

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

SEPTEMBER
2020

DOMESTIC ENERGY SUPPLY

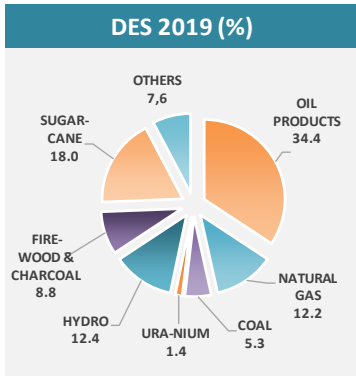
Distributed generation, particularly solar, is expected to more than double in 2020. Total solar generation, including centralized generation, is expected to grow above 50%.

Energy losses in thermoelectric plants will be lower in 2020, due to a higher proportion of hydraulic generation. In this context, the energy

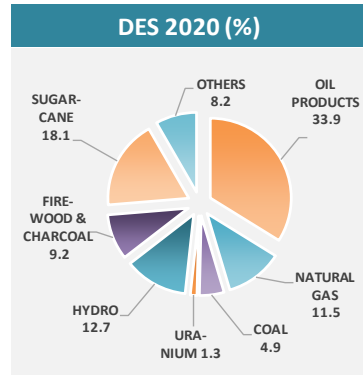
final consumption in economic sectors will be less affected, with a decrease of 3%. For the 2020's total energy demand (or DES¹) a decrease of 3.8% is expected, a fact that will put the indicator 7% below that of 2014 (historical record).

The DES, in monthly terms, broke the record drop in April 2020, when the rate was above double digits.

TOTAL ENERGY DEMAND IN 2020 MAY RECOIL 3.8%



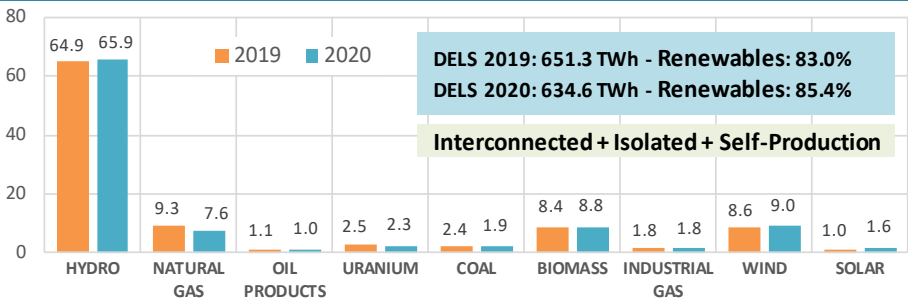
294.0 million toe - 46.1% renewables



282.7 million toe - 47.7% renewables

For the 2020's Domestic Electricity Supply (DELS)² is expected a decrease of 2.6% (1.8% in the previous bulletim). The renewables share rises and should stay above 85% (seasonal sources little affected by the pandemic).

DOMESTIC ELECTRICITY SUPPLY, BY SOURCE (%)



HIGHLIGHTS IN SEPTEMBER 2020

■ Oil production slow down

Oil production recoiled 1.1% in September 2020 over September 2019, accumulating an increase of 10.6% in the year. Natural gas production is up 7.7% in the year. These indicators will provide energy surplus in Brazil nearly 10% in 2020.

■ Mining and metallurgy in recovery

Steel production accumulated a 9.4% drop in the year (-12% up to August). Iron ore exports accumulated a reduction of 0.6% (-7.3 until July), and pellets, down 37%.

■ Hydraulic supply in recovery

Hydraulic energy supply accumulated a drop of 0.7% in the year (-6.5% to June) and Itaipu accumulated 5.8% down (-8.2% up to April).

■ Oil derivatives in recovery

Oil products apparent consumption accumulated -7.4% in the year, excluding bioenergy (-8.6% up to August). Diesel consumption (including biodiesel) dropped by 1.8%, and gasoline by 9.5%. Automotive ethanol consumption dropped 14.3% in the year. Total natural gas demand fell 8.9% in the year, reaching an 18.4% drop in electricity generation (-0.7% up to July and + 10.2% up to June), and maintaining a negative in the industry, of -5.9% (-7.6% until August).

The Otto cycle (gasoline, ethanol and natural gas) light vehicles energy consumption accumulate a decrease of 11.9% in the year (record of -13.3 in May). 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 2.8% down in the year (-4% up to July). Commercial consumption accumulated -11.2%, the residential consumption accumulated +3.4% and industrial consumption, -3.4% in the year.

