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

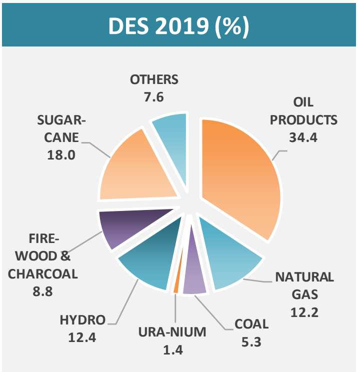
REFERENCE MONTH
NOVEMBER 2020

DOMESTIC ENERGY SUPPLY

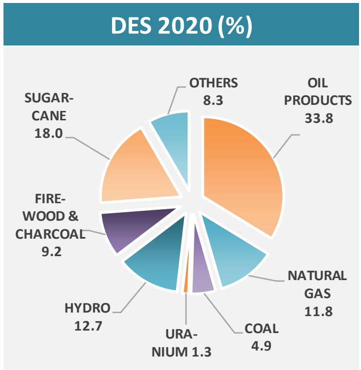
Up to November, the energy consumption associated with families was greatly affected by COVID 19. Social isolation entailed increases of 4% in power energy residential consumption and 3.5% in cooking gas consumption. On the other hand there were strong decreases on power energy commercial consumption (-10.9%), light vehicles energy (-9.8%) and aviation kerosene consumption (-50.3%). It is worth mentioning the 9.5% increase in cement consumption, influenced by the emergency aid from the government, which allowed small reforms in the families' homes.

For the total energy demand (or DES1) of 2020 a decrease of 3.5% is expected, a fact that will place the indicator 7% below of 2014's (historical record).

TOTAL ENERGY DEMAND IN 2020 MAY RECOIL 3.5%

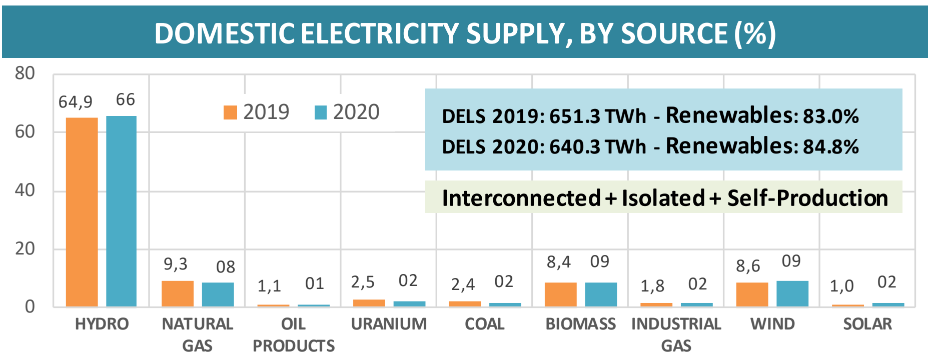


294.0 million toe - 46.1% renewables



283.6 million toe - 47.6% renewables

For the 2020's Domestic Electricity Supply (DELS)[2] is expected a decrease of 1.5%. As well as in DES, renewables share slightly rises and should stay above 85% (seasonal sources little affected by the pandemic).



HIGHLIGHTS IN NOVEMBER 2020

Oil production slow down

Oil production dropped 11.2% in November 2020, compared to November 2019, but accumulates a 7.0% increase in the year. The production of natural gas accumulated an increase of 5.3%. These indicators will provide Brazil's energy surplus above 10% in 2020.

Mining and metallurgy in recovery

Steel production accumulated a decrease of 6.3% in the year (-12% up to August). Iron ore exports accumulated an increase of 0.1% (-7.3% up to July), and pellets, down 38.8%.

Hydraulic supply in recovery

Hydraulic energy supply accumulated a drop of 0.7% in the year (-6.5% to June) and Itaipu accumulated 5.0% down (-8.2% up to April).

Oil derivatives in recovery

Apparent consumption of oil products accumulated a 5.7% decrease in the year, excluding bioenergy (-8.6% up to August). Diesel consumption (including biodiesel) dropped by 1.4%, and gasoline by 7.5%. Automotive ethanol consumption dropped 13.0% in the year. The total demand for natural gas decreased by 7.9% in the year, due to decreases of 14.0% in electricity generation and 3.9% in industry.

The Otto cycle (gasoline, ethanol and natural gas) light vehicles energy consumption accumulate a decrease of 9.8% in the year (record of -13.3 until June). In previous years the rates were: 4.5% in 2019, -1.2% in 2018, 1.7% in 2017, -1.1% in 2016 and 6.2% in 2014.

