

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

APRIL
2021

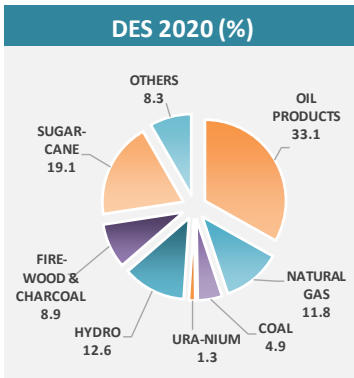
DOMESTIC ENERGY SUPPLY

Several indicators from April 2021 over April 2020 (the most affected by the COVID-19 pandemic) show an excellent recovery: 183% increase in aviation kerosene sales, 33% increase in total natural gas demand, 23% increase in light vehicles consumption, 20% in oil products sales and 14% in electricity consumption. In industry, steel production rose 58% and cement sales rose 29%. In the accumulated result for the year, compared to the same

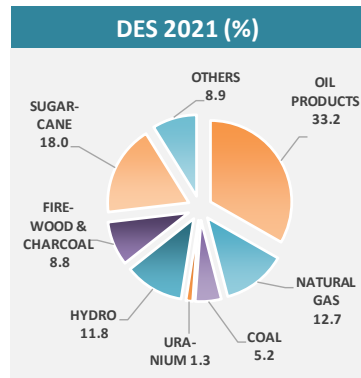
period in the previous year, aviation kerosene still shows a decline of 17% and commercial electricity, recoil of 0.9%.

For the Domestic Energy Supply – DES¹ up to April, an increase of 5.3% was estimated, but for the whole year of 2021 the estimate is that it will increase between 3% and 4%. With current information, the indicator was estimated at 4% (3.4% in the previous edition).

INCREASE IN TOTAL ENERGY DEMAND IS ESTIMATED AT 4% IN 2021



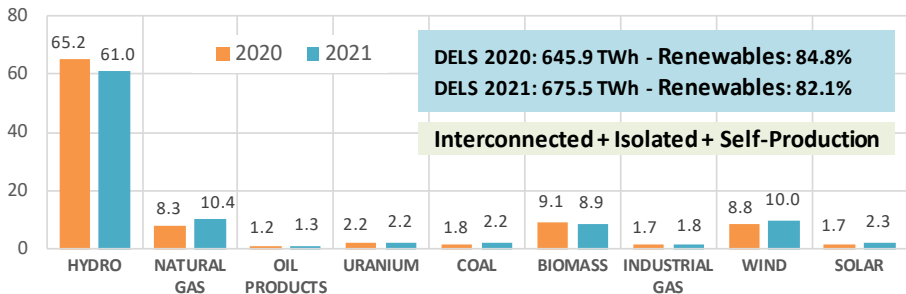
287.6 million toe - 48.4% renewables



299.1 million toe - 46.9% 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 4.6% (4.9% in the previous edition). The share of renewables should be above 80%.

DOMESTIC ELECTRICITY SUPPLY, BY SOURCE (%)



HIGHLIGHTS IN APRIL 2021

■ *Oil production in recovery*

Oil production grew 0.3% in April 2021, compared to the same month in 2020, and accumulated -5.6% in the year (-9.1% until February). Gas production grew 6% in April and accumulated an increase of 2.2% in the year (-0.5% until February).

■ *Mining and metallurgy in high*

Steel production grew 57.7% over April 2020, accumulating 17.8% in the year (9.1% until February). Iron ore exports grew 6.2% in the month, accumulating an rise of 16% in the year (11.7% until February). Pellets exports show an increase of 2.4% in the year.

■ *Hydraulic supply downward*

The hydraulic energy supply shows a decrease of 2.8% in the year accumulated. Itaipu's supply is -6.7% in the year accumulated.

■ *Oil derivatives in recovery*

Apparent consumption of oil products grew by 20.1% in April (excluding ethanol and biodiesel), accumulating an increase of 5% in the year (-0.5% until February). Diesel consumption (without biodiesel) increased 26.6% in April (10.5% in the year), and that of C-gasoline increased by 20.4% in April (3.4% in the year). Automotive ethanol consumption increased by 23.6% in April and has already accumulated an increase of 2.4% in the year. Gas total demand accumulates an increase of 12% in the year, with electricity generation expanding 88.2% in the month and 36.5% in the year.

The Otto's cycle (gasoline, ethanol and natural gas) light vehicles energy consumption accumulates an increase of 2.1% in the year (12 months: -9.3% in 2020, 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 14% over April 2020, accumulating an increase of 5.8% in the year (2.2% until February). In the year, residential consumption grew 5.7%, industrial consumption grew 11.7% and commercial consumption still shows a decline of 0.9% (-10.6% in the entire year of 2020).

