MINISTRY OF
MINES AND ENERGY

BRAZILIAN GOVERNMENT
BRASIL
UNITING AND REBUILDING

# MONTHLY ENERGY BULLETIN BRAZIL

August 2024 Edition

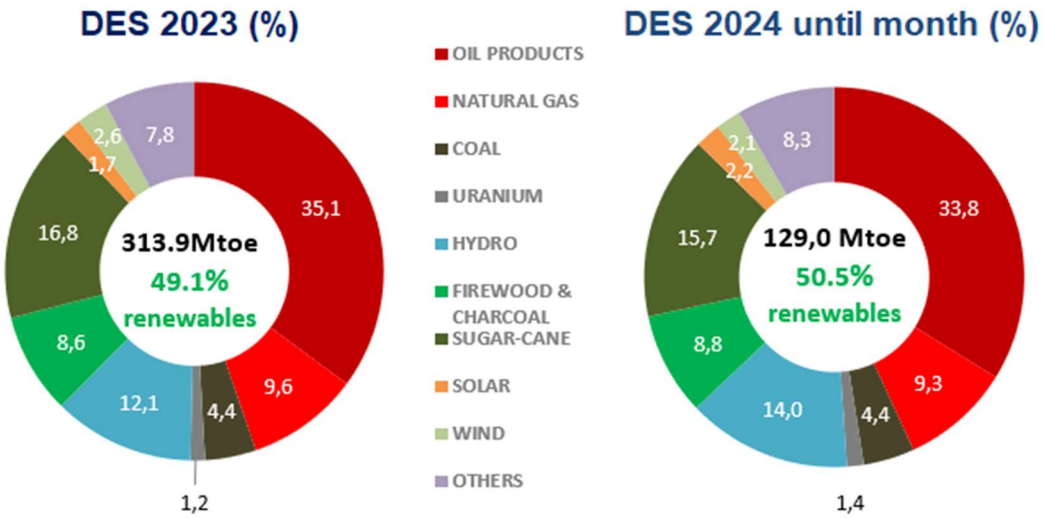
May 24

# DOMESTIC ENERGY SUPPLY

Regarding the data up to May 2024, renewables share in the Domestic Energy Supply (DES)[1] is expected to increase to 50,5%, slightly above the previous year (49.1%), mainly due to the greater generation of hydraulic energy, despite the smaller share of wind energy and sugarcane products, a fact that is common at the beginning of the year, due to the sugar cane harvest.

According to the most current survey by the Brazilian Supply Company (Conab), it is estimated that there will be a reduction of 0.6% in ethanol production from sugarcane and corn compared to the 2023/2024 harvest.

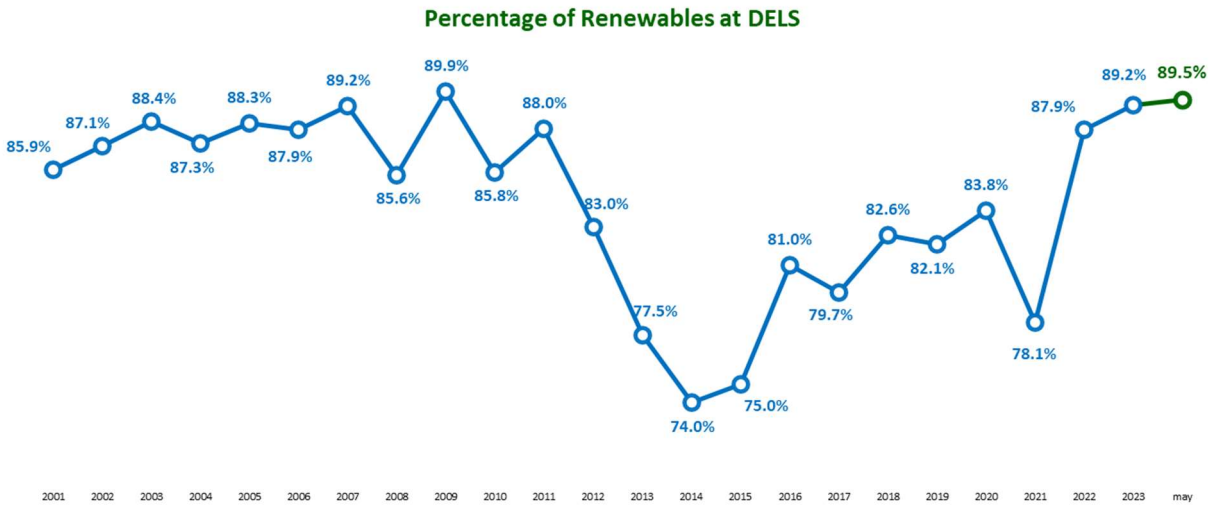
## MORE RENEWABLE DOMESTIC ENERGY SUPPLY IN 2024



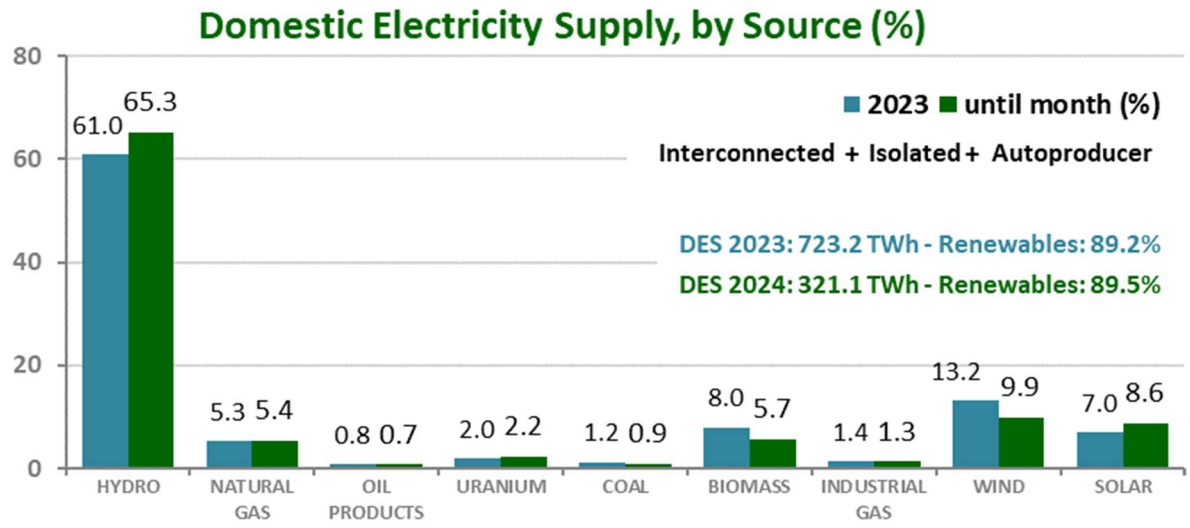

*OTHER: includes other renewable and non-renewable

In 2024, regarding the proportion of renewables in the Domestic Electricity Supply (DELS)[2], it was found that 89.5% were obtained from renewable sources up to May, reaching a cumulative value of 321.1 TWh.