Electricity consumption in recovery

Electricity consumption without self-producers accumulated 2.1% down in the year (-4% up to July). Commercial consumption accumulated -10.9%, the residential consumption accumulated +4% and industrial consumption, -1.9% in the year.

Biodiesel production slows down

Biodiesel production increased by 2.8% in November and accumulated an increase of 9.4% in the year (12.8% until August). The rates for the previous three years were positive in double digits.

Cement consumption grew 12% over November 2019 and accumulates 9.5% high in the year. Pulp production accumulated an increase of 3.5% in the year (-6.0% in 2019, +7.1% in 2018, +3.8% in 2017, +7.8% in 2016, +8.5% in 2015 and +9.2% in 2014).

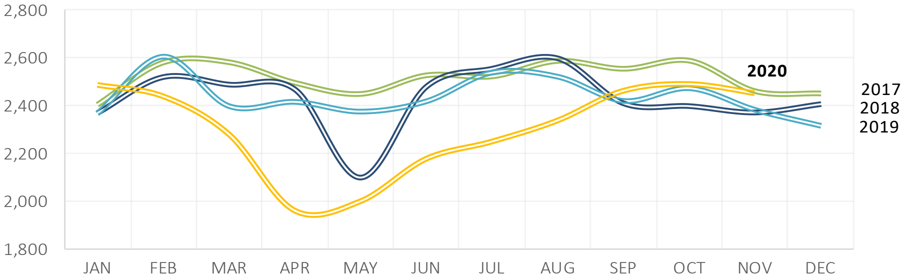
Electricity tariffs recoil

The national average tariff for residential electricity accumulates a reduction of 3.0% in the year (8.0% in 2019, 12.6% in 2018, stable in 2017 and 5.8% in 2016). Commercial fell 2.2% (7.4% in 2019, 12.4% in 2018, 0.7% in 2017 and 5.7% in 2016) and industrial dropped by 0.3% (5.7% in 2019, 13.4% in 2018, 1.2% in 2017 and 3.6% in 2016).

