

MINISTRY OF
MINES AND ENERGY



MONTHLY ENERGY BULLETIN BRAZIL

June 2024 Edition

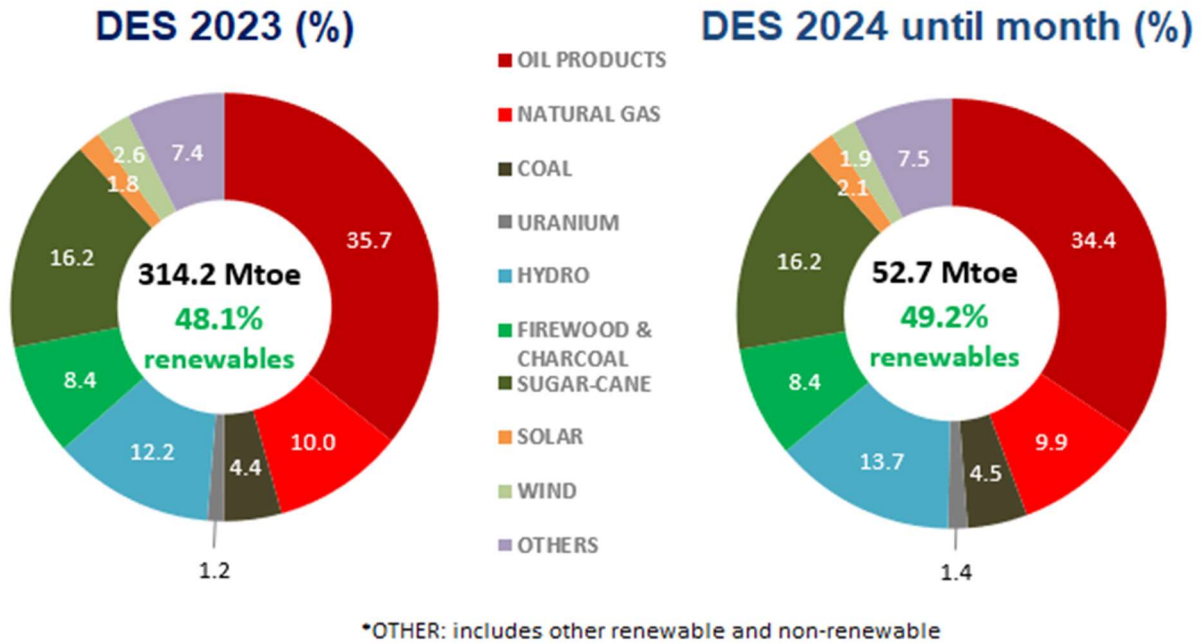
February 24

DOMESTIC ENERGY SUPPLY

Regarding the data up to February 2024, renewables share in the Domestic Energy Supply (DES)¹ is expected to increase to 49.2%, higher than expected for last year (48.1%), mainly due to increased hydroelectric power generation.

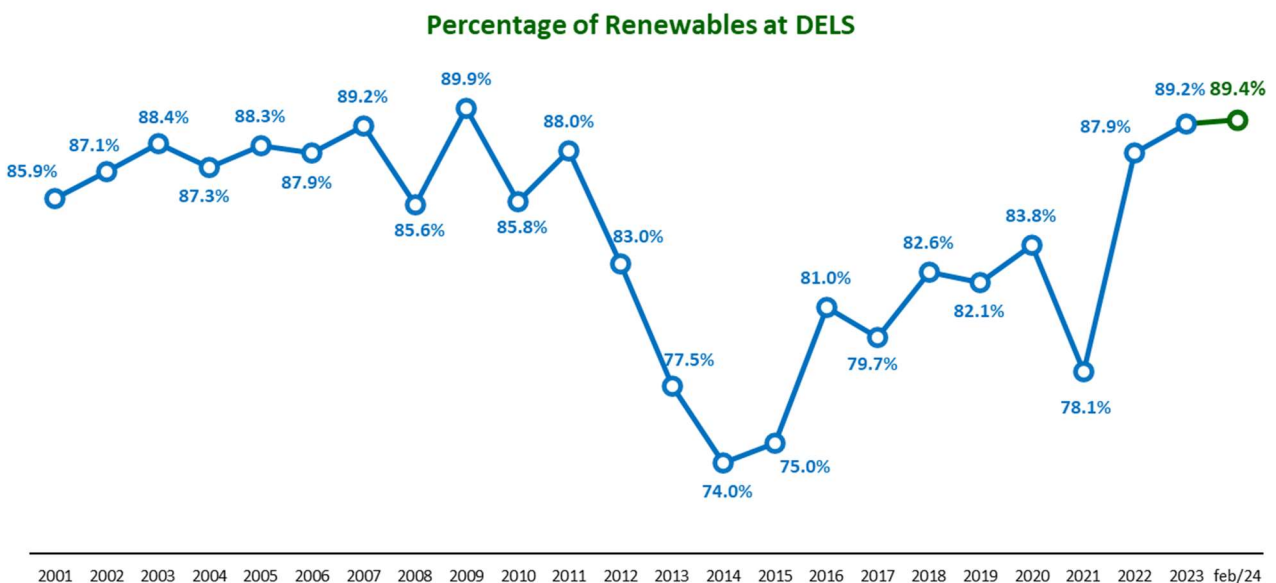
For sugarcane production, according to the most current survey by the Brazilian Supply Company (Conab), it is estimated that there will be an increase of 1.3% in relation to the 2023/2024 harvest. For ethanol produced from sugar cane and corn, is expected an increase of 4.0% in production.

