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

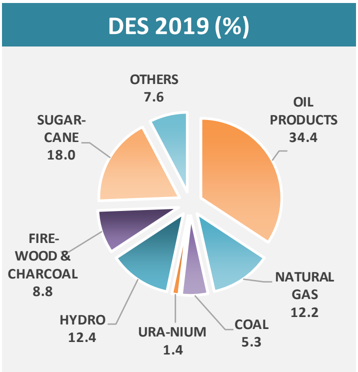
APRIL
2020

DOMESTIC ENERGY SUPPLY

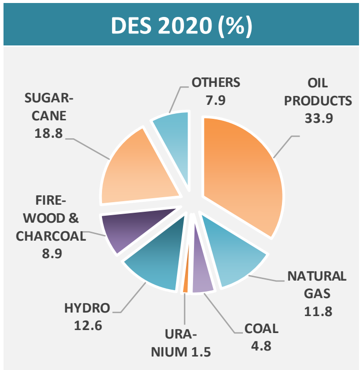
The bulletin graphs strongly show the effects of COVID-19 on April energy indicators. April's total energy demand Domestic Energy Supply (DES)1 is estimated to have decreased 14.6% over the same month of 2019, accumulating a 3.9% drop in the year. Energy consumption in light vehicles in the Otto cycle decreased 31% in April and 9.3% in the year.

DES is expected to reach the cumulative drop of 4.9% at the end of June, when it is expected to undergo a slow recovery and end the year with a decrease of 3.4%. The energy volume will be close to that verified in 2012 and 7% lower than in 2014 (record).

2020 TOTAL ENERGY DEMAND MAY RECOIL 3.4%

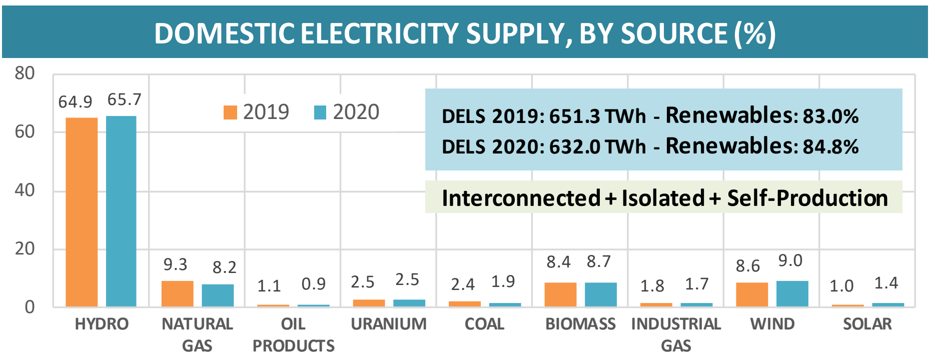


294.0 million toe - 46.1% renewables



284.0 million toe - 47.5% renewables

For the 2020 Domestic Electricity Supply (DELS)[2] is expected a decrease of 3.0%. The share of renewables rises and should stay near 85%, because intermittent sources are less affected by the pandemic.



HIGHLIGHTS IN APRIL 2020

Oil production still rising

Oil production grew 13.3% in April 2020 over the same month of 2019, accumulating an increase of 17.1% in the year (average of 7.6% in 2019). Natural gas production accumulated a 14.7% high in the year (average of 9.5% in 2019). These increases will provide Brazil's energy surplus above 10% in 2020.

Mining and metallurgy is down

Steel production accumulates 15.4% down in the year. Iron ore exports accumulate 6% down and pellets, 48% down.

Hydraulic supply downwards

The hydraulic energy supply accumulated a drop of 5.2% in the year, contributing to the increase in tariffs, due to higher costs of thermal generation. Itaipu generation accumulates a low of 8.2%.

Oil derivatives recoil

Apparent consumption of oil products fell 18.7% in April, compared to the same month of 2019, and accumulated a decrease of 6.1% in the year (excluding ethanol and biodiesel). Diesel consumption (including biodiesel) dropped by 3.6%, and gasoline by 10.3%. Automotive ethanol consumption recoiled 11.5% in the year. Total natural gas demand is still up 0.6% in the year, leveraged by a 15.7% rise in electricity generation.

Energy consumption in light vehicles of the Otto cycle (gasoline, ethanol and natural gas) recoiled 31% in April and 9.3% in the year (4.5% in 2019, -1.2% in 2018, + 1.7% in 2017, -1.1% in 2016 and + 6.2% in 2014).

Electricity consumption in down

Electricity consumption – without self-producers – accumulates a 2% drop in the year. Commercial consumption accumulated a decrease of 5.9% and residential consumption, 1.4% high. The industrial decreased 2.9% in the year.

