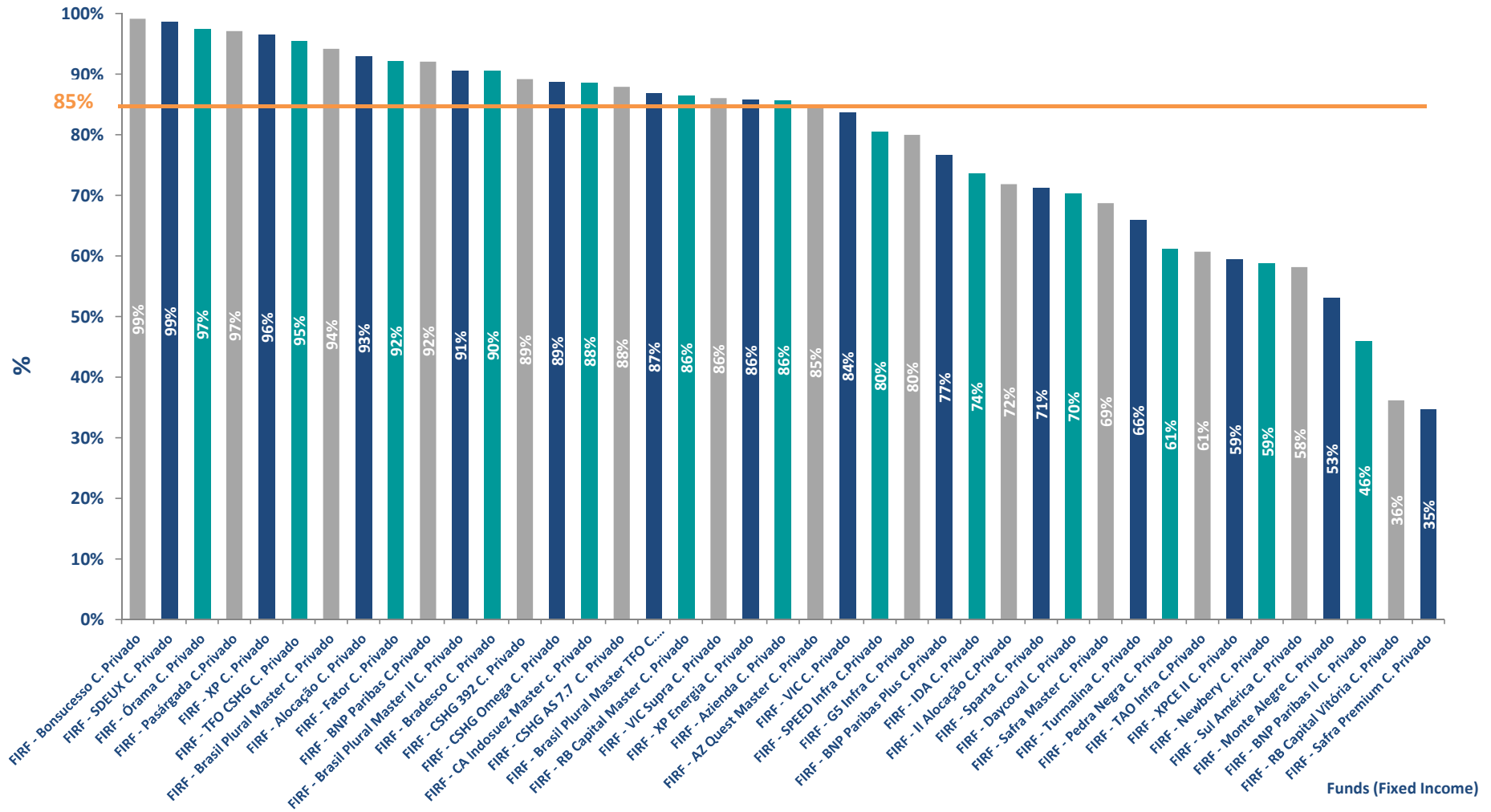
Source : Brazilian Securities Commission - CVM

