

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 Remarks

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.

¹Domestic 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 The DES and DELS data from 2018 reflect the final results of the Brazilian Energy Balance (BEN), concluded in August by the Energy Research Office (EPE) in cooperation with the MME and its entities and agencies.

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Monthly Energy Bulletin – Brazil

Reference Month: August 2019

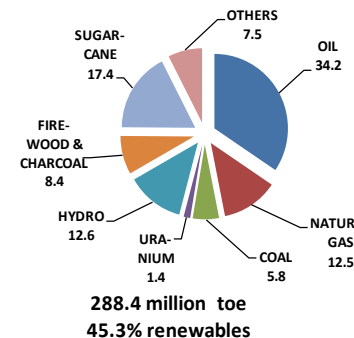
Domestic Energy Supply

Until August 2019, electricity consumption increased by 1.6%, consumption of petroleum products rose by 0.2%, and energy in light vehicles rose by 4.3%. In the same period of 2018, these indicators stood at 1.2%, -2.9% and -2.2%, respectively. This year there is an excellent recovery in the indicators.

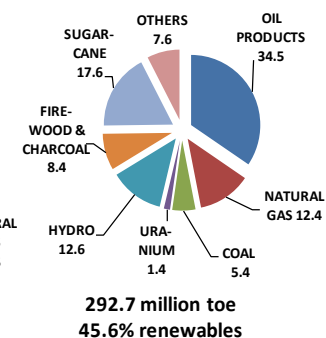
Concerning Domestic Energy Supply (DES)¹ in 2019, the current constraints lead to an estimated growth of 1.5% (-1.7% in 2018). With the high of 2019, the DES per capita will still be 8% lower than 2014, and equal to 2011.

Total energy demand for 2019 is expected to increase about 1.5%

DES 2018 (%)

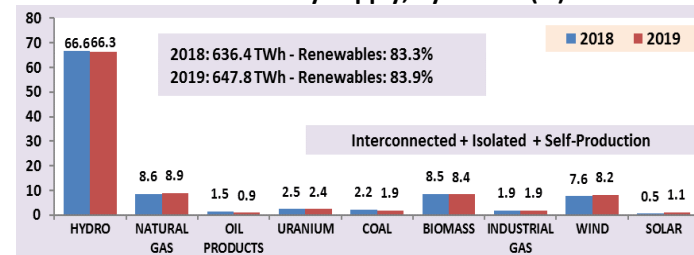


DES 2019 (%)



The Domestic Electricity Supply (DELS)² of 2019 was estimated at 647.8 TWh, showing an increase of 1.8% over 2018 (2.1% until July). The share of renewables should stay at 83.9%, with wind and solar energy continuing to increase their participations.

Domestic Electricity Supply, by Source (%)



Highlights in August 2019

Oil production with a strong rise

Oil production grew 18.5% in August 2019, over the same month of 2018, accumulating high of 3.1% in the year. Natural gas production increased 25.3% in the month, accumulating a 5.4% high in the year.

Steel production in fall

Steel production accumulates a 3.2% fall in the year. Iron ore exports accumulates -8.7% in the year, and pellet exports, -26.3% (-6.3% until April).

Hydraulic supply slows down

Hydraulic generation accumulates a high of 3.7% in the year (4.6% until July). Itaipu's generation accumulates a 22.2% drop.

Oil derivatives declining

Apparent consumption of petroleum products dropped 3% in August (up 4.9% in July), and accumulated increase of 0.2% in the year (excluding ethanol and biodiesel). Diesel consumption (included biodiesel) increased by 6.2%, accumulating a high of 9.4% in the year. Consumption of C gasoline also rose (1.8%), but accumulates low of 3.7% in the year. Hydrous ethanol, with an accumulated increase of 25.8%, has kept the total consumption in light vehicles up. Total demand for natural gas accumulates a decrease of 7% in the year, with an accumulated decrease of 16% in electricity generation (-20.8% until July).

Energy consumption in light vehicles of the Otto cycle (gasoline, ethanol and natural gas) accumulates a high of 4.3% (4.7% to July, -1.2% in 2018, +1.7% in 2017, -1.1% in 2016, +0.8% in 2015 and +6.2% in 2014). This indicator directly reflects the purchasing power of the population, as well as an economic improvement expectation.

Electricity consumption slows down

Electricity consumption, except self-producers, was stable in August and accumulates a high of 1.6% in the year. Residential consumption accumulates an increase of 3.9% and commercial, 3.1%. On the other hand, industrial consumption accumulates low of 1.5%.

Biodiesel production decelerates

Biodiesel production accumulates high of 8.7% in the year (14.3% until May). In the 12 months of previous years, the rates were: 25% in 2018, 12.9% in 2017, -3.6% in 2016 and 15% in 2015).

Pulp production retreated 3.7% in the year (positive 7.1% in 2018, 3.8% in 2017, 7.8% in 2016, 8.5% in 2015 and 9.2% in 2014). Cement consumption shows recovery, with a positive rate of 1.7% in the year (-1.3% from January to August 2018).