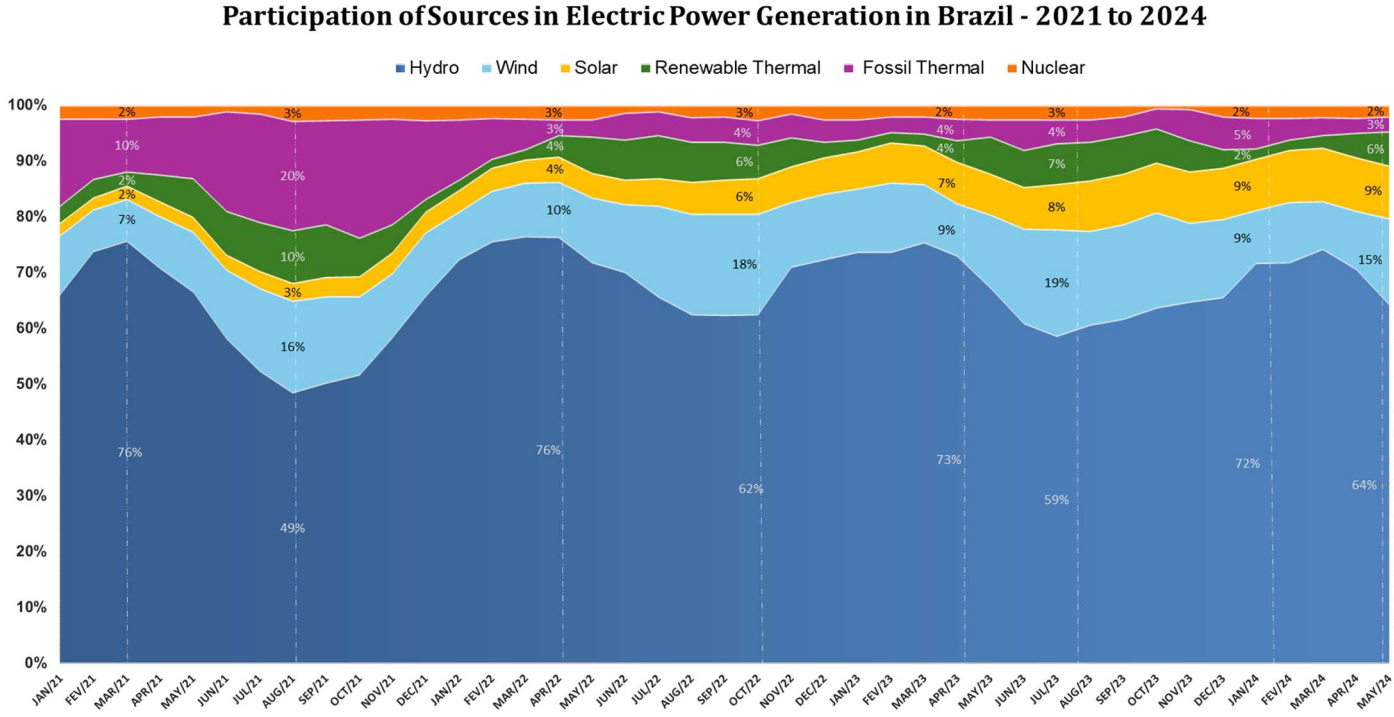
The figure below highlights the significant proportion of renewables in our DELS, contributing to a cleaner energy generation. This is a result of both favorable hydrological conditions and investments in solar and wind energy.



For the first five months of the year, compared to the same period of the previous year (year-to-date, or YTD), there were a 53% increase in generation for centralized solar and 3% for national hydropower generation and 1% for wind generation. For hydropower, compared to the average for the whole of last year, generation is around 17% higher.




The last two years were more favorable for hydropower generation, compared to 2021, when there was a scenario of water scarcity. The following figure shows how each source participated in monthly power generation. When there was a reduction in hydropower share, biomass and wind sources mostly increased their share, in order to meet the Brazilian electricity demand. Wind and solar shares have increased over the years, due to an increase in installed capacity, mainly due to solar distributed generation.



# HIGHLIGHTS IN MAY 2024

## Oil and gas growing

Oil and gas production increased, rising 5.1% and 2.1% respectively, YTD.

## Steel and Mining growing

YTD, steel production had a small increase of 1.0% while aluminum production grew 7.8% and iron ore exports rose by 8.1%. Meanwhile, pellets exports increased by 13.6%.

## Hydraulic supply

The hydraulic energy supply increased by 2.6%, YTD. The monthly average was 56,354.3 MWavg. Itaipu's supply, for the same period, decreased by 29.7%.

## Wind energy supply in high

Wind energy supply up to May 2024 increased by 1.0%, YTD.

For the five first months of 2024, 2,034 MW of wind power plants came into operation, 1.0% higher than the same period of the last year.

## International power energy exchange

In May 2024, Brazil imported 58 MWavg for Argentina and exported 14 MWavg from Uruguay.

## Natural gas availability falling

Gas consumption availability fell by 2.2%, YTD.

## Coal for electricity power generation falling

Coal public power generation showed a reduction of 3.5% YTD.

## Oil Derivatives Apparent Consumption

Apparent consumption of petroleum derivatives reduced by 1.5% in the YTD, diesel B (14% biodiesel) final consumption increased by 3.5% and regular gasoline consumption reduced by 8.0%.