Biodiesel production recoils

Biodiesel production fell by 5.8% in April, but accumulated an increase of 7.4% in the year. The rates for the previous three years were positive in double digits.

Pulp production accumulated a decrease of 0.1% in the year (-6.0% in 2019, and positive of 7.1% in 2018, 3.8% in 2017, 7.8% in 2016, 8.5% in 2015 and 9.2% in 2014). Cement consumption decreased by 2.7% in the year (+ 2.6% in the twelve months of 2019).

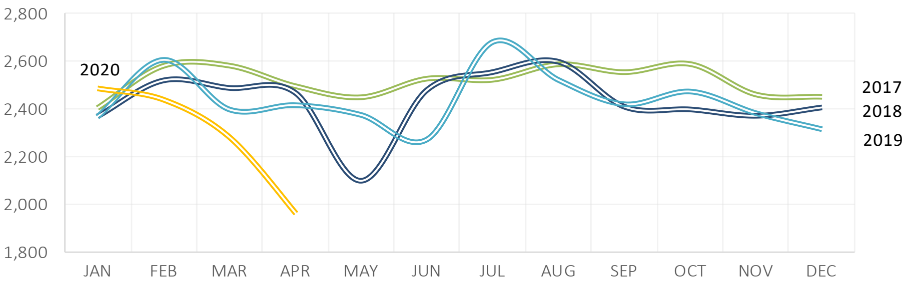
Average Domestic Electricity tariff is up

The average domestic tariff for residential electricity decreased by 3.1% in April (8.0% in 2019, 12.6% in 2018, stable in 2017 and 5.8% in 2016). Commercial tariff rose by 0.1% (7.4% in 2019, 12.4% in 2018, 0.7% in 2017 and 5.7% in 2016) and industrial increased 4.7% (5, 7% in 2019, 13.4% in 2018, 1.2% in 2017 and 3.6% in 2016).