MORE RENEWABLE DOMESTIC ENERGY SUPPLY IN 2024

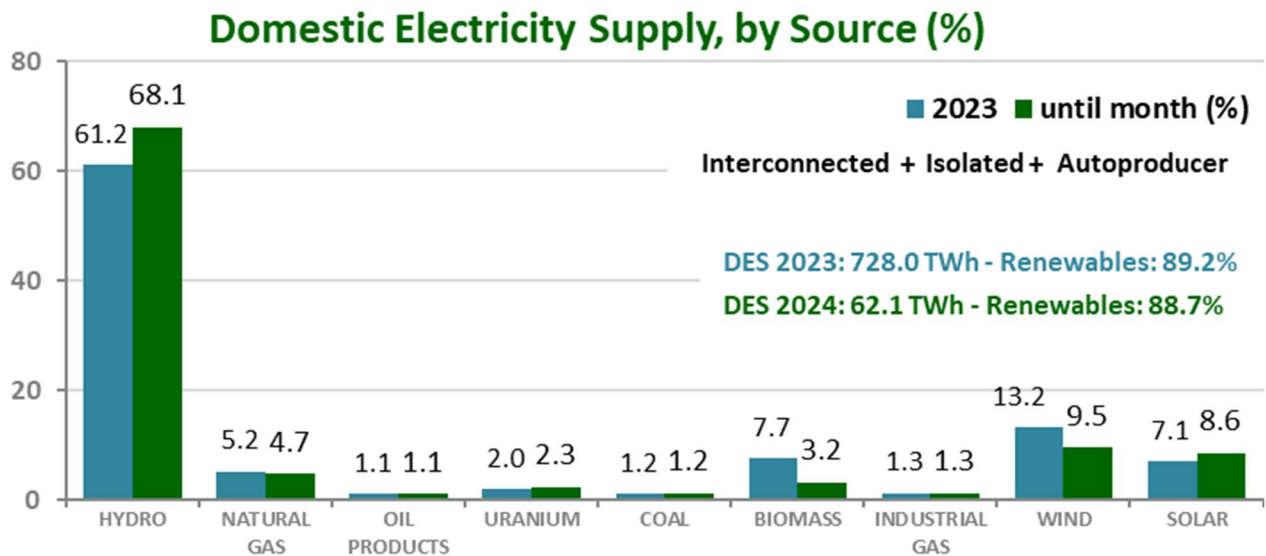


Regarding the proportion of renewables in the Domestic Electricity Supply (DELS), it was found that 89.4% were obtained from renewable sources up to February, reaching a cumulative value of 122.9 TWh.

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.

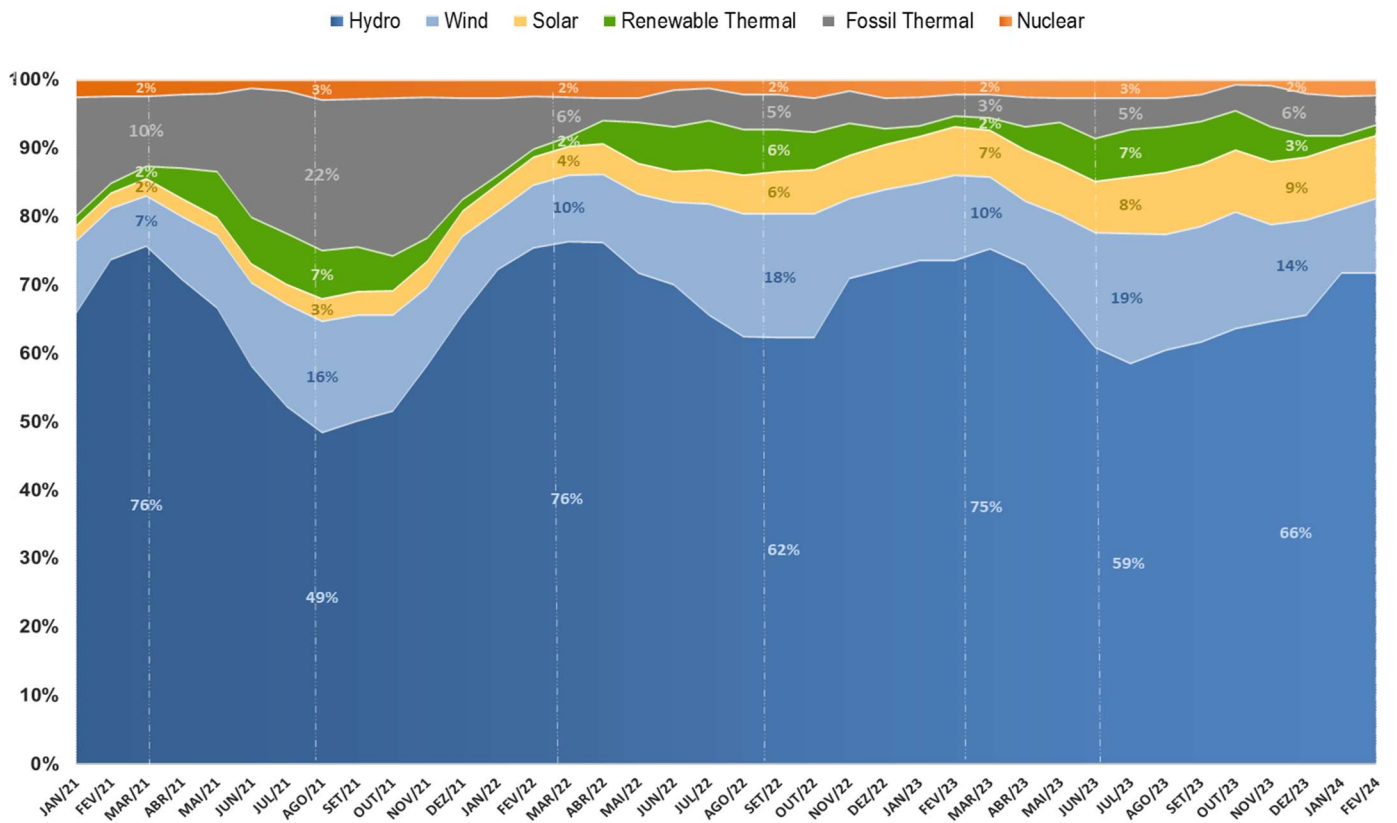


For the first month of the year, compared to the same period of the previous year (accumulated in the year) there was a 47% increase in generation for centralized solar and 11% decrease for wind. Brazilian hydro energy also grew, by around 1%.



