



**MONTHLY  
ENERGY  
BULLETIN** | **REFERENCE**  
**AUGUST  
2022**  
**BRAZIL**

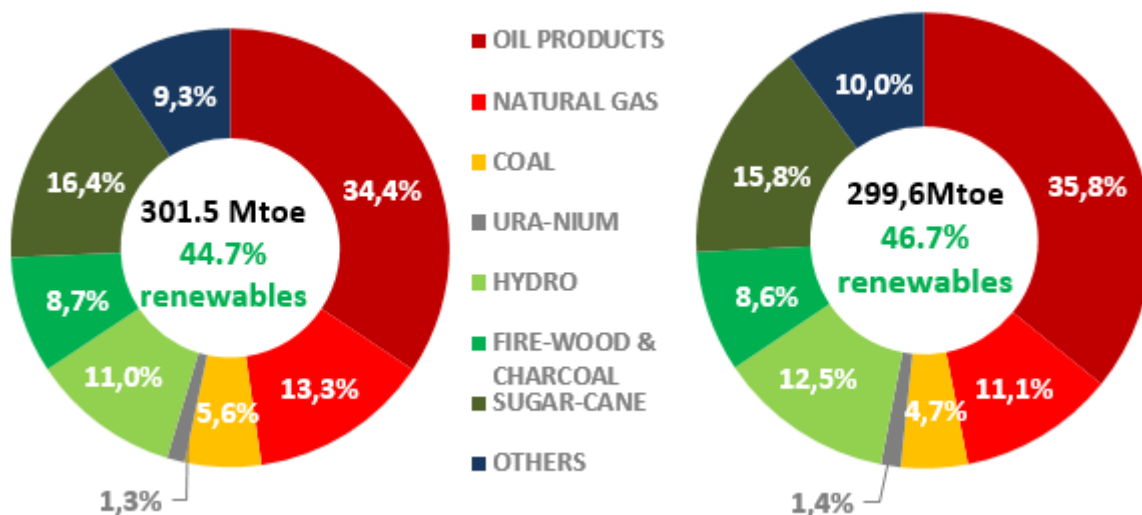
## DOMESTIC ENERGY SUPPLY

In 2022 the Domestic Energy Supply (DES)<sup>1</sup> could be negative due to lower energy generation at thermal plants compared to 2021 and lower sugarcane production. On the other hand, hydroelectric and other renewables generation - including solar and wind - are growing. Since, in the accounting of the Brazilian Energy Balance (BEB) there are no thermal losses in the hydraulic, solar and wind generations, there will be a reduction in energy losses, resulting in a higher Final Energy Consumption (FEC).

In 2021, the opposite occurred, with the OIE growing more than one percentage point above the CFE.

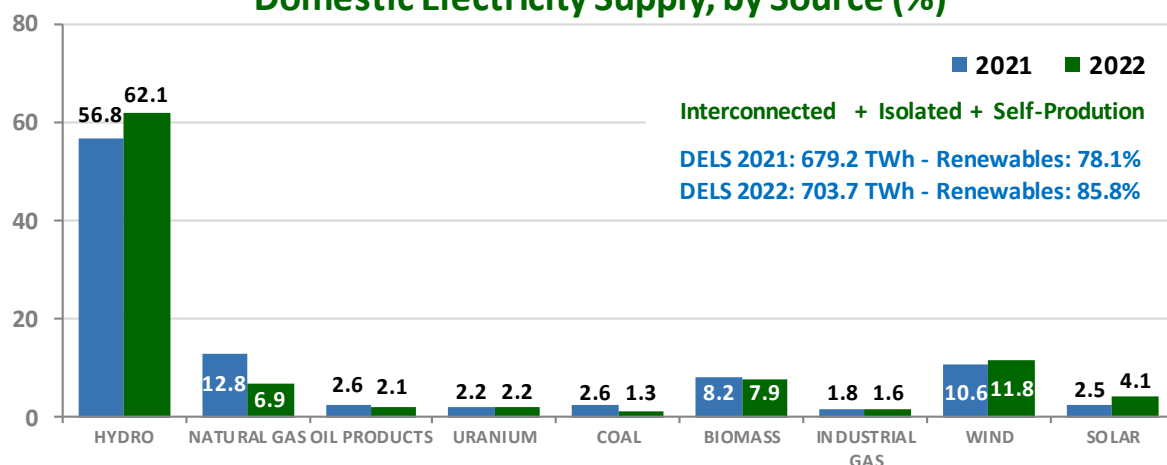
According to data from the National Supply Company (Conab) for August 2022, a 2.6% drop in sugarcane production is estimated for the 2022/2023 harvest and the expected reduction in ethanol production (anhydrous and hydrated) is 2.2%. However, due to the significant increase in corn ethanol production, by 30%, total ethanol production is expected to increase by 1.6%.