Energy consumption in light vehicles using Otto cycle fuels (gasoline, ethanol, and natural gas) had an increase of 4.2% year-to-date.

## Gasoline and Hydrated Ethanol Prices

Gasoline C price increased by 8.1%, while hydrated ethanol price decreased by 7.1% year-to-date. Probably, as a result of these movements, hydrated ethanol sales by distributors increased by 52.8% year-to-date.

## Biodiesel production in high

Biodiesel production and automotive ethanol consumption increased by 32.0% and 23.5%, respectively, YTD. Automotive ethanol includes anhydrous ethanol mixed with gasoline and hydrated ethanol.

From April 2023 on the mandatory biodiesel blend in diesel oil was increased to 12%, with a progressive increase planned to reach 15% by 2026. CNPE Resolution No. 3, dated May 20, 2023, established new guidelines for the evolution of the mandatory addition of biodiesel to diesel sold to the final consumer.

In December 2023, the CNPE approved the advancement of the 14% biodiesel blend mandate to March 2024 and the 15% blend mandate to March 2025. Biodiesel, as a replacement for fossil diesel, contributes to reducing greenhouse gas emissions and decreases the need for importing fossil fuel.

## Electricity consumption growing

Electricity consumption in the residential sector grew 13.5% compared to May 2023. Industrial consumption increased 4.9% while commercial consumption grew 11.4%.

## Electricity tariffs in high

The three electricity tariffs (residential, commercial and industrial) had increased compared to the previous year. Residential tariffs grew by 7.6%, while for the commercial sector there was an increase of 8.3%, and 10.4% for the industrial sector.

## Solar distributed generation installed capacity (DG) rising

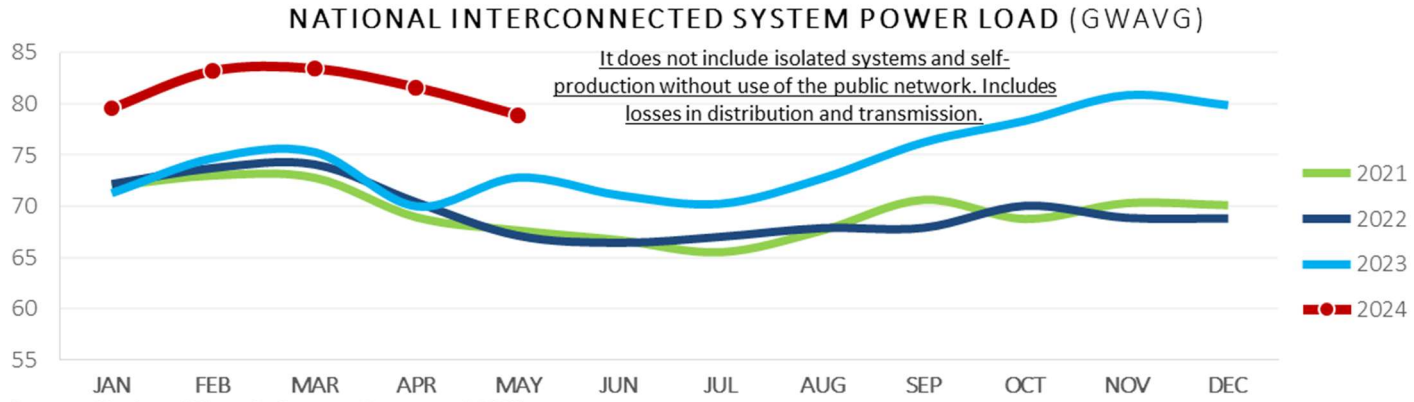
Brazilian solar DG installed capacity is still a highlight and has increased 39.1% compared to May 2023. The centralized solar installed capacity (non-GD) also increases, with a 48.2% growth compared to the same month of the previous year.

For the first five months of the year, 2,457 MW of installed centralized solar capacity came into operation.

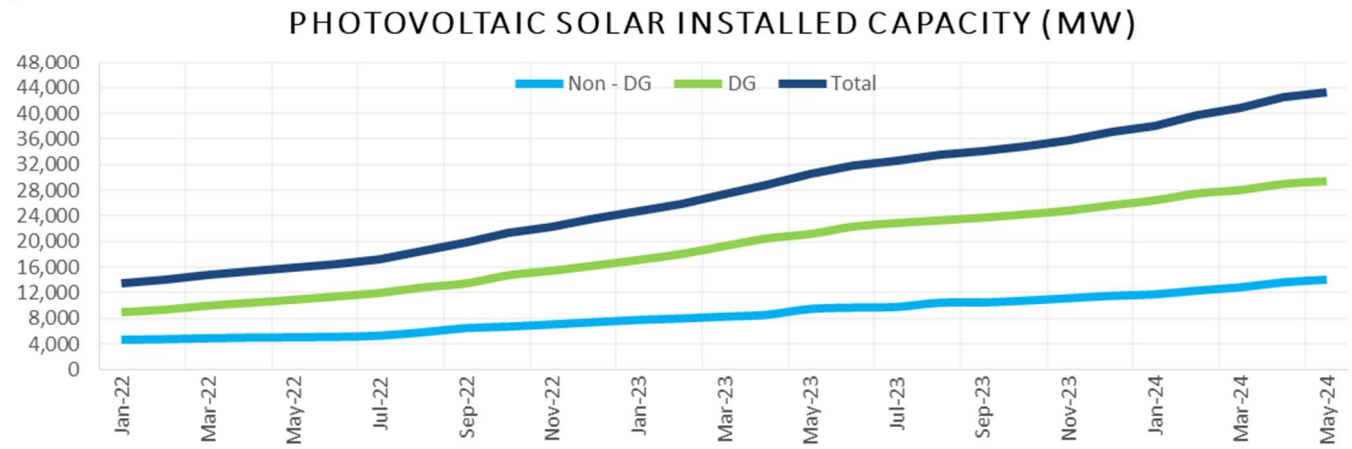
The DG's growth is a result of public policies to encourage renewable energy sources and distributed micro and mini generation, such as Law No. 13,203/2015 and Law No. 14,300/2022, which is considered a legal framework for distributed generation in Brazil.