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.

Share of Power Supply in Electrical Generation in Brazil (with DG) - 2021 to 2024



HIGHLIGHTS IN FEBRUARY 2024

Oil and gas growing

Oil and gas production increased, rising 6.5% and 4.5% respectively, YTD.

Steel and Mining

Year-to-date, steel production had a small increase of 4.7% while aluminum production grew 25.0% and iron ore exports rose by 20.2%. Meanwhile, pellets exports increased by 29.6%.

Hydraulic supply

The supply of hydraulic energy increased by 1.1%, YTD. The monthly average was 57.299.3 MWavg. Itaipu's supply, for the same period, decreased by 3.2%.

Wind energy supply falling

Wind energy supply up to February 2024 decreased by 10.9%, YTD.

For the two first months of 2024, 889 MW of wind power plants came into operation, a value 21.7% lower than the same period of the last year.

International power energy exchange

In February 2024, Brazil imported 316 MWavg from Argentina and exported 5 MWavg to Uruguay.

Natural gas availability falling

Gas consumption availability fell by 5.1%, YTD.

Coal for electricity power generation growing

There was an increase of 63.0% for coal public power generation, YTD.

Oil Derivatives Apparent Consumption on the Rise

Apparent consumption of petroleum derivatives increased by 4.6% YTD, diesel consumption decreased by 3.3% and regular gasoline consumption recoiled 9.8%. Automotive ethanol consumption increased by 23.8%.

Energy consumption in light vehicles using Otto cycle fuels (gasoline, ethanol, and natural gas) had an increase of 2.5% year-to-date.

Gasoline and Hydrated Ethanol Prices

Regular gasoline price increased by 11.6% while hydrated ethanol price decreased by 11.9% YTD.

Biodiesel Production Growing

Biodiesel production increased by 48.7% YTD.

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 March 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 in high

Electricity consumption in the residential sector grew 10.5% compared to February 2023. Industrial consumption increased 6.5% while commercial consumption grew 8.8%.

Electricity tariffs growing

The three electricity tariffs (residential, commercial and industrial) had increased compared to the previous year. Residential tariffs grew by 10.1%, while for the commercial sector there was an increase of 10.2%, and 13.1% for the industrial sector.

Solar distributed generation installed capacity (DG) rising

Brazilian solar DG installed capacity is still a highlight and has increased 52.7% compared to February 2023. The centralized solar installed capacity (non-GD) also increases, with a 54.8% growth compared to the same month of the previous year.

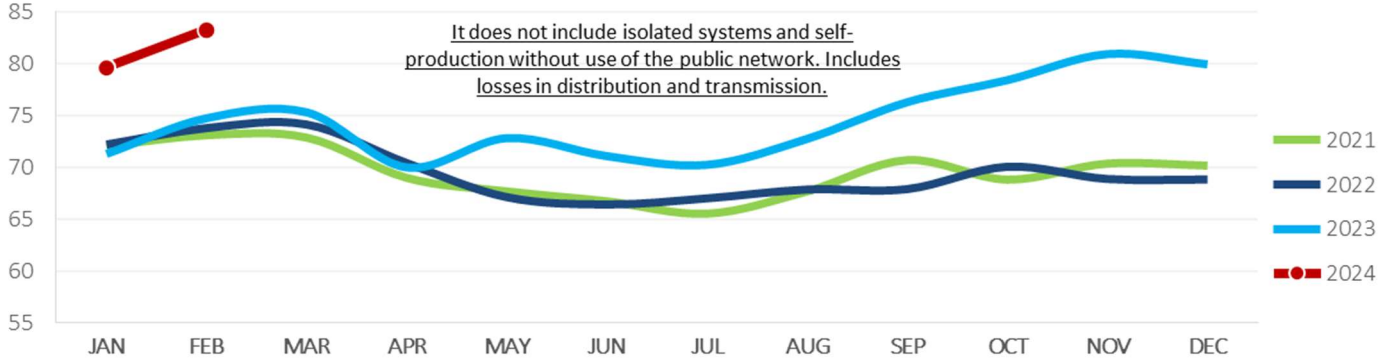
For the first two months of the year 792 MW of installed centralized solar capacity came into operation.