■ Biodiesel production slows down

Biodiesel production rose 2.0% in September and accumulates an increase of 11.4% in the year (12.8 up to August). In the three previous years the rates were positive in double digits.

Cement consumption grew by a significant 22% over September 2019 (up 8.6% in the year). Pulp production accumulated an increase of 1.3% 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).

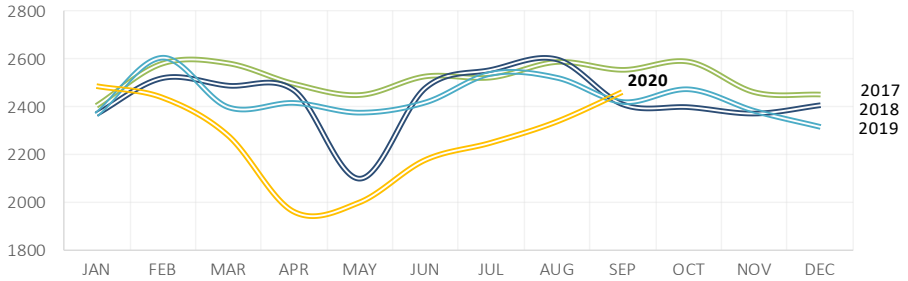
■ Electricity tariffs recoil

The national average tariff for residential electricity accumulates a reduction of 3.8% 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 reduced 1.1% (5.7% in 2019, 13.4% in 2018, 1.2% in 2017 and 3.6% in 2016).

