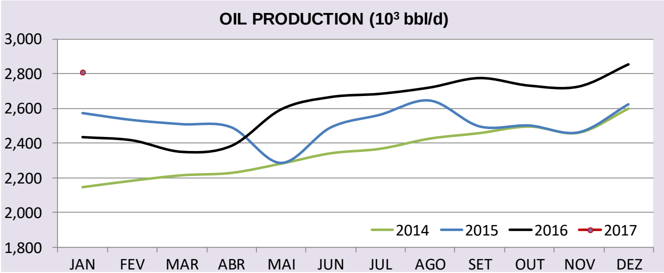

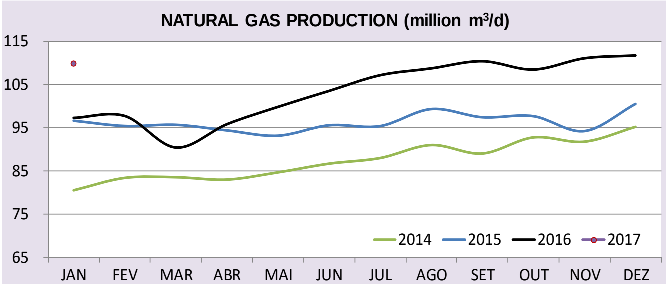

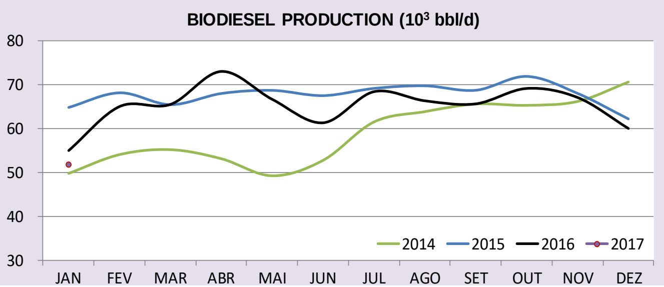

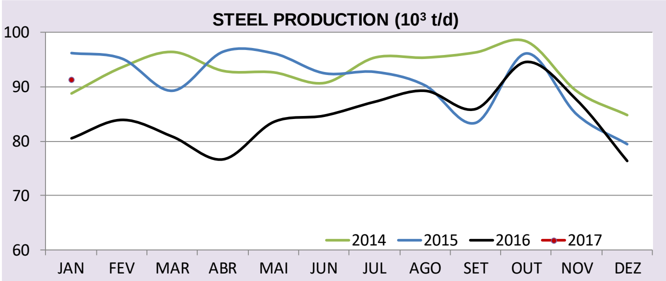

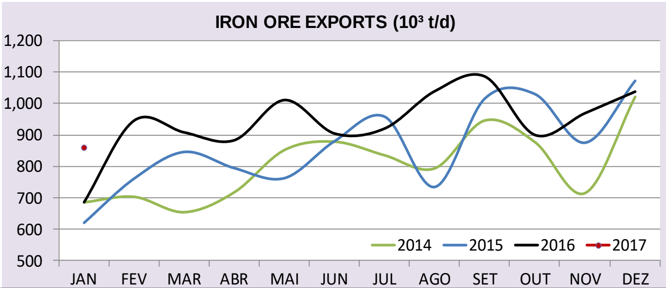

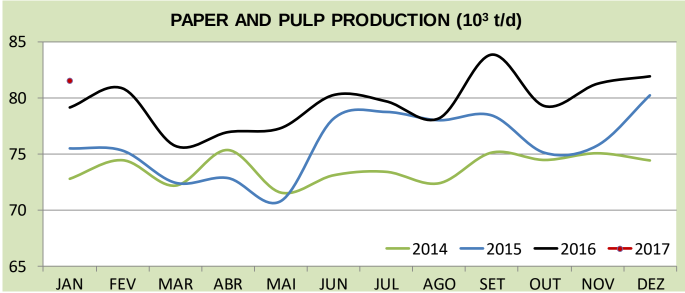

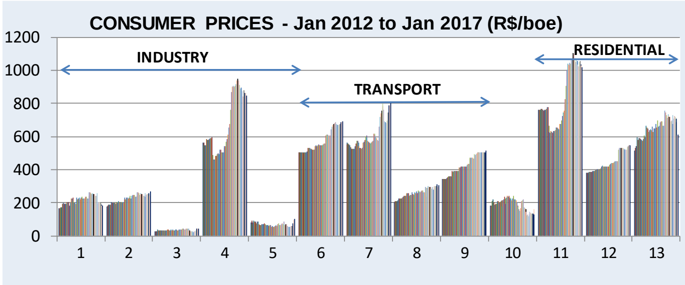

Note: For a better visualization, the minimum scale of the graphs was raised to the level close to the lowest value of the curves.

