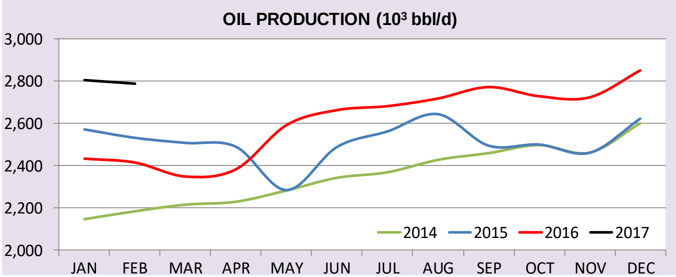

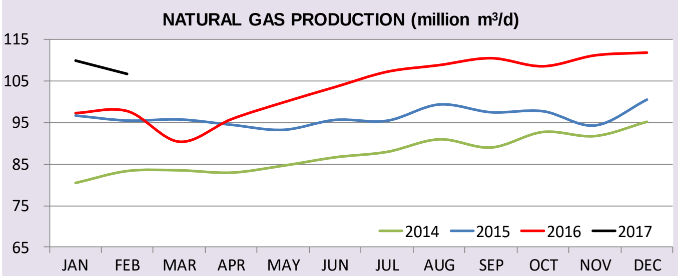

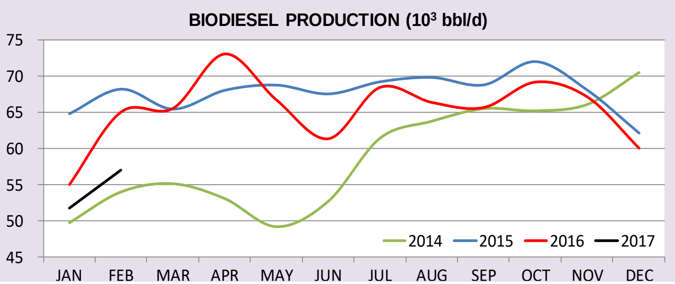

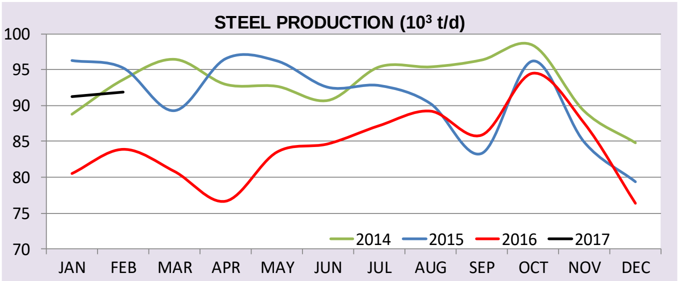

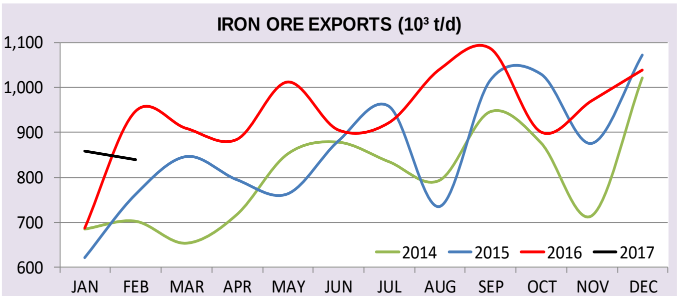

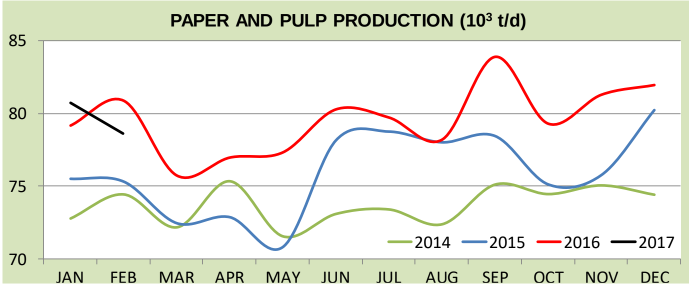

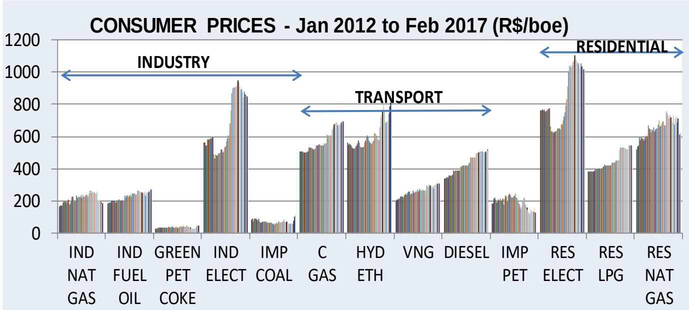

Note: For a better visualization, the minimum scale of the graphs was raised to the level close to the lowest value of the curves.

