



The Renewable Private PPA Market in Brazil



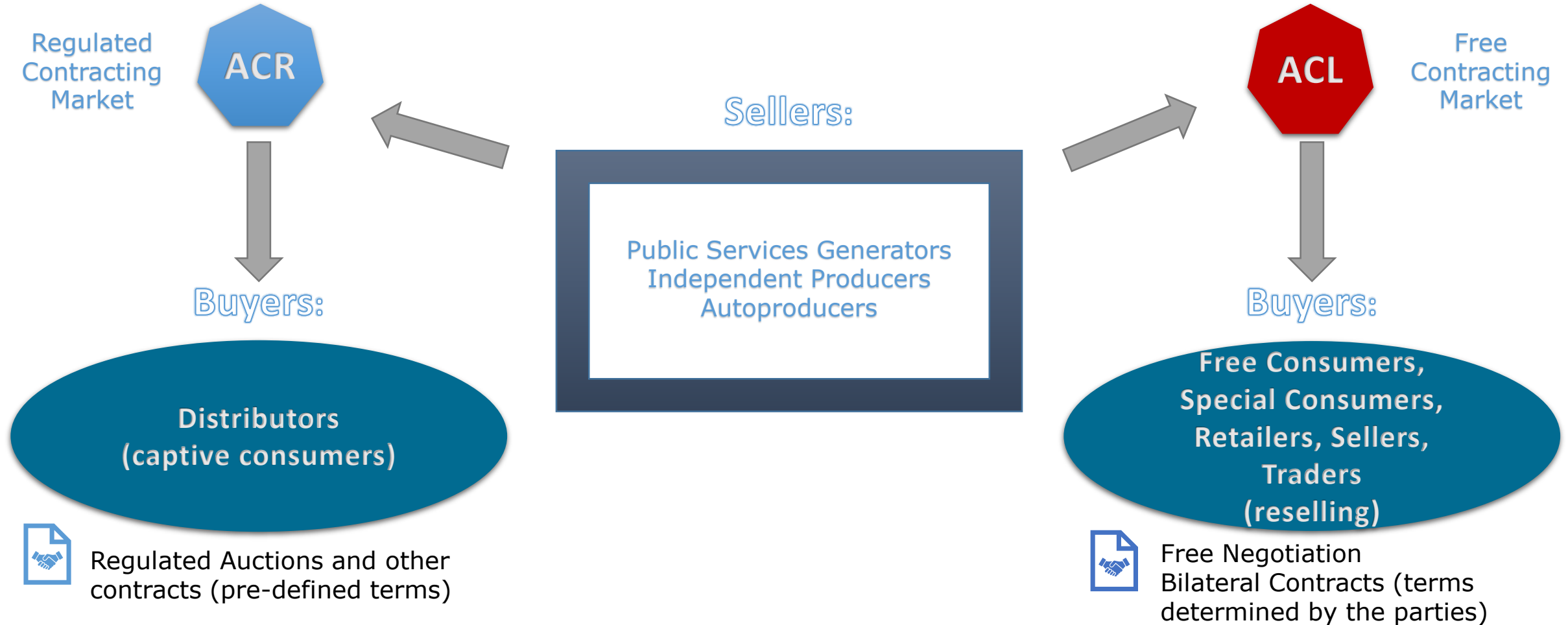
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May 2019