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 will be definitive from the final results of the Brazilian Energy Balance Cycle 2017, expected to be completed by the end of April, according to the Energy Research Company (EPE)

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(55 61) 2032-5967 and 2032-5764

Monthly Energy Bulletin - Brazil

Reference Month: **January 2017**

Domestic Energy Supply

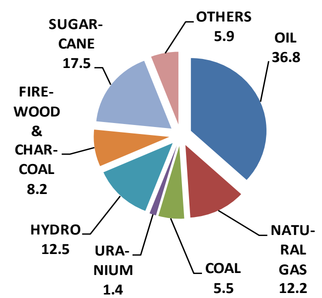
The year 2017 starts with positive rates in most of the energy indicators. However, it is noteworthy that, in January 2016, there was a strong retraction in most of the indicators, which lowers the comparison base. Compared with January 2015, indicators for January 2017 are almost all lower.

For the Domestic Energy Supply (DES)* of January 2017, the growth rate was estimated at 3.7%. However, considering the analysis for the twelve months of the year, the DES is expected to grow less, somewhere between 1.5 and 2.5%.

At the bulletin elaboration date, the DES growth rate for the full year 2017 was estimated at 1.7%.

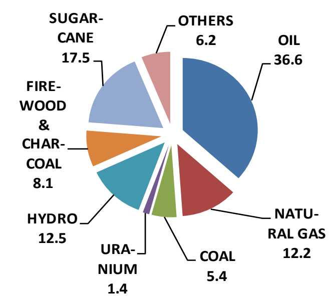
Total energy demand in 2017 may grow between 1.5 and 2.5%

DES 2016 (%)



290.0million toe
43.6% renewables

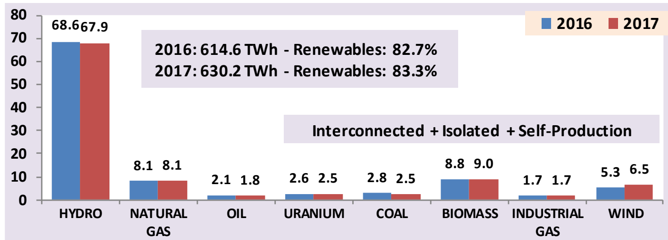
DES 2017 (%)



294.9 million toe
43.8% renewables

The Domestic Electricity Supply (DELS) in 2017 was estimated at 630.2 TWh, showing an increase of 2.6% over 2016. Renewable sources are expected to maintain a participation in the DELS of around 83%, mainly because of the good performance of wind power.

Domestic Electricity Supply, by Source (%)



MINISTRY OF MINES AND ENERGY - MME
SECRETARIAT OF ENERGY PLANNING AND DEVELOPMENT
OFFICE OF STRATEGIC ENERGY STUDIES

Highlights to January 2017

Oil production rises

Oil production in January 2017 grew 15.3% over the same month of 2016, repeating the good rates of the last months of 2016. The same occurs with the production of natural gas, with a rate of 13.1% in January.

Steel production rises

Steel production rose 13.3% in January over the same month in 2016, but was below the production of January 2015. The iron ore exports were 24.9% positive in January. Meanwhile, exports of pellets fell 38.1%, repeating the downward trend verified in 2016.

Hydraulic supply increases

The hydraulic energy supply rose 12% in january 2017 and the Itaipu's import grew 1.6% (Paraguayan part).

Oil derivatives in high

Apparent consumption of petroleum products grew 9.9% in January 2017, but the volume was still below the amounts of 2014 and 2015. Diesel decreased 1.4% and C gasoline grew 12.0% in the month. Total demand for natural gas shows a drop of 14.0% in January, with a strong influence on the 39.9% decrease in thermoelectric consumption.

The consumption in the Otto cycle transport (gasoline, ethanol and natural gas) increased by 2.5% in January (-1.1% in 2016, + 0.8% in 2015 and + 6.2% in 2014).

Electricity consumption rises

Electricity consumption (excluding captive self-producers) grew by 2.9% in January 2017 (-1.2% in 2016). Industrial consumption was at 4.3%, residential at 1.2% and commercial at 0.3%.

Biodiesel production declined

Biodiesel production declined 5.9% in January 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 grew by 4.8% in January, maintaining the upward trend of recent years (7.8% in 2016, 8.5% in 2015 and 9.2% in 2014).

Electricity rates recoils

The national average residential electricity tariff recoiled 7.8% in January (+5.8% in 2016 and +42.5% in 2015), the commercial decreased 7.4% (+ 5.7% in 2016 and + 43.8% in 2015) and industrial fell by 10.4% (+ 3.6% in 2016 and + 51.7% in 2015).