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	FEBRUARY					
	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)	3,529	3,341	5.6	3,565	3,348	6.5
IMPORTS AVERAGE PRICE (US\$/bbl FOB)	80.67	83.57	-3.5	81.44	86.82	-6.2
OIL PRODUCTS						
TOTAL CONSUMPTION (10 ³ b/day)	2,521	2,533	-0.5	2,501	2,391	4.6
hereof: DIESEL with biodiesel - (10 ³ b/day)	982	1,114	-11.8	960	992	-3.3
hereof: GASOLINE C (10 ³ b/day)	707	851.1	-16.9	725	804	-9.8
CONSUMER PRICE - DIESEL (R\$/l)	5.90	6.06	-2.6	5.88	6.20	-5.1
CONSUMER PRICE - GASOLINE C (R\$/l)	5.75	5.09	13.0	5.66	5.07	11.6
CONSUMER PRICE - LPG (R\$/13 kg)	102.09	107.89	-5.4	101.49	108.08	-6.1
NATURAL GAS (d)						
PRODUCTION (10 ⁶ m ³ /day)	149	147	1.4	151	145	4.5
IMPORTS (10 ⁶ m ³ /day)	19.2	21.0	-8.6	17.7	24.6	-28.0
NON-UTILIZED AND REINJECTION (10 ⁶ m ³ /day)	89.0	73.2	21.6	81.5	71.9	13.4
AVAILABILITY FOR CONSUMPTION (10 ⁶ m ³ /day)	86.8	88.0	-1.3	86.0	90.6	-5.1
INDUSTRIAL CONSUMPTION (10 ⁶ m ³ /day) (a)	36.8	39.4	-6.6	39.5	41.4	-4.7
POWER GENERATION CONS. (10 ⁶ m ³ /day) (a)	20.6	13.9	48.4	12.8	15.3	-16.2
INDUSTRIAL PRICE SE (b) (US\$/MMBtu) - consumption range of 20,000 m ³ /day (a)	20.70	18.78	10.2	20.77	20.76	0.0
MOTOR PRICE SE (US\$/MMBtu) (a)	27.65	19.83	39.4	27.49	20.63	33.3
RESIDENTIAL PRICE SE (US\$/MMBtu) (a)	52.69	50.16	5.0	53.02	48.82	8.6
ELECTRICITY						
NATIONAL INTERCONNECTED SYSTEM	83,253	74,713	11.4	81,356	72,915	11.6
SOUTHEAST/MIDWEST POWER LOAD (MWavg)	47,019	43,040	9.2	46,104	41,682	10.6
SOUTH POWER LOAD (MWavg)	15,596	13,276	17.5	14,684	13,129	11.8
NORTHEAST POWER LOAD (MWavg)	13,267	11,931	11.2	13,264	11,711	13.3
NORTH POWER LOAD (MWavg)	7,371	6,466	14.0	7,304	6,393	14.2
TOTAL CONSUMPTION (TWh) (c)	46.3	42.9	8.0	46.5	42.6	9.1
RESIDENTIAL	15.1	13.7	10.5	15.3	13.5	13.4
INDUSTRIAL	15.5	14.6	6.5	15.5	14.5	6.7
COMMERCIAL	8.9	8.2	8.8	8.9	8.1	9.5
OTHER SECTORS	6.7	6.4	3.5	6.8	6.5	4.9
PLANTS ENTRY INTO OPERATING (MW)	1092	748	46.0	1,713	2,022	-15.3
RESIDENTIAL PRICE (R\$/MWh)	873	799	9.4	873	793	10.1
COMMERCIAL PRICE (R\$/MWh)	842	766	10.0	839	761	10.2
INDUSTRIAL PRICE (R\$/MWh)	827	736	12.3	832	736	13.1
ETHANOL AND BIODIESEL						
BIODIESEL PRODUCTION (10 ³ b/d)	157	96	63.3	139	94	48.7
MOTOR ETHANOL CONSUMPTION (10 ³ b/d)	556	477	16.6	554	448	23.8
ETHANOL EXPORTS (10 ³ b/d)	31	28	8.5	41	41	1.3
HYDRATED ETHANOL PRICE (R\$/l)	3.42	3.88	-11.9	3.42	3.88	-11.9
COAL						
ELECTRICITY GENERATION (MWavg)	1169	533	119.3	872	535	63.0
IMPORT PRICE (US\$ FOB/t)	203.43	236.73	-14.1	202.88	241.91	-16.1
NUCLEAR ENERGY						
ELECTRICITY GENERATION - (GWh)	1991	1732	15.0	1,969	1,876	4.9
INDUSTRIAL SECTORS						
STEEL PRODUCTION (10 ³ t/day)	96	88	9.2	92	88	4.7
ALUMINIUM PRODUCTION (10 ³ t/day) (d)	2.9	2.6	9.4	2.8	2.2	25.0
IRON ORE EXPORTS (10 ³ t/day)	943	765	23.3	904	752	20.2
PELLETS EXPORTS (10 ³ t/day)	84	69	21.7	80	62	29.6
BIG IRON EXPORTS (10 ³ t/day)	10.0	7.4	34.6	11.9	7.5	58.6
PAPER PRODUCTION (10 ³ t/day)	31.6	30.4	4.0	30.9	29.9	3.2
PULP PRODUCTION (10 ³ t/day)	58.1	64.7	-10.2	65.3	68.1	-4.1
SUGAR PRODUCTION (10 ³ t/day)	16.3	13.5	20.6	18.2	14.9	22.1
SUGAR EXPORTS (10 ³ t/day)	107	41	160.7	107	54	97.9