### Drop on the 2022 domestic energy supply is estimated at 0.6%

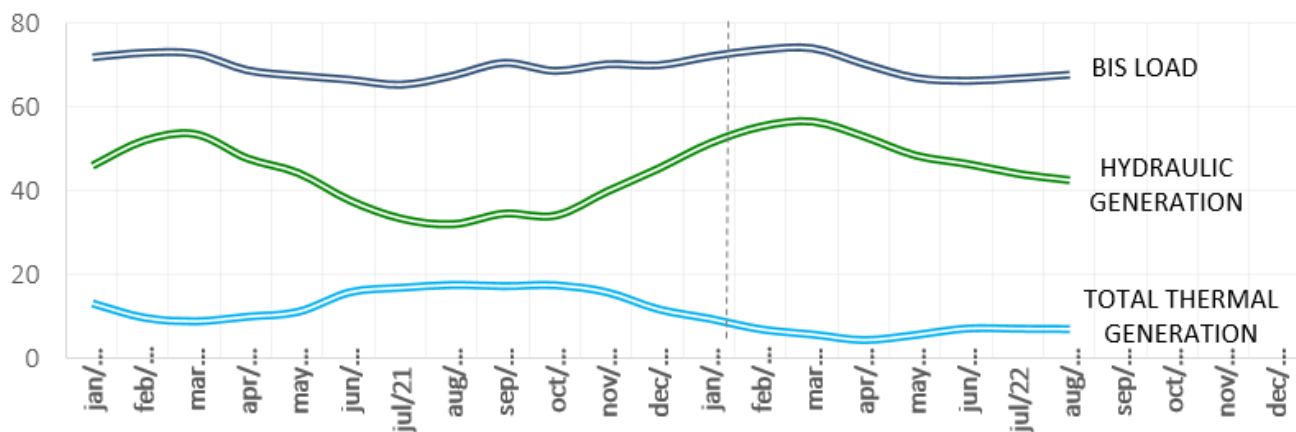


For the 2022 Domestic Electricity Supply (DELS)<sup>2</sup>, an increase of 3.6% is expected, reaching 703.7 TWh, with more than 85% being generated by renewables. A strong increase in solar generation (more than 70%) and a growth in wind and hydraulics (more than 13% of each) are expected. A strong reduction in thermal generation by coal and natural gas is also expected, by more than 40% each.

### Domestic Electricity Supply, by Source (%)



## Generation - BIS<sup>1</sup> Load - Hydraulic - Thermal Total (TWmed)



<sup>1</sup>BIS: Brazilian Interconnected System.

## HIGHLIGHTS IN AUGUST 2022

### Oil and gas stable

Oil and natural gas production remained stable, having increased by 1.6% and 0.8% in the year, respectively, according to the latest available data from the National Agency of Petroleum, Natural Gas and Biofuels – ANP (June 2022).

### Metallurgy and mining falling

Compared to August 2021, steel production decreased 11.6% (-4.7% in the year) and iron ore exports decreased 0.6% in the month compared to August 2021 (-5.9% in the year).

### Pig iron exports on the rise

Pig iron exports are on the rise, with an increase of 25.6% in the year.

### Hydraulic supply on the rise

In the year, hydroelectricity supply increased 14.7% in the accumulated until August. The same period last year, compared to 2020, had a reduction of 10.5%. Itaipu's supply shows a decline of 9.0% in the year.

### Strong reduction in gas consumption for electricity generation

Availability for consumption of natural gas dropped 19.2% in the year, with consumption for electricity generation falling by 54.1% in the accumulated until July (last available data).

The apparent consumption of oil derivatives is up 2.0% in the year. Diesel consumption increased by 0.7% in the year and the regular gasoline consumption rose 10.9% in the year. Automotive ethanol consumption fell by 6.6% in the year.

Energy consumption in Otto cycle light vehicles (gasoline, ethanol and natural gas), has a decline of 6.6%, according to the latest available data from the ANP, from June 2022.

### Electricity consumption in the commercial sector grows sharply

Commercial consumption remains in the spotlight, up 8.1% in the month compared to August 2021 (9.1% in the year).

Residential consumption grew by 2.6% in the month, compared to the same month of the previous year, and grew by 0.9% in the year.

### **Biodiesel production continues to fall**

Biodiesel production accumulates a low of 11.3% in the year. In 2021, the increase was 4.3%, and in the previous 4 years the annual rate was always above 8%.

### **Corn ethanol production on the rise**

According to Conab data, a 30% increase in corn ethanol production is expected for the 2022/23 harvest.

### **Dropping electricity tariffs**

All three tariffs (residential, commercial and industrial) showed a decrease compared to the same month of the previous year. However, they are still higher, compared to last year. The declines were 15.0% for the residential sector, 14.3% for the commercial sector and 13.7% for the industrial sector. However, in the accumulated of the first eight months of 2022, compared to 2021, the increases for the three sectors are 8.2%, 12.5% and 13.1% respectively.

### **Installed solar distributed generation (DG) capacity grows strong**

Brazilian solar DG installed capacity growth continues to be highlighted, tending to grow more than 80% in 2022, compared to 2021.

