

MONTHLY ENERGY BULLETIN

BRAZIL



MINISTRY OF MINES AND ENERGY - MME
SECRETARIAT OF ENERGY PLANNING AND DEVELOPMENT - SPE
DEPARTMENT OF INFORMATION AND STUDIES ON ENERGY - DIE

REFERENCE MONTH

MAY
2021

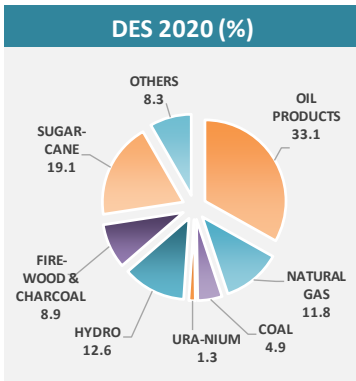
DOMESTIC ENERGY SUPPLY

Several indicators of May 2021 over May 2020 (2nd more affected month by the Covid-19 pandemic) show excellent recovery: high of 182% in sales of aviation kerosene, 37% in total natural gas demand, 22% in the light vehicles consumption, 19% in oil derivatives sales and 12% in electricity consumption. In industry, the steel production had an increase of 40% and cement sales rose 15%. In the

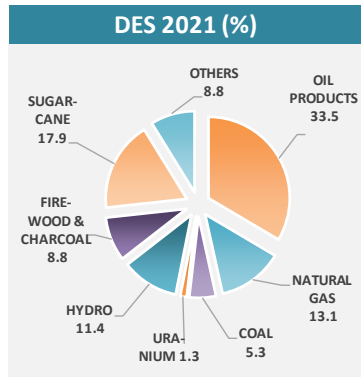
accumulated of the year over the same previous period aviation kerosene still shows a 15% decline.

For Domestic Energy Supply – DES¹, until May, an increase of 6.7% was estimated, but for the whole year of 2021 is estimated a high near 4%. With the current information, the indicator was estimated at 4.3% (4% in the previous edition).

INCREASE IN 2021 TOTAL ENERGY DEMAND IS ESTIMATED AT 4.3%



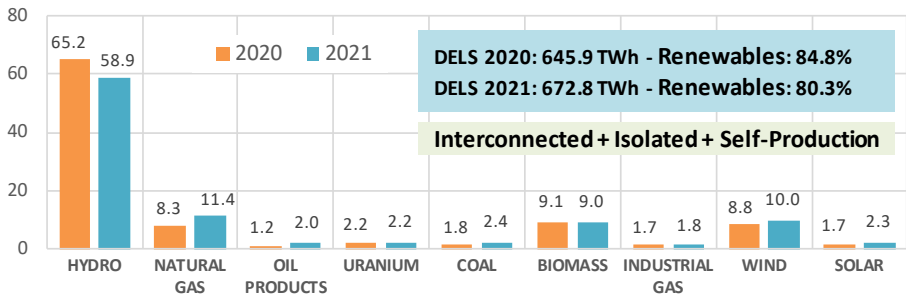
287.6 million toe - 48.4% renewables



299.9 million toe - 46.3% renewables

For the 2021's Domestic Electricity Supply (DELS)² an increase of 4 to 5% is expected. With the current information, the indicator was estimated at 4.2% (4.6% in the previous edition). The share of renewables should be above 80%.

DOMESTIC ELECTRICITY SUPPLY, BY SOURCE (%)



HIGHLIGHTS IN MAY 2021

■ *Oil production in recovery*

Oil production increased by 5.6% in May 2021, on the same month of 2020, but still accumulated a 3.5% decrease in the year (-9.1% to February). The production of natural gas grew 17.7% in May, and accumulated up 5.1% in the year (-0.5% to February).

■ *Mining and metallurgy in high*

Steel production grew 40.4% over May 2020, and accumulated up 22% in the year (9.1% to February). Iron ore exports grew 25.4% in the month, accumulating an increase of 17.7% in the year (11.7% to February). Pellets exports show a 1.6% rise in the year's accumulated.