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 Brazilian Energy Balance 2017 - BEB, expected to be completed by the first week of May. BEB is elaborated by the Energy Research Company (EPE) with the colaboration of the MME.

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Monthly Energy Bulletin - Brazil

Reference Month: February 2017

Domestic Energy Supply

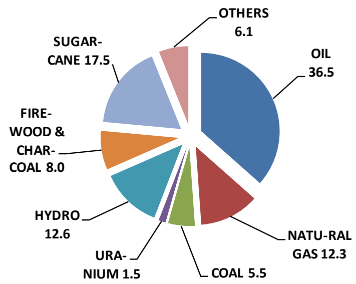
The 2016 Domestic Energy Supply (DES)* will be close to 288.4 Mtoe in 2016, according to the 2017 cycle of the Brazilian Energy Balance, that ends in the first week of May. The amount is 3.7% lower than in 2015, a rate similar to that expected for GDP. In the monthly bulletin of December 2016, a decrease of 3.1% was foreseen for the DES in 2016.

The energy indicators for February 2017 no longer repeat the good dynamics of January, as they have a slightly higher comparison base in February 2016. Thus, for DES until February was estimated the growth rate of 0.8%. However, taking into account the analysis for the twelve months of the year, the DES is expected to grow slightly, somewhere between 1.5 and 2.5%.

At the date of this bulletin elaboration, the DES growth rate for 2017 was estimated at 2.1%.

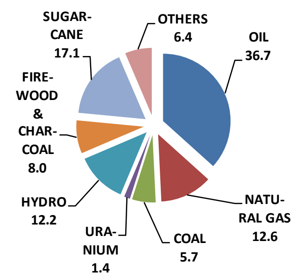
Total energy demand in 2017 may grow between 1.5 and 2.5%

DES 2016 (%)



288.4million toe
43.5% renewables

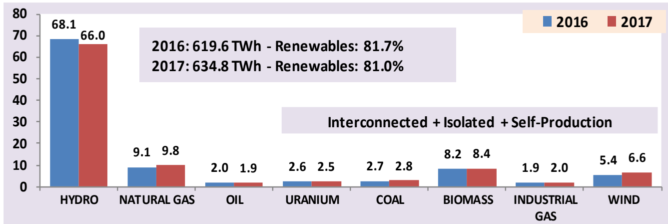
DES 2017 (%)



294.5 million toe
43.0% renewables

The Domestic Electricity Supply (DELS) in 2017 was estimated at 634.8 TWh, showing an increase of 2.5% over 2016. The 2016 data reflect the final results of Brazilian Energy Balance – Cycle 2017(**) .

Domestic Electricity Supply, by Source (%)



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SECRETARIAT OF ENERGY PLANNING AND DEVELOPMENT
Department of Information and Studies on Energy

Highlights to February 2017

Oil production rises

Oil production in February 2017 grew 15.5% over the same month of 2016, repeating the good rates of the last months. The same occurs with the natural gas production, with a rate of 9.2% in February.

Steel production in high

Steel production rose 9.4% in February over the same month in 2016, but was below the production of February 2015. The iron ore exports recoiled 11.2% in February, but are 4.6% positive in the year. Pellets exports are still falling, repeating the downward trend verified in 2016.

Hydraulic supply increases

The hydraulic energy supply accumulated an increase of 9.8% in 2017 and the Itaipu's import, a decrease of 1.6% (Paraguayan part).

Oil derivatives in fall

Apparent consumption of petroleum products recoiled 3.2% in February 2017, but it keeps a positive rate of 2% in the year. Diesel decreased 2.2% and C gasoline grew by 6.1% in the month. Total demand for natural gas shows a drop of 9.4% in February, with a strong influence on the 39.1% decrease in thermoelectric consumption.

The consumption in the Otto cycle transport (gasoline, ethanol and natural gas) recoiled 0.2% in the year. The rate was -1.1% in 2016, +0.8% in 2015 and +6.2% in 2014.

Electricity consumption is stable

Electricity consumption (excluding captive self-producers) grew only by 0.3% in February 2017 (-1.6% for the whole 2016). Until February, industrial consumption was at 1.6%, residential at 0.9% and commercial at -0.1%.

