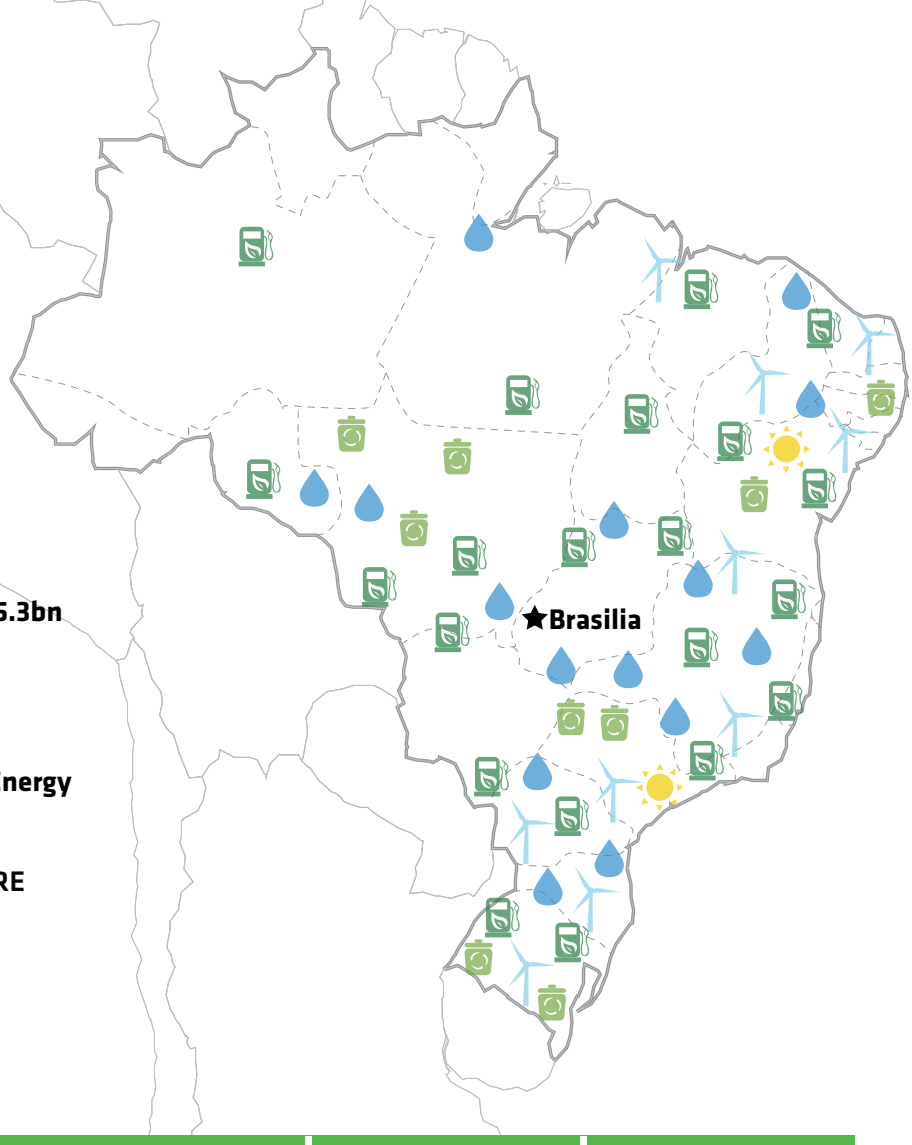
SOUTH AMERICA

Brazil



GDP: **$2,346bn**

Five-year economic growth rate: **1.2%**

Population: **202m**

Total clean energy investments, 2009-2014: **$75.3bn**

Installed power capacity: **138.4GW**

Renewable share: **17.6%**

Total clean energy generation: **87.3TWh**

Top energy authority: **Ministry of Mines and Energy**

OVERALL RANKING 2014	OVERALL RANKING 2015	OVERALL SCORE 2015
2	2	2.12

PARAMETER	RANKING	SCORE
I. Enabling Framework	03	1.98
II. Clean Energy Investment & Climate Financing	17	0.69
III. Low-Carbon Business & Clean Energy Value Chains	02	4.35
IV. Greenhouse Gas Management Activities	02	3.13

SCORE SUMMARY

Brazil in 2015 once again scored second-place overall in Global *Climatescope* and was tops among all Americas nations in the survey. Brazil's overall 2015 score of 2.12 compares with its 2014 score of 2.17.

Brazil maintained its second-place finish despite falling from first to third on Parameter I. It showed notable improvement on the Growth Rate of Clean Energy Investments indicator of Parameter II.

On Enabling Framework Parameter I, Brazil's two-position slide was quantified by a 1.98 2015 score versus 2.14 in 2014.

