

Note: For a better visualization, the minimum scale of the graphs was raised to the level close to the lowest value of the curves.

Methodological Remarks

The purpose of this bulletin is to follow up a set of energy and non-energy variables that provide a reasonable estimate of the behavior both monthly as cumulative of the total energy demand in Brazil.

Total demand of natural gas = domestic production (+) import (-) unused (-) reinjection.

Domestic Energy Supply (DES), or Brazilian energy demand, represents the energy necessary to move the economy of a country or region over a period of time, includes final energy consumption in the residential sector and in the other economic sectors, includes losses in transmission and distribution, losses on power transformation and the own consumption of the energy sector.

The DES and DELS data from 2018 reflect the final results of the Brazilian Energy Balance (BEN), concluded in May by the Energy Research Office (EPE) in cooperation with the MME and its entities and agencies.

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Monthly Energy Bulletin – Brazil

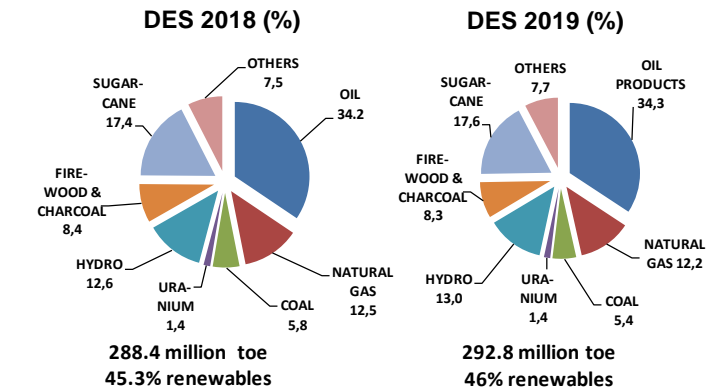
Reference Month: April 2019

Domestic Energy Supply

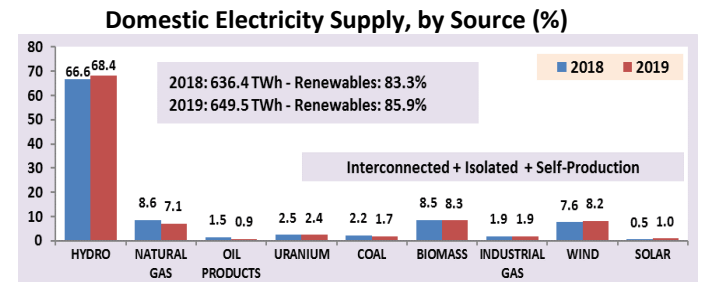
In April 2019, energy indicators repeated the deceleration already seen in March. The 2.9% decline in electricity demand is a good example, although it is still accumulating an increase of 1.9% in the year. Petroleum products followed the same direction, showing a decrease of 2.2% in the month.

Concerning Domestic Energy Supply (DES)¹ of 2019, the current constraints lead to an estimated growth of up to 1.5%, slightly below previous forecasts. Even with some growth, the OIE will be 4 to 5% lower than the 2014 value.

Total energy demand for 2019 is expected to increase about 1.5%



The Domestic Electricity Supply (DELS)² of 2019 was estimated at 649.5 TWh, showing an increase of 2.1% over 2018 (2.6% in the previous bulletin). The share of renewables should exceed 85%, with wind and solar energy continuing to increase their participations.



Highlights in April 2019

Oil production decreasing

Oil production fell by 0.5% in April 2019, on the same month of 2018, and accumulated a 0.7% drop in the year. Natural gas production increased 3.8% in the month, and accumulated a rise of 2.3% in the year.

Steel production in fall

Steel production declined 2.1% in April, and accumulated a 2.7% drop in the year (up 1.1% in the year 2018). Exports of iron ore accumulated a drop of 5% in the year, and pellets, a 6.3% fall.

Hydraulic slows on up

Hydraulic generation accumulated a high of 3.1% in the year (2.8% to March). Itaipu's generation accumulated a 25.3% drop.

Oil derivatives decreasing

Apparent consumption of petroleum products fell by 2.2% in April (excluding ethanol and biodiesel). Diesel consumption (biodiesel included) grew by 6.2% in April, and accounted for 8.3% in the year. The consumption of gasoline C had a decrease of 5.3%, being compensated by the 35.6% increase in hydrous ethanol. The total demand for natural gas accumulated a drop of 4.7% in the year, with an accumulated decrease of 8.1% in electric generation.

Energy consumption in light vehicles of the Otto cycle (gasoline, ethanol and natural gas) is decelerating - accumulates a high of 2.7%, against 4.5% up to February (-1.2% in 2018, + 1.7% in 2017, -1.1 % in 2016, + 0.8% in 2015 and + 6.2% in 2014). It is an indicator that directly reflects the economy effects on the population purchasing power.