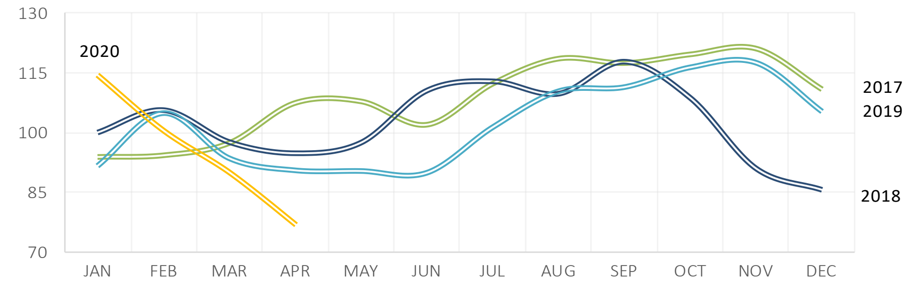
SPECIFICATION	APRIL IN THE MONTH 2020	2019	%20/19	ACCUMULATED IN THE YEAR 2020	2019	%20/19	%
OIL							
PRODUCTION - with Shale Oil and NGL(10^3 b/d)	3,060	2,700	13.3	3,125	2,669	17.1	-
IMPORTS AVERAGE PRICE (US$/bbl FOB)	64	71	-9.9	64	71	-9.9	-
OIL PRODUCTS							
TOTAL CONSUMPTION (10^3 b/day)	1,963	2,415	-18.7	2,293	2,442	-6.1	100.0
hereof: DIESEL with biodiesel - (10^3 b/day)	883	1,028	-14.1	968	1,005	-3.6	40.1
hereof: GASOLINE C (10^3 b/day)	477	670	-28.8	583	649	-10.3	20.3
CONSUMER PRICE - DIESEL (R$/l)	3.29	3.57	-7.9	3.59	3.50	2.7	-
CONSUMER PRICE - GASOLINE C (R$/l)	4.07	4.44	-8.3	4.42	4.30	2.7	-
CONSUMER PRICE - LPG (R$/13 kg)	69.9	69.1	1.2	69.9	69.2	1.0	-
NATURAL GAS							
PRODUCTION (106 m3/day)	124.0	112.9	9.8	128.4	112.0	14.7	-
IMPORTS (106 m^3/day)	11.8	22.3	-47.1	24.2	24.7	-1.8	-
NON-UTILIZED AND REINJECTION (106 m^3/day)	59.1	44.7	32.1	57.1	41.7	36.8	-
AVAILABILITY FOR CONSUMPTION (106 m^3/day)	76.7	90.5	-15.2	95.5	94.9	0.6	100.0
INDUSTRIAL CONSUMPTION (106 m^3/day)	28.2	36.1	-21.9	34.3	37.2	-7.8	35.9
POWER GENERATION CONS. (106 m^3/day)	17.3	17.8	-2.8	25.8	22.3	15.7	27.0
INDUSTRIAL PRICE SP(*) (US$/MMBtu) - consumption range of 20,000 m^3/day	12.0	15.2	-21.2	9.9	15.1	-34.2	-
MOTOR PRICE SP (US$/MMBtu)	15.0	20.0	-24.6	12.6	19.3	-34.7	-
RESIDENTIAL PRICE SP (US$/MMBtu)	33.1	36.4	-9.0	38.3	35.8	6.8	-
ELECTRICITY							
NATIONAL INTERCONNECTED SYSTEM	59,857	67,793	-11.7	67,211	69,785	-3.7	100.0
SOUTHEAST/MIDWEST POWER LOAD (MWavg)	34,688	39,706	-12.6	38,814	40,827	-4.9	57.8
SOUTH POWER LOAD (MWavg)	10,296	11,579	-11.1	12,130	12,260	-1.1	18.0
NORTHEAST POWER LOAD (MWavg)	9,813	11,047	-11.2	10,855	11,218	-3.2	16.2
NORTH POWER LOAD (MWavg)	5,060	5,461	-7.3	5,412	5,481	-1.3	8.1
TOTAL CONSUMPTION (TWh) (**)	37.1	39.6	-6.3	159.9	163.2	-2.0	100.0
RESIDENTIAL	12.3	11.6	6.4	50.0	49.3	1.4	31.3
INDUSTRIAL	12.2	13.8	-11.6	53.5	55.0	-2.9	33.4
COMMERCIAL	6.4	7.8	-18.1	30.3	32.2	-5.9	18.9
OTHER SECTORS	6.2	6.5	-3.9	26.1	26.6	-1.8	16.4
PLANTS ENTRY INTO OPERATING (MW)	345	320	7.6	2,427	1,489	63.0	-
RESIDENTIAL PRICE (R$/MWh)	727	750	-3.1	754	753	0.1	-
COMMERCIAL PRICE (R$/MWh)	669	670	-0.1	675	667	1.1	-
INDUSTRIAL PRICE (R$/MWh)	658	628	4.7	646	636	1.5	-
ETHANOL AND BIODIESEL							
BIODIESEL PRODUCTION (10^3 b/d)	92	97	-5.8	101	94	7.4	-
MOTOR ETHANOL CONSUMPTION (10^3 b/d)	382	562	-32.1	487	551	-11.5	-
ETHANOL EXPORTS (10^3 b/d)	17	1	1832.8	20	18	7.5	-
HYDRATED ETHANOL PRICE (R$/l)	0.00	3.00	-100.0	2.42	2.89	-16.2	-
COAL							
ELECTRICITY GENERATION (MWavg)	282	1,322	-78.7	1,240	1,132	9.6	-
IMPORT PRICE (US$ FOB/t)	104.6	143.3	-27.0	96.7	154.9	-37.6	-
NUCLEAR ENERGY							
ELECTRICITY GENERATION - (GWh)	1,359	1,070	27.0	4,747	5,110	-7.1	-
INDUSTRIAL SECTORS							
STEEL PRODUCTION (10^3 t/day)	60	99	-38.9	82	97	-15.4	-
ALUMINIUM PRODUCTION (10^3 t/day)	1.4	1.6	-13.7	1.7	1.6	6.6	-
IRON ORE EXPORTS (10^3 t/day)	758	579	30.9	730	777	-6.0	-
PELLETS EXPORTS (10^3 t/day)	42	52	-19.3	43	83	-48.1	-
PAPER PRODUCTION (10^3 t/day)	29.0	29.3	-0.8	28.6	28.7	-0.2	-
PULP PRODUCTION (10^3 t/day)	51.7	57.4	-10.0	55.1	55.2	-0.1	-
SUGAR PRODUCTION (10^3 t/daY)	45	48	-6.6	20	18	8.4	-
SUGAR EXPORTS (10^3 t/day)	51	41	25.4	48	38	26.2	-