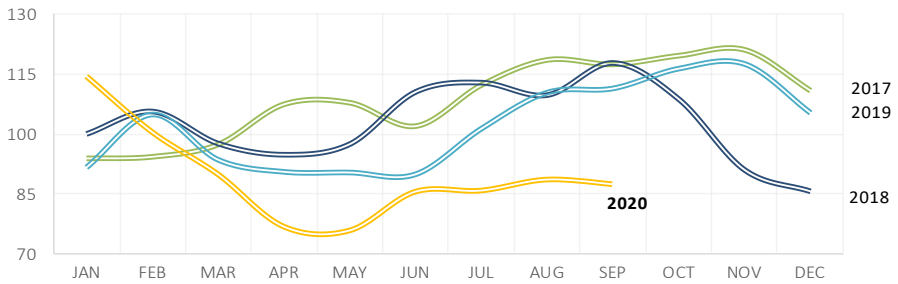
SPECIFICATION	SEPTEMBER						
	IN THE MONTH			ACCUMULATED IN THE YEAR			
	2020	2019	%20/19	2020	2019	%20/19	%
OIL							
PRODUCTION - with Shale Oil and NGL(10 ³ b/d)	3,005	3,038	-1.1	3,095	2,799	10.6	-
IMPORTS AVERAGE PRICE (US\$/bbl FOB)	46	67	-30.9	55	68	-19.1	-
OIL PRODUCTS							
TOTAL CONSUMPTION (10 ³ b/day)	2,464	2,419	1.9	2,267	2,449	-7.4	100.0
hereof: DIESEL with biodiesel - (10 ³ b/day)	1,141	1,073	6.3	1,023	1,042	-1.8	42.9
hereof: GASOLINE C (10 ³ b/day)	656	648	1.2	585	646	-9.5	20.6
CONSUMER PRICE - DIESEL (R\$/l)	3.45	3.59	-3.8	3.39	3.55	-4.3	-
CONSUMER PRICE - GASOLINE C (R\$/l)	4.36	4.33	0.7	4.24	4.36	-2.6	-
CONSUMER PRICE - LPG (R\$/13 kg)	71.6	68.9	4.0	70.0	69.1	1.3	-
NATURAL GAS							
PRODUCTION (106 m ³ /day)	125.3	128.9	-2.8	127.3	118.2	7.7	-
IMPORTS (106 m ³ /day)	19.3	29.9	-35.5	19.9	25.1	-20.4	-
NON-UTILIZED AND REINJECTION (106 m ³ /day)	57.1	47.4	20.5	57.9	45.1	28.1	-
AVAILABILITY FOR CONSUMPTION (106 m ³ /day)	87.4	111.4	-21.5	89.4	98.1	-8.9	100.0
INDUSTRIAL CONSUMPTION (106 m ³ /day)	38.8	37.3	4.0	35.1	37.3	-5.9	39.3
POWER GENERATION CONS. (106 m ³ /day)	16.5	38.0	-56.5	20.8	25.5	-18.4	23.3
INDUSTRIAL PRICE SP(*) (US\$/MMBtu) - consumption range of 20,000 m ³ /day	8.3	15.4	-45.9	11.5	15.5	-25.7	-
MOTOR PRICE SP (US\$/MMBtu)	13.7	19.6	-29.9	15.7	19.6	-19.8	-
RESIDENTIAL PRICE SP (US\$/MMBtu)	29.9	43.2	-30.8	34.6	39.9	-13.4	-
ELECTRICITY							
NATIONAL INTERCONNECTED SYSTEM	68,217	65,691	3.8	64,620	66,564	-2.9	100.0
SOUTHEAST/MIDWEST POWER LOAD (MWavg)	39,931	38,524	3.7	37,305	38,767	-3.8	57.7
SOUTH POWER LOAD (MWavg)	11,357	10,816	5.0	11,371	11,485	-1.0	17.6
NORTHEAST POWER LOAD (MWavg)	10,948	10,607	3.2	10,424	10,773	-3.2	16.1
NORTH POWER LOAD (MWavg)	5,981	5,744	4.1	5,521	5,538	-0.3	8.5
TOTAL CONSUMPTION (TWh) (**)	40.2	39.4	2.1	348.7	358.7	-2.8	100.0
RESIDENTIAL	12.2	11.4	7.6	109.0	105.4	3.4	31.3
INDUSTRIAL	14.7	14.0	4.8	121.3	125.5	-3.4	34.8
COMMERCIAL	6.7	7.3	-8.1	60.6	68.2	-11.2	17.4
OTHER SECTORS	6.7	6.8	-2.1	57.8	59.5	-2.9	16.6
PLANTS ENTRY INTO OPERATING (MW)	160	878	-81.8	3,479	5,042	-31.0	-
RESIDENTIAL PRICE (R\$/MWh)	747	810	-7.8	740	769	-3.8	-
COMMERCIAL PRICE (R\$/MWh)	674	726	-7.2	671	686	-2.2	-
INDUSTRIAL PRICE (R\$/MWh)	636	678	-6.2	643	650	-1.1	-
ETHANOL AND BIODIESEL							
BIODIESEL PRODUCTION (10 ³ b/d)	119	117	2.0	109	98	11.4	-
MOTOR ETHANOL CONSUMPTION (10 ³ b/d)	534	568	-6.0	473	552	-14.3	-
ETHANOL EXPORTS (10 ³ b/d)	61	46	30.4	40	32	24.7	-
HYDRATED ETHANOL PRICE (R\$/l)	3.01	2.85	5.4	2.91	2.87	1.3	-
COAL							
ELECTRICITY GENERATION (MWavg)	572	2,045	-72.0	933	1,389	-32.8	-
IMPORT PRICE (US\$ FOB/t)	80.7	130.7	-38.2	92.8	143.9	-35.6	-
NUCLEAR ENERGY							
ELECTRICITY GENERATION - (GWh)	1,342	1,450	-7.4	9,952	11,749	-15.3	-
INDUSTRIAL SECTORS							
STEEL PRODUCTION (10 ³ t/day)	86	79	8.8	81	90	-9.4	-
ALUMINIUM PRODUCTION (10 ³ t/day)	2.0	2.0	0.0	1.8	1.7	5.4	-
IRON ORE EXPORTS (10 ³ t/day)	1,203	952	26.4	862	867	-0.6	-
PELLETS EXPORTS (10 ³ t/day)	47	66	-28.5	43	68	-36.8	-
PAPER PRODUCTION (10 ³ t/day)	29.4	28.8	2.2	27.7	28.7	-3.5	-
PULP PRODUCTION (10 ³ t/day)	55.0	54.4	1.1	55.7	55.0	1.3	-
SUGAR PRODUCTION (10 ³ t/day)	197	136	44.4	116	84	38.6	-
SUGAR EXPORTS (10 ³ t/day)	115	57	102.2	80	47	71.8	-

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

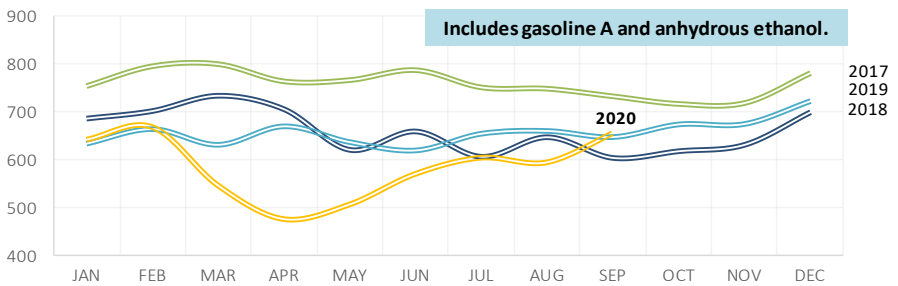
OIL PRODUCTS TOTAL CONSUMPTION (10³ bbl/d)



