

SEMINÁRIO FRANCO-BRASILEIRO DE ENERGIA SOLAR

Parceria Estratégica Brasil-França 25/08/2016







AGENDA

- APEX-BRASIL
- MACROECONOMIC INFORMATION
- FRENCH INVESTMENTS IN BRAZIL
- OPPORTUNITIES IN SOLAR ENERGY



BRAZILIAN TRADE AND INVESTMENT PROMOTION AGENCY

CREATED IN 2003

SUPERVISION OF THE MINISTRY OF EXTERNAL AFFAIRS

THAT AIMS TO:

- Promote Brazilian products and services abroad
- Support internationalization of Brazilian enterprises
 - Strengthen Brasil's brand overseas
- Attract foreign direct investments to the Brazilian Economy





10 Business Offices Around the World

LUANDA SAN FRANCISCO MIAMI **BRUSSELS** HAVANA **MOSCOW BOGOTA BEIJING SHANGHAI** DUBAI

INVEST IN BRASIL

Main focus

PRODUCTIVE FDI PROJECTS

- Greenfield investments:
 - Individual projects
 - Joint ventures
- Reinvestments of foreign companies already operating in Brazil.
- Manufacturing plants;
- R&D centers and projects;
- Other initiatives.
- Agribusiness
- Automotive
- Renewable Energies
- Oil and Gas
- Life sciences and medical devices
- Any other sector reactively

VENTURE CAPITAL AND PRIVATE EQUITY PROJECTS

- Foreign Investment to Brazilian Funds (LPs to GPs)
- FDI to Brazilian Companies and Startups
- Co-investment between local and foreign funds (GPs)
- Corporate venture

PRIORITY SECTORS

TYPES

Multi-sector approach

TYPES

ACTIVITIES

PRIORITY SECTORS

How we can help foreign investors

INFORMATION

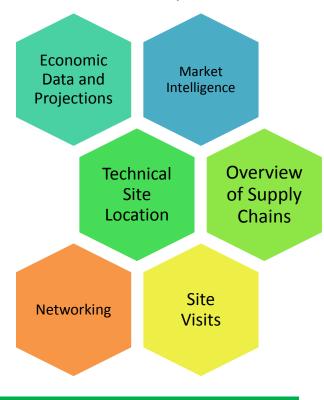
- Macroeconomic data
- Sectorial data
- Benchmark of regions
- Market research
 - Main hub
 - Demand
 - Competition
- Quality of Infrastructure
- Taxes
- Incentives
- Labor regulation
- Among others

NETWORKING

- Private
 - Customers
 - Potential partners
 - Technological Parks
- Public
 - Governmental Institutions (Ministries and Secretaries)
 - Revenue Institutions
 - Financial Institutions
 - Labor Institutions
 - Regulatory and Environmental Agencies

INVESTMENT ANNOUNCING

- Press Meeting
- Authorities' Acquisition



Brazil ranks among the world top

2nd producer of biodiesel

3rd largest renewable energy market in the world.

4th main aircraft manufacturer

7th largest market for pharma products

8th largest IT market in the world

3rd largest telecom industry in the world

10th largest market for medical equipment

Home to the world's 15th largest oil reserves

10th largest industrial producer

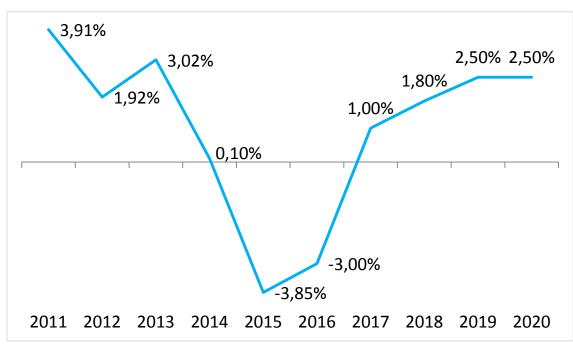
7th largest market for automobiles in the world

13th largest producer of scientific articles

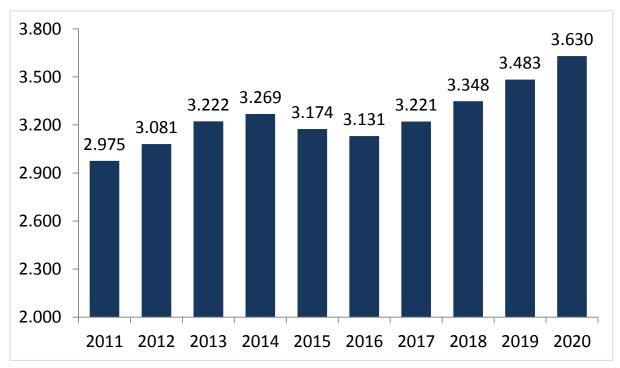


Macroeconomic Environment

Percentage change in real GDP, over previous year



Gross domestic product (GDP) based in PPP (USD Billion)



