

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 is equal to domestic production (+) import (-) unused (-) reinjection.

Apparent consumption of oil derivatives is equal distributors' sales (+) Petrobras' own consumption (including refinery gas) (+) Petrobras' direct sales. The monthly data published in the press and on the ANP website do not consider the own consumption and direct sales of Petrobras, whose volume is about 20% of the total oil products consumption.

(*) **Domestic Energy Supply (DES), or Total Energy Demand**, includes final energy consumption in the residential sector and in the other economic sectors, includes losses in transmission and distribution, and losses on power transformation.

(**) The DES and DELS data for 2016 reflect the final results of the Cicle 2017 of Brazilian Energy Balance – BEB, that is elaborated by the Energy Research Company (EPE) in collaboration with MME and with the others sectorial players.

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Monthly Energy Bulletin - Brazil

Reference Month: June 2017

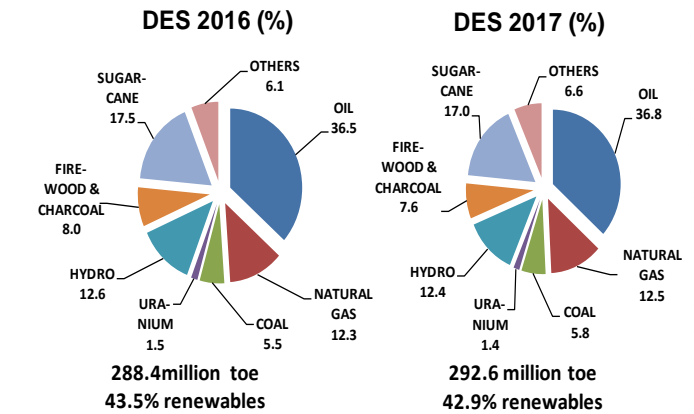
Domestic Energy Supply

Brazil is expected to have an energy surplus in 2017, a fact that will occur for the first time since 1940, first year of global energy statistics. High growth rates in oil and natural gas production coupled with low global energy demand will provide the surplus.

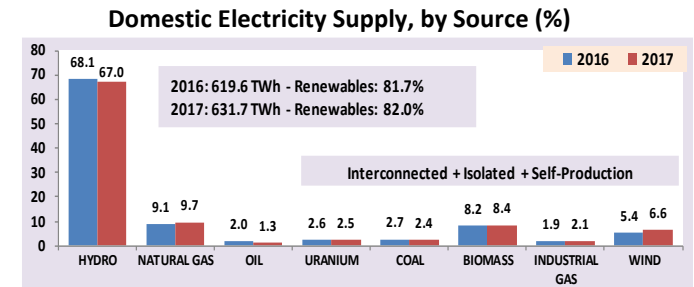
The indicators for June do not modify the path previously foreseen for the Domestic Energy Supply - DES*. Up to this month the OIE rate was 1% and, for the twelve months of the year, it is expected to be between 1% and 2%.

Data available up to the end of August 2017 suggest an increase of 1,5% for the OIE of the year.

Total energy demand in 2017 may grow between 1 and 2%



The Domestic Electricity Supply (DELS) in 2017 was estimated at 631.7 TWh, showing an increase of 1.9% over 2016. The proportion of renewable sources should remain above 80% by 2017.



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Highlights to June 2017

Oil production still in high

Oil production accumulated a growth of 10.9% until June, over the same period of 2016. In June, the increase was 5%. Natural gas production repeats good oil rates, growing 8.9% in the year and 7.4% in June.

Steel production slows growth pace

Steel production accumulated a 13.1% increase in the year. In June the rate stood at 4% over the same month of 2016. Iron ore exports grew 14.3% in June and accumulated a 5% growth in the year. Exports of pellets, up 48% in June, still accumulate a negative rate of 2.3% in the year.

Hydropower supply slows down

Hydropower supply increased 1.5% in June (2.5% up to May and 7.6% to March). The import of Itaipu decreased by 9% in the year (-0.2% until March).