Brazilian Power Sector

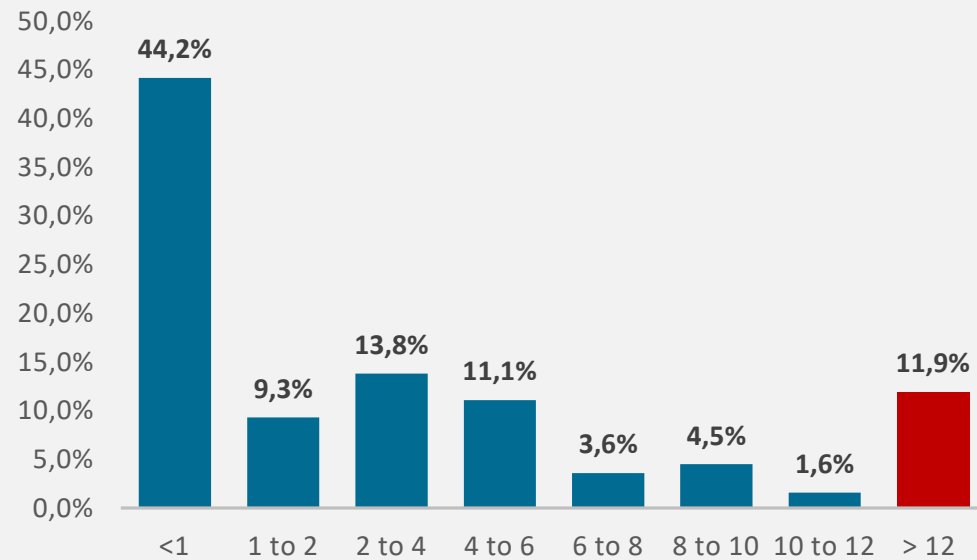
Power Trading – Contracting Markets



Free Contracting Market

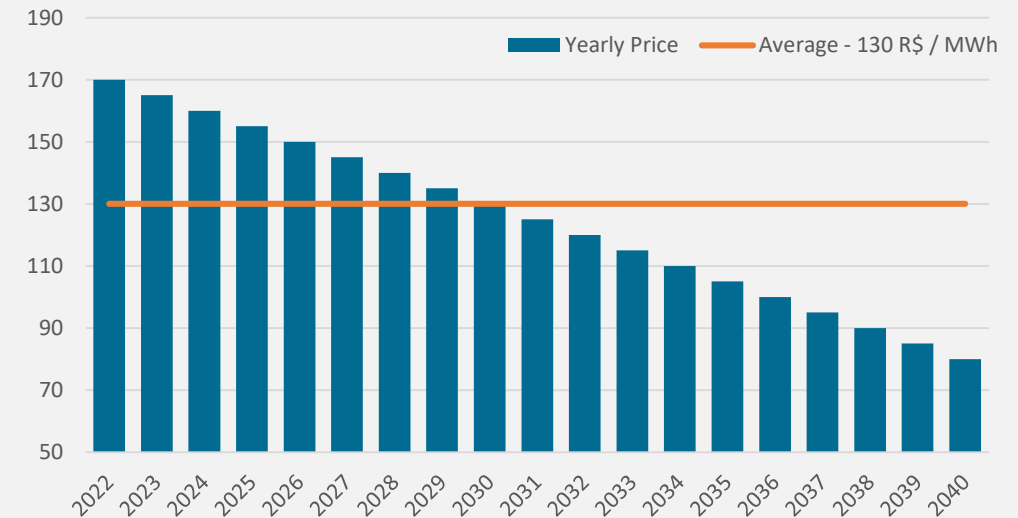
PPA > 10 y is a real opportunity. Prices around 120-140 R\$/MWh

Contracts vs Duration



- Contracts can be of short and long duration, which influences the value of contracted power;
- 1/3 of the contracts registered at CCEE have a duration of more than 4 years.

Typical Curve Prices – Ref Dec/18



Final prices for 15-20 Y PPA ranging from 120-140, but varying depending on several aspects:

- Amount: >30 MWAvg less [5-10] R\$ / MWh
- Offtaker risk: + - 10-15 R\$/MWh
- Submarket: NE less [10-15] R\$/MWh

Types of Transaction

Last 2 years we've seen many bilateral transactions being announced...

Alternatives



Companies working on the Free Market



Renowned players have opted for Free Market expansion...