SPECIFICATION	AUGUST IN THE MONTH			ACCUMULATED IN THE YEAR			
	2022	2021	%22/21	2022	2021	%22/21	%
<b>OIL</b>							
PRODUCTION - with Shale Oil and NGL(10 <sup>3</sup> b/d) (c)	2,915	2,989	-2.5	3,032	2,984	1.6	-
IMPORTS AVERAGE PRICE (US\$/bbl FOB)	111.55	83.86	33.0	101.99	64.28	58.7	-
<b>OIL PRODUCTS</b>							
TOTAL CONSUMPTION (10 <sup>3</sup> b/day) (c)	2,415	2,490	-3.0	2,434	2,386	2.0	100.0
hereof: DIESEL with biodiesel - (10 <sup>3</sup> b/day) (c)	1,110	1,125	-1.4	1,088	1,080	0.7	42.4
hereof: GASOLINE C (10 <sup>3</sup> b/day) (c)	663	670.0	-1.0	685	617	10.9	22.5
CONSUMER PRICE - DIESEL (R\$/l)	7.10	4.61	54.0	6.58	4.28	53.5	-
CONSUMER PRICE - GASOLINE C (R\$/l)	5.39	5.93	-9.2	6.68	5.44	22.7	-
CONSUMER PRICE - LPG (R\$/13 kg)	111.62	93.48	19.4	109.58	85.37	28.4	-
<b>NATURAL GAS (d)</b>							
PRODUCTION (10 <sup>6</sup> m <sup>3</sup> /day)	136	139	-2.6	135	134	0.8	-
IMPORTS (10 <sup>6</sup> m <sup>3</sup> /day)	20.5	54.5	-62.4	25.1	41.1	-39.0	-
NON-UTILIZED AND REINJECTION (10 <sup>6</sup> m <sup>3</sup> /day)	70.6	69.1	2.2	69.9	63.6	9.9	-
AVAILABILITY FOR CONSUMPTION (10 <sup>6</sup> m <sup>3</sup> /day)	85.6	124.6	-31.3	89.8	111.0	-19.2	100.0
INDUSTRIAL CONSUMPTION (10 <sup>6</sup> m <sup>3</sup> /day)	40.9	42.9	-4.6	39.9	40.5	-1.4	44.5
POWER GENERATION CONS. (10 <sup>6</sup> m <sup>3</sup> /day)	15.5	50.7	-69.5	17.6	38.4	-54.1	19.6
INDUSTRIAL PRICE SP (e) (US\$/MMBtu) - consumption range of 20,000 m <sup>3</sup> /day	21.10	15.06	40.1	20.40	12.75	60.0	-
MOTOR PRICE SP (US\$/MMBtu)	21.39	16.39	30.5	20.94	14.18	47.6	-
RESIDENTIAL PRICE SP (US\$/MMBtu)	52.39	35.95	45.7	47.72	33.30	43.3	-
<b>ELECTRICITY</b>							
NATIONAL INTERCONNECTED SYSTEM	67,887	67,657	0.3	69,879	69,301	0.8	100.0
SOUTHEAST/MIDWEST POWER LOAD (MWavg)	38,521	38,573	-0.1	40,438	39,966	1.2	57.9
SOUTH POWER LOAD (MWavg)	11,618	11,661	-0.4	12,293	12,232	0.5	17.6
NORTHEAST POWER LOAD (MWavg)	11,128	11,133	0.0	11,147	11,186	-0.3	16.0
NORTH POWER LOAD (MWavg)	6,620	6,290	5.2	6,001	5,917	1.4	8.6
TOTAL CONSUMPTION (TWh) (b)	42.1	40.6	3.7	337.5	330.2	2.2	100.0
RESIDENTIAL	12.1	11.8	2.6	101.2	100.3	0.9	30.0
INDUSTRIAL	15.9	15.4	3.5	121.3	120.4	0.8	36.0
COMMERCIAL	7.3	6.8	8.1	61.9	56.7	9.1	18.3
OTHER SECTORS	6.8	6.7	1.7	53.1	52.9	0.5	15.7
PLANTS ENTRY INTO OPERATING (MW)	650	688	-5.5	3,720	3,020	23.2	-
RESIDENTIAL PRICE (R\$/MWh)	771	907	-15.0	891	823	8.2	-
COMMERCIAL PRICE (R\$/MWh)	728	849	-14.3	847	753	12.5	-
INDUSTRIAL PRICE (R\$/MWh)	695	805	-13.7	811	717	13.1	-
<b>ETHANOL AND BIODIESEL</b>							
BIODIESEL PRODUCTION (10 <sup>3</sup> b/d) (c)	107	108	-0.8	103	116	-11.3	-
MOTOR ETHANOL CONSUMPTION (10 <sup>3</sup> b/d) (c)	462	449	2.9	455	487	-6.6	-
ETHANOL EXPORTS (10 <sup>3</sup> b/d)	56	17	227.6	31	33	-6.0	-
HYDRATED ETHANOL PRICE (R\$/l)	3.95	4.48	-11.8	4.76	4.00	19.2	-
<b>COAL</b>							
ELECTRICITY GENERATION (MWavg)	1009	2436	-58.6	809	1783	-54.7	-
IMPORT PRICE (US\$ FOB/t)	304.88	118.81	156.6	315.04	97.24	224.0	-
<b>NUCLEAR ENERGY</b>							
ELECTRICITY GENERATION - (GWh)	1182	1489	-20.6	9,674	9,039	7.0	-
<b>INDUSTRIAL SECTORS</b>							
STEEL PRODUCTION (10 <sup>3</sup> t/day)	92	104	-11.6	95	100	-4.7	-
ALUMINIUM PRODUCTION (10 <sup>3</sup> t/day) (c)	2.0	2.1	-4.5	2.0	2.1	-7.1	-
IRON ORE EXPORTS (10 <sup>3</sup> t/day)	1,041	1,048	-0.6	855	909	-5.9	-
PELLETS EXPORTS (10 <sup>3</sup> t/day)	35	71	-50.8	49	51	-3.1	-
BIG IRON EXPORTS (10 <sup>3</sup> t/day)	11.6	10.1	15.4	10.0	8.0	25.6	-
PAPER PRODUCTION (10 <sup>3</sup> t/day)	30.5	29.6	3.2	30.1	29.2	3.2	-
PULP PRODUCTION (10 <sup>3</sup> t/day) (c)	68.5	63.8	7.4	66.3	61.5	7.8	-
SUGAR PRODUCTION (10 <sup>3</sup> t/day) (c)	157.8	163.3	-3.4	58.4	74.6	-21.7	-
SUGAR EXPORTS (10 <sup>3</sup> t/day)	95	82	16.1	64	73	-12.6	-

