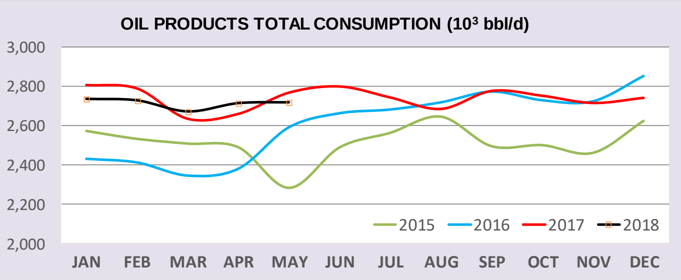

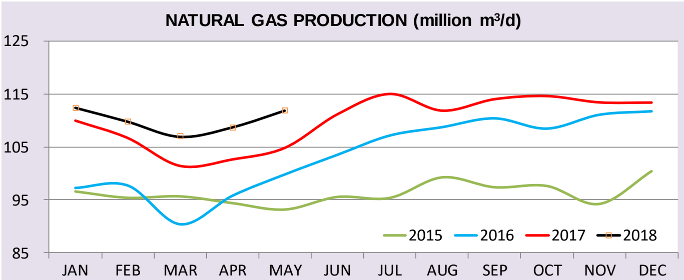

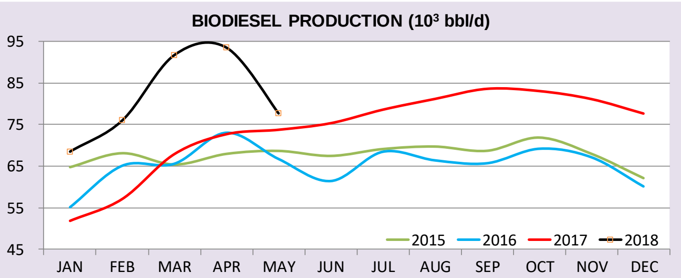

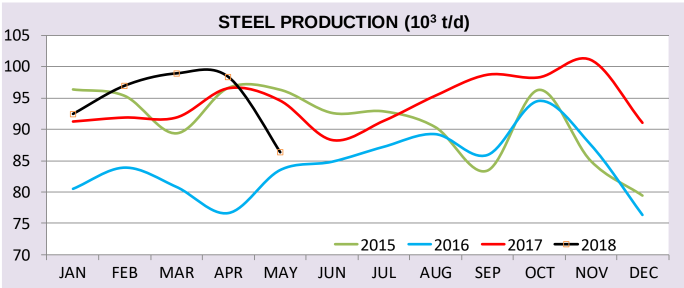

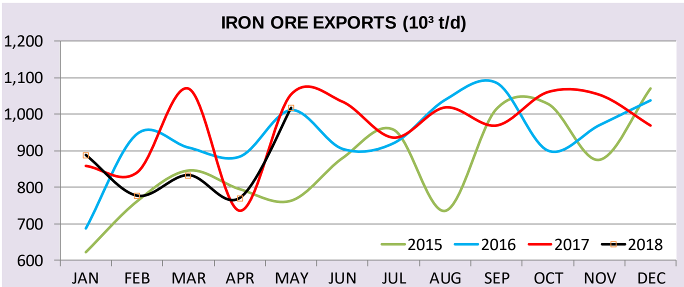

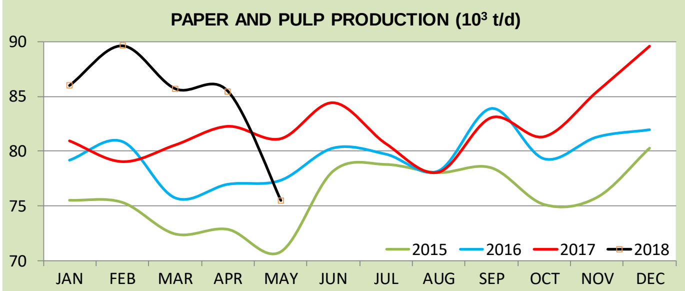

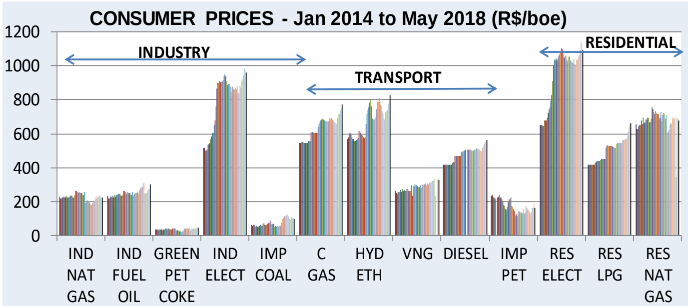

Note: For a better visualization, the minimum scale of the graphs was raised to the level close to the lowest value of the curves.

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.

Apparent consumption of oil derivatives = distributors' sales (+) Petrobras' own consumption (including refinery gas) (+) Petrobras' direct sales (+) consumer imports. The monthly data published in the press and on the ANP³ website considers only the sales of distributors.

[1] **Domestic Energy Supply (DES), or Total 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 2017 reflect the final position of the 2018 cycle of the Brazilian Energy Balance (BEN), prepared by Energy Research Office (EPE) in cooperation with MME and entities of the energy sector.

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Monthly Energy Bulletin - Brazil

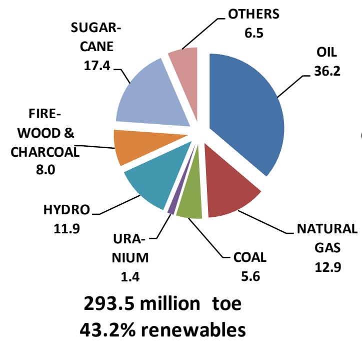
Reference Month: May 2018

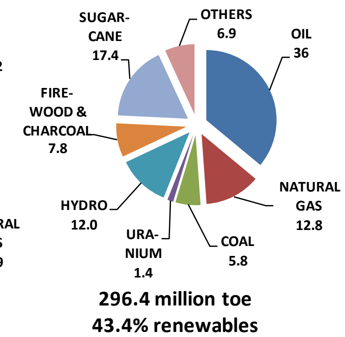
Domestic Energy Supply

The truck drivers strike in May had a strong impact on energy consumption indicators for most sectors of the economy. There were decreases in electricity consumption by 3.6% and fuel consumption by 15%. In industry, there were the following production recoils: 20% in cement, 17% in aluminum, 12% in steel and 9% in pulp.