Buyer Auction

Cemig aposta em leilão inédito em busca de energia para atender o mercado

Segundo a companhia, condições de contratação oferecidas pela empresa são mais atraentes do que as que serão oferecidas pelo Governo Federal no A-6 2018

WAGNER FREIRE, DA AGÊNCIA CANALENERGIA, DE SÃO PAULO (SP)

COMPARTILHAR

A Cemig aposta no sucesso de um leilão inédito para conseguir comprar energia competitiva para atender ao seu mercado. O certame está marcado para o dia 6 de junho e promete oferecer condições mais atraentes aos geradores eólicos e solar, em comparação com as condições que serão oferecidas pelo Governo Federal no leilão A-6, previsto para 31 de agosto. O montante a ser comprado não foi revelado.

Seller Auction

CASA DOS VENTOS REALIZA LEILÃO PARA VENDA DE ENERGIA EÓLICA NO MERCADO LIVRE

17/07/2018

Destaque Chamada Letreiro, Destaque Chamada Slides, Economia, Indústria, NEGÓCIOS, Panorama de Negócios, Varejo

A Casa dos Ventos, uma das pioneiras e maiores investidoras no desenvolvimento de projetos eólicos no Brasil, realizará no próximo mês um leilão eletrônico para venda de energia elétrica no Ambiente de Contratação Livre. O certame está marcado para o dia 10 agosto.

Seller Auction

REALIZAÇÃO 26/04/2019 - INTERNET

Leilão de Venda – Kroma Comercializadora de Energia Ltda – N° 01/2019

KROMA COMERCIALIZADORA DE ENERGIA LTDA - VENDA

ADICIONAR A FAVORITOS IMPRIMIR COMPARTILHAR

A Chamada Pública terá como objeto a venda de energia elétrica pela KROMA ENERGIA, dividida em 8 (oito) Produtos, todos da fonte Convencional e nos Submercados Sudeste/Centro-Oeste e Nordeste, em única etapa realizada conforme cronograma. Os produtos II, III, IV, VI, VII e VIII serão reajustados anualmente pela variação positiva acumulada do IGP-M com base em abril de 2019, sendo o primeiro reajuste em janeiro de 2020 e com aporte de garantia a critério do COMPRADOR.

Bilateral

Voltalia signs 64-MW wind PPA with Brazilian food co BRF

November 15 (Renewables Now) - French renewable power plants operator Voltalia SA (EPA:VL TSA) announced on Wednesday it has signed a power purchase agreement (PPA) for 64 MW of wind power with Brazilian food company BRF.

The new deal allows Voltalia to double the installed capacity of its VSM 2 wind park from 64 MW to 128 MW and thus increase the company's total operational capacity to 1,040 MW for the end of 2020.