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

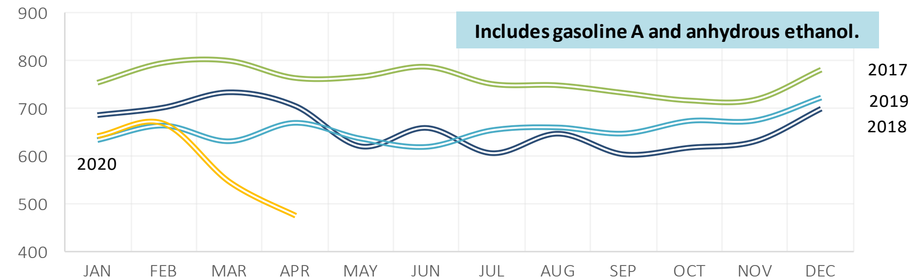
OIL PRODUCTS TOTAL CONSUMPTION (10^3 bbl/d)



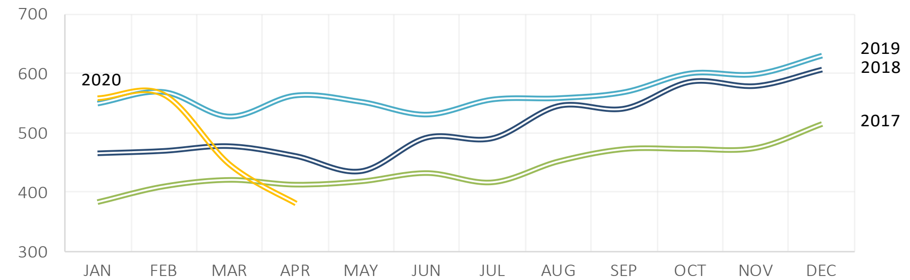
NATURAL GAS TOTAL DEMAND (million m^3/d)



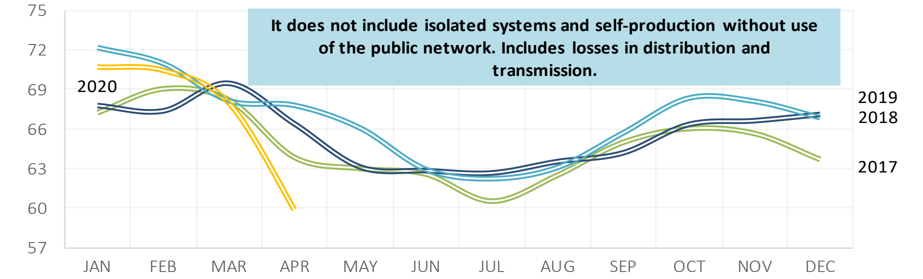
C GASOLINE CONSUMPTION (10^3 bbl/d)



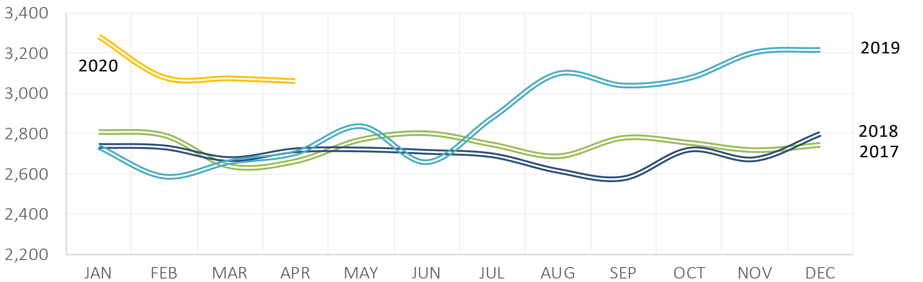
MOTOR ETHANOL TOTAL CONSUMPTION (10^3 bbl/d)



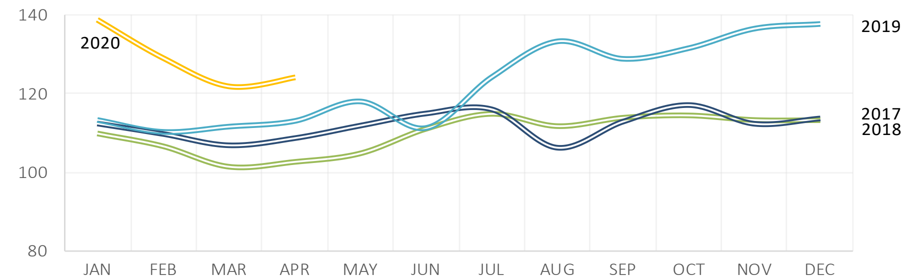
NATIONAL INTERCONNECTED SYSTEM POWER LOAD (GWavg)