Electricity consumption recoils

Electricity consumption fell by 2.9% in April (excluding autoproducers that do not use the public grid), but accumulated a 1.9% increase in the year. The tariffs were negative in residential (-1.9%), commercial (-1.5%) and industrial (-6%) consumptions. Only the group of public and agricultural services grew 0.9%.

Biodiesel production decelerates

Biodiesel production accumulates a high of 13.6% (25% in 2018, 12.9% in 2017, -3.6% in 2016 and 15% in 2015).

Pulp production accumulated a 4% drop in the year, due to high inventories in China at the end of 2018 (7.1% in 2018, 3.8% in 2017, 7.8% in 2016, 8.5% in 2015 and 9.2% in 2014). The accumulated paper production is down 1.1% in the year (0.8% in 2018 and 1.7% in 2017).

Electricity tariffs in high

The average domestic tariff for residential electricity accumulates 15.4% in the year (12.6% in 2018, stable in 2017, 5.8% in 2016 and 42.5% in 2015). The commercial tariff increased 13.9% (12.4% in 2018, 0.7% in 2017, 5.7% in 2016 and 43.8% in 2015) and the industrial increased 12.8% (13.4% in 2018, 1.2% in 2017, 3.6% % in 2016 and 51.7% in 2015).

Basic Data

| SPECIFICATION | APRIL | | | | | | | |
|--|--------------|--------|---------|-------------------------|--------|---------|-------|--|
| | IN THE MONTH | | | ACCUMULATED IN THE YEAR | | | | |
| | 2019 | 2018 | % 19/18 | 2019 | 2018 | % 19/18 | 98 | |
| OIL | | | | | | | | |
| PRODUCTION - with Shale Oil and NGL(10 ³ b/d) | 2,700 | 2,714 | -0.5 | 2,692 | 2,712 | -0.7 | - | |
| IMPORTS AVERAGE PRICE (US\$/bbl FOB) | 71 | 69 | 2.9 | 67 | 66 | 1.9 | - | |
| OIL PRODUCTS | | | | | | | | |
| TOTAL CONSUMPTION (10 ³ b/day) | 2,415 | 2,469 | -2.2 | 2,442 | 2,461 | -0.8 | 100.0 | |
| hereof: DIESEL with biodiesel - (10 ³ b/day) | 1,028 | 968 | 6.2 | 1,005 | 928 | 8.3 | 39.1 | |
| hereof: GASOLINE C (10 ³ b/day) | 670 | 707 | -5.3 | 649 | 709 | -8.4 | 21.3 | |
| CONSUMER PRICE - DIESEL (R\$/l) | 3.61 | 3.43 | 5.1 | 3.51 | 3.39 | 3.3 | - | |
| CONSUMER PRICE - GASOLINE C (R\$/l) | 4.47 | 4.13 | 8.3 | 4.31 | 4.18 | 3.1 | - | |
| CONSUMER PRICE - LPG (R\$/13 kg) | 69.2 | 67.0 | 3.4 | 69.2 | 67.0 | 3.3 | - | |
| NATURAL GAS | | | | | | | | |
| PRODUCTION (10 ⁶ m ³ /day) | 112.9 | 108.7 | 3.8 | 112.0 | 109.5 | 2.3 | - | |
| IMPORTS (10 ⁶ m ³ /day) | 22.3 | 22.2 | 0.2 | 24.6 | 25.8 | -4.8 | - | |
| NON-UTILIZED AND REINJECTION (10 ⁶ m ³ /day) | 44.7 | 36.1 | 23.9 | 41.7 | 35.8 | 16.5 | - | |
| AVAILABILITY FOR CONSUMPTION (10 ⁶ m ³ /day) | 90.5 | 94.9 | -4.6 | 94.8 | 99.5 | -4.7 | 100.0 | |
| INDUSTRIAL CONSUMPTION (10 ⁶ m ³ /day) | 36.1 | 39.7 | -9.1 | 37.2 | 39.5 | -5.7 | 39.3 | |
| POWER GENERATION CONS. (10 ⁶ m ³ /day) | 17.8 | 21.6 | -17.7 | 22.3 | 24.3 | -8.1 | 23.5 | |
| INDUSTRIAL PRICE SP(*) (US\$/MMBtu) - | 15.2 | 11.7 | 29.6 | 15.1 | 12.2 | 23.6 | - | |