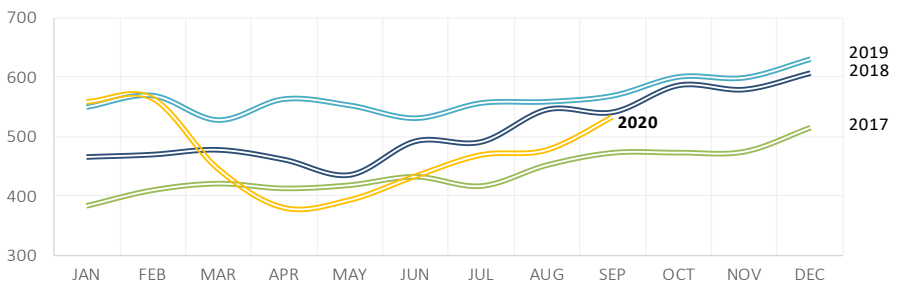
NATURAL GAS TOTAL DEMAND (million m³/d)



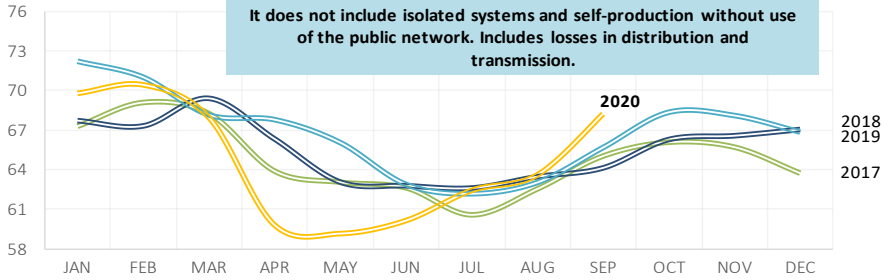
C GASOLINE CONSUMPTION (10³ bbl/d)



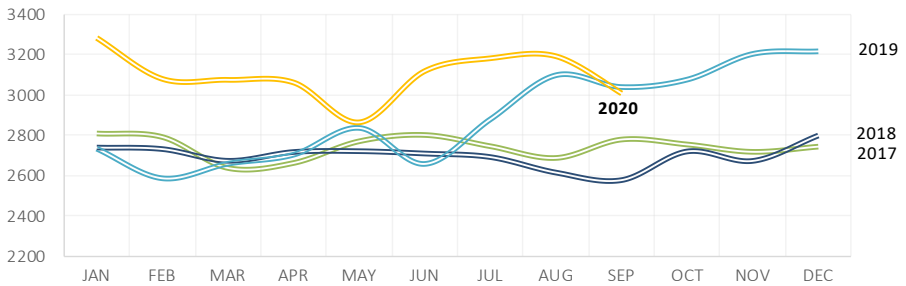
MOTOR ETHANOL TOTAL CONSUMPTION (10³ bbl/d)



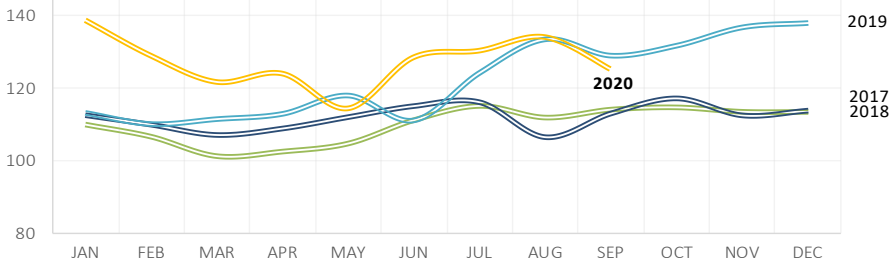
NATIONAL INTERCONNECTED SYSTEM POWER LOAD (GWavg)