| SPECIFICATION | MAY IN THE MONTH | | | ACCUMULATED IN THE YEAR | | |
|---|---|---|---|---|---|---|
| | 2024 | 2023 | Δ% 24/23 | 2024 | 2023 | Δ% 24/23 |
| **OIL** | | | | | | |
| PRODUCTION - with Shale Oil and NGL($10^3$ b/d) | 3,397 | *3,286* | 3.4 | 3,445 | *3,278* | 5.1 |
| IMPORTS AVERAGE PRICE (US$/bbl FOB) | 85.79 | *81.33* | 5.5 | 85.32 | *83.97* | 1.6 |
| **OIL PRODUCTS** | | | | | | |
| TOTAL CONSUMPTION ($10^3$ b/day) | 2,245 | *2,369* | -5.2 | 2,285 | *2,321* | -1.5 |
| hereof: DIESEL with biodiesel - ($10^3$ b/day) | 1,181 | *1,181* | 0.0 | 1,147 | *1,109* | 3.5 |
| hereof: GASOLINE C ($10^3$ b/day) | 740 | *845.7* | -12.5 | 739 | *803* | -8.0 |
| CONSUMER PRICE - DIESEL (R$/l) | 5.88 | *5.37* | 9.5 | 5.89 | *5.88* | 0.2 |
| CONSUMER PRICE - GASOLINE C (R$/l) | 5.86 | *5.39* | 8.7 | 5.74 | *5.31* | 8.1 |
| CONSUMER PRICE - LPG (R$/13 kg) | 101.61 | *107.29* | -5.3 | 101.72 | *107.72* | -5.6 |
| **NATURAL GAS (d)** | | | | | | |
| PRODUCTION ($10^6$ m³/day) | 146 | *144* | 0.8 | 146 | *143* | 2.1 |
| IMPORTS ($10^6$ m³/day) | 14.4 | *15.7* | -8.3 | 20.0 | *18.2* | 9.4 |
| NON-UTILIZED AND REINJECTION ($10^6$ m³/day) | 83.8 | *77.3* | 8.5 | 83.5 | *77.0* | 8.5 |
| AVAILABILITY FOR CONSUMPTION ($10^6$ m³/day) | 76.2 | *82.9* | -8.0 | 82.2 | *84.0* | -2.2 |
| INDUSTRIAL CONSUMPTION ($10^6$ m³/day) **(a)** | 38.7 | *40.7* | -5.1 | 38.6 | *41.4* | -6.9 |
| POWER GENERATION CONS. ($10^6$ m³/day) **(c)** | 8.7 | *8.8* | -1.5 | 12.0 | *10.4* | 15.6 |
| INDUSTRIAL PRICE SE **(b)** (US$/MMBtu) - consumption range of 20,000 m³/day | 19.94 | *20.92* | -4.7 | 20.16 | *21.28* | -5.3 |
| MOTOR PRICE SE (US$/MMBtu) | 27.56 | *26.51* | 4.0 | 24.89 | *27.31* | -8.9 |
| RESIDENTIAL PRICE SE (US$/MMBtu) | 50.65 | *53.63* | -5.6 | 51.12 | *51.75* | -1.2 |
| **ELECTRICITY** | | | | | | |
| NATIONAL INTERCONNECTED SYSTEM | 78,963 | *72,806* | 8.5 | 81,361 | *72,801* | 11.8 |
| SOUTHEAST/MIDWEST POWER LOAD (MWavg) | 45,336 | *41,084* | 10.3 | 46,439 | *41,572* | 11.7 |
| SOUTH POWER LOAD (MWavg) | *12,955* | *12,247* | 5.8 | 14,192 | *12,732* | 11.5 |
| NORTHEAST POWER LOAD (MWavg) | *12,964* | *12,273* | 5.6 | 13,267 | *11,794* | 12.5 |
| NORTH POWER LOAD (MWavg) | *7,708* | *7,202* | 7.0 | 7,463 | *6,703* | 11.3 |
| TOTAL CONSUMPTION (TWh) **(d)** | 47.0 | *43.2* | 8.9 | 47.0 | *43.8* | 7.5 |
| RESIDENTIAL | 14.8 | *13.1* | 13.5 | 15.2 | *13.6* | 11.7 |
| INDUSTRIAL | 16.5 | *15.8* | 4.9 | 16.0 | *15.3* | 4.7 |
| COMMERCIAL | 8.7 | *7.9* | 11.4 | 8.9 | *8.2* | 8.5 |
| OTHER SECTORS | 6.9 | *6.5* | 6.5 | 6.9 | *6.6* | 3.9 |
| PLANTS ENTRY INTO OPERATING (MW) | 648 | *1286* | -49.6 | 4,781 | *4,617* | 3.6 |
| RESIDENTIAL PRICE (R$/MWh) | 879 | *833* | 5.5 | 875 | *812* | 7.7 |
| COMMERCIAL PRICE (R$/MWh) | 848 | *800* | 6.0 | 842 | *778* | 8.3 |
| INDUSTRIAL PRICE (R$/MWh) | 826 | *774* | 6.7 | 828 | *750* | 10.4 |
| **ETHANOL AND BIODIESEL** | | | | | | |
| BIODIESEL PRODUCTION ($10^3$ b/d) | 147 | *133* | 11.3 | 146 | *110* | 32.0 |
| MOTOR ETHANOL CONSUMPTION ($10^3$ b/d) | 563 | *473* | 19.1 | 565 | *457* | 23.5 |
| ETHANOL EXPORTS ($10^3$ b/d) | 34 | *19* | 81.4 | 39 | *36* | 6.3 |
| HYDRATED ETHANOL PRICE (R$/l) | 3.82 | *3.97* | -3.8 | 3.63 | *3.91* | -7.1 |
| **COAL** | | | | | | |
| ELECTRICITY GENERATION (MWavg) | 567 | *683* | -17.0 | 672 | *696* | -3.5 |
| IMPORT PRICE (US$ FOB/t) | 208.37 | *241.39* | -13.7 | 198.40 | *253.05* | -21.6 |
| **NUCLEAR ENERGY** | | | | | | |
| ELECTRICITY GENERATION - (GWh) | 1703 | *2009* | -15.2 | 1,903 | *1,882* | 1.1 |
| **INDUSTRIAL SECTORS** | | | | | | |
| STEEL PRODUCTION ($10^3$ t/day) | 83 | *90* | -6.9 | 89 | *88* | 1.0 |
| ALUMINIUM PRODUCTION ($10^3$ t/day) | 2.9 | *1.9* | 53.1 | 2.9 | *2.7* | 7.8 |
| IRON ORE EXPORTS ($10^3$ t/day) | 994 | *1,062* | -6.4 | 899 | *831* | 8.1 |
| PELLETS EXPORTS ($10^3$ t/day) | 65 | *71* | -9.3 | 74 | *65* | 13.6 |
| BIG IRON EXPORTS ($10^3$ t/day) | 10.5 | 13.5 | -22.4 | 10.5 | 10.0 | 4.5 |
| PAPER PRODUCTION ($10^3$ t/day) | 31.3 | *29.2* | 7.2 | 31.0 | *29.3* | 5.6 |
| PULP PRODUCTION ($10^3$ t/day) **(c)** | 68.0 | *60.0* | 13.4 | 69.4 | *65.6* | 5.8 |
| SUGAR PRODUCTION ($10^3$ t/day) | 169.9 | *173.0* | -1.8 | 62.8 | *55.8* | 12.5 |
| SUGAR EXPORTS ($10^3$ t/day) | 91 | *84* | 8.5 | 91 | *57* | 59.3 |