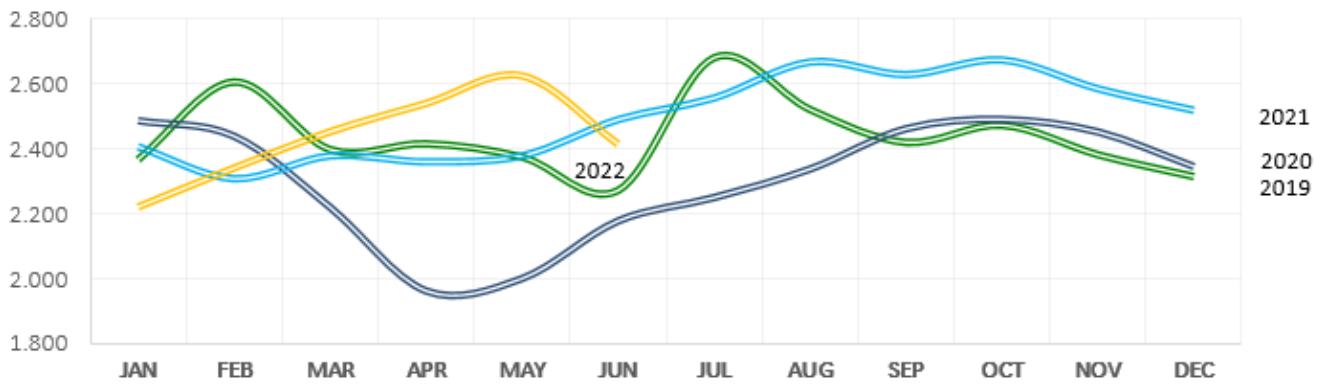
a) Consumption range = 20,000 m<sup>3</sup>/day (b) The traditional self-producers (consumers that do not use public grid) is not included