On Clean Energy Investment and Climate Financing Parameter II, Brazil advanced 10 levels in 2015 to 17th. Its Parameter II scores were 0.69 in 2015 and 0.57 in 2014.

On Low-Carbon Business & Clean Energy Value Chains Parameter III, Brazil in 2015 matched its second-place finish of 2014. Its scores were 4.35 and 4.41 in 2015 and 2014, respectively.

The Americas standard-bearer also stayed even with its second-position finish on Greenhouse Gas Management Activities Parameter IV. Its 2015 score of 3.13 was little changed from 2014's 3.24.

For further information, access www.global-climatescope.org/en/country/brazil

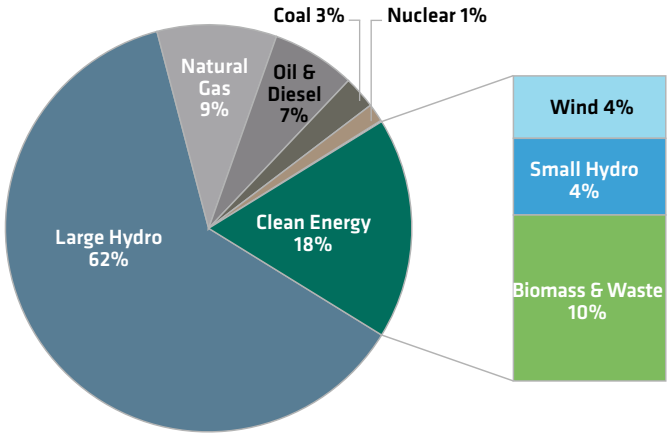
OVERVIEW

BRAZIL COUNTRY PROFILE

Brazil is the largest economy in Latin America with a GDP of $1.73bn in 2014, and as a result, the largest power market in the region, with a total installed capacity of 139GW. The country's sheer size, natural resources and conducive policies for clean energy have made Brazil the main renewable energy market in Latin America and one of the top 10 in the world. In the country, wind projects have reached grid-parity with conventional sources and have become one of the main sources of new capacity. Brazil is also the second largest ethanol producer worldwide, although the sector has struggled in past years due to gasoline price controls and weak crops.

INSTALLED POWER CAPACITY BY SOURCE, 2014 (%)

138.4GW total installed capacity



Source: Bloomberg New Energy Finance, Agência Nacional de Energia Elétrica
Note: Negligible values for solar and other fossil fuels cannot be graphically represented due to scale, see source data for the complete numbers.

KEY POLICIES

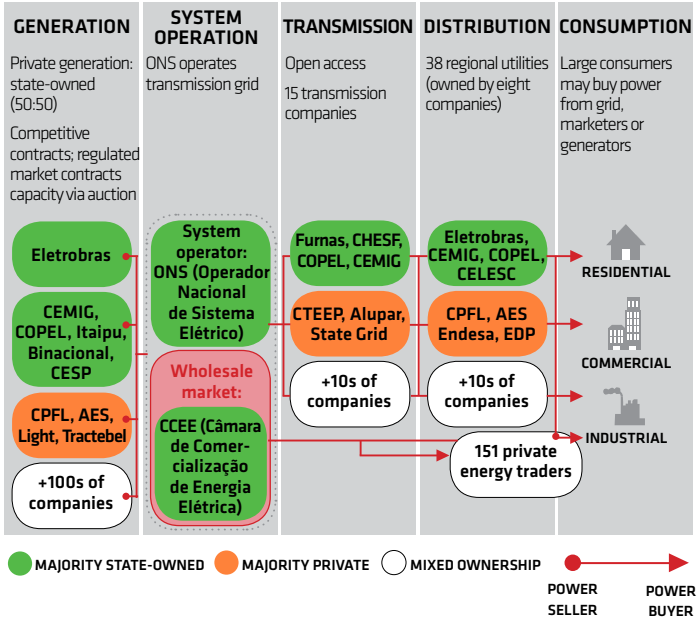
Feed-in Tariff	The government's PROINFA program guaranteed power prices at above-average market rates for 3GW of biomass & waste, small hydro and wind in 135 projects. It ended in 2011.
Auction	There have been 18 tenders in which renewables have competed, contracting a total of almost 17GW in the form of biomass (4.1GW), small hydro (0.7GW) and wind (12GW).
Biofuels	A mandate to blend 5% biodiesel with diesel and 27.5% ethanol with gasoline.
Debt/Equity Incentives	BNDES, the national development bank, offers credit lines for renewable energy, energy efficiency and ethanol projects.
Tax Incentives	These include a 2-year exemption for renewable energy from social contributions (PIS/COFINS tax) and exemption for large infrastructure projects through REIDI program.
Utility Regulation	A fee discount for renewable energy transmission and distribution.
Net Metering	Legislation for a net metering program has been approved, but deployment has been slow.