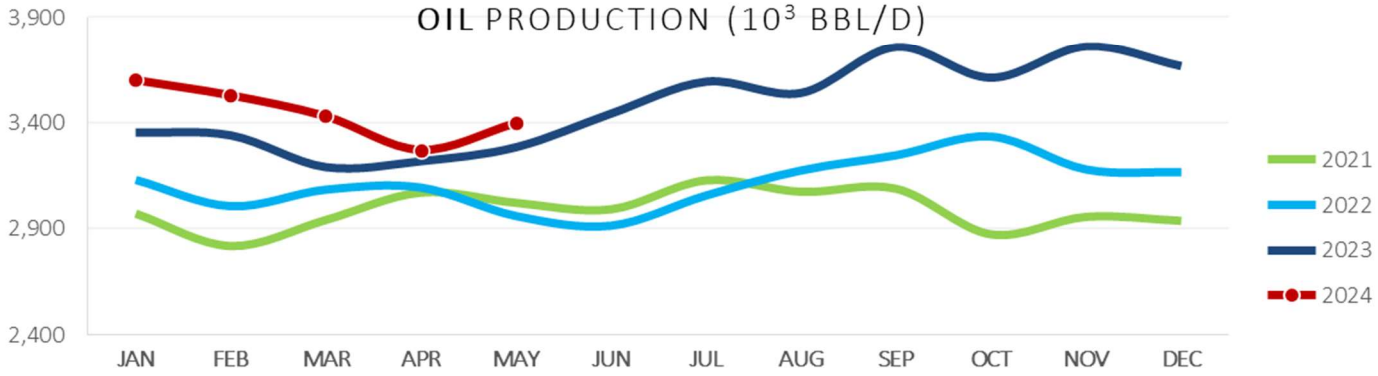
**(a) February data.**
**(b) SE is the acronym of Southeast**
**(c) Estimated data.**
**(d) The traditional self-producers (consumers that do not use public grid) is not included.**



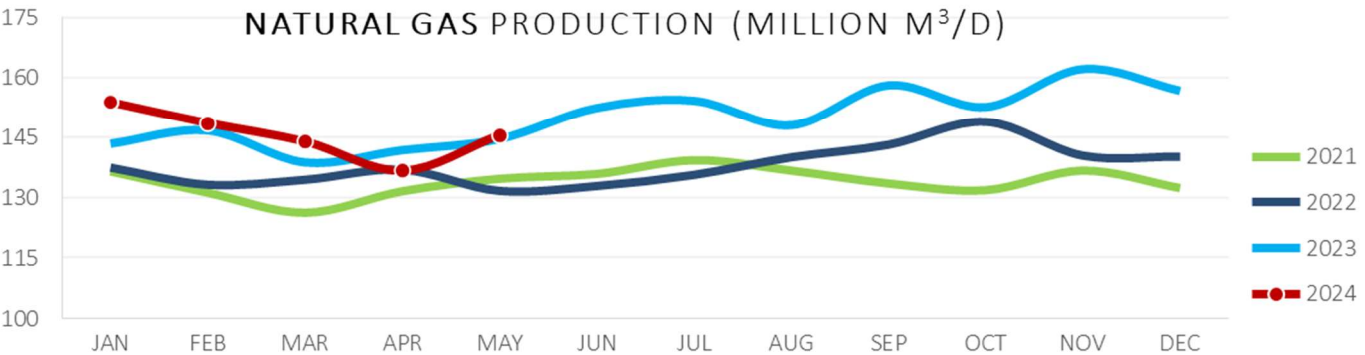

Source: National Electric System Operator (ONS)