(c) June data

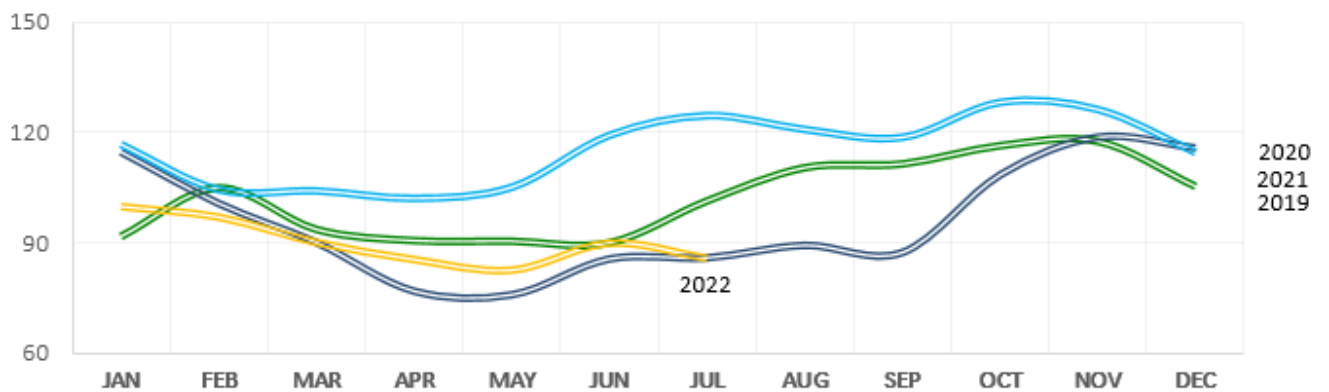
(d) July data

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

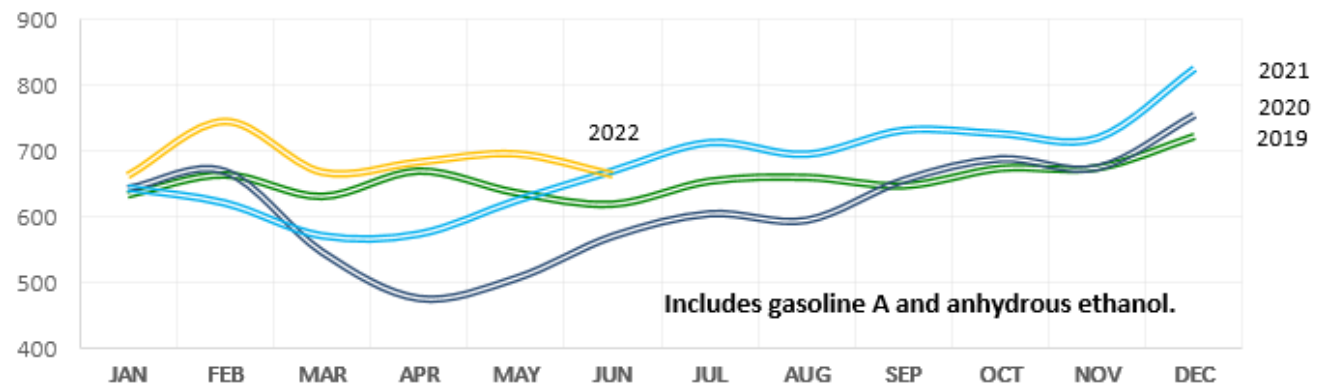
**Oil Products Total Consumption (10<sup>3</sup> bbl/d)**



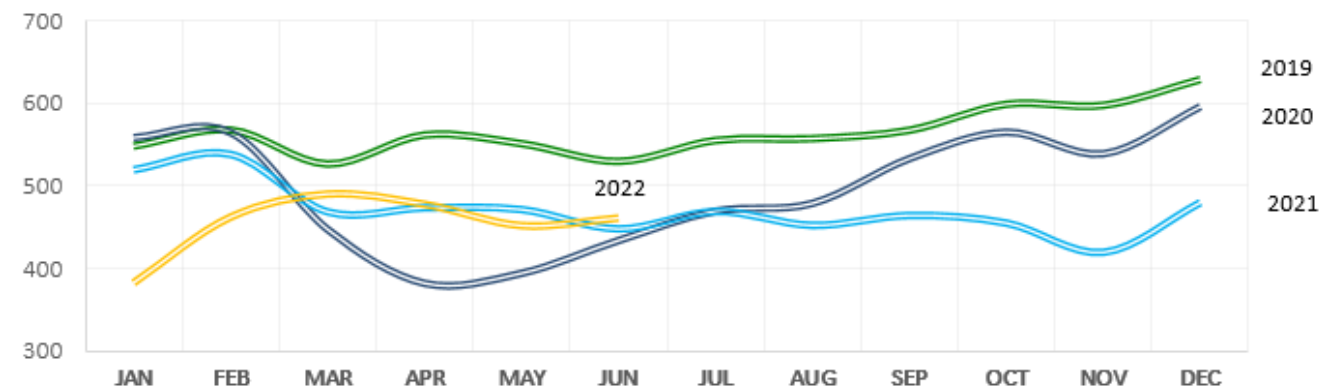
**Natural Gas Total Demand (million m<sup>3</sup>/d)**



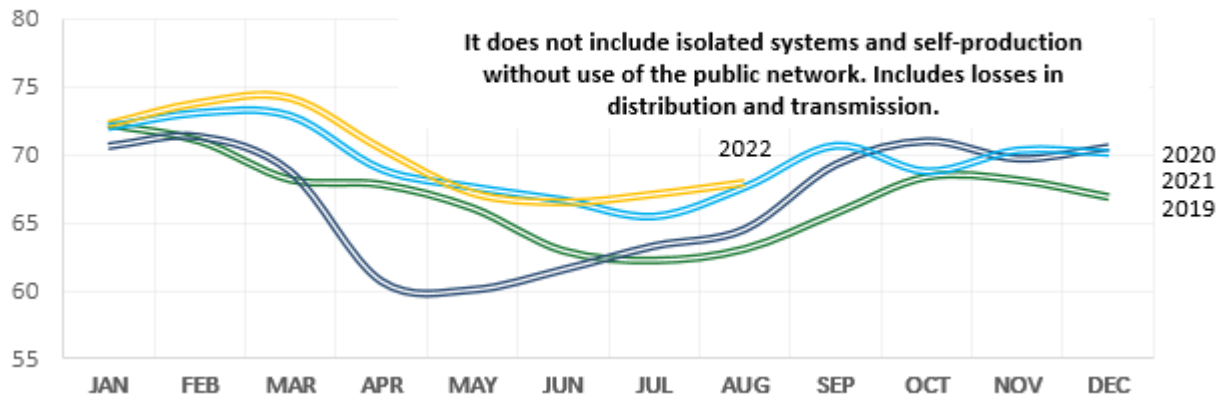
**C Gasoline Consumption (10<sup>3</sup> bbl/d)**