Brazilian economy is expected to begin recovering in 2017 Growth will pick up in 2019-20

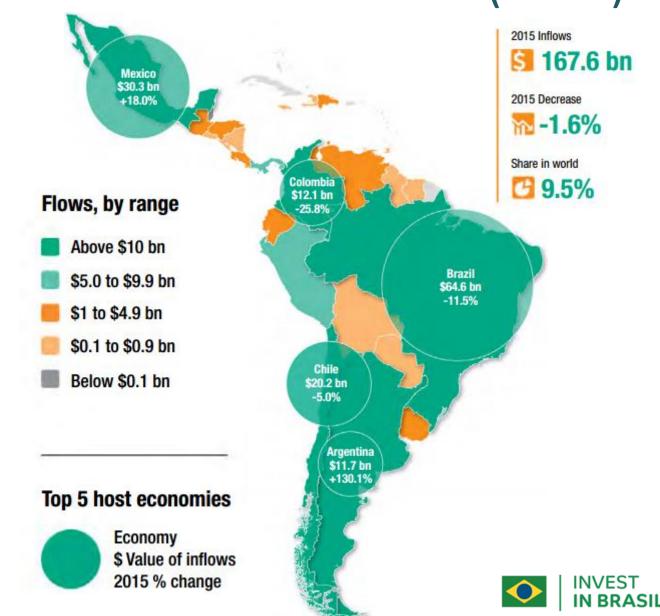
Source: The Economist Intelligence Unit (EIU)

Note: *Forecasts



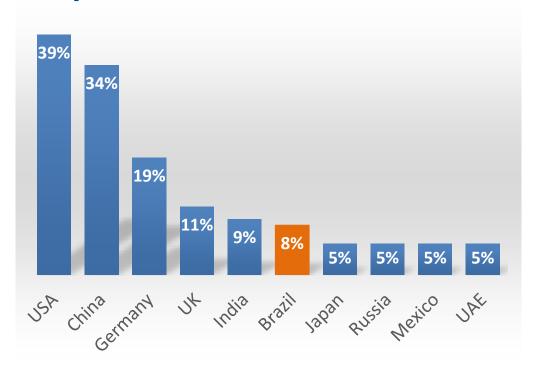
Brazil - Foreign Direct Investment-FDI (2015)

- 7th Destination of FDI
- US\$ 64.6 billions
- 40% of Latin America's FDI
- 5.1% of all productive FDI



Brazil - Business Environment

Expected Growth in BUSINESS



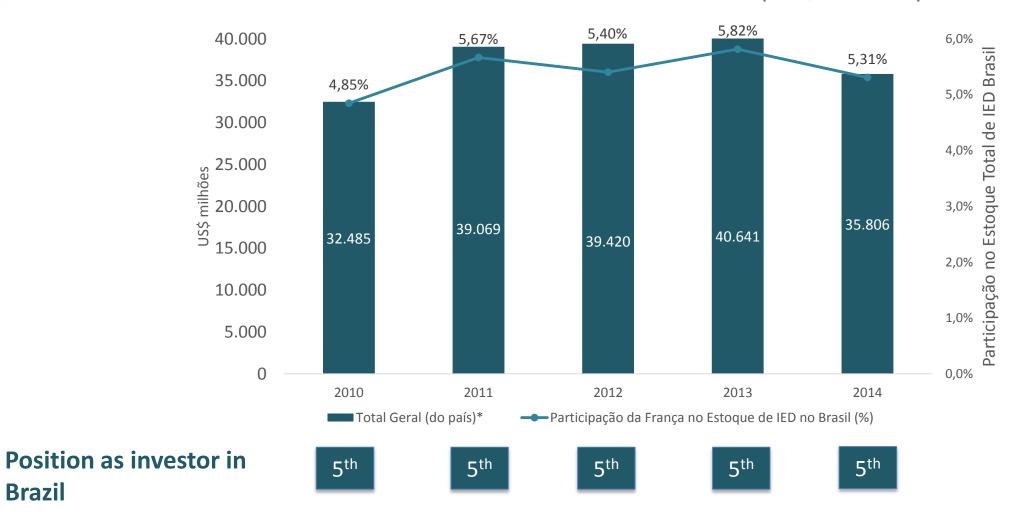
More than **1,400 CEOs** indicated that **Brazil** is the **sixth** most often mentioned country as the one that the CEOs consider **most important for their business**.