■ *Biodiesel production rises*

Biodiesel production grew 43% over the same month in 2020, and accumulates an increase of 18.4% in the year. The annual rate has been over 9% for the past four years.

Pulp production is estimated to increase by 7.8% in the year (+43% from 2013 to 2020). Cement consumption accumulates an increase of 23.6% in the year (10% in the twelve months of 2020).

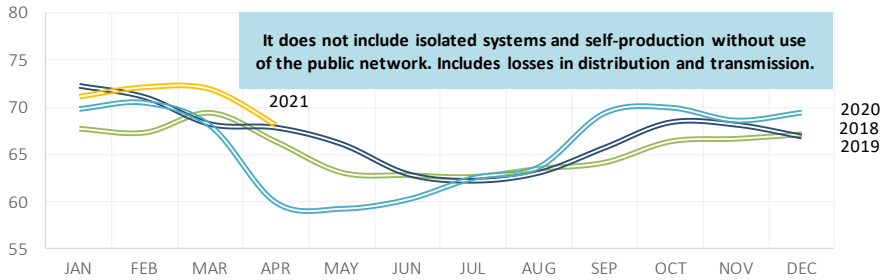
■ *Electricity tariffs rise*

The national average tariff for residential electricity accumulates 6.4% high in the year (-3.1% in 2020, 8% in 2019 and 12.6% in 2018). Commercial tariff accumulates 7.4% high (-1.6% in 2020, 7.4% in 2019 and 12.4% in 2018) and industrial, 7.7% high (-0.3% in 2020, 5.7% in 2019 and 13.4% in 2018).