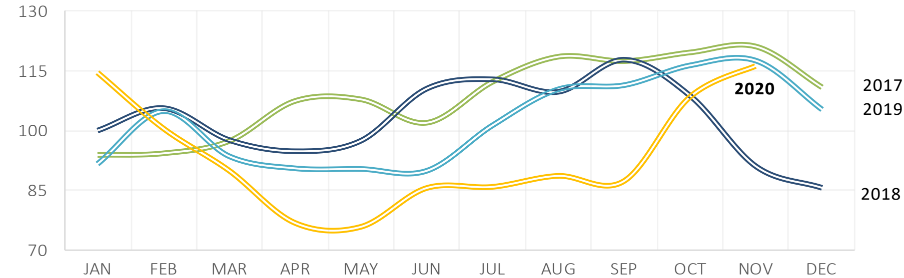
SPECIFICATION	NOVEMBER						
	IN THE MONTH			ACCUMULATED IN THE YEAR			
	2020	2019	%20/19	2020	2019	%20/19	%
OIL							
PRODUCTION - with Shale Oil and NGL(10^3 b/d)	2,844	3,203	-11.2	3,060	2,861	7.0	-
IMPORTS AVERAGE PRICE (US$/bbl FOB)	44	61	-28.8	53	67	-21.2	-
OIL PRODUCTS							
TOTAL CONSUMPTION (10^3 b/day)	2,454	2,381	3.1	2,305	2,445	-5.7	100.0
hereof: DIESEL with biodiesel - (10^3 b/day)	1,081	1,059	2.1	1,038	1,053	-1.4	42.8
hereof: GASOLINE C (10^3 b/day)	675	675	-0.1	602	651	-7.5	20.9
CONSUMER PRICE - DIESEL (R$/l)	3.52	3.71	-5.3	3.41	3.58	-4.7	-
CONSUMER PRICE - GASOLINE C (R$/l)	4.41	4.41	0.0	4.27	4.36	-2.2	-
CONSUMER PRICE - LPG (R$/13 kg)	73.2	69.1	6.0	70.5	69.1	2.0	-
NATURAL GAS							
PRODUCTION (106 m3/day)	126.4	136.6	-7.5	127.5	121.1	5.3	-
IMPORTS (106 m^3/day)	46.3	36.7	26.1	24.2	27.1	-10.5	-
NON-UTILIZED AND REINJECTION (106 m^3/day)	56.4	55.8	0.9	58.1	46.6	24.7	-
AVAILABILITY FOR CONSUMPTION (106 m^3/day)	116.3	117.5	-1.0	93.5	101.5	-7.9	100.0
INDUSTRIAL CONSUMPTION (106 m^3/day)	38.0	36.8	3.3	35.8	37.2	-3.9	38.2
POWER GENERATION CONS. (106 m^3/day)	46.3	43.2	7.1	24.6	28.6	-14.0	26.3
INDUSTRIAL PRICE SP(*) (US$/MMBtu) - consumption range of 20,000 m^3/day	8.7	15.3	-43.4	11.0	15.5	-28.8	-
MOTOR PRICE SP (US$/MMBtu)	13.9	19.3	-28.2	15.4	19.6	-21.3	-
RESIDENTIAL PRICE SP (US$/MMBtu)	31.4	42.8	-26.6	34.1	40.5	-15.7	-
ELECTRICITY							
NATIONAL INTERCONNECTED SYSTEM	68,537	68,104	0.6	65,556	66,866	-2.0	100.0
SOUTHEAST/MIDWEST POWER LOAD (MWavg)	39,121	38,787	0.9	37,848	38,866	-2.6	57.7
SOUTH POWER LOAD (MWavg)	12,037	11,937	0.8	11,476	11,532	-0.5	17.5
NORTHEAST POWER LOAD (MWavg)	11,551	11,631	-0.7	10,638	10,900	-2.4	16.2
NORTH POWER LOAD (MWavg)	5,828	5,749	1.4	5,595	5,568	0.5	8.5
TOTAL CONSUMPTION (TWh) (**)	41.0	41.7	-1.7	432.1	441.4	-2.1	100.0
RESIDENTIAL	12.8	12.4	3.2	134.9	129.8	4.0	31.2
INDUSTRIAL	14.7	14.1	4.3	151.0	154.0	-1.9	35.0
COMMERCIAL	7.1	8.1	-12.5	75.0	84.1	-10.9	17.3
OTHER SECTORS	6.4	7.1	-9.8	71.2	73.6	-3.3	16.5
PLANTS ENTRY INTO OPERATING (MW)	302	914	-66.9	4,105	6,144	-33.2	-
RESIDENTIAL PRICE (R$/MWh)	810	792	2.3	750	773	-3.0	-
COMMERCIAL PRICE (R$/MWh)	697	703	-0.9	675	690	-2.2	-
INDUSTRIAL PRICE (R$/MWh)	687	655	4.9	650	651	-0.3	-
ETHANOL AND BIODIESEL							
BIODIESEL PRODUCTION (10^3 b/d)	116	113	2.8	111	101	9.4	-
MOTOR ETHANOL CONSUMPTION (10^3 b/d)	539	598	-9.8	487	560	-13.0	-
ETHANOL EXPORTS (10^3 b/d)	53	38	38.2	45	34	32.7	-
HYDRATED ETHANOL PRICE (R$/l)	3.10	2.97	4.4	2.94	2.88	2.0	-
COAL							
ELECTRICITY GENERATION (MWavg)	2,056	2,255	-8.8	1,132	1,523	-25.7	-
IMPORT PRICE (US$ FOB/t)	79.5	109.7	-27.5	90.8	138.7	-34.5	-
NUCLEAR ENERGY							
ELECTRICITY GENERATION - (GWh)	1,341	1,445	-7.2	12,674	14,649	-13.5	-
INDUSTRIAL SECTORS							
STEEL PRODUCTION (10^3 t/day)	98	87	12.8	84	89	-6.3	-
ALUMINIUM PRODUCTION (10^3 t/day)	2.0	2.0	0.0	1.8	1.8	4.7	-
IRON ORE EXPORTS (10^3 t/day)	948	864	9.8	878	878	0.1	-
PELLETS EXPORTS (10^3 t/day)	23	45	-47.6	41	68	-38.8	-
PAPER PRODUCTION (10^3 t/day)	29.5	29.7	-0.6	27.9	28.8	-3.1	-
PULP PRODUCTION (10^3 t/day)	56.6	54.7	3.4	56.7	54.7	3.5	-
SUGAR PRODUCTION (10^3 t/daY)	73	56	30.4	110	86	28.1	-
SUGAR EXPORTS (10^3 t/day)	98	64	53.1	86	50	73.8	-

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

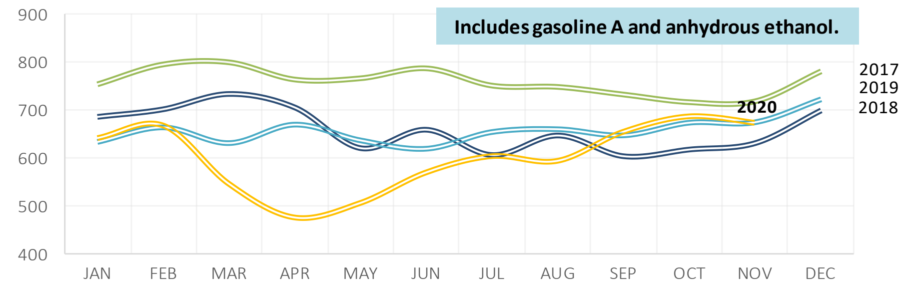
OIL PRODUCTS TOTAL CONSUMPTION (10^3 bbl/d)