So, until May, the Domestic Energy Supply - DES * decreased by 0.9% over the same period of 2017. For 2018, the positive rate of 1.0% was estimated for the DES (1.4% until March and 2% until February).

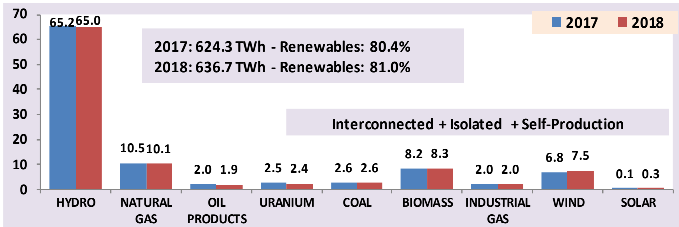
Total energy demand for 2018 is expected to grow about 1%.





The Domestic Electricity Supply – DELS² of 2018 was estimated at 636.7 TWh, showing an increase of 2.0% over 2017 (2.8% up to February). The proportion of renewable sources should remain slightly above 80%. The wind power continues the increasing participation and the solar PV energy starts a process of strong increase in the DELS matrix.

Domestic Electricity Supply, by Source (%)



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Department of Information and Studies on Energy

Highlights until April 2018

Oil production still down in the year

Oil production fell 1.8% in May, compared to May 2017, accumulating a drop of 0.7% in the year. Natural gas production grew by 6.8% in May, and increased by 4.7% in the year.

Steel production accumulates high in the year

Steel production fell 8.6% in May 2018, compared to May 2017, but still accumulates an increase of 1.4% in the year (4.8% to March). Iron ore exports are down 6% in the year (-9.9% through March), and pellets are 12.4% high (0.9% up to March).