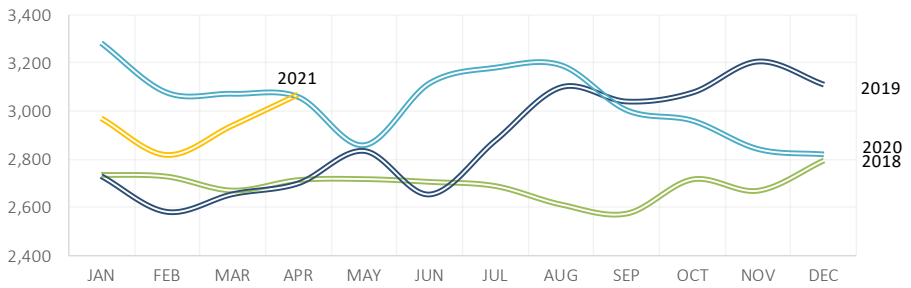
SPECIFICATION	APRIL						
	IN THE MONTH			ACCUMULATED IN THE YEAR			
	2021	2020	%21/20	2021	2020	%21/20	%
OIL							
PRODUCTION - with Shale Oil and NGL(10 ³ b/d)	3,068	3,060	0.3	2,950	3,125	-5.6	-
IMPORTS AVERAGE PRICE (US\$/bbl FOB)	60	64	-5.6	60	64	-6.4	-
OIL PRODUCTS							
TOTAL CONSUMPTION (10 ³ b/day)	2,358	1,963	20.1	2,363	2,251	5.0	100.0
hereof: DIESEL with biodiesel - (10 ³ b/day)	1,119	884	26.6	1,071	969	10.5	43.1
hereof: GASOLINE C (10 ³ b/day)	574	477	20.4	603	583	3.4	20.4
CONSUMER PRICE - DIESEL (R\$/l)	4.20	3.29	27.7	4.03	3.59	12.1	-
CONSUMER PRICE - GASOLINE C (R\$/l)	5.45	4.07	33.9	5.13	4.42	16.1	-
CONSUMER PRICE - LPG (R\$/13 kg)	85.0	69.9	21.6	81.2	69.9	16.2	-
NATURAL GAS							
PRODUCTION (106 m ³ /day)	131.4	124.0	6.0	131.3	128.4	2.2	-
IMPORTS (106 m ³ /day)	34.6	11.8	193.8	38.1	24.2	57.5	-
NON-UTILIZED AND REINJECTION (106 m ³ /day)	63.9	59.1	8.2	62.4	57.1	9.4	-
AVAILABILITY FOR CONSUMPTION (106 m ³ /day)	102.1	76.7	33.1	107.0	95.5	12.0	100.0
INDUSTRIAL CONSUMPTION (106 m ³ /day)	40.0	28.2	42.0	39.9	34.3	16.2	37.3
POWER GENERATION CONS. (106 m ³ /day)	32.5	17.3	88.2	35.2	25.8	36.5	32.9
INDUSTRIAL PRICE SP(*) (US\$/MMBtu) - consumption range of 20,000 m ³ /day	10.6	12.0	-11.1	11.3	9.9	14.4	-
MOTOR PRICE SP (US\$/MMBtu)	13.0	15.0	-13.5	12.8	12.6	1.6	-
RESIDENTIAL PRICE SP (US\$/MMBtu)	30.6	33.1	-7.5	30.7	38.3	-19.9	-
ELECTRICITY							
NATIONAL INTERCONNECTED SYSTEM	68,040	59,837	13.7	70,788	66,983	5.7	100.0
SOUTHEAST/MIDWEST POWER LOAD (MWavg)	39,009	34,668	12.5	40,977	38,634	6.1	57.9
SOUTH POWER LOAD (MWavg)	11,892	10,296	15.5	12,700	12,102	4.9	17.9
NORTHEAST POWER LOAD (MWavg)	11,103	9,813	13.1	11,322	10,835	4.5	16.0
NORTH POWER LOAD (MWavg)	6,036	5,060	19.3	5,790	5,412	7.0	8.2
TOTAL CONSUMPTION (TWh) (**)	42.3	37.1	14.0	169.2	159.9	5.8	100.0
RESIDENTIAL	13.3	12.3	8.0	52.9	50.0	5.7	31.3
INDUSTRIAL	15.2	12.2	25.0	59.7	53.5	11.7	35.3
COMMERCIAL	7.2	6.4	12.3	30.0	30.3	-0.9	17.7
OTHER SECTORS	6.6	6.2	6.1	26.6	26.1	1.6	15.7
PLANTS ENTRY INTO OPERATING (MW)	488	345	41.8	1,180	2,427	-51.4	-
RESIDENTIAL PRICE (R\$/MWh)	831	727	14.3	802	754	6.4	-
COMMERCIAL PRICE (R\$/MWh)	743	669	11.1	725	674	7.4	-
INDUSTRIAL PRICE (R\$/MWh)	709	658	7.7	696	646	7.7	-
ETHANOL AND BIODIESEL							
BIODIESEL PRODUCTION (10 ³ b/d)	132	92	43.0	119	101	18.4	-
MOTOR ETHANOL CONSUMPTION (10 ³ b/d)	472	382	23.6	499	487	2.4	-
ETHANOL EXPORTS (10 ³ b/d)	22	17	32.0	33	20	69.3	-
HYDRATED ETHANOL PRICE (R\$/l)	3.83	2.78	37.6	3.63	3.11	16.6	-
COAL							
ELECTRICITY GENERATION (MWavg)	1,029	282	265.2	1,526	1,240	23.1	-
IMPORT PRICE (US\$ FOB/t)	90.0	104.6	-13.9	85.5	96.7	-11.5	-
NUCLEAR ENERGY							
ELECTRICITY GENERATION - (GWh)	1,110	1,359	-18.3	5,101	4,747	7.5	-
INDUSTRIAL SECTORS							
STEEL PRODUCTION (10 ³ t/day)	102	65	57.7	98	83	17.8	-
ALUMINIUM PRODUCTION (10 ³ t/day)	2.0	1.7	20.4	2.0	1.8	10.5	-
IRON ORE EXPORTS (10 ³ t/day)	805	758	6.2	847	730	16.0	-
PELLETS EXPORTS (10 ³ t/day)	49	42	17.0	44	43	2.4	-
PAPER PRODUCTION (10 ³ t/day)	29.1	28.2	3.1	29.0	28.4	1.9	-
PULP PRODUCTION (10 ³ t/day)	61.7	59.2	4.1	61.0	56.6	7.8	-
SUGAR PRODUCTION (10 ³ t/day)	83	83	0.0	32	29	9.6	-
SUGAR EXPORTS (10 ³ t/day)	60	51	15.9	63	48	30.6	-

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

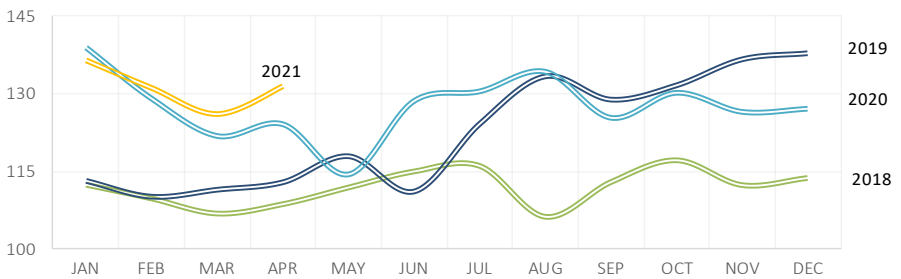
NATIONAL INTERCONNECTED SYSTEM POWER LOAD (GWavg)