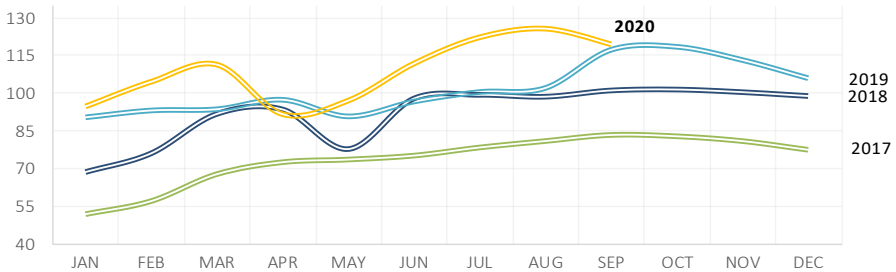
OIL PRODUCTION (10³ bbl/d)



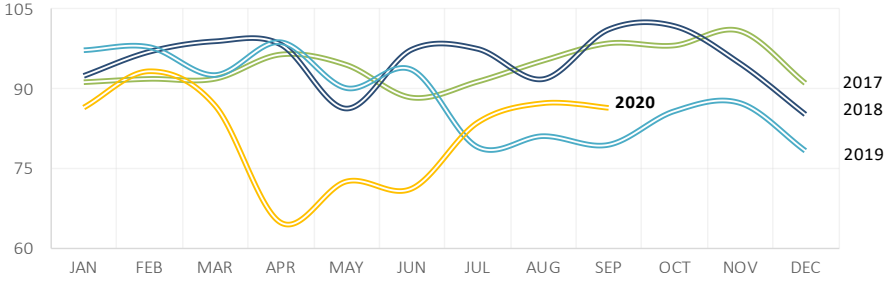
NATURAL GAS PRODUCTION (million m³/d)



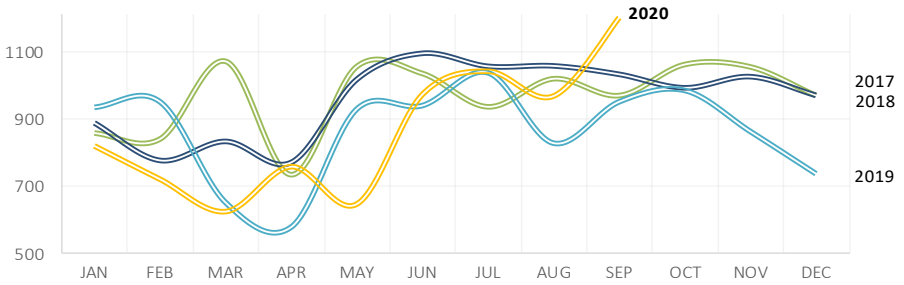
BIODIESEL PRODUCTION (10³ bbl/d)



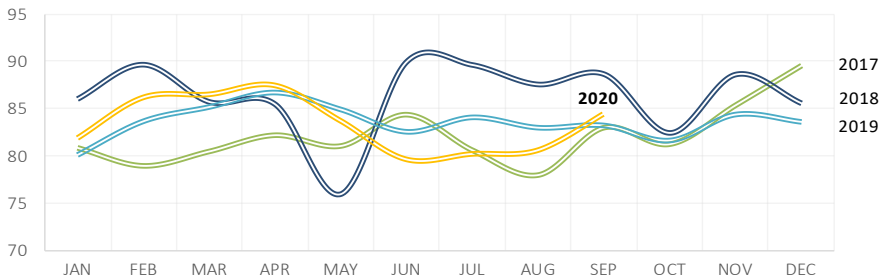
STEEL PRODUCTION (10³ t/d)



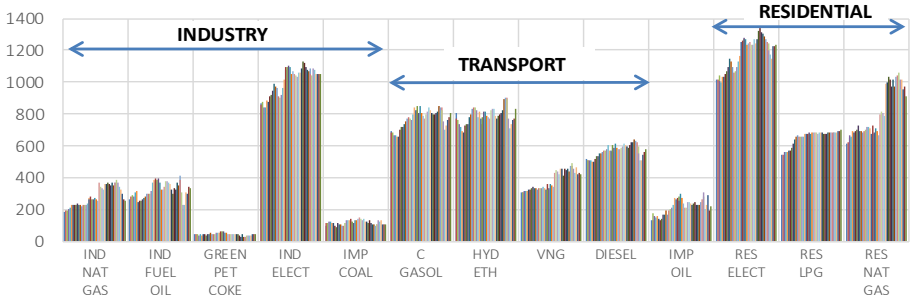
IRON ORE EXPORTS (10³ t/d)



PAPER AND PULP PRODUCTION (10³ t/d)



CONSUMER PRICES - Jan 2017 to Sep 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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