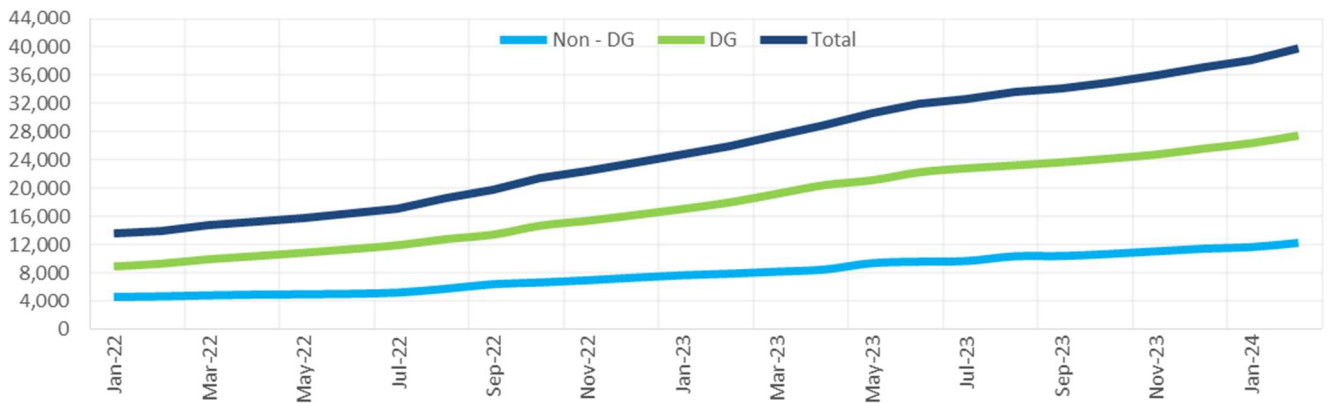
(a) The traditional autoproducers (consumers that do not use public grid) is not included. (b) SE is the acronym of Southeast
(c) December Data (d) Estimated Data

NATIONAL INTERCONNECTED SYSTEM POWER LOAD (GWAVG)



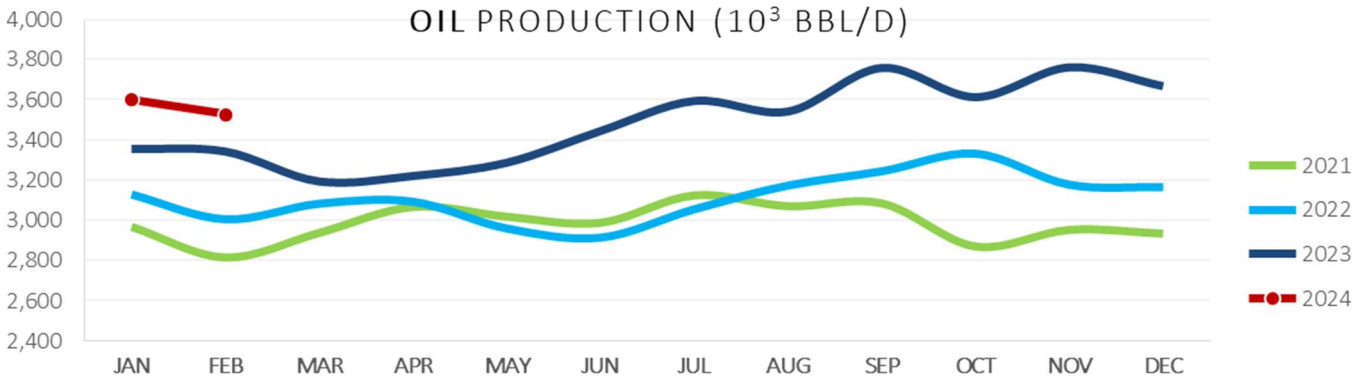
Source: National Electric System Operator (ONS)

PHOTOVOLTAIC SOLAR INSTALLED CAPACITY (MW)



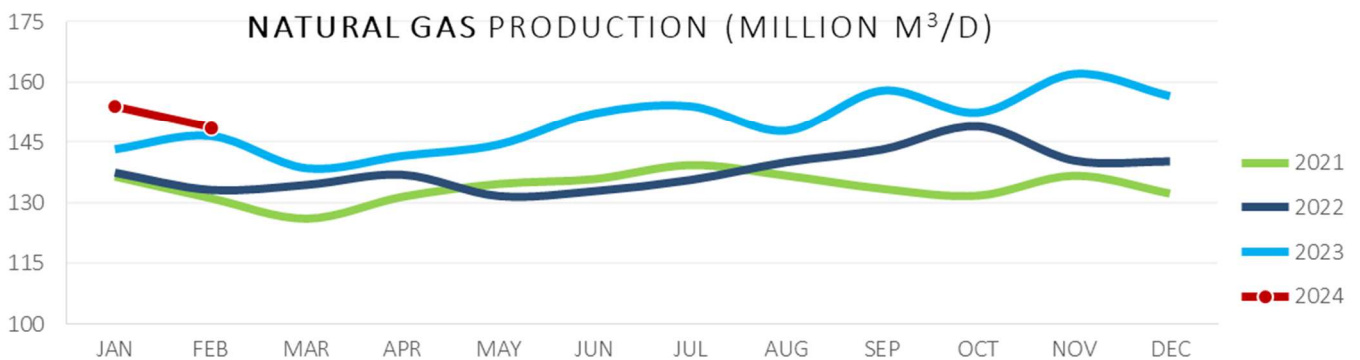
Source: Electric Energy Secretary of Ministry of Mines and Energy

OIL PRODUCTION (10³ BBL/D)