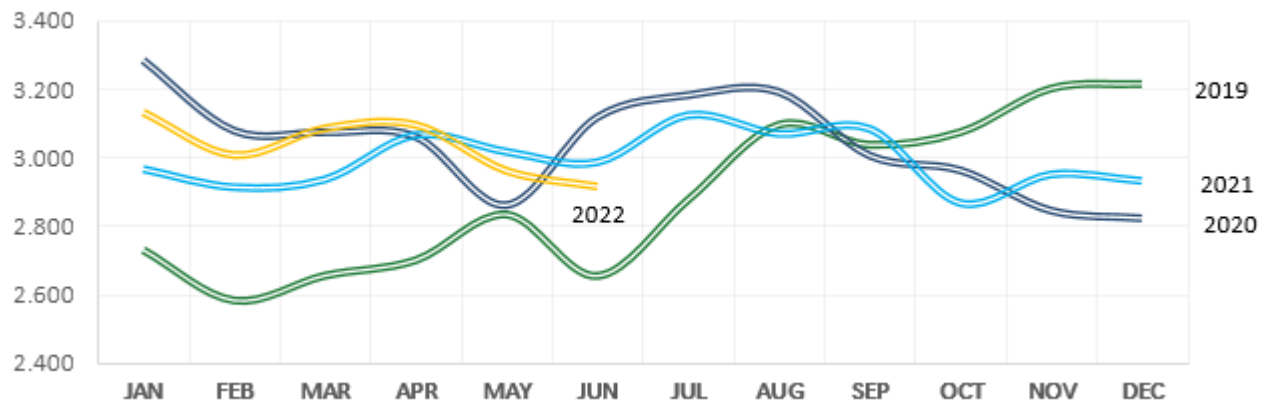
**Motor Ethanol Total Consumption (10<sup>3</sup> bbl/d)**



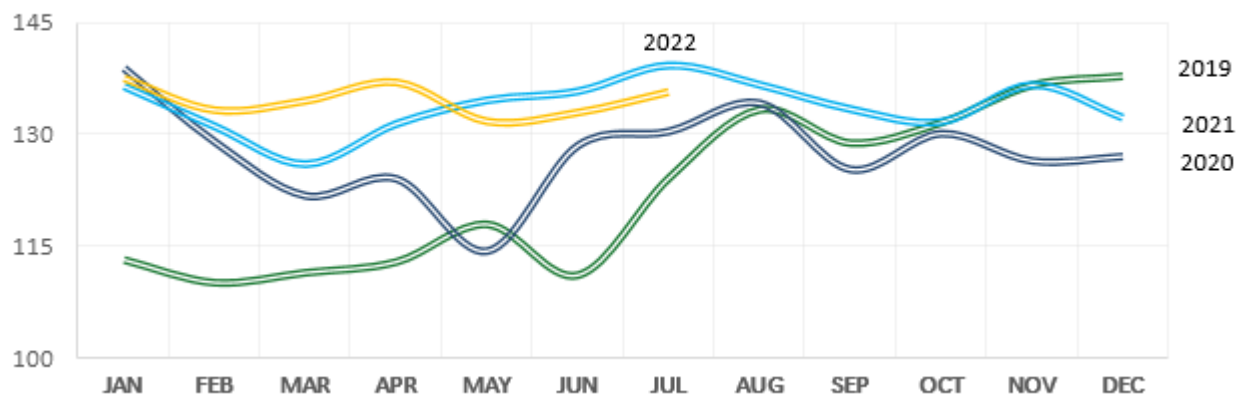
## National Interconnected System Power Load (GWavg)



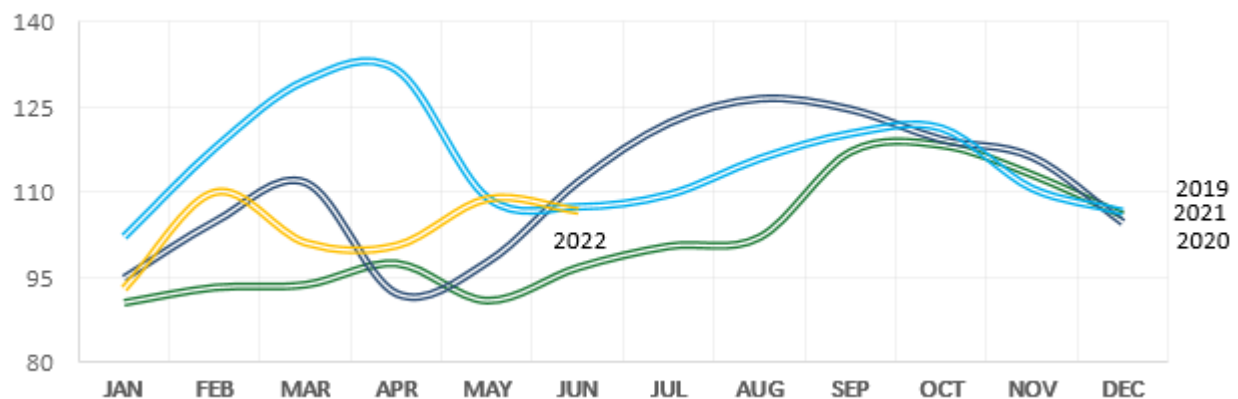
## Oil Production ( $10^3$ bbl/d)