Oil derivatives in high

Apparent consumption of petroleum products increased by 3.6% in June, accumulating a rise of 2.1% in the year. Diesel consumption fell 19% in June (-4.5% in the year) and that of gasoline C, up 11.6% (7.9% in the year). Total demand for natural gas increased by 4.1% in June (7.9% in the year). The use of gas in electricity generation increased by 7.8% in June (-7.5% in the year).

The consumption in the Otto cycle transport (gasoline, ethanol and natural gas) grew by 1.8% in the year (1.7% up to May and 2.4% to March). This rate was -1.1% in 2016, +0.8% in 2015 and +6.2% in 2014.

Electricity consumption increases

Electricity consumption (excluding captive self-producers) rose by 1.7% in June (-1.1 in May). In the year, the rate is 0.7%. In 2016, the rate was negative by 1.6%. Up to June, industrial consumption remained at 0.5%, residential, at 1.4% and commercial, at -0.7%.

Biodiesel production upwards

Biodiesel production grew by 22.5% in June, already showing a rise of 3.1% in the year (-0.5% up to May and -3.5% up to April). In 2016, the rate was -3.6% and in 2015, by +15%.

Pulp production grew 5.1% in June. In the year, the rate is positive at 5.6% (7.8% in the 12 months of 2016, 8.5% in 2015 and 9.2% in 2014).

Electricity rates recoil

The national average residential electricity tariff recoiled 4.9% up to June (+5.8% in the whole 2016 and +42.5% in 2015), the commercial tariff decreased 5% (+5.7% in 2016 and +43.8% in 2015) and the industrial fell by 5.7% (+3.6% in 2016 and +51.7% in 2015).