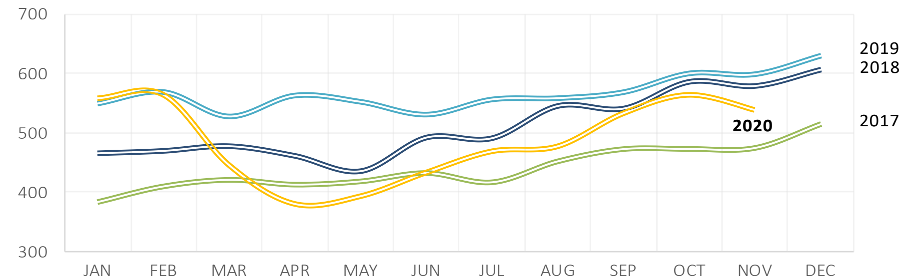
NATURAL GAS TOTAL DEMAND (million m^3/d)



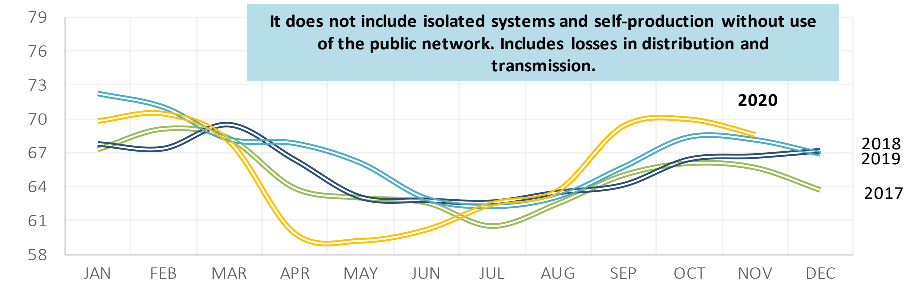
C GASOLINE CONSUMPTION (10^3 bbl/d)



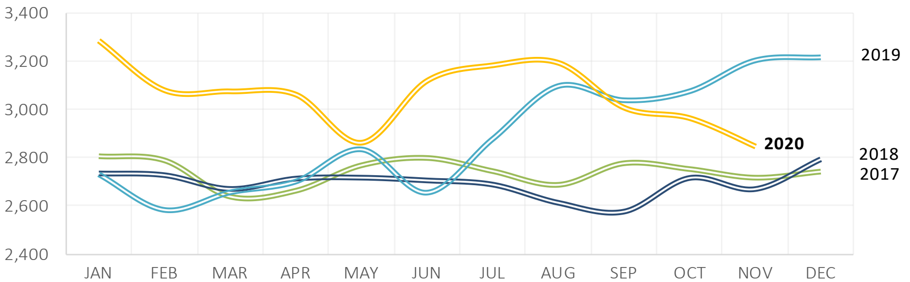
MOTOR ETHANOL TOTAL CONSUMPTION (10^3 bbl/d)



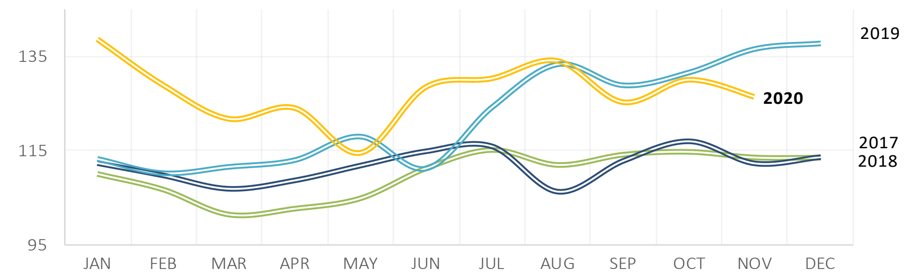
NATIONAL INTERCONNECTED SYSTEM POWER LOAD (GWavg)