Electricity tariffs in high

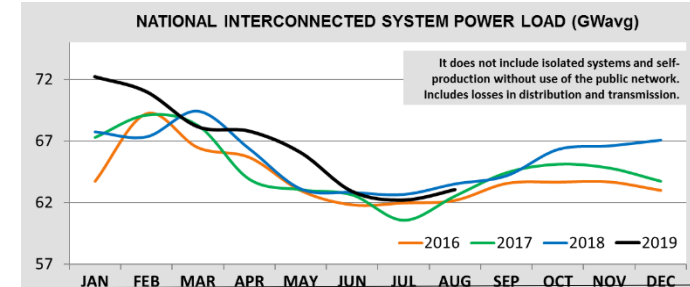
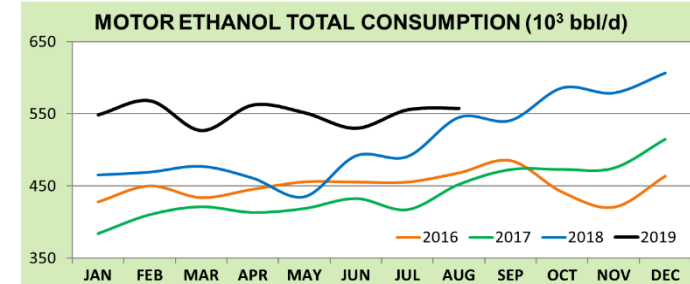
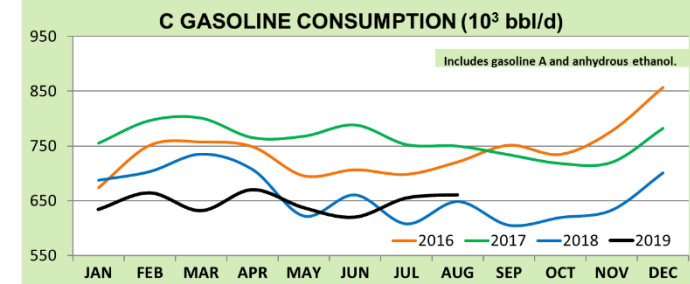
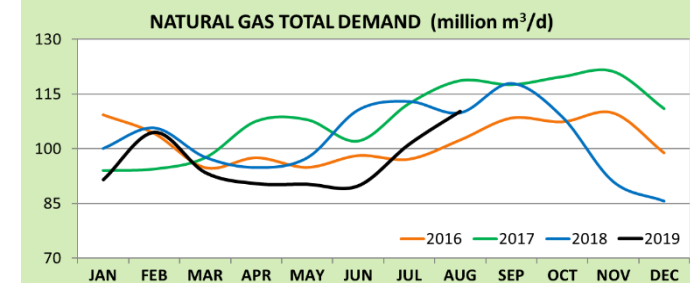
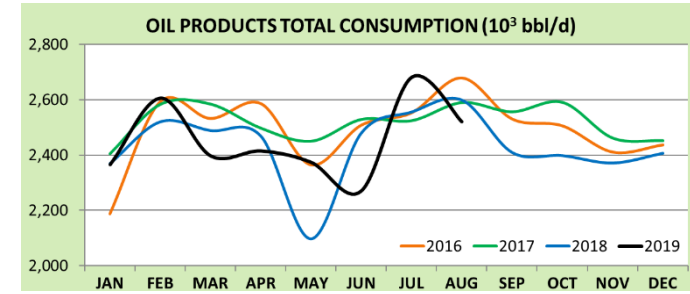
The average domestic tariff for residential electricity accumulates 10.5% in the year (12.6% in 2018, stable in 2017, 5.8% in 2016 and 42.5% in 2015). The commercial tariff increased 10.1% (12.4% in 2018, 0.7% in 2017, 5.7% in 2016 and 43.8% in 2015) and the industrial increased 8.1% (13.4% in 2018, 1.2% in 2017, 3.6% in 2016 and 51.7% in 2015).