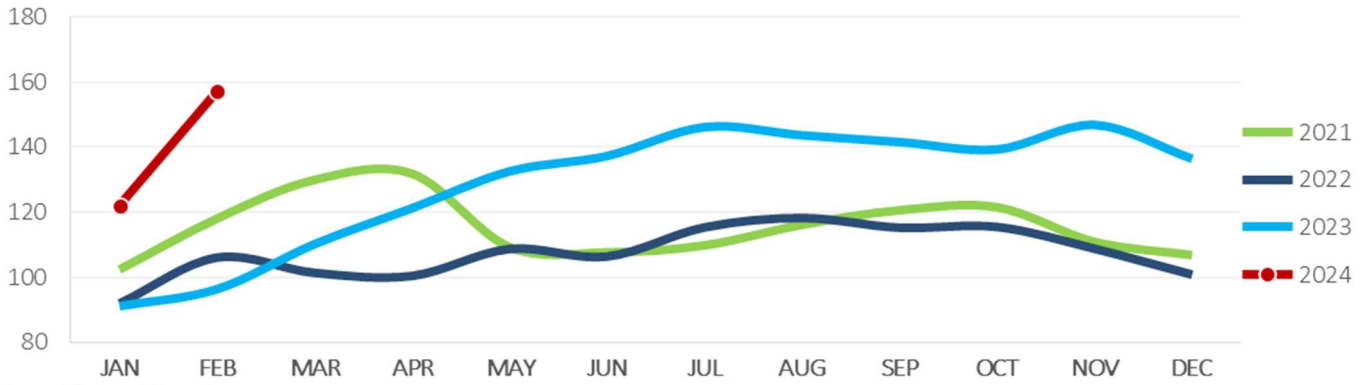
Source: National Petroleum Agency

NATURAL GAS PRODUCTION (MILLION M³/D)



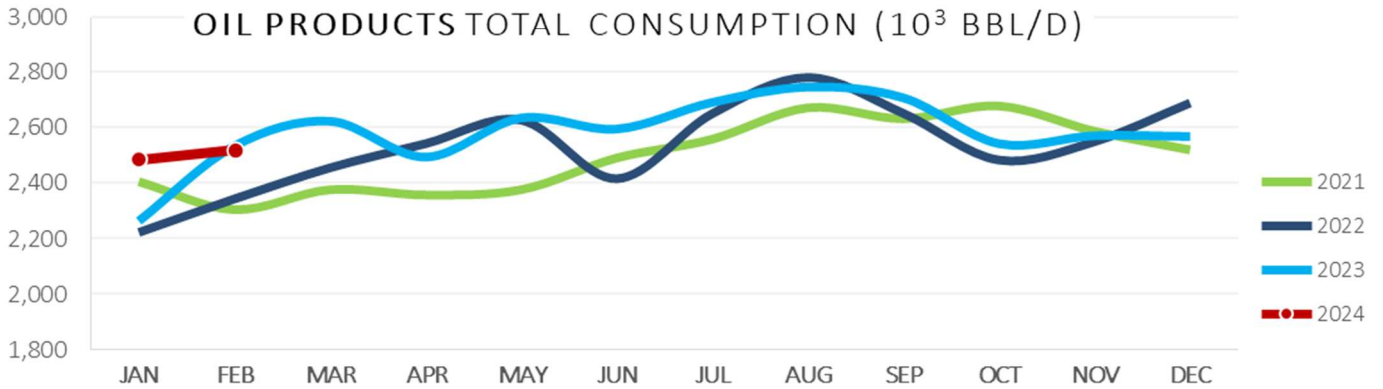
Source: National Petroleum Agency

BIODIESEL PRODUCTION (10³ BBL/D)



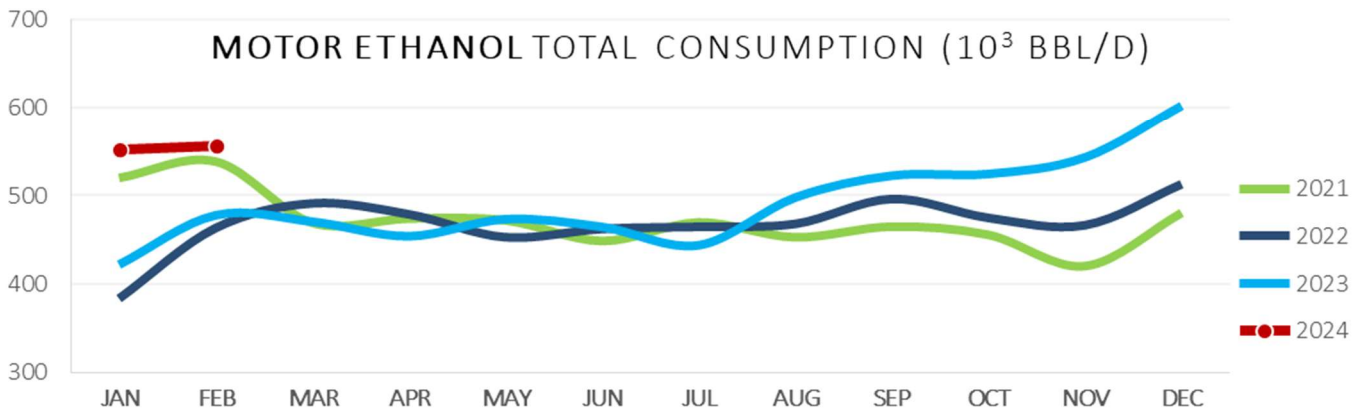
Fonte: National Petroleum agency

OIL PRODUCTS TOTAL CONSUMPTION (10³ BBL/D)