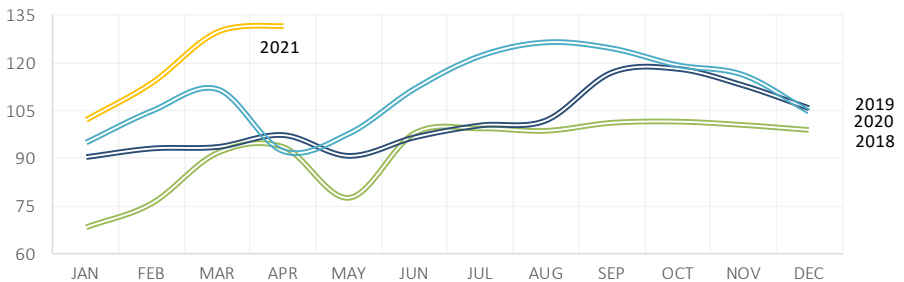
OIL PRODUCTION (10³ bbl/d)



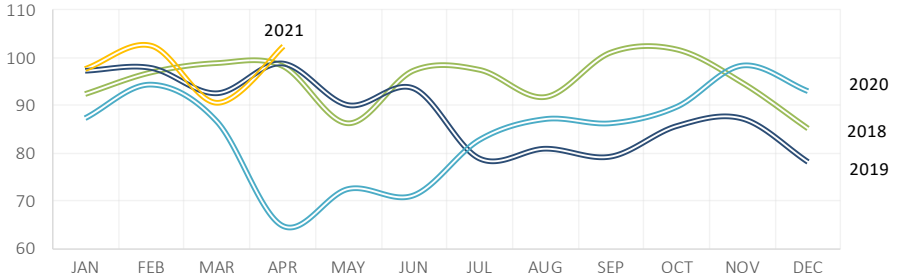
NATURAL GAS PRODUCTION (million m³/d)



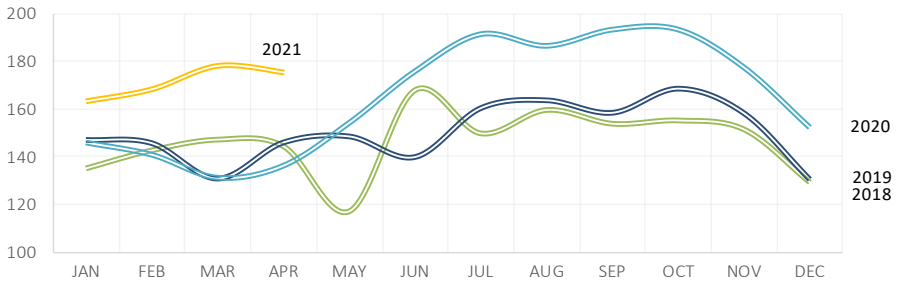
BIODIESEL PRODUCTION (10³ bbl/d)



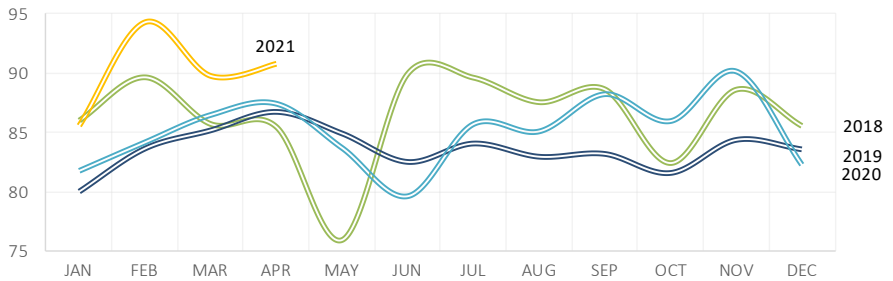
STEEL PRODUCTION (10³ t/d)



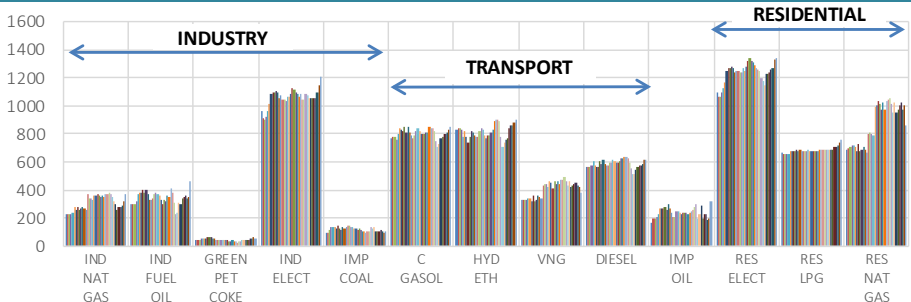
CEMENT SALES (10³ t/d)



PAPER AND PULP PRODUCTION (10³ t/d)



CONSUMER PRICES - Jan 2018 to Apr 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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