Fuente: Bloomberg New Energy Finance

As the country battles through a macroeconomic crisis, the clean energy sector has started to feel the impact, especially in 2015 – demand for clean energy projects will continue to be strong, but costs have increased and financing a project is more difficult.

POWER SECTOR STRUCTURE

Regulator: ANEEL (Agência Nacional de Energia Elétrica)



Source: Bloomberg New Energy Finance

A DROUGHT TO FORCE DIVERSIFICATION

Brazil's matrix is very much reliant on hydropower. In the past five years, roughly 75-80% of the country's generation came from hydro plants. The overreliance on one source, albeit renewable, came at a high cost for the country in the last year. A prolonged drought put Brazil's water supply and energy matrix into stress, exposing the market to costly generation from fossil-fueled thermal plants. In the regulated market, utilities struggled to meet power demand and accumulated losses that were later passed to consumers in the form of higher electricity bills. In the wholesale market, where the impact of the energy crisis was felt more immediately, prices increased, and average spot prices in 2014 reached BRL 642/MWh ($273/MWh), up 146% compared to the average in 2013.

Two lessons came out from the hydro crisis: the need for diversification and the importance of distributed generation. Auctions and net metering will continue to be crucial policies to develop Brazil's power sector. Further incentives to encourage small-scale renewable systems are expected, as high costs and access to finance continue to prevent mass-deployment of PV systems in Brazil, in spite of higher electricity prices.

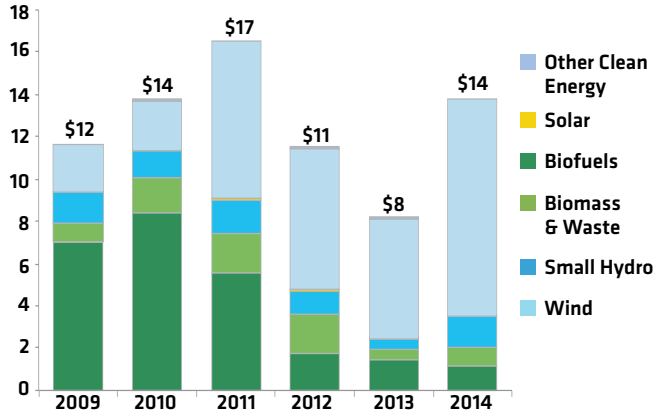
A RENEWABLE MATRIX

While the overall energy grid struggled, Brazil's clean energy sector thrived. 2014 was a record year for renewable energy installations and contracts, and levels of investment bounced back compared to 2013. In 2014, a total of 5.2GW of new clean energy (excluding large hydro) capacity came online. Out of this, 2.9GW came from wind projects, including 1GW of projects that were delayed due to transmission issues.

By the end of 2014, a total of 18% of Brazil's installed capacity came from clean energy. Wind had a total of 5GW installed and biomass and small hydro followed with 13.2GW and 6.1GW respectively. When adding large hydro to the mix, 80% of the country's matrix came from renewables.

ANNUAL INVESTMENT IN CLEAN ENERGY, 2009-2014 ($bn)

$75.3bn total cumulative investment



Source: Bloomberg New Energy Finance
Notes: Total investments includes: Asset Finance, Corporate Finance and Venture Capital / Private Equity Commitments.

Given the drought, and the necessity to add new capacity to the country's matrix, the government contracted a total of 4GW of biomass, solar, small hydro and wind projects through auctions. This was particularly important for the solar sector, which was included for the first time in the country's federal-level tenders, taking 1GW of contracts in 2014, at average prices of $87/MWh, at the time of the auction. The recent devaluation of the Brazilian real has pushed down this price to $56/MWh as of October 2015, putting these among some of the cheapest contracts for solar power in the world.

As the second largest ethanol producer worldwide, the country has established an ethanol blending mandate of 27.5% to mix the fuel from sugar cane with gasoline. It also includes a 7% mandatory blend of biodiesel with diesel. Brazil's biofuel market has struggled in the past years, and will be difficult to relive the glory that it experienced in the early 2000s.