■ *Hydraulic supply downward*

The supply of hydraulic energy shows a decrease of 1.6% in the year's accumulated. The Itaipu's supply is negative at 28% in the year's accumulated.

■ *Oil derivatives in recovery*

The oil derivatives apparent consumption grew 18.8% in May (excluding ethanol and biodiesel), and already accumulated 7.5% in the year (-0.5% to February). The diesel consumption (included biodiesel) was high of 14.2% in the month (11.3% in the year) and the gasoline C consumption rose 23.2% in the month (7% in the year). The automotive ethanol consumption rose 19.6% in the month (5.5% in the year). Total gas demand accumulates 16.3% in the year, featuring a power generation expansion of 107% in the month and 46.1% in the year.

The Otto's cycle (gasoline, ethanol and natural gas) light vehicles energy consumption accumulates an increase of 5.7% in the year (12 months: -9.3% in 2011, 4.5% in 2019, -1.2% in 2018, +1.7% in 2017, -1.1% in 2016 and +6.2% in 2014).

■ *Electricity consumption rises*

Electricity consumption - excluding self-producers - grew 11.8% over May 2020, and accumulated up 6.9% in the year (2.2% to February). Still in the year's accumulated, residential consumption rose 4.9%, industrial increased by 13.9% and commercial consumption already shows a high of 1.8% (-10.6% throughout the year 2020).

■ *Biodiesel production rises*

Biodiesel production grew 11.7% over the same month of 2020, and accumulates 17.1% in the year. The annual rate has been greater than 9% in the last four years.

Pulp production is estimated at 6.8% increase in year (+43% of 2013 to 2020). Cement consumption accumulated an increase of 21.7% in the year (10% in twelve months of 2020).

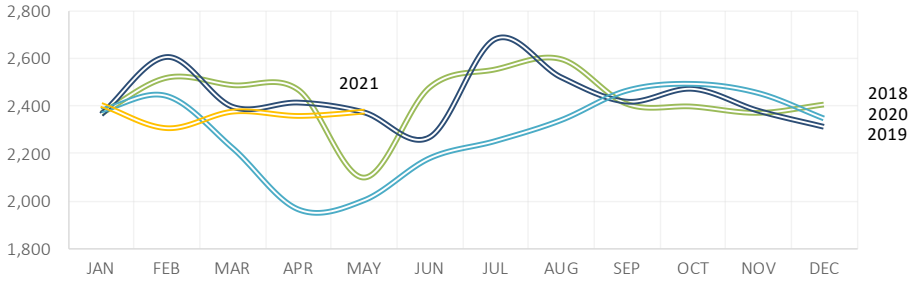
■ *Electricity tariffs rise*

The national average tariff for residential electricity accumulates 9.1% high in the year (-3.1% in 2020, 8% in 2019 and 12.6% in 2018). Commercial tariff accumulates 9.1% high (-1.6% in 2011, 7.4% in 2019 and 12.4% in 2018) and industrial, 8.6% high (-0.3% in 2011, 5.7% in 2019 and 13.4% in 2018).