Elaborated by COGTR/Seae/MF

**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.

### Infrastructure Funds - Fixed Income Debentures Participation in the Net Worth



Source : Brazilian Securities Commission - CVM  
Elaborated by COGTR/Seae/MF

## FIC-FI -Fund of Funds - Law # 12,431/2011 - October 2017

Infrastructure funds	Quotas of Investment Funds	Time Deposits and Other Financial Securities	Government Securities Repurchase	Brazilian Government Bonds	Other	Net Equity	Fund of Funds / Net Equity
	(R\$ million)	(R\$ million)	(R\$ million)	(R\$ million)	(R\$ million)	(R\$ million)	
FIC - CA Indosuez Infra Multimercado	175.31	0.00	0.00	3.15	(0.15)	178.30	98%
FIC - XP Multimercado	161.15	0.00	0.00	0.00	(0.13)	161.01	100%
FIC - TFO Multimercado	39.34	0.00	0.00	0.00	(0.02)	39.32	100%
FIC - Brasil Plural 30 Multimercado	53.92	0.00	0.00	0.00	(0.21)	53.70	100%
FIC - Geração Futuro Multimercado	19.86	0.00	0.00	0.00	0.37	20.23	98%
FIC - RB Capital Multimercado	46.69	0.00	0.00	0.00	(0.07)	46.61	100%
FIC - Brasil Plural 45 Multimercado	103.77	0.00	0.00	0.00	(0.16)	103.61	100%
FIC - AZ Quest Multimercado	39.46	0.00	0.00	0.00	(0.04)	39.42	100%
FIC - Geração Futuro II Multimercado	78.98	0.00	0.00	0.00	(0.03)	78.95	100%
FIC - DLM Multimercado	19.74	0.00	0.00	0.40	(0.01)	20.13	98%
FIC - Banestes Multimercado	30.35	0.00	0.00	0.00	(0.05)	30.31	100%
FIC - Safra Vip Multimercado	229.30	0.00	0.00	0.00	(0.04)	229.26	100%
FIC - Safra Premium Multimercado	272.42	0.00	0.00	0.00	(0.13)	272.29	100%
FIC - Safra Max Multimercado	106.82	0.00	0.00	0.00	(0.03)	106.79	100%
FIC - Ourinvest Bfasil Plural Multimercado	34.03	0.00	0.00	0.00	(0.03)	34.01	100%
FIC - RB Capital Vitória Multimercado	10.22	0.00	0.00	0.00	(0.00)	10.22	100%
FIC - Safra Profit Multimercado	22.38	0.00	0.00	0.00	(0.01)	22.37	100%
<b>Total.....</b>	<b>1,443.74</b>	<b>0.00</b>	<b>0.00</b>	<b>3.55</b>	<b>(0.76)</b>	<b>1,446.53</b>	

Source : Brazilian Securities Commission - CVM  
Elaborated by COGTR/Seae/MF

**Note :**

(i) Requirements: Investments in Brazilian Infrastructure Bonds, the FIC Funds (Fund for Investment in Quotas of Funds) shall have a term of up to 180 (one hundred and eighty) days, counted from the date of their first payment of FUND quotas, in order to achieve The minimum percentage of ninety-five percent (95%) of its net equity in quotas of the Master Fund. The percentage referred to must be met daily, based on the net equity of the Master Fund of the immediately preceding business day.

## Infrastructure Credit Rights Investment Fund – FIDC - Law # 12,431/2011 - October 2017

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)	
FIDC - BB Votorantim Highland Infra	339.65	0.00	0.00	0.00	26.39	1.76	367.79	92%
<b>Total .....</b>	<b>339.65</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>26.39</b>	<b>1.76</b>	<b>367.79</b>	

Source : Brazilian Securities Commission - CVM

Elaborated by COGTR/Seae/MF

**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 2017

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-IE Infra ANESSA	117.29	0.00	4.99	0.00	0.00	0.00	0.00	(0.00)	122.28
FIP-IE Infra XP OMEGA I	107.11	0.30	0.00	0.00	0.00	0.00	0.00	(0.10)	107.31
FIP-IE Infra Votorantim Saneamento	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01
FIP-IE Infra BB Votorantim Energia Sust. I	29.74	18.56	0.00	0.00	0.00	0.00	0.00	(4.44)	43.86
FIP-IE Infra BB Votorantim Energia Sust. II	144.79	84.63	0.00	0.00	0.00	0.00	0.00	(20.53)	208.89
FIP-IE Infra BB Votorantim Energia Sust. III	140.95	95.04	0.00	0.00	0.00	0.00	0.00	(21.91)	214.09
FIP-IE Infra Energia Renovável	675.43	0.00	0.00	0.00	0.00	0.00	0.00	0.12	675.55
FIP-IE Infra Pátria Energia Renovável	43.25	0.00	0.00	0.00	0.00	0.00	0.13	(0.02)	43.35
FIP-IE Infra Porto Sudeste Royalties	2,936.49	0.22	0.00	0.00	0.00	0.00	0.00	(0.15)	2,936.56
FIP-IE Infra Olime	10.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	10.12
FIP-IE Infra TRX Infra I	10.00	0.42	0.00	0.00	0.00	0.00	0.00	(0.02)	10.40
FIP-IE Infra Prosperidade	111.80	0.37	0.00	0.00	0.00	0.00	0.00	(0.03)	112.15
FIP-IE Infra Origem	239.79	0.15	0.00	0.00	0.00	0.00	0.00	(175.06)	64.87
<b>Total .....</b>	<b>4,566.64</b>	<b>199.71</b>	<b>4.99</b>	<b>0.12</b>	<b>0.00</b>	<b>0.00</b>	<b>0.13</b>	<b>(222.15)</b>	<b>4,549.44</b>