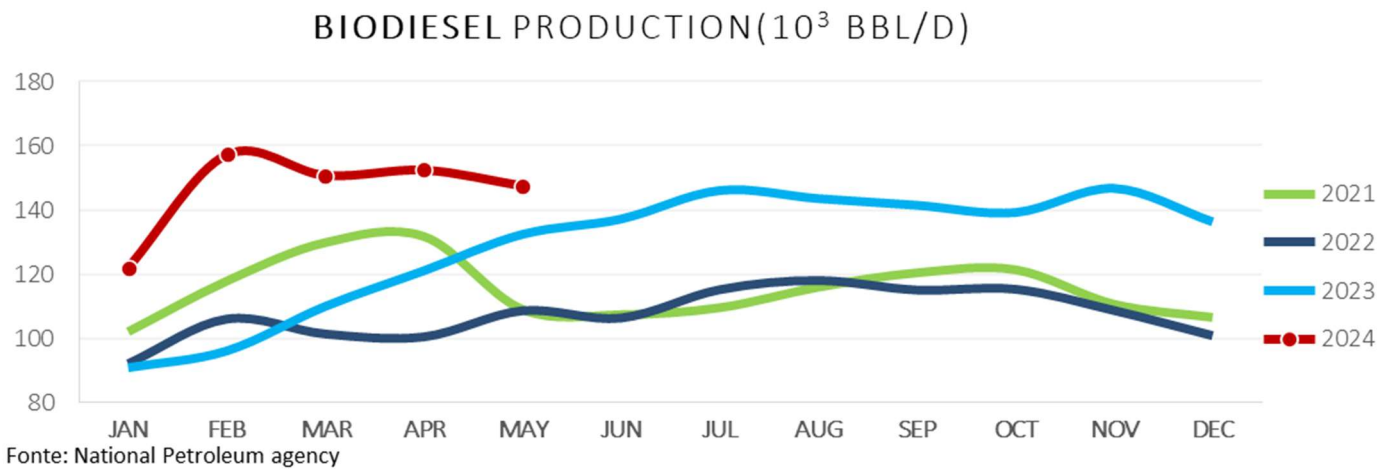

Source: Eletric Energy Secretary of Ministry of Mines and Energy



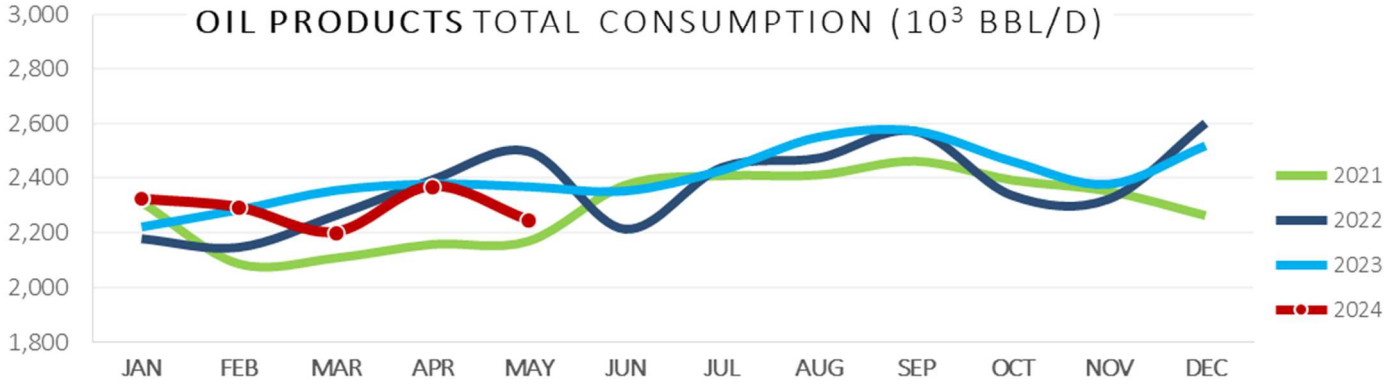

Source: National Petroleum Agency



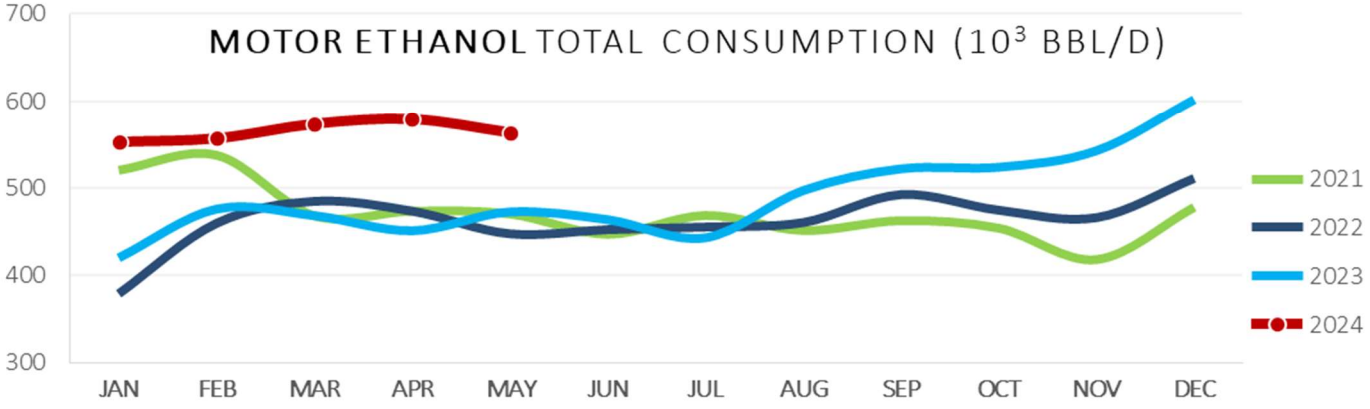

Source: National Petroleum Agency



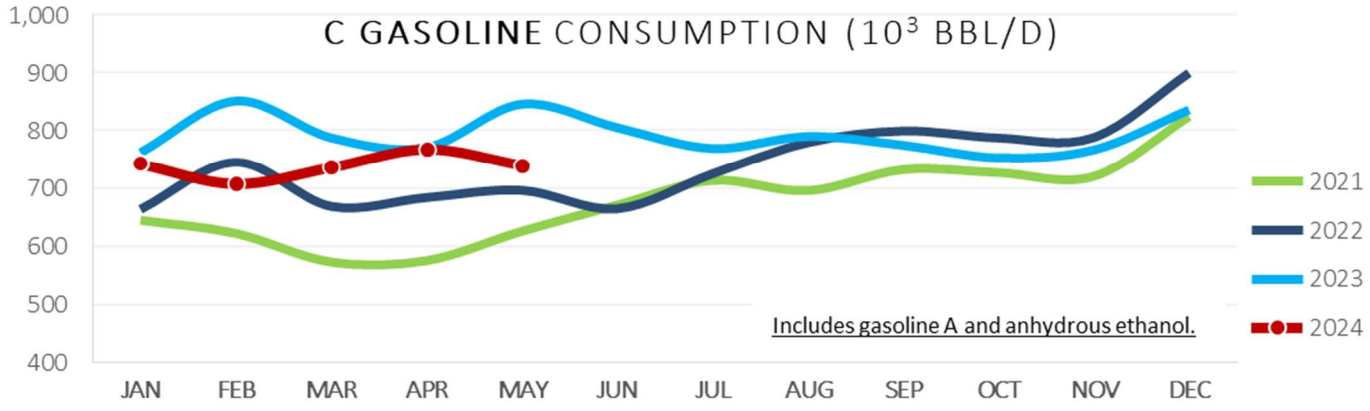

Fonte: National Petroleum agency



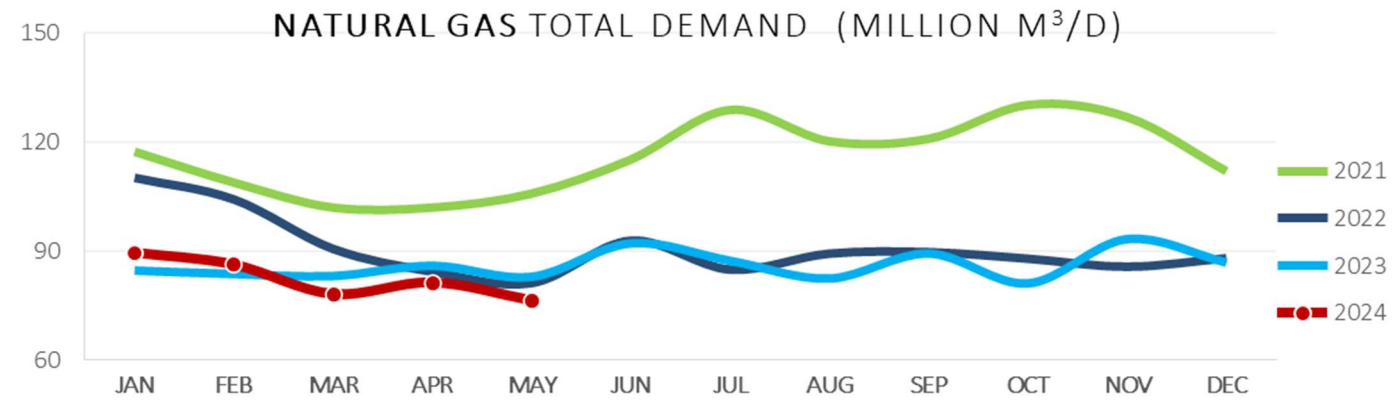

Source: National Petroleum Agency



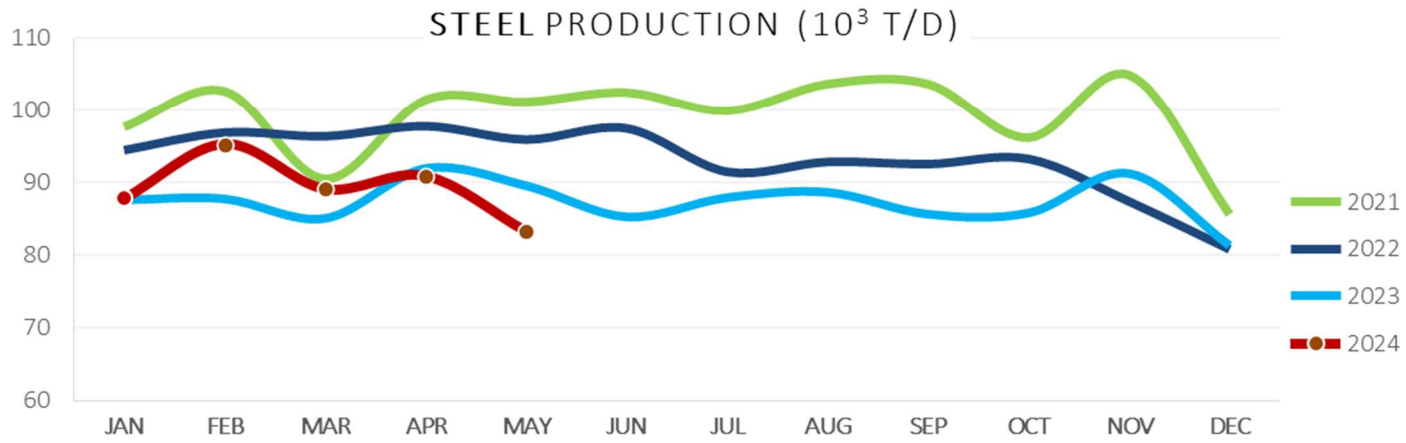

Source: National Petroleum Agency



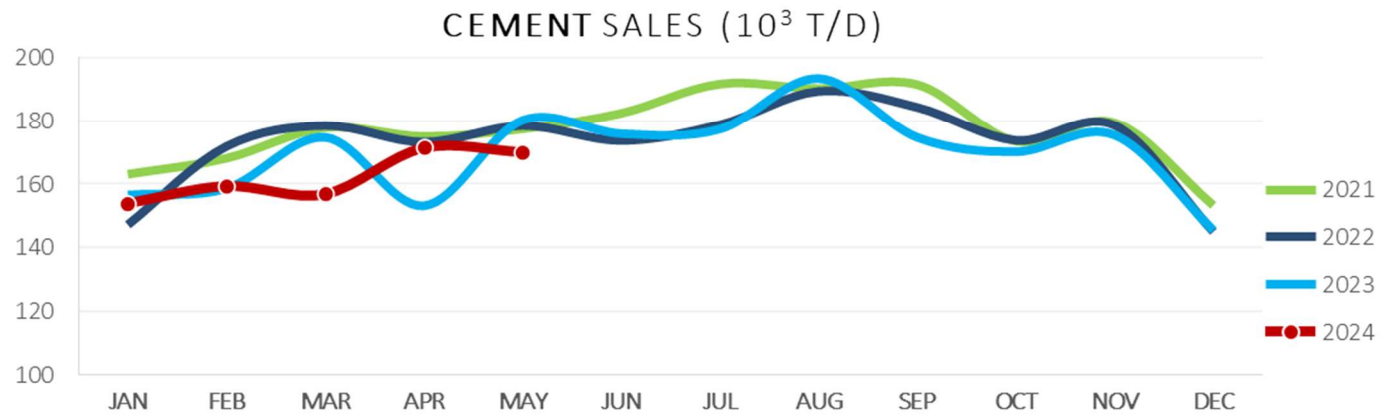

Source: National Petroleum Agency



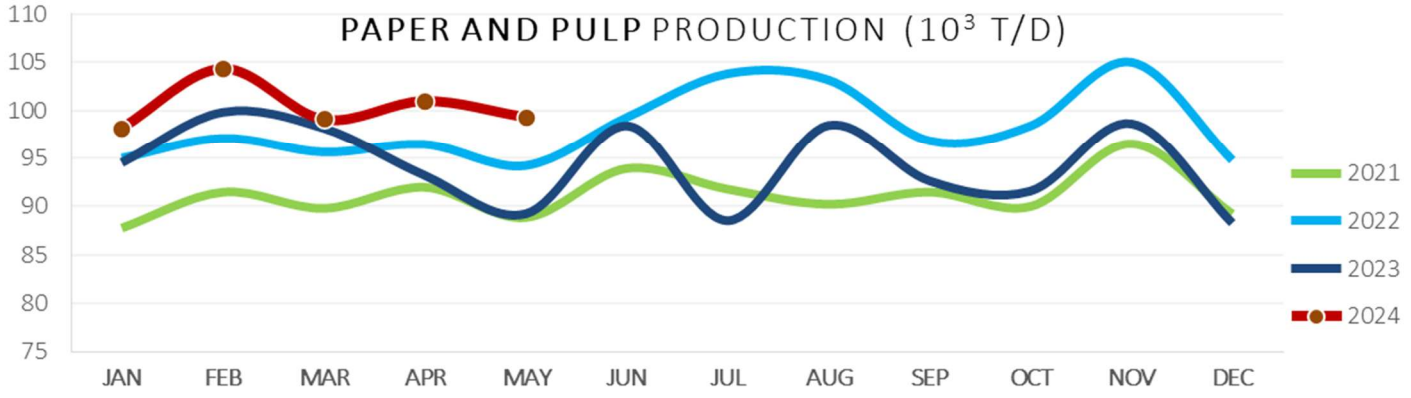

Sources: National Petroleum Agency (ANP) and National Electric System Operator (ONS)



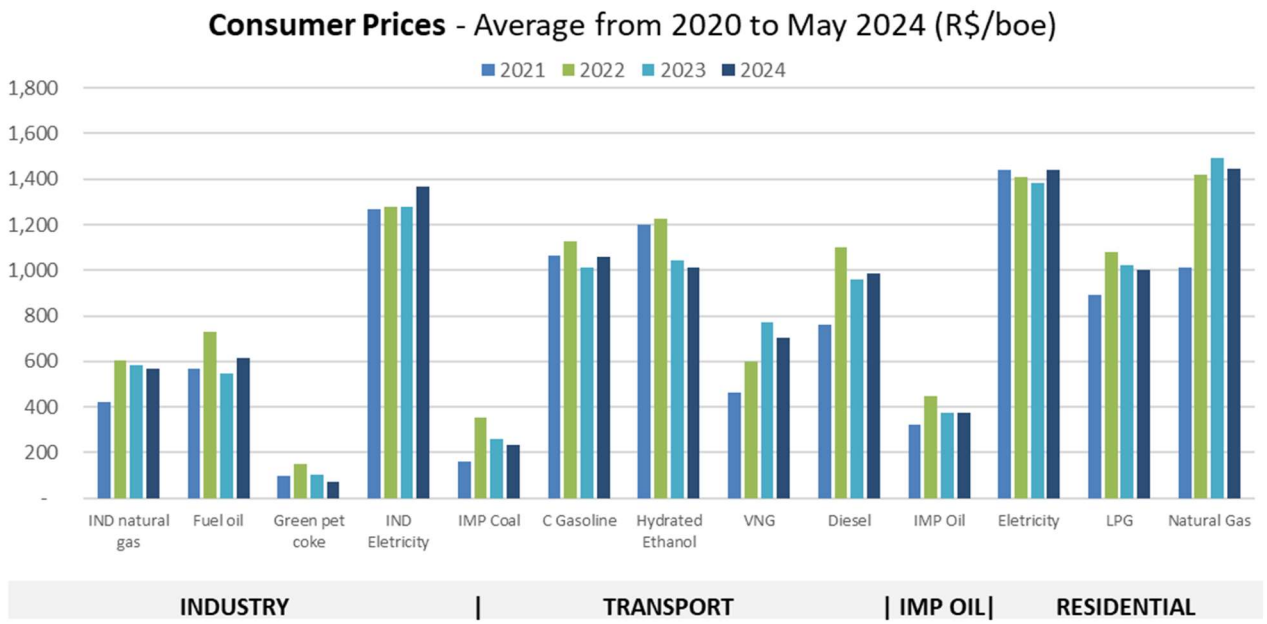