Source: PricewaterhouseCoopers (PwC) - 2016





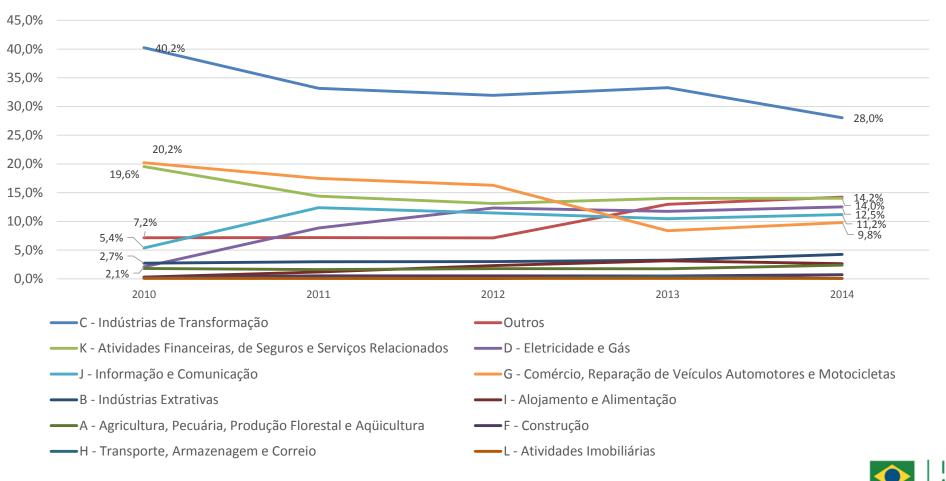
French FDI Stock in Brazil: 2010-2014 (US\$ million)





Brazil

French FDI Stock in Brazil: 2010-2014 (US\$ million)





French Greenfield FDI in the World: Environmental Technology Cluster 2003-2016 (US\$ million)

Country	Greenfield Investment (US\$ million)	
UK	6.922	
United States	5.829	
Romania	4.030	
Brazil	3.581	
Canada	2.330	
India	2.174	
Chile	2.047	
Kuwait	1.800	
China	1.757	
Germany	1.646	
Other	19.741	

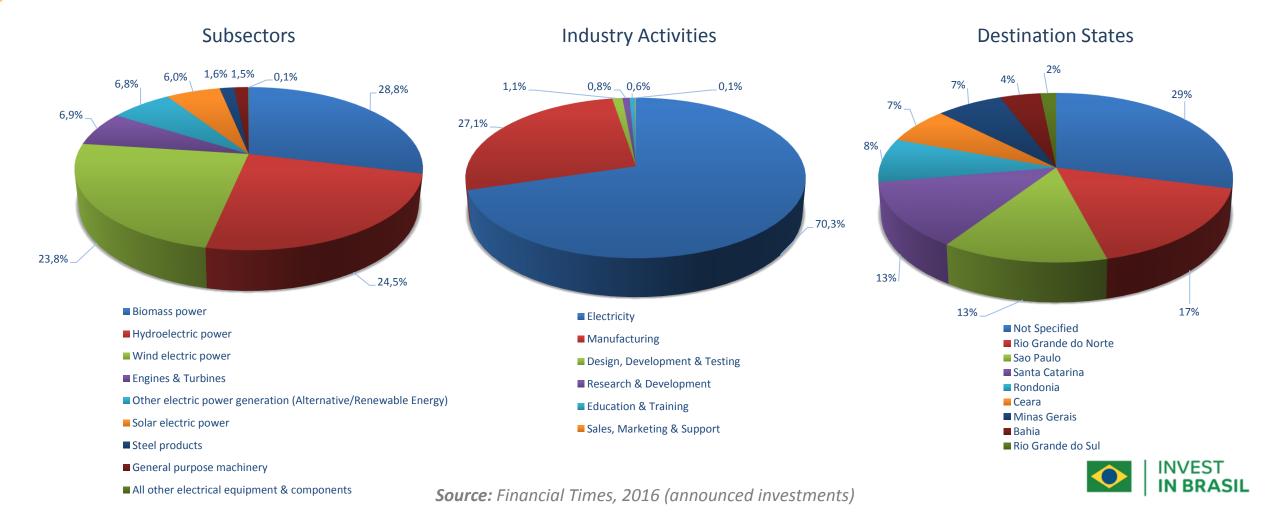
Country	Jobs Created
United States	3.455
China	3.385
Brazil	3.308
Russia	3.000
UK	2.633
India	1.864
Romania	1.858
Mexico	1.844
Kuwait	1.636
Philippines	1.555
Other	12.276

Country	Number of Projects
United States	43
UK	41
Spain	26
Brazil	24
China	22
India	18
Romania	16
Germany	14
Canada	13
South Africa	11
Other	152