Source : Brazilian Securities Commission - CVM

Produced by COGTR/Seae/MF

## 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.

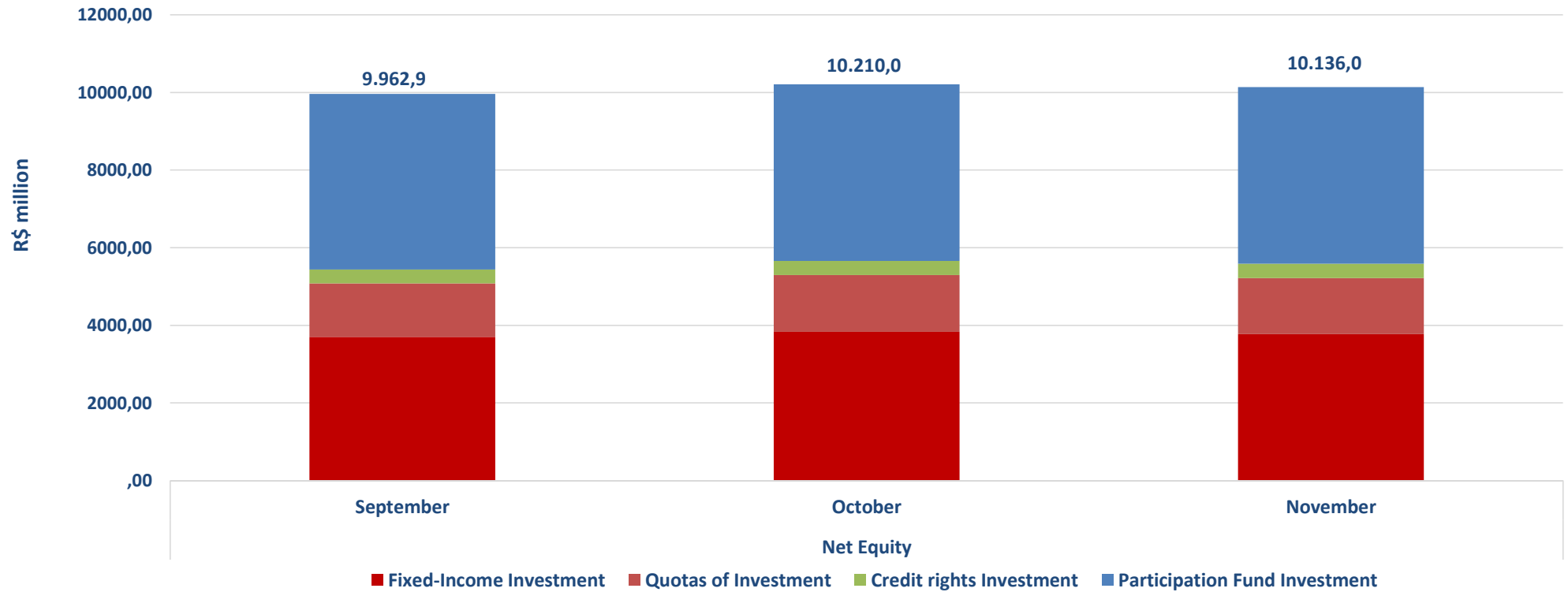
(iii) The FIP-IE and FIP-PD&amp;I must maintain a minimum of 90% of its net worth invested in shares, subscription bonds, debentures (convertible or not into shares) or other bonds issued by either a publicly or closely-held company.

(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  
September / October / November



Source: Brazilian Securities Commission - CVM  
Produced by COGTR/Seae/MF

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