Biodiesel production declining

Biodiesel production declined 12.3% in February 2017. In 2016 the rate was negative by 3.6% and in 2015, positive by 15%. Production is expected to reverse the downward trend because of the increase from 7% to 8% in the fossil diesel blend, in 2017.

Pulp production reduced 5.2% in February, after almost two years with positive rates. In the year, the rate is negative by 0.1% (7.8% for the whole 2016, 8.5% for 2015 and 9.2% for 2014).

Electricity rates recoils

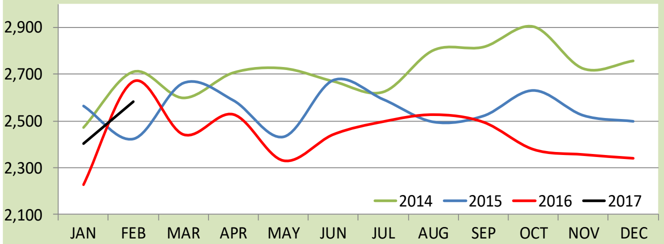
The national average residential electricity tariff recoiled 7.8% up to February (+5.8% in 2016 and +42.5% in 2015), the commercial tariff decreased 8.1% (+5.7% in 2016 and +43.8% in 2015) and the industrial, fell by 10.5% (+3.6% in 2016 and +51.7% in 2015).

Basic data

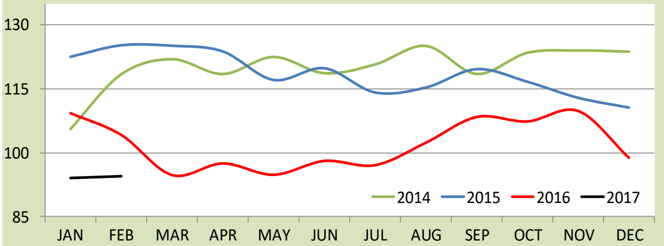
SPECIFICATION	FEBRUARY IN THE MONTH 2017	2016	% 17/16	ACCUMULATED IN THE YEAR 2017	2016	% 17/16	%2017
OIL							
PRODUCTION - with Shale Oil and NGL(10^3 b/d)	2,789	2,415	15.5	2,798	2,424	15.4	-
IMPORTS AVERAGE PRICE (US$/bbl FOB)	50	42	20.6	49	43	12.4	-
OIL PRODUCTS							
TOTAL CONSUMPTION (10^3 b/day)	2,583	2,669	-3.2	2,489	2,440	2.0	**100.0**
hereof: DIESEL with biodiesel - (10^3 b/day)	960	982	-2.2	896	914	-1.9	34.2
hereof: GASOLINE C (10^3 b/day)	797	751	6.1	775	711	8.9	24.9
CONSUMER PRICE - DIESEL (R$/l)	3.06	3.02	1.5	3.08	3.01	2.2	-
CONSUMER PRICE - GASOLINE C (R$/l)	3.70	3.71	-0.2	3.73	3.69	1.1	-
CONSUMER PRICE - LPG (R$/13 kg)	55.3	53.9	2.6	55.5	53.9	2.8	-
NATURAL GAS							
PRODUCTION (10^6 m^3/day)	106.6	97.7	9.2	108.4	97.5	11.2	-
IMPORTS (10^6 m^3/day)	19.2	40.6	-52.8	17.7	43.3	-59.1	-
NON-UTILIZED AND REINJECTION (10^6 m^3/day)	31.3	34.1	-8.0	31.8	33.9	-6.0	-
AVAILABILITY FOR CONSUMPTION (10^6 m^3/day)	94.5	104.2	-9.4	94.3	106.9	-11.8	**100.0**
INDUSTRIAL CONSUMPTION (10^6 m^3/day)	39.3	40.3	-2.4	38.8	39.9	-2.8	41.2
POWER GENERATION CONS. (10^6 m^3/day)	22.2	36.4	-39.1	23.0	38.0	-39.5	24.4
INDUSTRIAL PRICE SP(*) (US$/MMBtu) - consumption range of 20,000 m^3/day	10.9	11.3	-3.0	10.6	11.2	-4.8	-
MOTOR PRICE SP (US$/MMBtu)	17.4	13.1	32.9	17.4	13.0	33.4	-
RESIDENTIAL PRICE SP (US$/MMBtu)	35.7	32.1	11.3	35.2	31.8	10.8	-
ELECTRICITY							
NATIONAL INTERCONNECTED SYSTEM	68,518	68,165	0.5	68,351	67,136	1.8	**100.0**
SOUTHEAST/MIDWEST POWER LOAD (MWavg	39,338	39,143	0.5	39,729	39,047	1.7	58.1
SOUTH POWER LOAD (MWavg)	13,176	12,842	2.6	12,696	12,351	2.8	18.6
NORTHEAST POWER LOAD (MWavg)	10,975	10,942	0.3	10,829	10,510	3.0	15.8
NORTH POWER LOAD (MWavg)	5,029	5,239	-4.0	5,098	5,229	-2.5	7.5
TOTAL CONSUMPTION (TWh) (**)	38.6	38.5	0.3	77.9	76.7	1.6	**100.0**
RESIDENTIAL	11.4	11.4	0.6	23.4	23.2	0.9	30.0
INDUSTRIAL	13.3	13.4	-0.9	26.3	25.9	1.6	33.8
COMMERCIAL	7.7	7.7	-0.5	15.5	15.5	-0.1	19.8
OTHER SECTORS	6.2	6.0	3.2	12.7	12.1	4.7	16.3
PLANTS ENTRY INTO OPERATING (MW)	174	357	-51.2	1,354	1,336	1.3	-
RESIDENTIAL PRICE (R$/MWh)	616	668	-7.8	617	669	-7.8	-
COMMERCIAL PRICE (R$/MWh)	548	599	-8.4	548	597	-8.1	-
INDUSTRIAL PRICE (R$/MWh)	520	569	-8.7	522	572	-8.7	-
ETHANOL AND BIODIESEL							
BIODIESEL PRODUCTION (10^3 b/d)	57	65	-12.3	54	60	-9.3	-
MOTOR ETHANOL CONSUMPTION (10^3 b/d)	351	437	-19.7	371	456	-18.6	-
ETHANOL EXPORTS (10^3 b/d)	14	66	-79.3	18	45	-60.4	-
HYDRATED ETHANOL PRICE (R$/l)	2.78	2.81	-1.0	2.85	2.76	3.1	-
COAL							
ELECTRICITY GENERATION (MWavg)	1,346	1,836	-26.7	1,268	1,774	-28.5	-
IMPORT PRICE (US$ FOB/t)	159.4	74.4	114.3	148.0	74.9	97.5	-
NUCLEAR ENERGY							
ELECTRICITY GENERATION - (GWh)	1,200	1,389	-13.6	2,640	2,879	-8.3	-
INDUSTRIAL SECTORS							
STEEL PRODUCTION (10^3 t/day)	92	84	9.4	92	82	11.4	-
ALUMINIUM PRODUCTION (10^3 t/day)	2.2	2.1	4.1	2.2	2.1	4.3	-
IRON ORE EXPORTS (10^3 t/day)	840	946	-11.2	850	812	4.6	-
PELLETS EXPORTS (10^3 t/day)	79	86	-8.6	77	104	-26.3	-
PAPER PRODUCTION (10^3 t/day)	28.8	29.3	-1.8	27.9	28.6	-2.2	-
PULP PRODUCTION (10^3 t/day)	50.4	51.6	-2.4	52.1	51.4	1.4	-
SUGAR PRODUCTION (10^3 t/daY)	7.6	9.8	-21.7	13.1	12.8	2.3	-
SUGAR EXPORTS (10^3 t/day)	65	93	-30.1	68	70	-2.3	-