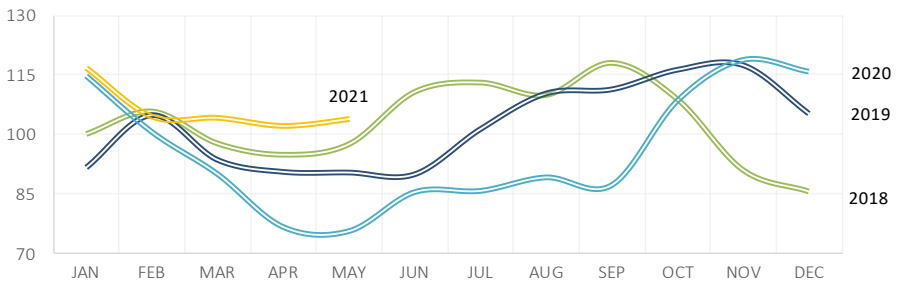
SPECIFICATION	MAY						
	IN THE MONTH			ACCUMULATED IN THE YEAR			
	2021	2020	%21/20	2021	2020	%21/20	%
OIL							
PRODUCTION - with Shale Oil and NGL(10 ³ b/d)	3,020	2,860	5.6	2,965	3,071	-3.5	-
IMPORTS AVERAGE PRICE (US\$/bbl FOB)	61	42	43.8	60	60	0.7	-
OIL PRODUCTS							
TOTAL CONSUMPTION (10 ³ b/day)	2,377	2,001	18.8	2,366	2,200	7.5	100.0
hereof: DIESEL with biodiesel - (10 ³ b/day)	1,070	937	14.2	1,071	962	11.3	43.0
hereof: GASOLINE C (10 ³ b/day)	625	507	23.2	607	567	7.0	20.5
CONSUMER PRICE - DIESEL (R\$/l)	4.47	3.04	47.2	4.11	3.48	18.2	-
CONSUMER PRICE - GASOLINE C (R\$/l)	5.60	3.82	46.8	5.22	4.30	21.6	-
CONSUMER PRICE - LPG (R\$/13 kg)	85.4	69.5	22.8	82.0	69.8	17.5	-
NATURAL GAS							
PRODUCTION (106 m ³ /day)	134.6	114.4	17.7	131.9	125.6	5.1	-
IMPORTS (106 m ³ /day)	34.5	13.3	159.4	37.4	22.0	70.1	-
NON-UTILIZED AND REINJECTION (106 m ³ /day)	65.2	52.0	25.4	63.0	56.0	12.4	-
AVAILABILITY FOR CONSUMPTION (106 m ³ /day)	103.9	75.7	37.2	106.4	91.4	16.3	100.0
INDUSTRIAL CONSUMPTION (106 m ³ /day)	40.8	31.2	30.6	40.1	33.7	18.9	37.7
POWER GENERATION CONS. (106 m ³ /day)	32.5	15.7	107.0	34.6	23.7	46.1	32.6
INDUSTRIAL PRICE SP(*) (US\$/MMBtu) - consumption range of 20,000 m ³ /day	10.8	11.3	-3.9	11.2	13.3	-15.2	-
MOTOR PRICE SP (US\$/MMBtu)	13.0	14.1	-8.0	12.8	16.8	-23.7	-
RESIDENTIAL PRICE SP (US\$/MMBtu)	30.6	31.2	-2.0	30.6	36.9	-16.9	-
ELECTRICITY							
NATIONAL INTERCONNECTED SYSTEM	66,741	59,194	12.7	69,979	65,425	7.0	100.0
SOUTHEAST/MIDWEST POWER LOAD (MWavg)	38,438	33,971	13.1	40,469	37,702	7.3	57.8
SOUTH POWER LOAD (MWavg)	11,464	10,216	12.2	12,453	11,725	6.2	17.8
NORTHEAST POWER LOAD (MWavg)	10,809	9,731	11.1	11,219	10,614	5.7	16.0
NORTH POWER LOAD (MWavg)	6,030	5,276	14.3	5,838	5,385	8.4	8.3
TOTAL CONSUMPTION (TWh) (**)	40.3	36.1	11.8	209.5	196.0	6.9	100.0
RESIDENTIAL	12.0	11.8	1.2	64.9	61.9	4.9	31.0
INDUSTRIAL	15.1	12.2	23.1	74.8	65.7	13.9	35.7
COMMERCIAL	6.7	5.8	15.8	36.7	36.1	1.8	17.5
OTHER SECTORS	6.5	6.2	5.7	33.1	32.3	2.4	15.8
PLANTS ENTRY INTO OPERATING (MW)	245	494	-50.4	1,425	2,921	-51.2	-
RESIDENTIAL PRICE (R\$/MWh)	856	711	20.4	813	745	9.1	-
COMMERCIAL PRICE (R\$/MWh)	766	661	15.8	733	672	9.1	-
INDUSTRIAL PRICE (R\$/MWh)	730	653	11.9	703	647	8.6	-
ETHANOL AND BIODIESEL							
BIODIESEL PRODUCTION (10 ³ b/d)	109	98	11.7	117	100	17.1	-
MOTOR ETHANOL CONSUMPTION (10 ³ b/d)	472	394	19.6	494	468	5.5	-
ETHANOL EXPORTS (10 ³ b/d)	13	30	-55.2	29	22	34.5	-
HYDRATED ETHANOL PRICE (R\$/l)	4.25	2.55	66.7	3.76	3.00	25.4	-
COAL							
ELECTRICITY GENERATION (MWavg)	1,425	644	121.4	1,506	1,121	34.4	-
IMPORT PRICE (US\$ FOB/t)	102.6	99.3	3.3	88.9	97.2	-8.5	-
NUCLEAR ENERGY							
ELECTRICITY GENERATION - (GWh)	1,079	1,482	-27.2	6,181	6,229	-0.8	-
INDUSTRIAL SECTORS							
STEEL PRODUCTION (10 ³ t/day)	102	73	40.4	99	81	22.0	-
ALUMINIUM PRODUCTION (10 ³ t/day)	1.9	1.6	15.7	2.0	1.8	14.0	-
IRON ORE EXPORTS (10 ³ t/day)	811	646	25.4	839	713	17.7	-
PELLETS EXPORTS (10 ³ t/day)	45	46	-1.2	44	43	1.6	-
PAPER PRODUCTION (10 ³ t/day)	29.2	25.7	13.5	29.0	27.9	4.1	-
PULP PRODUCTION (10 ³ t/day)	59.7	58.0	2.9	60.7	56.9	6.8	-
SUGAR PRODUCTION (10 ³ t/day)	154	165	-7.0	57	57	-0.3	-
SUGAR EXPORTS (10 ³ t/day)	80	96	-16.8	67	58	14.6	-