Brazil ranks as the 3rd main market for French investments in environmental technology



French Greenfield FDI in Brazil: Environmental Technology Cluster 2003-2016 (US\$ million)



French Greenfield FDI in Brazil: Environmental Technology Cluster 2003-2016 (US\$ million)

French Company	Greenfield Investment (US\$ million)	Number of Projects
Engie (GDF SUEZ) (Gaz de France)	1.580	6
Voltalia	851	4
Alstom	358	9
Rhodia	338	1
Tereos	338	1
Suez	86	1
Eco-Carbone	28	1
Exosun	3	1
Total Geral	3.581	24

Source: Financial Times, 2016 (announced investments)



MAIN OPPORTUNITIES IN SOLAR ENERGY

POTENTIAL

BRAZIL RANKS AS THE 5th BEST COUNTRY IN THE WORLD FOR SOLAR POTENTIAL

HIGH CAPACITY FACTOR FOR SOLAR PHOTOVOLTAIC (PV) INSTALLATIONS OF BETWEEN 19-24 %

RISING AND INCREASINGLY WEALTHY POPULATION

FUTURE GROWTH PERSPECTIVES
WILL INCREASE DEMAND FOR
ENERGY

COP 21 DEAL WILL DRIVE INVESTMENTS TO SOLAR, WIND AND BIOMASS ENERGIES

REALITY

THERE IS AROUND 50 MW OF PV CAPACITY INSTALLED IN BRAZIL. BETWEEN 2017-2018 ANOTHER 3300MW IS EXPECTED TO COME ONLINE

RESERVE ENERGY AUCTIONS (LER) ESTABLISH A RELIABLE PIPELINE FOR UTILITY-SCALE PV PROJECTS

FAVORABLE FINANCING CONDITIONS ARE AVAILABLE THROUGH THE BRAZILIAN DEVELOPMENT BANK (BNDES) AND FROM FOREIGN CAPITAL SOURCES NUMEROUS TAX BREAKS AND STATEWIDE INCENTIVES WERE ESTABLISHED TO ATTRACT GLOBAL EQUIPMENT MANUFACTURERS, AS WELL AS PV PROJECT DEVELOPERS TO THE COUNTRY

THE REVISION OF THE BRAZILIAN ELECTRICITY REGULATION AGENCY'S (ANEEL) NET-METERING POLICY, THROUGH THE RESOLUTION Nº 687/2015 HAS ALSO BEEN KEY IN SUPPORTING THE PV MARKET IN BRAZIL

PROJECTIONS

7 GW OF UTILITY SCALE PROJECTS BY 2024: US\$ 11 BILLION MARKET

5 GW OF DISTRIBUTED GENERATION PROJECTS BY 2024: US\$ 10 BILLION MARKET

SOLAR PV INSTALLED CAPACITY'S SHARE IN BRAZIL WILL INCREASE FROM 0.01% IN 2015 TO MORE THAN 30% BY 2040

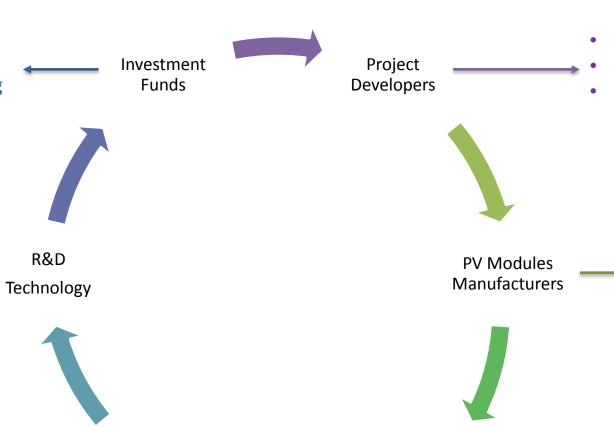


MAIN OPPORTUNITIES IN SOLAR ENERGY

PV Components

Manufacturers

- Invest in projects not financed by BNDES
- Track records are emerging to help the decision
- ROI: 15% to 20%
- ANEEL R&D program
- Gap for companies developing R&D for solar PV
- Systems up to 5MW can participate in the net metering system
- End-user groups, such as condominiums may jointly register renewable DG systems and share its generation



Minigeneration

Projects

Reserve Energy Auctions

20 year contracts

- Companies already operating: Enel Green Power; Conergy; Scatec; etc.
 - Access to all developers using BNDES financing options
 - Companies already investing: Globo Brasil; Canadian Solar; BYD; Pure Energy; Soliker
 - Access to all developers using BNDES financing options
 - Companies already investing: Flex Energy Solutions, WEG,



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THANK YOU