Hydraulic with slightly increased

Hydraulic generation accumulated a 2.1% increase in the year, with a good contribution from Itaipu, with a rise of 10%.

Oil derivatives still down

Apparent consumption of petroleum products fell by 14.4% in May, accumulating a recoil of 4.6% in the year (-2.2% to April). Diesel consumption accumulated a decrease of 0.5% in the year, and the gasoline dropped by 11.1%. The decline in gasoline has been offset by the increase in ethanol consumption, of 11.6% in the year. Total demand for natural gas fell 0.7% in the year (1.7% until April and 6.7% until March).

Energy consumption in light vehicles of the Otto cycle (gasoline, ethanol and natural gas) fell by 2.1% in the year (1.7% in 2017, -1.1% in 2016, 0.8% in 2015 and 6.2% in 2014). It is an indicator that directly reflects the effects of the economy on the purchasing power of the population.

Electricity consumption with small rise

Electricity consumption (excluding self-producers that do not use the public grid) accumulated a high of 1.6% in the year (0.9% in the whole of 2017 and -0.9% in 2016). In the year, industrial consumption expanded by 3.7% and residential consumption increased by 0.7%. commercial consumption increased 0.4% in the year.

Biodiesel production in a strong rise

Biodiesel production continued to grow in May (5.4%), accumulating 26% in the year (12.9% in all of 2017, -3.6% in 2016 and 15% in 2015).

Pulp production increased by 6.8% in the year, but still had a low comparison base in 2017 (3.8% in 2017, 7.8% in 2016, 8.5% in 2015 and 9.2% in 2014). Paper production accumulates reduction of 0.1% (+1.7% throughout 2017).

Electricity rates increases

The average domestic tariff for residential electricity grew 7% in the year over the same period of 2017 (stable in 2017, 5.8% in 2016 and 42.5% in 2015). The commercial tariff increased 6.6% (0.7% in 2017, 5.7% in 2016 and 43.8% in 2015) and the industrial tariff increased 8.0% (1.2% in 2017, 3.6% % in 2016 and 51.7% in 2015).