Basic data

SPECIFICATION	JUNE							
	IN THE MONTH			ACCUMULATED IN THE YEAR				
	2017	2016	%17/16	2017	2016	%17/16	%2017	
OIL								
PRODUCTION - with Shale Oil and NGL(10 ³ b/d)	2,799	2,665	5.0	2,743	2,473	10.9	-	
IMPORTS AVERAGE PRICE (US\$/bbl FOB)	54	46	17.5	54	42	30.0	-	
OIL PRODUCTS								
TOTAL CONSUMPTION (10 ³ b/day)	2,528	2,442	3.6	2,487	2,436	2.1	100.0	
hereof: DIESEL with biodiesel - (10 ³ b/day)	827	1,021	-19.0	928	971	-4.5	35.5	
hereof: GASOLINE C (10 ³ b/day)	789	707	11.6	779	722	7.9	25.1	
CONSUMER PRICE - DIESEL (R\$/l)	2.99	3.02	-1.0	3.04	3.02	0.7	-	
CONSUMER PRICE - GASOLINE C (R\$/l)	3.55	3.65	-2.7	3.66	3.69	-0.9	-	
CONSUMER PRICE - LPG (R\$/13 kg)	57.4	53.1	8.0	56.4	53.7	5.1	-	
NATURAL GAS								
PRODUCTION (10 ⁶ m ³ /day)	111.1	103.5	7.4	106.1	97.4	8.9	-	
IMPORTS (10 ⁶ m ³ /day)	19.0	30.0	-36.8	24.6	35.6	-31.0	-	
NON-UTILIZED AND REINJECTION (10 ⁶ m ³ /day)	28.0	35.4	-21.0	29.9	33.2	-9.8	-	
AVAILABILITY FOR CONSUMPTION (10 ⁶ m ³ /day)	102.2	98.2	4.1	100.7	99.8	0.9	100.0	
INDUSTRIAL CONSUMPTION (10 ⁶ m ³ /day)	41.7	44.2	-5.5	40.7	40.9	-0.3	40.4	
POWER GENERATION CONS. (10 ⁶ m ³ /day)	25.8	23.9	7.8	27.0	29.2	-7.5	26.9	
INDUSTRIAL PRICE SP(*) (US\$/MMBtu) - consumption range of 20,000 m ³ /day	12.4	10.6	17.2	11.2	11.7	-4.0	-	
MOTOR PRICE SP (US\$/MMBtu)	17.1	15.5	10.6	17.3	14.2	21.9	-	
RESIDENTIAL PRICE SP (US\$/MMBtu)	37.3	37.3	0.1	36.2	34.5	4.7	-	
ELECTRICITY								
NATIONAL INTERCONNECTED SYSTEM	63,888	61,804	3.4	66,204	64,963	1.9	100.0	
SOUTHEAST/MIDWEST POWER LOAD (MWavg)	37,152	35,502	4.6	38,499	37,768	1.9	58.2	
SOUTH POWER LOAD (MWavg)	10,730	10,734	0.0	11,544	11,441	0.9	17.4	
NORTHEAST POWER LOAD (MWavg)	10,359	10,247	1.1	10,672	10,442	2.2	16.1	
NORTH POWER LOAD (MWavg)	5,646	5,322	6.1	5,490	5,312	3.3	8.3	
TOTAL CONSUMPTION (TWh) (**)	37.8	37.2	1.7	233.2	231.5	0.7	100.0	
RESIDENTIAL	10.8	10.6	2.8	68.7	67.7	1.4	29.4	
INDUSTRIAL	13.8	13.7	0.9	81.3	80.9	0.5	34.9	
COMMERCIAL	6.9	6.8	1.6	45.2	45.6	-0.7	19.4	
OTHER SECTORS	6.3	6.1	2.0	38.0	37.3	1.9	16.3	
PLANTS ENTRY INTO OPERATING (MW)	539	506	6.4	2,880	3,786	-23.9	-	
RESIDENTIAL PRICE (R\$/MWh)	608	641	-5.1	619	651	-4.9	-	
COMMERCIAL PRICE (R\$/MWh)	569	573	-0.6	553	582	-5.0	-	
INDUSTRIAL PRICE (R\$/MWh)	534	542	-1.4	522	553	-5.7	-	
ETHANOL AND BIODIESEL								
BIODIESEL PRODUCTION (10 ³ t/d)	75	61	22.5	66	64	3.1	-	
MOTOR ETHANOL CONSUMPTION (10 ³ b/d)	437	469	-6.7	392	449	-12.6	-	
ETHANOL EXPORTS (10 ³ b/d)	34	54	-37.7	21	37	-44.9	-	
HYDRATED ETHANOL PRICE (R\$/l)	2.49	2.47	0.8	2.69	2.68	0.4	-	
COAL								
ELECTRICITY GENERATION (MWavg)	1,042	2,204	-52.7	1,212	1,921	-36.9	-	
IMPORT PRICE (US\$ FOB/t)	146.1	74.5	96.1	152.8	70.7	116.1	-	
NUCLEAR ENERGY								
ELECTRICITY GENERATION - (GWh)	1,259	1,249	0.8	8,076	8,537	-5.4	-	
INDUSTRIAL SECTORS								
STEEL PRODUCTION (10 ³ t/day)	88	85	4.0	92	82	13.1	-	
ALUMINIUM PRODUCTION (10 ³ t/day)	2.2	2.2	1.2	2.2	2.1	3.0	-	
IRON ORE EXPORTS (10 ³ t/day)	1,034	905	14.3	934	890	5.0	-	
PELLETS EXPORTS (10 ³ t/day)	92	62	48.3	82	84	-2.3	-	
PAPER PRODUCTION (10 ³ t/day)	29.0	28.5	1.9	28.2	28.2	0.0	-	
PULP PRODUCTION (10 ³ t/day)	54.4	51.8	5.1	52.9	50.1	5.6	-	
SUGAR PRODUCTION (10 ³ t/day)	184	129	42.7	67	67	-1.0	-	
SUGAR EXPORTS (10 ³ t/day)	103	90	15.0	71	69	2.8	-	

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

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