(*) SP is the acronym of the state of São Paulo. (**) The traditional self-producers (consumers that do not use public grid) is not included.

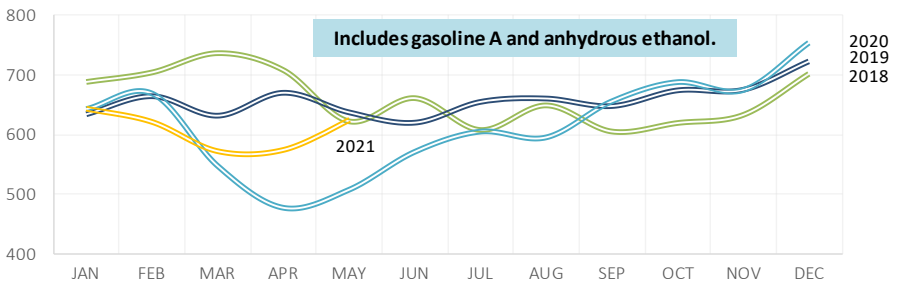
OIL PRODUCTS TOTAL CONSUMPTION (10³ bbl/d)



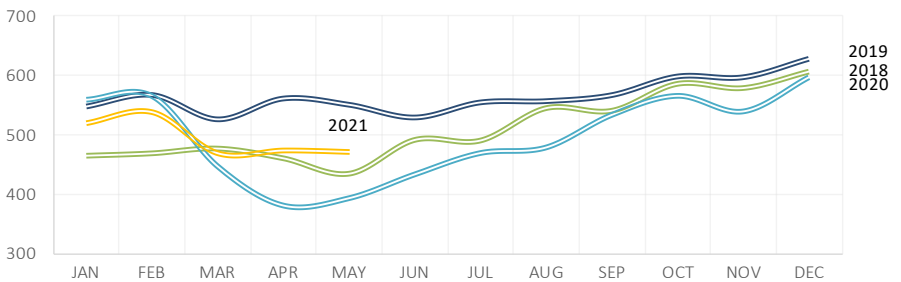
NATURAL GAS TOTAL DEMAND (million m³/d)