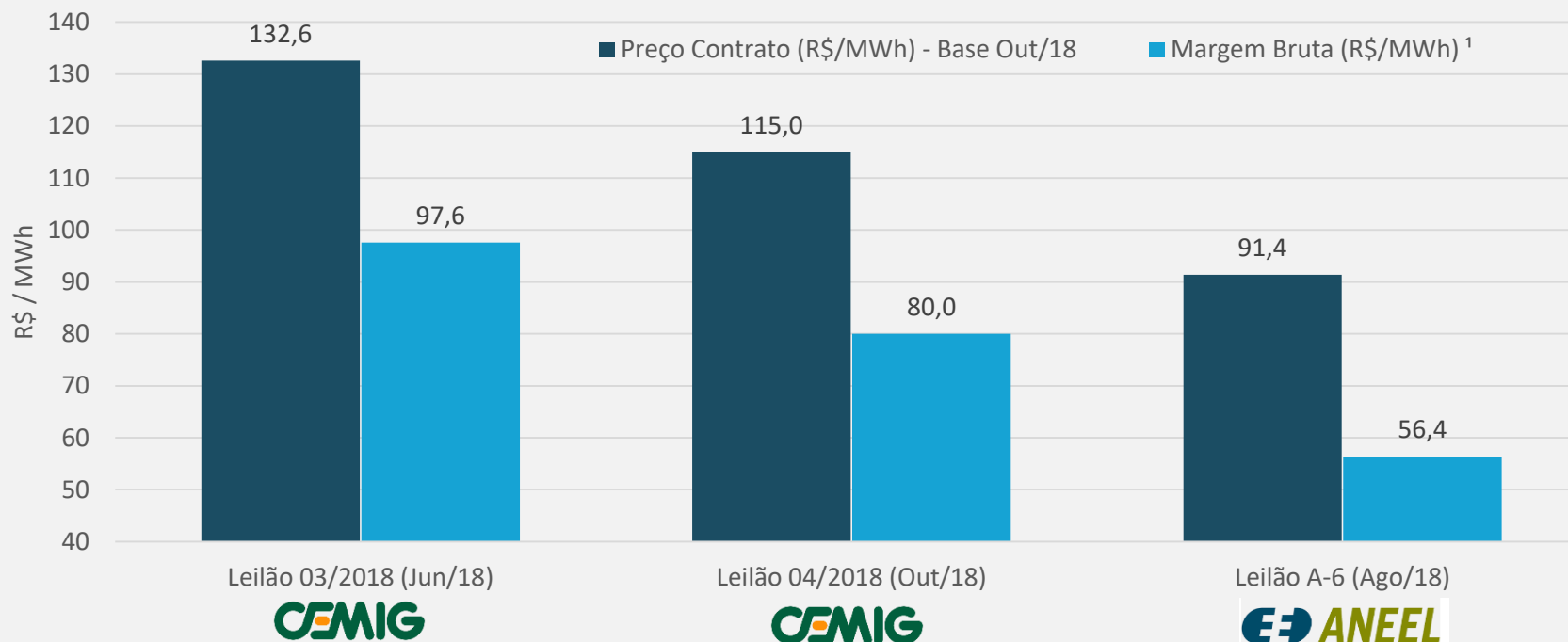
Wind park in Brazil. Author: Fotos GOVBA. License: Creative Commons, Attribution 2.0

PPA Prices – Regulated vs Free Market

We've seen both solar/wind projects competitive @ 130-140 R\$/MWh tariff

Average prices for ACL ~30-40 R\$/MWh above regulated auctions

PPA Price Regulated vs Free Market



¹ Operational Cost + Sector Charges of RR\$ 35 R\$/MWh

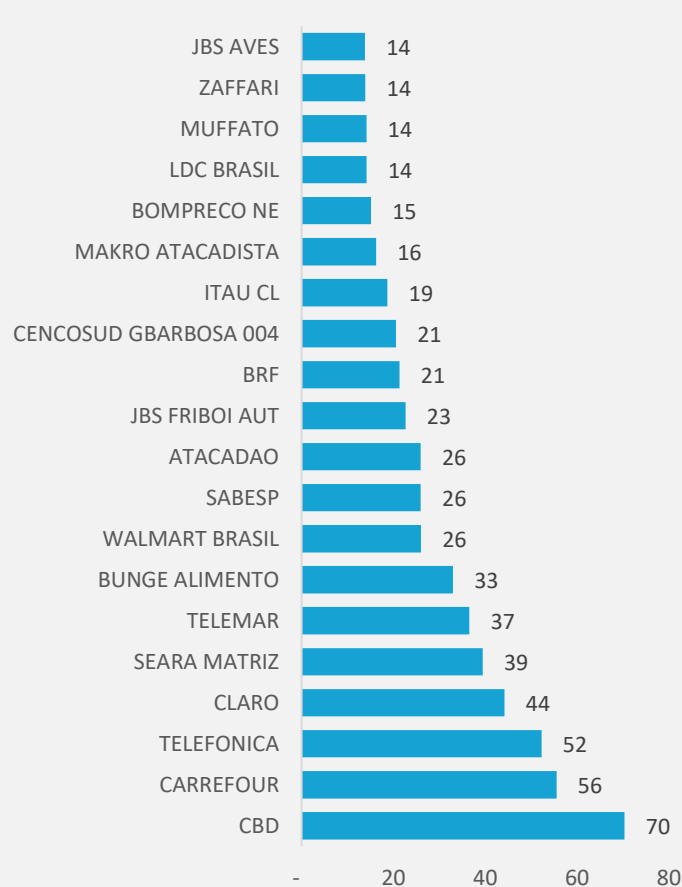
Potencial Buyers - Consumers

With a huge/extensive market to be explored...