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

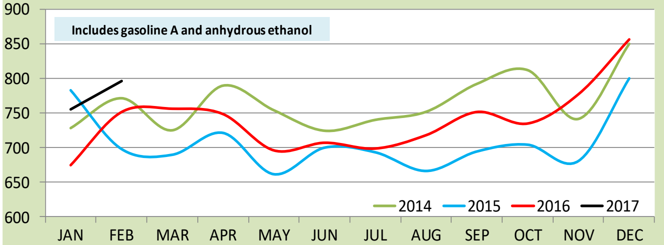
OIL PRODUCTS TOTAL CONSUMPTION (10^3 bbl/d)



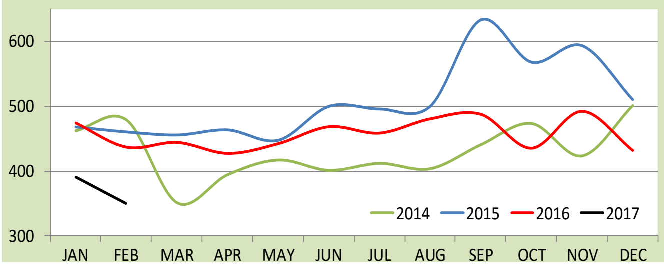
NATURAL GAS TOTAL DEMAND (million m³/d)



C GASOLINE CONSUMPTION (10^3 bbl/d)



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



NATIONAL INTERCONNECTED SYSTEM POWER LOAD (GWavg)