| MOTOR PRICE SP (US\$/MMBtu) | 20.0 | 16.9 | 18.1 | 19.3 | 17.8 | 8.3 | - | |
| RESIDENTIAL PRICE SP (US\$/MMBtu) | 36.4 | 36.8 | -1.1 | 35.8 | 37.6 | -4.8 | - | |
| ELECTRICITY | | | | | | | | |
| NATIONAL INTERCONNECTED SYSTEM | 67,723 | 66,359 | 2.1 | 69,784 | 67,715 | 3.1 | 100.0 | |
| SOUTHEAST/MIDWEST POWER LOAD (MWavg) | 39,606 | 38,709 | 2.3 | 40,792 | 39,573 | 3.1 | 58.5 | |
| SOUTH POWER LOAD (MWavg) | 11,667 | 10,907 | 7.0 | 11,938 | 11,975 | -0.3 | 17.1 | |
| NORTHEAST POWER LOAD (MWavg) | 11,057 | 10,501 | 5.3 | 11,224 | 10,695 | 5.0 | 16.1 | |
| NORTH POWER LOAD (MWavg) | 5,461 | 5,482 | -0.4 | 5,481 | 5,511 | -0.5 | 7.9 | |
| TOTAL CONSUMPTION (TWh) (**) | 39.5 | 40.7 | -2.9 | 162.8 | 159.8 | 1.9 | 100.0 | |
| RESIDENTIAL | 11.6 | 11.8 | -1.9 | 49.3 | 47.0 | 5.0 | 30.3 | |
| INDUSTRIAL | 13.7 | 14.5 | -6.0 | 54.7 | 56.1 | -2.5 | 33.6 | |
| COMMERCIAL | 7.8 | 7.9 | -1.5 | 32.2 | 31.0 | 3.7 | 19.8 | |
| OTHER SECTORS | 6.5 | 6.4 | 0.9 | 26.6 | 25.7 | 3.6 | 16.4 | |
| PLANTS ENTRY INTO OPERATING (MW) | 320 | 481 | -33.4 | 1,489 | 1,847 | -19.4 | - | |
| RESIDENTIAL PRICE (R\$/MWh) | 755 | 662 | 14.0 | 755 | 654 | 15.4 | - | |
| COMMERCIAL PRICE (R\$/MWh) | 668 | 588 | 13.6 | 665 | 584 | 13.9 | - | |
| INDUSTRIAL PRICE (R\$/MWh) | 628 | 558 | 12.5 | 632 | 560 | 12.8 | - | |
| ETHANOL AND BIODIESEL | | | | | | | | |
| BIODIESEL PRODUCTION (10 ³ b/d) | 97 | 94 | 4.2 | 94 | 83 | 13.6 | - | |
| MOTOR ETHANOL CONSUMPTION (10 ³ b/d) | 562 | 461 | 21.9 | 550 | 468 | 17.6 | - | |
| ETHANOL EXPORTS (10 ³ b/d) | 39 | 16 | 147.0 | 28 | 17 | 63.8 | - | |
| HYDRATED ETHANOL PRICE (R\$/l) | 2.82 | 2.97 | -5.1 | 2.86 | 3.00 | -4.8 | - | |
| COAL | | | | | | | | |
| ELECTRICITY GENERATION (MWavg) | 1,322 | 1,233 | 7.2 | 1,132 | 1,463 | -22.7 | - | |
| IMPORT PRICE (US\$/t) | 143.3 | 161.9 | -11.5 | 154.9 | 141.3 | 9.6 | - | |
| NUCLEAR ENERGY | | | | | | | | |
| ELECTRICITY GENERATION - (GWh) | 1,070 | 1,424 | -24.9 | 5,110 | 4,504 | 13.5 | - | |
| INDUSTRIAL SECTORS | | | | | | | | |
| STEEL PRODUCTION (10 ³ t/day) | 96 | 98 | -2.1 | 94 | 97 | -2.7 | - | |
| ALUMINIUM PRODUCTION (10 ³ t/day) | 1.6 | 2.0 | -19.7 | 1.6 | 2.1 | -23.5 | - | |
| IRON ORE EXPORTS (10 ³ t/day) | 579 | 770 | -24.8 | 777 | 818 | -5.0 | - | |
| PELLETS EXPORTS (10 ³ t/day) | 52 | 92 | -44.0 | 83 | 88 | -6.3 | - | |
| PAPER PRODUCTION (10 ³ t/day) | 29.3 | 29.3 | -0.1 | 28.7 | 29.0 | -1.1 | - | |
| PULP PRODUCTION (10 ³ t/day) | 57.8 | 56.2 | 3.0 | 55.3 | 57.6 | -4.0 | - | |
| SUGAR PRODUCTION (10 ³ t/day) | 48 | 72 | -33.3 | 18 | 25 | -29.6 | - | |
| SUGAR EXPORTS (10 ³ t/day) | 41 | 38 | 7.5 | 38 | 53 | -27.6 | - | |

(*) SP is the acronym of the state of São Paulo.

(**) The traditional self-producers (consumers that do not use public grid) is not included.