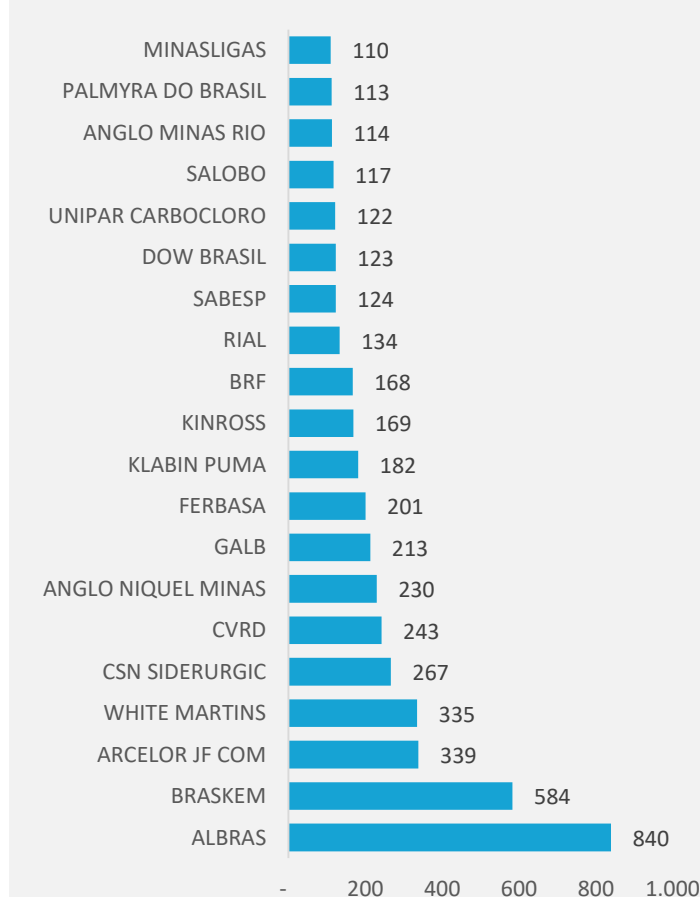
Traders – 2018 MWAvg



Special – 2018 MWAvg





Free Consumers – 2018 MWAvg



Who is financing Free Market ???

It is still challenging, but banks and players are finding its 'ways/structures'

Main Terms and Conditions				
			Infrastructure Bonds	MLAs / ECAs
Eligible Area / Region	Northeast & Noth MG State	No restriction	No restriction	
Eligible Items	Local Content	Local Content	No restriction	
Leverage for Solar (if imported)	[45-50]%	[45-50]%	[60-70]%	
Leverage for Wind	[70-75]%	[60-70]%	[60-70]%	
Expected Cost	IPCA + [2-3]%	IPCA + [5-6]%	IPCA + [5-7]%	
Support Price (Merchant)	90 R\$/MWh	90 R\$/MWh ¹	N/I	N/I
Tenor	20 Y	20 Y	[14-16] Y	20 Y
Budget Restriction	High (~R\$ 10 bn)	Low (~R\$ 100 bn)	No restriction	
Economic Group Max Exposure	R\$ 1,8 bn	~R\$ 20 bn	No restriction	
Pre-Completion Gtee Pack	Bank Guarantee	Bank Guarantee	Disbursing after completion	Bank-Corp Guarantee
Post-Completion Gtee Pack	Partial / Full Recourse	<i>Project Financing</i>	TBD	
Increase on Equity IRR	[400-500] bps	[100-200] bps	[100-200] bps	
Impact on PPA Price	[15-20] R\$/MWh	[5-10] R\$/MWh	[5-10] R\$/MWh	

Required Types of Guarantee

Customary for PF transactions, but requiring additional support/mechanisms

Guarantee Package

Pre-Completion

- ✓ Bank Guarantee (AA-AAA Rating) covering 100%, or Corp Gtee from AAA investor;

Post Completion:

- ✓ Pledge of Equipments;
- ✓ Pledge of SPV Shares / Receivables / PPAs;
- ✓ Reserve Account for Debt Service and O&M;
- ✓ **Additional Gtee**

Project finance common package, but
requiring some strengthens...