Source: Brazil Steel Institute




Source: National Cement Industry Union




Source: Brazilian Tree Industry (IBA)




# METHODOLOGICAL NOTES

The bulletin reports the monitoring of energy and non-energy variables that allow estimating the monthly and accumulated behavior of the total energy demand in Brazil.

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

[1] Domestic Energy Supply (DES), represents all the energy made available to meet the national demand for energy. For the year 2023 the value is from the National Energy Balance - BEN.

[2] The Domestic Electricity Supply (DELS) accounts for the portions of generation from Centralized Generation, Distributed Generation (DG), Autoproduction of Energy (APE), Isolated Systems and Electric Energy Exchange. For the year 2023 the value is from BEN.

The Monthly Energy Bulletin uses information and data obtained in the Brazilian energy sector to calculate and estimate the behavior of relevant energy indicators.

Access the interactive dashboard

www.gov.br/mme/pt-br/assuntos/secretarias/spe/publicacoes/boletins-mensais-de-energia

**Director:** Samira Sana Fernandes de Sousa Carmo

**General-Coordinator:** Esdras Godinho Ramos

**Technical Team**

Gilberto Kwitko Ribeiro

Pedro Augusto de Menezes Filho

Ubyrajara Nery Graça Gomes

William de Oliveira Medeiros

**Department of Information, Studies and Energy Efficiency – DIEE/SNTEP/MME**

diee@mme.gov.br | +55 61 2032.5986