Basic Data

SPECIFICATION	AUGUST			ACCUMULATED IN THE YEAR			
	IN THE MONTH						
	2019	2018	% 19/18	2019	2018	% 19/18	98
OIL							
PRODUCTION - with Shale Oil and NGL(10 ³ b/d)	3,097	2,614	18.5	2,780	2,697	3.1	-
IMPORTS AVERAGE PRICE (US\$/bbl FOB)	66	75	-11.9	68	71	-3.9	-
OIL PRODUCTS							
TOTAL CONSUMPTION (10 ³ b/day)	2,521	2,599	-3.0	2,453	2,447	0.2	100.0
hereof: DIESEL with biodiesel - (10 ³ b/day)	1,120	1,055	6.2	1,038	949	9.4	40.2
hereof: GASOLINE C (10 ³ b/day)	660	649	1.8	646	671	-3.7	21.1
CONSUMER PRICE - DIESEL (R\$/l)	3.52	3.37	4.5	3.54	3.42	3.4	-
CONSUMER PRICE - GASOLINE C (R\$/l)	4.32	4.45	-2.9	4.36	4.32	1.1	-
CONSUMER PRICE - LPG (R\$/13 kg)	68.8	68.4	0.7	69.1	67.6	2.3	-
NATURAL GAS							
PRODUCTION (10 ⁶ m ³ /day)	133.3	106.4	25.3	116.9	110.9	5.4	-
IMPORTS (10 ⁶ m ³ /day)	30.4	44.6	-31.9	24.4	30.7	-20.5	-
NON-UTILIZED AND REINJECTION (10 ⁶ m ³ /day)	53.4	41.1	29.8	44.9	37.9	18.3	-
AVAILABILITY FOR CONSUMPTION (10 ⁶ m ³ /day)	110.3	109.8	0.4	96.5	103.7	-7.0	100.0
INDUSTRIAL CONSUMPTION (10 ⁶ m ³ /day)	36.8	41.5	-11.3	37.4	40.1	-6.9	38.7
POWER GENERATION CONS. (10 ⁶ m ³ /day)	37.0	33.4	10.7	23.9	28.5	-16.0	24.8
INDUSTRIAL PRICE SP*(US\$/MMBtu) -	15.8	12.1	30.5	15.5	12.1	27.5	-
MOTOR PRICE SP (US\$/MMBtu)	17.7	15.3	15.5	19.6	16.7	17.1	-
RESIDENTIAL PRICE SP (US\$/MMBtu)	44.2	31.3	41.5	39.4	35.0	12.3	-
ELECTRICITY							
NATIONAL INTERCONNECTED SYSTEM	63,058	63,504	-0.7	66,673	65,367	2.0	100.0
SOUTHEAST/MIDWEST POWER LOAD (MWavg)	36,351	36,720	-1.0	38,798	38,062	1.9	58.2
SOUTH POWER LOAD (MWavg)	10,876	10,956	-0.7	11,397	11,374	0.2	17.1
NORTHEAST POWER LOAD (MWavg)	10,218	10,495	-2.6	10,794	10,528	2.5	16.2
NORTH POWER LOAD (MWavg)	5,613	5,333	5.3	5,512	5,381	2.4	8.3
TOTAL CONSUMPTION (TWh) (**)	38.6	38.6	0.0	318.3	313.3	1.6	100.0
RESIDENTIAL	11.0	10.7	2.8	94.0	90.4	3.9	29.5
INDUSTRIAL	14.1	14.5	-2.5	110.7	112.3	-1.5	34.8
COMMERCIAL	7.0	6.9	0.7	60.9	59.1	3.1	19.1
OTHER SECTORS	6.6	6.5	0.2	52.7	51.5	2.4	16.6
PLANTS ENTRY INTO OPERATING (MW)	818	130	530.1	4,164	3,144	32.4	-
RESIDENTIAL PRICE (R\$/MWh)	797	767	4.0	764	691	10.5	-
COMMERCIAL PRICE (R\$/MWh)	714	694	3.0	683	621	10.1	-
INDUSTRIAL PRICE (R\$/MWh)	680	663	2.5	643	595	8.1	-
ETHANOL AND BIODIESEL							
BIODIESEL PRODUCTION (10 ³ b/d)	102	99	3.5	96	88	8.7	-
MOTOR ETHANOL CONSUMPTION (10 ³ b/d)	557	545	2.3	550	479	14.6	-
ETHANOL EXPORTS (10 ³ b/d)	50	54	-6.9	31	26	19.5	-
HYDRATED ETHANOL PRICE (R\$/l)	2.83	2.66	6.5	2.87	2.90	-0.9	-
COAL							
ELECTRICITY GENERATION (MWavg)	2,000	2,053	-2.6	1,307	1,530	-14.6	-
IMPORT PRICE (US\$/t)	117.5	147.7	-20.5	145.6	144.2	0.9	-
NUCLEAR ENERGY							
ELECTRICITY GENERATION - (GWh)	1,500	1,504	-0.3	10,299	10,442	-1.4	-
INDUSTRIAL SECTORS							
STEEL PRODUCTION (10 ³ t/day)	95	92	3.4	92	95	-3.2	-
ALUMINIUM PRODUCTION (10 ³ t/day)	1.9	1.7	15.0	1.7	1.9	-11.1	-
IRON ORE EXPORTS (10 ³ t/day)	832	1,058	-21.3	857	939	-8.7	-
PELLETS EXPORTS (10 ³ t/day)	81	91	-11.6	67	91	-26.3	-
PAPER PRODUCTION (10 ³ t/day)	29.1	29.9	-2.7	28.7	28.6	0.3	-
PULP PRODUCTION (10 ³ t/day)	57.0	57.7	-1.2	55.4	57.6	-3.7	-
SUGAR PRODUCTION (10 ³ t/day)	150	127	18.4	81	79	1.6	-
SUGAR EXPORTS (10 ³ t/day)	50	55	-8.2	45	58	-22.3	-

(* SP is the acronym of the state of São Paulo.

(**) The traditional self-producers (consumers that do not use public grid) is not included.



It does not include isolated systems and self-production without use of the public network. Includes losses in distribution and transmission.