Industry size in Brazil

827 wind farms

22.5GW of installed capacity

9,406 turbines in operation

12 states

36.2 Million of households per month can be supplied

72.2 TWh of wind energy were generated in 2021

108.7 Million of benefited inhabitants

27% growth over the previous year

12% of all the generation injected into the National Interconnected System in the period

Contributions to wind energy in Brazil

US$35.8 Billion investments in the sector between 2011 and 2020

R$ 321 Billion in economy

R$ 110.5 Billion direct investment in the construction of wind farms

R$ 210.5 Billion as indirect effects

From 2011 to 2020, the construction of wind farms created almost 196 thousand jobs or 10.7 jobs per installed MW.

Brazilian eletricity matrix in GW

Solar energy has an additional 13 GW of installed capacity of distributed generation

Capacity installed evolution in MW

Data up to September 2022

12.1% 22.5GW Wind

22.5GW 55.7%

103 GW Hydro

16.2 GW 8.7%

Biomass

3.5 GW 3.3%

Small Hydro

6.2 GW 8.9%

Photovoltaic

16.5 GW 4.7%

Natural Gas

8.7 GW 1.9%

Fuel Oil

3.6 GW 3.3%

Mineral Coal

2.0 GW 1.1%

Nuclear

Brazil will have about 39.4 GW of wind power installed capacity until 2026*

From 2011 to 2020, the Brazilian wind sector will have avoided greenhouse gas emissions valued at between R$60 and 70 billion.

15 jobs are created for each MW installed

From 2016 to 2024, the Brazilian wind sector will have avoided greenhouse gas emissions equivalent to the emission of about 34 million cars.

ABEEólica

Source: Bloomberg New Energy Finance - BNEF / MCTIC / ABEEólica

Source: SIGA/ANEEL

Source: ANEEL / ABEEólica

Source: ABEEólica
### Records by area

#### NE 137.02%

of the energy consumed in Northeast subsystem came from wind farms, with a capacity factor of 72.85% and generation of 14,439 MWmed.  
(05/SEP/2022)

#### SIN 22.97%

of the energy consumed in National Interconnected System came from wind farms, with a capacity factor of 71.07% and generation of 15,890 MWmed.  
(06/SEP/2022)

#### S 16.96%

of the energy consumed in South subsystem came from wind farms, with a capacity factor of 86.63% and generation of 1,796 MWmed.  
(07/SEP/2021)

#### N 6.70%

of the energy consumed in North subsystem came from wind farms, with a capacity factor of 96.96% and generation of 413 MWmed.  
(04/SEP/2021)

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### Benefits of wind energy

- **Generates income and improves life for landowners with lease for placement of towers**
- **Enables land-owners to continue planting or growing their animals**
- **It is renewable, it does not pollute, it contributes for Brazil to fulfill its objectives in the Climate Agreement**
- **One of the best cost-effective energy tariffs**
- **Wind parks do not emit CO₂**
- **Provides training and qualifications for local labor**

The installation of wind farms contributes to increase in the Gross Domestic Product (GDP) and the Municipal Human Development Index (MHDI), as identified by a study by GO Associados. Through a comparison between a group of municipalities that have wind farms and another that does not, it was possible to conclude that in the municipalities where there are wind farms: to identify that in the municipalities that received their installation:

- real GDP increased by 21.15%  
  (period 1999 to 2017)
- the MHDI grew about 20% (2000 to 2010 period)

Wind energy occupies little land, allowing the continuation of the creation of animals or plantations. Considering the space chosen for a wind farm, the turbines occupy about 8% of the area, and can reach about 6%.

Every BRL 1.00 invested in wind farms increased Brazilian GDP by around BRL 2.9.  
**It’s the power of the winds doubling the benefits!**

The data are from the study "Estimativas dos impactos dinâmicos do setor eólico sobre a economia brasileira", by Braulio Borges, associate researcher at FGV-IBRE and senior economist at LCA Consultores.

Brazil is ranked 6th in the World Ranking of wind energy installed capacity. In 2012, Brazil was ranked 15th.

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### Capacity installed and number of wind farms by state

<table>
<thead>
<tr>
<th>State</th>
<th>Capacity installed (MW)</th>
<th>Wind farms</th>
<th>Wind turbines</th>
</tr>
</thead>
<tbody>
<tr>
<td>NE</td>
<td>6,764.94</td>
<td>221</td>
<td>2,735</td>
</tr>
<tr>
<td>MA</td>
<td>6,259.48</td>
<td>237</td>
<td>2,521</td>
</tr>
<tr>
<td>PA</td>
<td>2,788.05</td>
<td>91</td>
<td>1,095</td>
</tr>
<tr>
<td>PB</td>
<td>2,496.94</td>
<td>97</td>
<td>1,121</td>
</tr>
<tr>
<td>SE</td>
<td>1,835.89</td>
<td>80</td>
<td>830</td>
</tr>
<tr>
<td>RJ</td>
<td>989.77</td>
<td>38</td>
<td>456</td>
</tr>
<tr>
<td>MA</td>
<td>628.44</td>
<td>30</td>
<td>257</td>
</tr>
<tr>
<td>SE</td>
<td>426.00</td>
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</tr>
<tr>
<td>BA</td>
<td>242.70</td>
<td>15</td>
<td>174</td>
</tr>
<tr>
<td>PB</td>
<td>34.50</td>
<td>1</td>
<td>23</td>
</tr>
<tr>
<td>PE</td>
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<td>1</td>
<td>17</td>
</tr>
<tr>
<td>MA</td>
<td>2.50</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>TT</td>
<td>22,497.25</td>
<td>827</td>
<td>9,406</td>
</tr>
</tbody>
</table>

There are another 1.5GW in test operation, which should come into operation in the coming weeks.

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### Did you know?

80% of Brazilian wind farms are in the Northeast, a region that has one of the best winds in the world for producing wind energy.

#### Favorable winds in Brazil

The favorable winds for producing wind energy are more constant, have a stable speed and do not change direction frequently.

57.9% was the average monthly Capacity Factor achieved by wind farms in Brazil in 2021, in August.

43.6% was the average Capacity Factor in Brazil in 2021.

34% is the Capacity Factor approx. global average.

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#### International comparisons GWEC

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#### More informations:

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08/SEP/2022

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