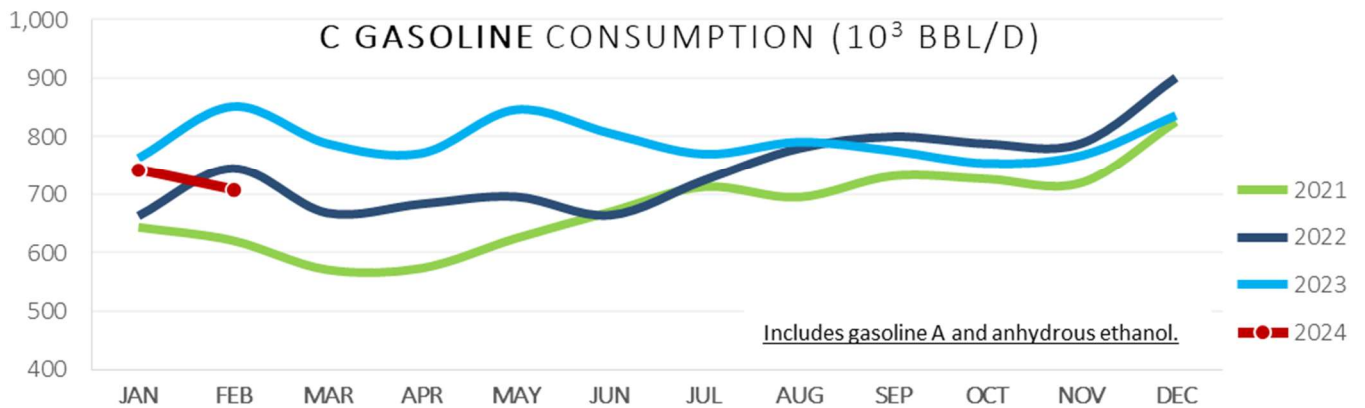
Source: National Petroleum Agency

MOTOR ETHANOL TOTAL CONSUMPTION (10³ BBL/D)



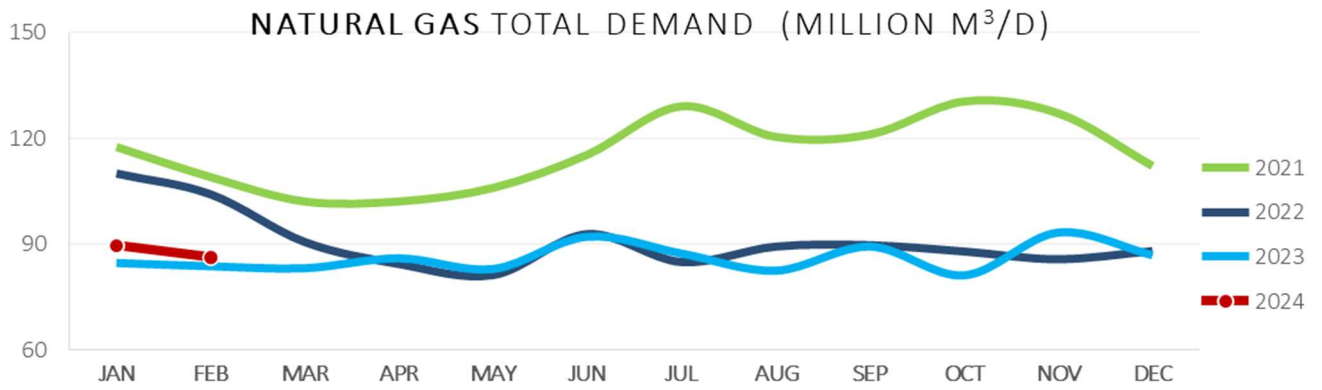
Source: National Petroleum Agency

C GASOLINE CONSUMPTION (10³ BBL/D)

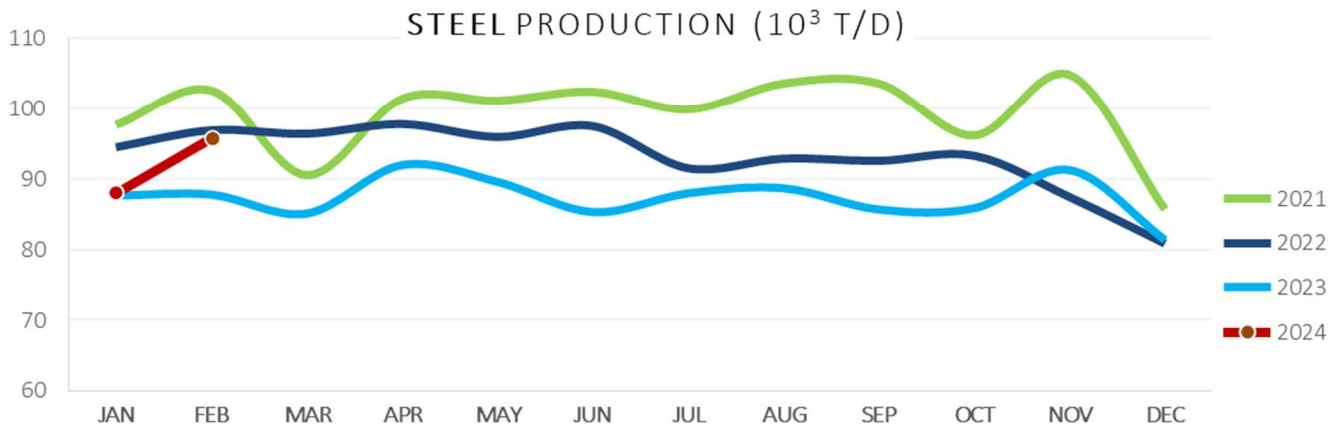


Includes gasoline A and anhydrous ethanol.