Additional Guarantee

- Free market PPAs demands a more robust gtee package for the operational period;
- To be discussed / negotiated on a case by case basis
- **Common asks:**
 - ✓ Additional reserve account (BNDES);
 - ✓ Cash sweep mechanism (BNDES);
 - ✓ Extended bank guarantee (BNB);
 - ✓ Restricted rules/obligations on an eventual PPA replacement;

...to be defined on a case-by-case basis

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Itaca Advisory

ITACA Advisory was established in 2012 to offer strategical and financial consulting services to players in the Brazilian Infrastructure Sector

Main Services

Valuation to
decision making

M&A
&
Fairness Opinion
&
Feasibility
Studies

Financial
Structuring

Auction
Concession
&
PPP
Advisory

Selected Clients



Itaca Advisory – Team

Multidisciplinary team with great experience in finance and infrastructure, aiming to assist its clients different needs



Ulisses Castro

Founding Partner

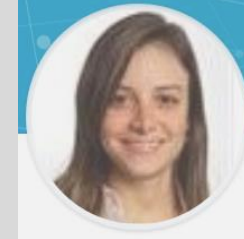
- + 14 years experience in Financial Sector, focused in finance structuring, M&A and valuation;
- Directly involved in + 30 transactions, with CapEx > USD 50 bn;
- Worked in BBVA, Citibank and Eneva;
- ABSolar Member, FGV Energia researcher and external advisor in Furnas/Eletrabras;
- Graduated in Administration from FGV-SP. Fluent in Spanish and English.



Daniel Carvalho

Partner - Modeling

- + 12 years experience in financial sector (Energy and Mining), focused in FP&A and financial modeling;
- Expertise in planning, controlling, budgeting, financial modeling;
- Worked in Neoenergia, Eneva, Odebrecht, MMX and Brasil Ventos;
- Graduated in Accounting from Estácio de Sá. Fluent in English.



Julia Martinelli

Associate - Legal

- + 11 years experience in advocacy, assisting financial and corporate structurings;
- Worked in ENEVA, CSE Energia and Furnas and ex-member of OAB-RJ Power Energy Special Commission;
- Graduated in Law from PUC-Rio, Post-graduated in Business Law (focused in Corporate Law and Capital Markets) from FGV-Rio and Extension in Finance from Instituto COPPEAD de Administração;
- Fluent in English.



Lauria Protásio

Associate - Finance

- + than 9 years of experience in Financial Sector (including Capital Markets), mostly in Energy Sector. Focused in corporate finance, FP&A, valuation and investor relations;
- Worked in Neoenergia, EBAM, EY, Ágora CTVM e CVM;
- Graduated in Economics from UFRJ, MBA in Finance (focused in Corporate Finance) from Ibmecc/RJ
- Fluent in English, Spanish and French.

Advisory Main Fields

Infrastructure Sector advisory in Brazil and Latin America

Transmission Lines



- 7 Customers (+ than 20 projects)
- CapEx + R\$ 2 bn

Thermal Power Generation



- 2 Projects (Gas and Coal)
- CapEx + R\$ 2.6 bn

Hydro Power Generation



- 3 Projects
- CapEx + R\$ 30 bn

Wind Power Generation



- 4 Customers
- CapEx + R\$ 1.6 bn

Oil & Gas and Mining



- 3 Projects
- CapEx + R\$ 2.4 bn

Solar Power Generation



- 2 Customers in CG and 1 in DG
- CapEx + R\$ 3 bn

Logistics



- 4 Projects (Road and Rail)
- CapEx + R\$ 1 bn

Vast expertise in infrastructure projects

Itaca and its executives assisted projects in Brazil and LA to raise ~ **R\$ 7 bn** from Development Banks, MLAs and Comercial Finance Institutions