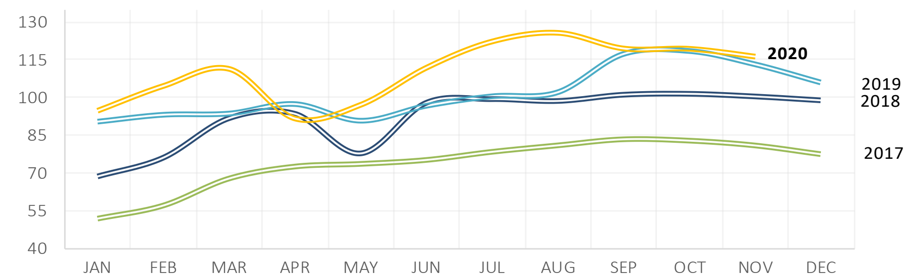
OIL PRODUCTION (10^3 bbl/d)



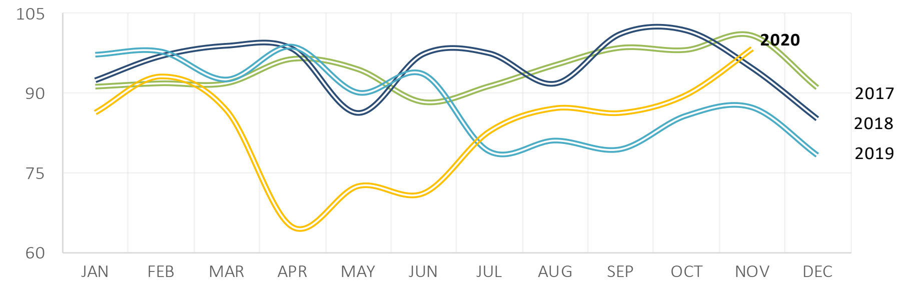
NATURAL GAS PRODUCTION (million m^3/d)



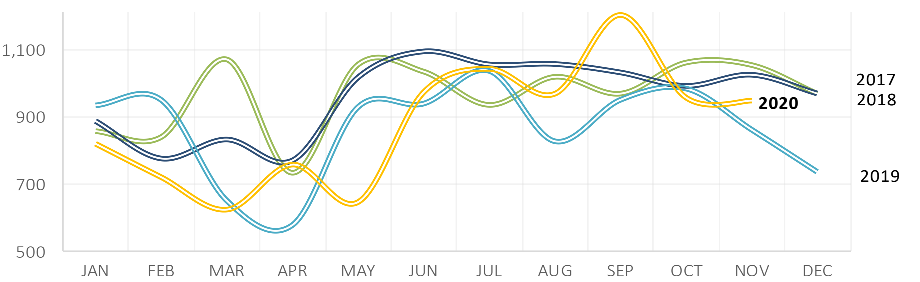
BIODIESEL PRODUCTION (10^3 bbl/d)



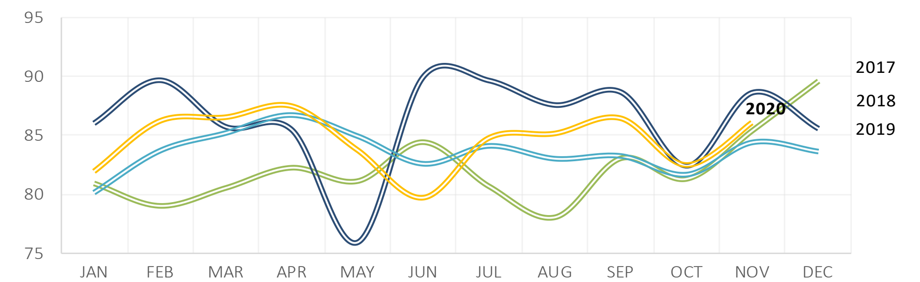
STEEL PRODUCTION (10^3 t/d)



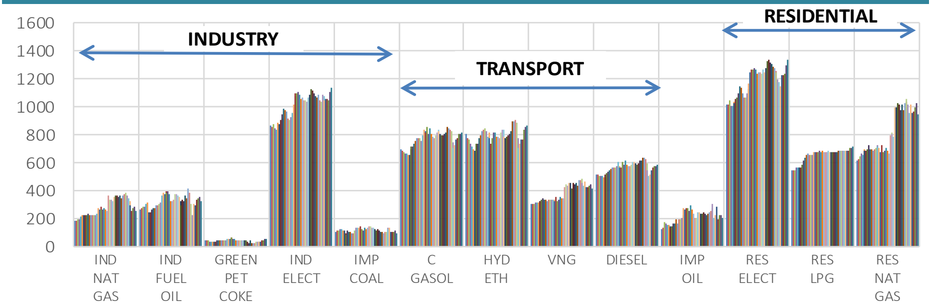
IRON ORE EXPORTS (10^3 t/d)



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



CONSUMER PRICES - Jan 2017 to Nov 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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