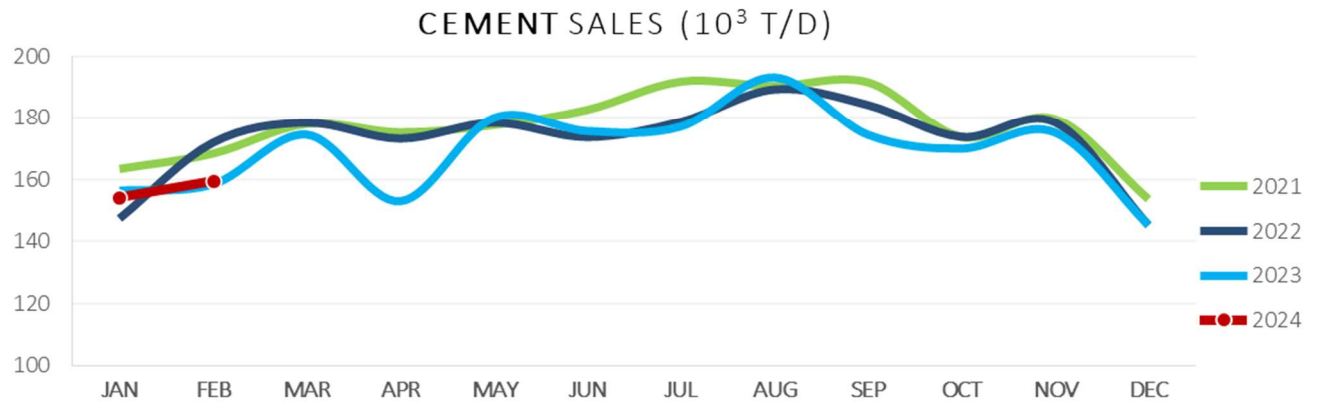
Source: National Petroleum Agency



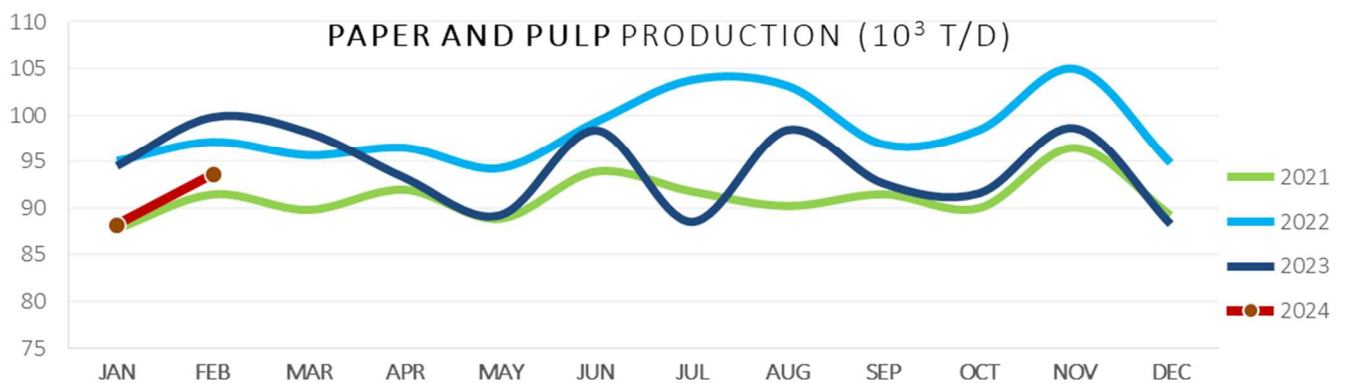
Sources: National Petroleum Agency (ANP) and National Electric System Operator (ONS)



Source: Brazil Steel Institute

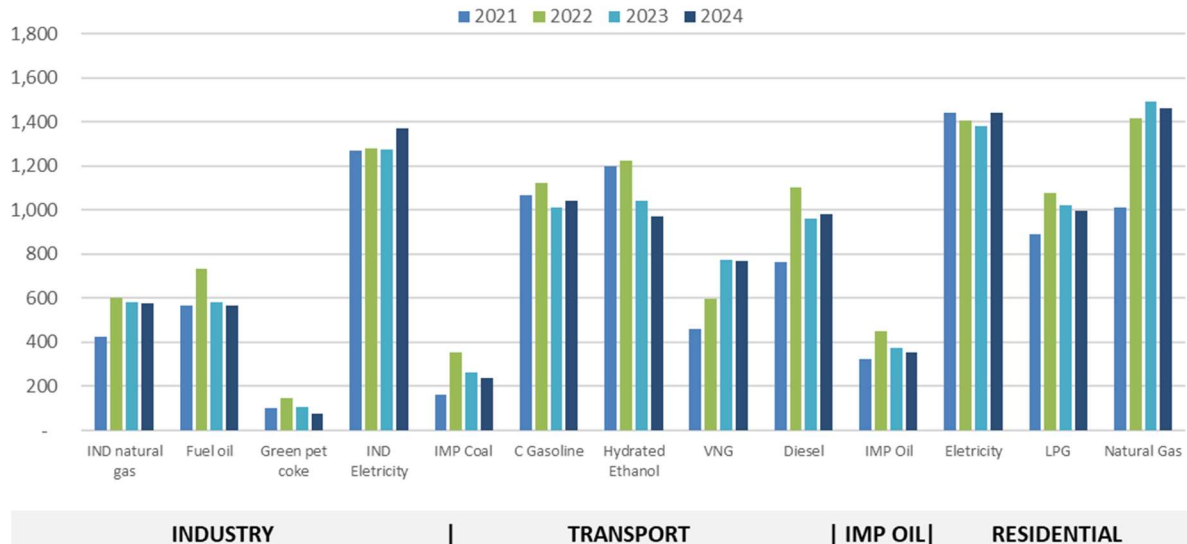


Source: National Cement Industry Union



Source: Brazilian Tree Industry (IBA)

Consumer Prices - Average from 2021 to February 2024 (R\$/boe)



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 an estimate. This value is consolidated with the publication of the National Energy Balance.

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 an estimate. This value is consolidated with the publication of the National Energy Balance.

The 2022 data from the DES and DELS were consolidated by the 2023 National Energy Balance.

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](#)

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