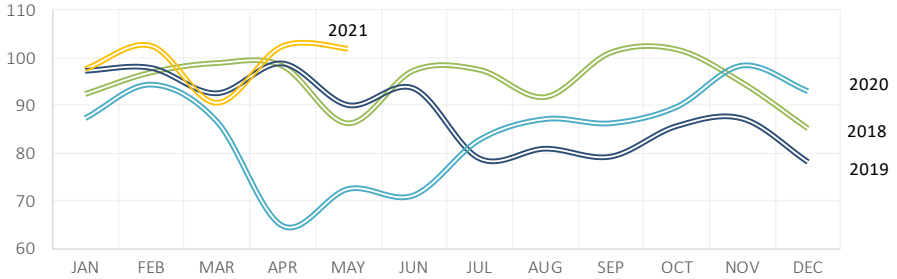
C GASOLINE CONSUMPTION (10³ bbl/d)



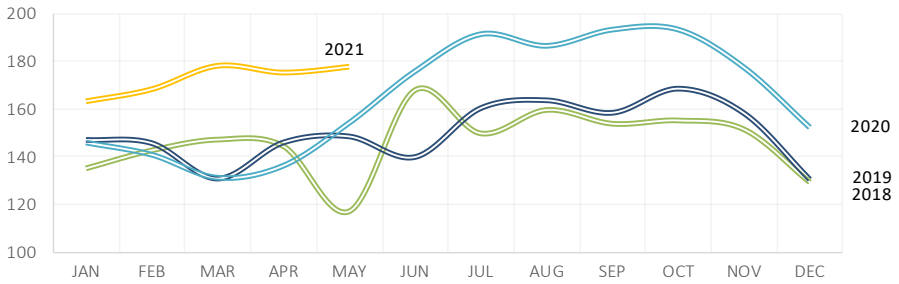
MOTOR ETHANOL TOTAL CONSUMPTION (10³ bbl/d)



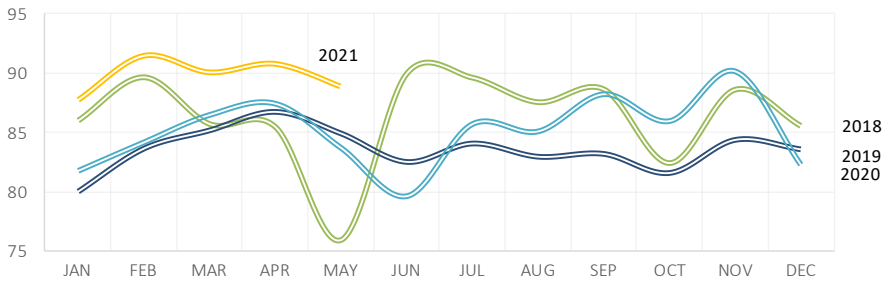
STEEL PRODUCTION (10³ t/d)



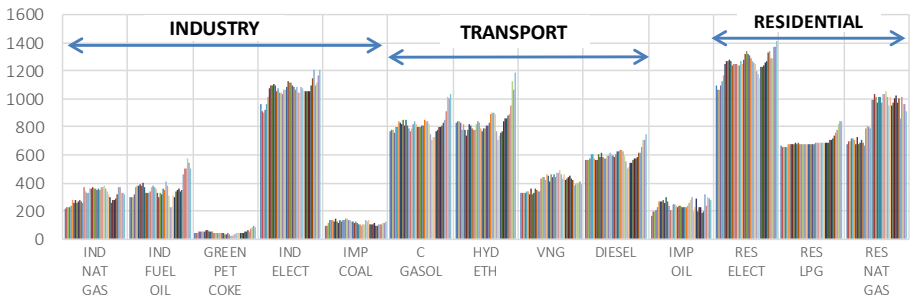
CEMENT SALES (10³ t/d)



PAPER AND PULP PRODUCTION (10³ t/d)



CONSUMER PRICES - Jan 2018 to May 2021 (R\$/boe)



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 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.

¹ 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.

² 2020 data from DES and DELS reflect the results of the 2021 Brazilian Energy Balance cycle, concluded by the Energy Research Company, with a partnership between SPE/MME and energy sector companies and agencies.

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Direction: André Osório

Coordination: Gustavo Masili

Team: João Patusco, Daniele Bandeira, Gilberto Kwitko and Azenaite Roriz

Department of Information and Studies on Energy – DIE/SPE/MME

die@mme.gov.br +55 61 2032 5986