## Natural Gas Production (million $m^3$ /d)

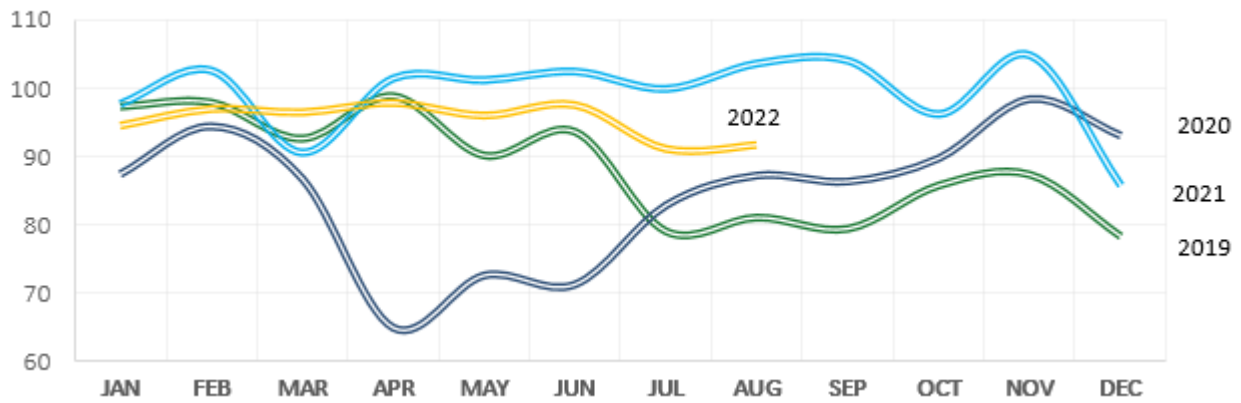


## Biodiesel Production ( $10^3$ bbl/d)

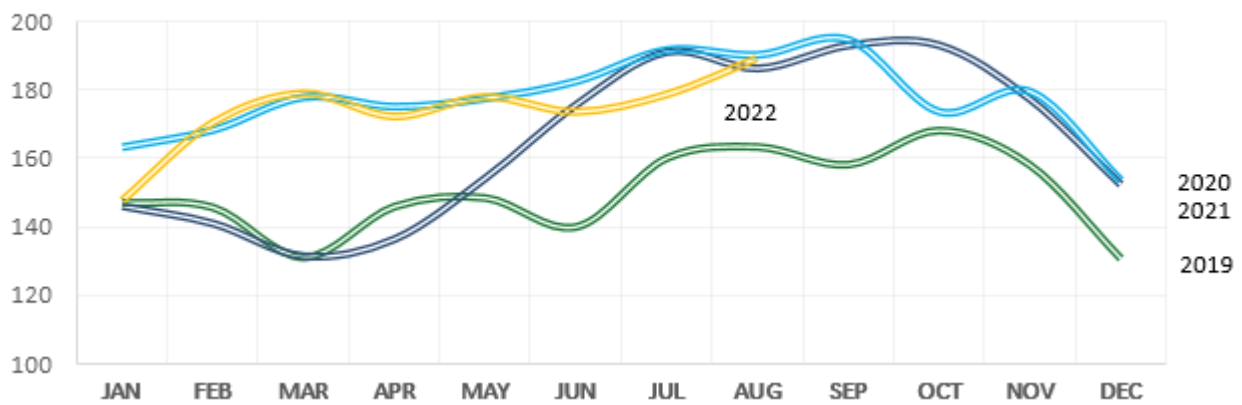




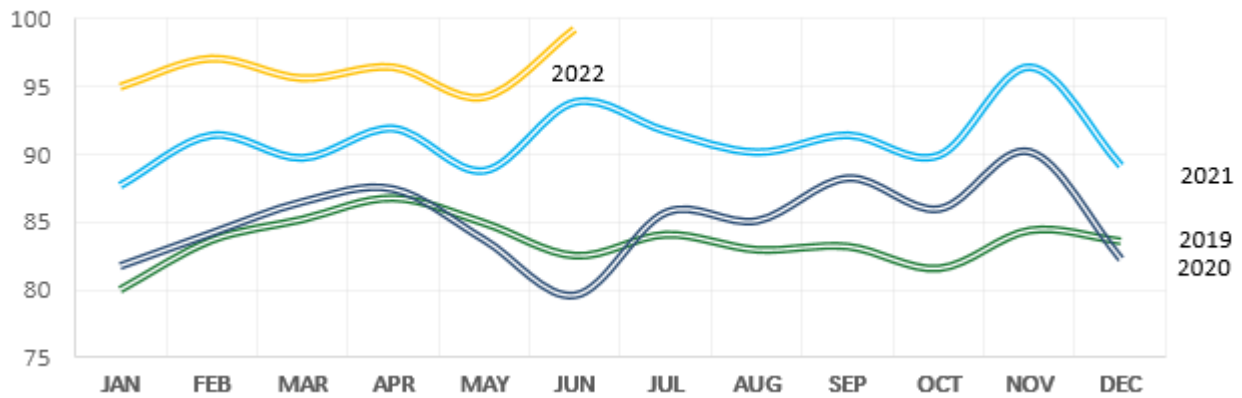
**Steel Production ( $10^3$  t/d)**



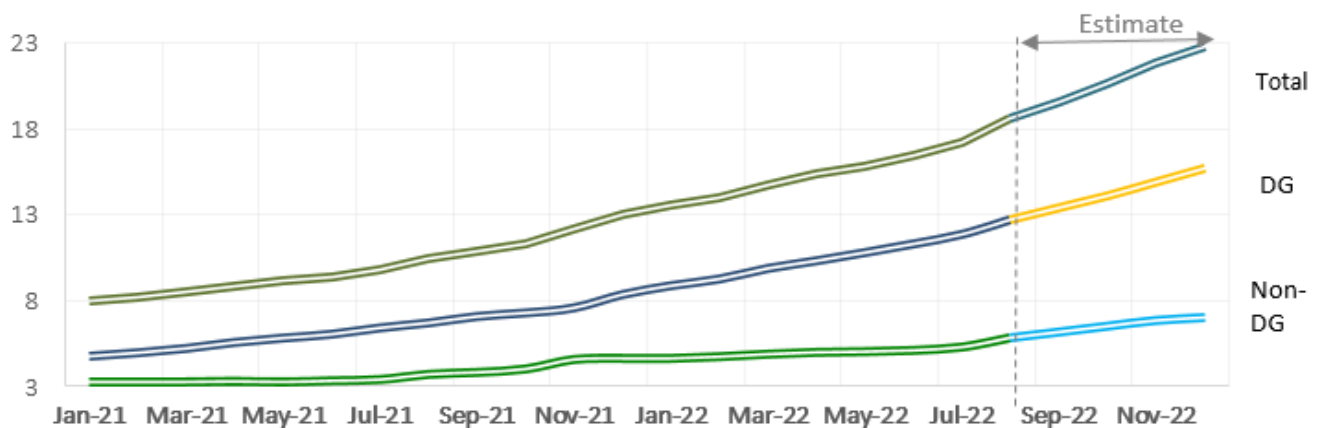
**Cement Sales ( $10^3$  t/d)**



**Paper and Pulp Production ( $10^3$  t/d)**

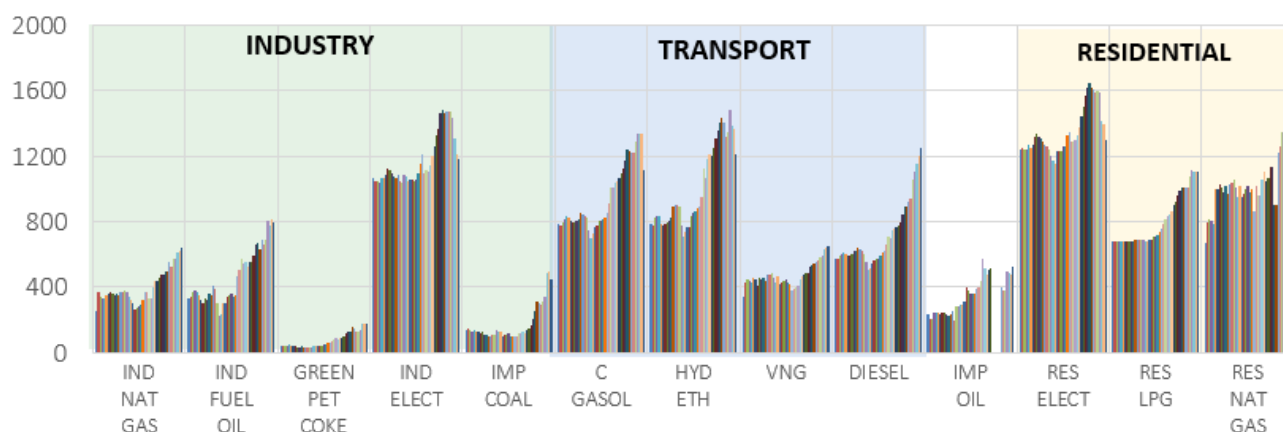


**Photovoltaic Solar Installed Capacity (GW)**





## Consumer Prices - Jan 2019 to Aug 2022 (R\$/boe)



## METHODOLOGICAL NOTES

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.

<sup>1</sup> 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.

<sup>2</sup> The 2021 data from DES and DELS already reflect the final results of the 2022 cycle of the National Energy Balance (BEN), coordinated by the Energy Research Company (EPE), in partnership with DIE/SPE/MME, companies and agencies in the Brazilian energy sector.



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