Basic data

SPECIFICATION	MAY						
	IN THE MONTH			ACCUMULATED IN THE YEAR			
	2018	2017	%18/17	2018	2017	%18/17	%2018
OIL							
PRODUCTION - with Shale Oil and NGL(10^3 b/d)	2,718	2,768	-1.8	2,713	2,731	-0.7	-
IMPORTS AVERAGE PRICE (US$/bbl FOB)	70	53	31.9	67	54	22.7	-
OIL PRODUCTS							
TOTAL CONSUMPTION (10^3 b/day)	2,098	2,449	-14.4	2,386	2,502	-4.6	**100.0**
hereof: DIESEL with biodiesel - (10^3 b/day)	814	990	-17.7	943	948	-0.5	37.6
hereof: GASOLINE C (10^3 b/day)	622	768	-19.0	691	777	-11.1	23.2
CONSUMER PRICE - DIESEL (R$/l)	3.63	3.02	20.3	3.44	3.05	12.9	-
CONSUMER PRICE - GASOLINE C (R$/l)	4.31	3.62	19.3	4.21	3.68	14.3	-
CONSUMER PRICE - LPG (R$/13 kg)	67.0	57.2	17.0	67.0	56.2	19.2	-
NATURAL GAS							
PRODUCTION (10^6 m^3/day)	111.9	104.8	6.8	110.0	105.0	4.7	-
IMPORTS (10^6 m^3/day)	26.0	31.1	-16.5	25.9	25.7	0.6	-
NON-UTILIZED AND REINJECTION (10^6 m^3/day)	40.3	27.9	44.7	36.1	30.3	19.0	-
AVAILABILITY FOR CONSUMPTION (10^6 m^3/day)	97.6	108.0	-9.7	99.7	100.4	-0.7	**100.0**
INDUSTRIAL CONSUMPTION (10^6 m^3/day)	39.1	41.4	-5.5	38.4	40.5	-5.3	38.5
POWER GENERATION CONS. (10^6 m^3/day)	25.3	32.3	-21.6	24.5	27.3	-10.2	24.6
INDUSTRIAL PRICE SP(*) (US$/MMBtu)(a)	12.4	11.6	7.0	12.4	11.0	12.8	-
MOTOR PRICE SP (US$/MMBtu)	18.2	17.2	6.2	18.3	17.3	5.5	-
RESIDENTIAL PRICE SP (US$/MMBtu)	37.9	35.9	5.5	38.0	35.9	5.7	-
ELECTRICITY							
NATIONAL INTERCONNECTED SYSTEM	64,520	63,020	2.4	67,328	66,305	1.5	**100.0**
SOUTHEAST/MIDWEST POWER LOAD (MWavg)	37,299	36,106	3.3	39,680	38,629	2.7	58.9
SOUTH POWER LOAD (MWavg)	10,770	10,917	-1.3	11,810	11,764	0.4	17.5
NORTHEAST POWER LOAD (MWavg)	10,686	10,463	2.1	10,769	10,734	0.3	16.0
NORTH POWER LOAD (MWavg)	5,245	5,784	-9.3	5,453	5,458	-0.1	8.1
TOTAL CONSUMPTION (TWh) (b)	39.1	38.0	3.1	198.4	195.4	1.6	**100.0**
RESIDENTIAL	11.2	11.0	2.0	58.2	57.8	0.7	29.3
INDUSTRIAL	14.0	13.5	4.1	70.1	67.5	3.7	35.3
COMMERCIAL	7.5	7.2	3.8	38.5	38.3	0.4	19.4
OTHER SECTORS	6.4	6.3	2.3	31.7	31.7	-0.1	16.0
PLANTS ENTRY INTO OPERATING (MW)	260	70	272.7	2,107	2,342	-10.0	-
RESIDENTIAL PRICE (R$/MWh)	685	608	12.7	660	617	7.0	-
COMMERCIAL PRICE (R$/MWh)	600	545	10.2	586	550	6.6	-
INDUSTRIAL PRICE (R$/MWh)	570	510	11.9	561	520	8.0	-
ETHANOL AND BIODIESEL							
BIODIESEL PRODUCTION (10^3 b/d)	78	74	5.4	82	65	26.0	-
MOTOR ETHANOL CONSUMPTION (10^3 b/d)	450	428	5.3	477	428	11.6	-
ETHANOL EXPORTS (10^3 b/d)	19	17	9.0	17	18	-3.8	-
HYDRATED ETHANOL PRICE (R$/l)	2.81	2.58	8.8	2.96	2.73	8.5	-
COAL							
ELECTRICITY GENERATION (MWavg)	1,300	1,709	-23.9	1,431	1,511	-5.3	-
IMPORT PRICE (US$ FOB/t)	153.1	161.6	-5.2	143.6	154.2	-6.8	-
NUCLEAR ENERGY							
ELECTRICITY GENERATION - (GWh)	1,495	1,418	5.4	5,999	6,820	-12.0	-
INDUSTRIAL SECTORS							
STEEL PRODUCTION (10^3 t/day)	86	95	-8.6	95	93	1.4	-
ALUMINIUM PRODUCTION (10^3 t/day)	1.7	2.2	-24.5	2.0	2.2	-7.5	-
IRON ORE EXPORTS (10^3 t/day)	1,017	1,055	-3.5	859	914	-6.0	-
PELLETS EXPORTS (10^3 t/day)	99	78	27.5	90	81	12.4	-
PAPER PRODUCTION (10^3 t/day)	24.6	27.6	-11.0	28.1	28.1	-0.1	-
PULP PRODUCTION (10^3 t/day)	50.8	53.5	-4.9	56.2	52.6	6.8	-
SUGAR PRODUCTION (10^3 t/daY)	102	124	-17.8	41	65	-36.8	-
SUGAR EXPORTS (10^3 t/day)	68	79	-13.1	56	64	-12.6	-

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

(a) range of 20,000m^3/day; (b) Self-producers, do not use public grid, is not included.