INVESTMENT SCENARIO

After low investment levels in 2013, when the country only attracted $3.1bn, a total of $6.4bn was committed to clean energy projects in Brazil in 2014. The bulk of it went again to wind projects, $5bn. Brazil's national development bank, Banco Nacional de Desenvolvimento Econômico e Social (BNDES) continues to be the main source of financing the country. New financing structures have started to emerge, forced by Brazil's overall macroeconomic crisis and opportunities in the clean energy space. Debentures, a type of bond, have been more commonly included into clean energy project financings. The

LEAGUE TABLE

2014 Total Investments	$13,811m

Top Three Lead Debt Arrangers 2014 ($m)

1st	Banco Nacional de Desenvolvimento Economico e Social	$3,174m
2nd	SBanco Bradesco SA	$290m
3rd	WB Group	$200m

Top Three Equity Sponsors 2014 ($m)

1st	Cia Paranaense de Energia	$1,168m
2nd	Renova Energia SA	$879m
3rd	Centrais Eletricas Brasilerias SA	$538m

Top Three Asset Finance Deals, 2014 ($m)

Rank	Sector	Project	Developer	Value
1st		Renova Energia BNDES Wind Portfolio	Renova	$607m
2nd		Energisa Wind Portfolio Brookfield Acquisition	Energisa	$346m
3rd		Casa dos Ventos Santa Brigida Wind Portfolio	Casa dos Ventos	$331m

Source: Bloomberg New Energy Finance
Notes: Figures refer to disclosed asset finance investments committed in 2014 and include balance sheet commitments

yieldco phenomenon has also reached the country, through acquisitions in early 2015. However, opportunities for financing from foreign banks continues to be limited, as contracts firmed in local currency and the real devaluation do not favor loans in dollars.

CLEAN ENERGY MANUFACTURING

Overall, Brazil has a wide manufacturing capacity for clean energy sources, with the exception of geothermal. Brazil's industrial policy and local-content rules have driven the manufacturing build up of the wind sector in the country. Today, it counts seven wind turbine manufacturers producing locally from towers to blades. The sector struggled in 2014 with a shortage of equipment, as local producers of secondary components such as bearings did not keep pace with demand. Moving forward, Brazil is applying a local content road map for solar equipment, which aims to have in-country cell manufacturing by 2020.

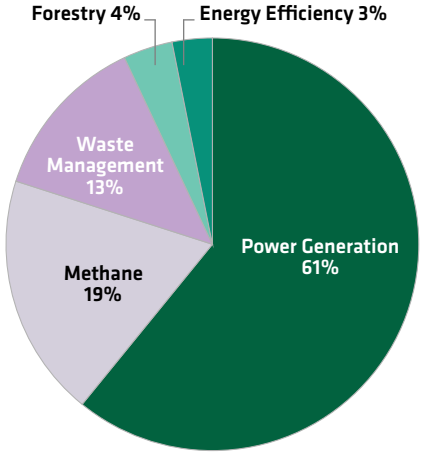
FINANCIAL INSTITUTIONS IN CLEAN ENERGY

✓	Banks	✓	Corporate Finance
✓	Funds	✓	Impact Funds
✓	Private Equity / Venture Capital		

Source: Bloomberg New Energy Finance
Note: Refers to types of institutions that finance clean energy projects. Check means that at least one institution is active in that segment in the country

CARBON OFFSET PROJECTS BY SECTOR

414 CDM and voluntary carbon offset projects



Source: UNEP Risoe, Bloomberg New Energy Finance

CLEAN ENERGY VALUE CHAINS BY SECTOR

Sector / Quantity	Available Sub-Sector, Unavailable Sub-Sector
Biofuels	**Producers ; Engineering ; O&M ; Equipment Manufacturing ; Distribution and Blending**
Biomass & Waste	**Project Development ; Engineering ; O&M ; Equipment Manufacturing ; Feedstock Supply**
Geothermal	Project Development ; Engineering ; O&M ; Resource Development ; Turbines ; Balance of Plant
Small Hydro	**Project Development ; Engineering ; O&M ; Turbines ; Balance of Plant**
Solar	**Project Development ; Engineering ; O&M ;** Polysilicon/ingots ; Wafers ; Cells ; **Modules ; Inverters ; Balance of Plant**
Wind	**Project Development ; Engineering ; O&M ; Turbines ; Blades ; Gearboxes ; Towers ; Balance of Plant**

Source: Bloomberg New Energy Finance
Note: Uncolored icons, on the left, refer to each sub-sector of a complete value chain for a given sector, spelled out on the right. Colored icons represent the number of available subsectors for a given clean energy sector value chain. Bold text, on the right, illustrates at least one organization in that sub-sector is active in the country.

CARBON POLICY

Given the development level of Brazil's economy and the wide number of multinational corporations operating there, the country hosts at least 100 companies that have adopted either energy efficiency or emission reduction measures. It also added 14 carbon offset projects, taking its total to 423, the majority of which are in the power sector. As Brazil prepares itself for the COP meeting this year in Paris, the government has announced a target of 37% CO_2 emissions reductions by 2025.