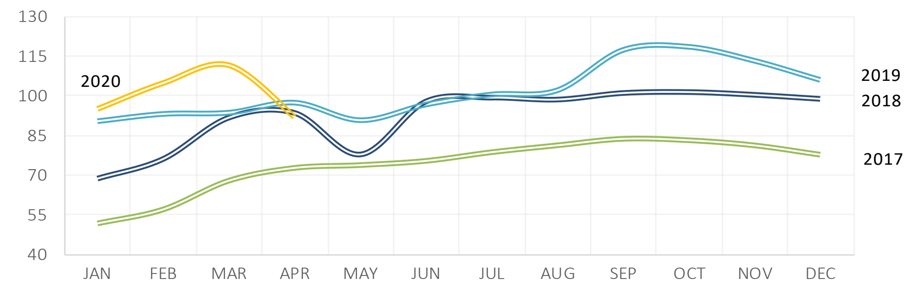
OIL PRODUCTION (10^3 bbl/d)



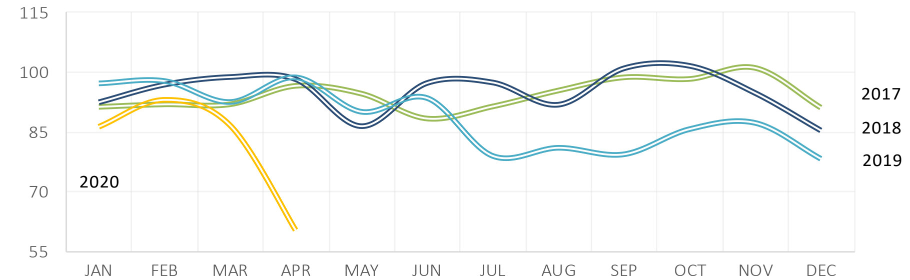
NATURAL GAS PRODUCTION (million m^3/d)



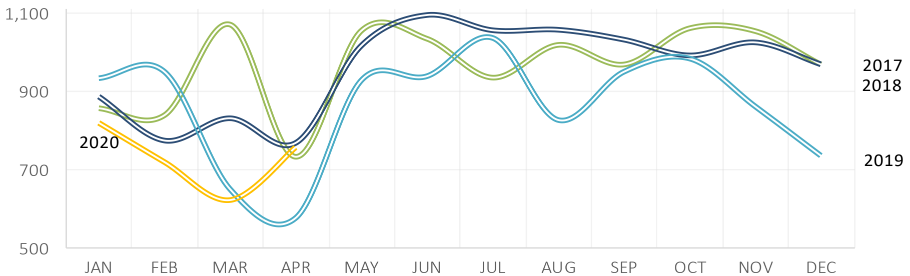
BIODIESEL PRODUCTION (10^3 bbl/d)



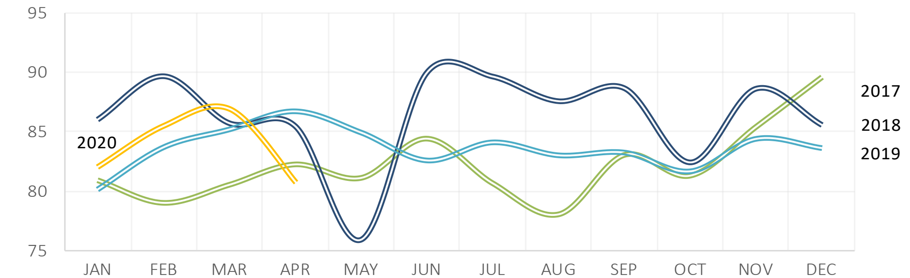
STEEL PRODUCTION (10^3 t/d)



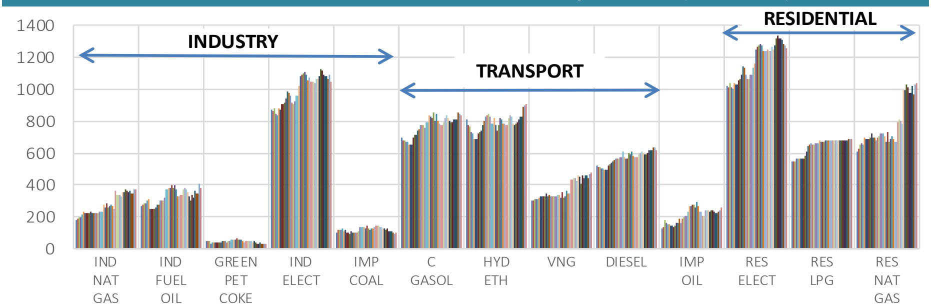
IRON ORE EXPORTS (10^3 t/d)



PAPER AND PULP PRODUCTION (10^3 t/d)



CONSUMER PRICES - Jan 2017 to Apr 2020 (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] 2019 data from DEL and DELS reflect the final results of the National Energy Balance (BEB), cycle 2020, concluded in May by the Energy Research Company (EPE), in partnership with MME and its companies and agencies.

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