Basic data

SPECIFICATION	JANUARY – 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)	2,806	2,433	15.3	2,806	2,433	15.3	-
IMPORTS AVERAGE PRICE (US$/bbl FOB)	47	45	4.7	47	45	4.7	-
OIL PRODUCTS							
TOTAL CONSUMPTION (10^3 b/day)	2,403	2,187	9.9	2,403	2,187	9.9	**100.0**
hereof: DIESEL with biodiesel - (10^3 b/day)	839	850	-1.4	839	850	-1.4	33.1
hereof: GASOLINE C (10^3 b/day)	755	674	12.0	755	674	12.0	25.1
CONSUMER PRICE - DIESEL (R$/l)	3.09	3.00	3.0	3.09	3.00	3.0	-
CONSUMER PRICE - GASOLINE C (R$/l)	3.77	3.68	2.5	3.77	3.68	2.5	-
CONSUMER PRICE - LPG (R$/13 kg)	55.6	54.0	3.1	55.6	54.0	3.1	-
NATURAL GAS							
PRODUCTION (10^6 m^3/day)	109.9	97.2	13.1	109.9	97.2	13.1	-
IMPORTS (10^6 m^3/day)	16.4	45.8	-64.2	16.4	45.8	-64.2	-
NON-UTILIZED AND REINJECTION (10^6 m^3/day)	32.3	33.7	-4.2	32.3	33.7	-4.2	-
AVAILABILITY FOR CONSUMPTION (10^6 m^3/day)	94.1	109.3	-14.0	94.1	109.3	-14.0	**100.0**
INDUSTRIAL CONSUMPTION (10^6 m^3/day)	38.6	39.6	-2.7	38.6	39.6	-2.7	41.0
POWER GENERATION CONS. (10^6 m^3/day)	23.7	39.5	-39.9	23.7	39.5	-39.9	25.2
INDUSTRIAL PRICE SP(*) (US$/MMBtu) - consumption range of 20,000 m^3/day	10.3	11.0	-6.6	10.3	11.0	-6.6	-
MOTOR PRICE SP (US$/MMBtu)	17.3	13.0	34.0	17.3	13.0	34.0	-
RESIDENTIAL PRICE SP (US$/MMBtu)	34.7	31.5	10.2	34.7	31.5	10.2	-
ELECTRICITY							
NATIONAL INTERCONNECTED SYSTEM	68,185	66,108	3.1	68,185	66,108	3.1	**100.0**
SOUTHEAST/MIDWEST POWER LOAD (MWavg)	40,119	38,951	3.0	40,119	38,951	3.0	58.8
SOUTH POWER LOAD (MWavg)	12,216	11,860	3.0	12,216	11,860	3.0	17.9
NORTHEAST POWER LOAD (MWavg)	10,683	10,078	6.0	10,683	10,078	6.0	15.7
NORTH POWER LOAD (MWavg)	5,167	5,219	-1.0	5,167	5,219	-1.0	7.6
TOTAL CONSUMPTION (TWh) (**)	39.3	38.2	2.9	39.3	38.2	2.9	**100.0**
RESIDENTIAL	12.0	11.8	1.2	12.0	11.8	1.2	30.4
INDUSTRIAL	13.1	12.5	4.3	13.1	12.5	4.3	33.3
COMMERCIAL	7.8	7.8	0.3	7.8	7.8	0.3	19.8
OTHER SECTORS	6.5	6.1	6.3	6.5	6.1	6.3	16.5
PLANTS ENTRY INTO OPERATING (MW)	1,180	979	20.5	1,180	979	20.5	-
RESIDENTIAL PRICE (R$/MWh)	618	670	-7.8	618	670	-7.8	-
COMMERCIAL PRICE (R$/MWh)	551	595	-7.4	551	595	-7.4	-
INDUSTRIAL PRICE (R$/MWh)	515	575	-10.4	515	575	-10.4	-
ETHANOL AND BIODIESEL							
BIODIESEL PRODUCTION (10^3 b/d)	52	55	-5.9	52	55	-5.9	-
MOTOR ETHANOL CONSUMPTION (10^3 b/d)	390	474	-17.8	390	474	-17.8	-
ETHANOL EXPORTS (10^3 b/d)	21	24	-12.7	21	24	-12.7	-
HYDRATED ETHANOL PRICE (R$/l)	2.91	2.72	7.1	2.91	2.72	7.1	-
COAL							
ELECTRICITY GENERATION (MWavg)	1,190	1,712	-30.5	1,190	1,712	-30.5	-
IMPORT PRICE (US$ FOB/t)	136.6	75.5	80.9	136.6	75.5	80.9	-
NUCLEAR ENERGY							
ELECTRICITY GENERATION - (GWh)	1,440	1,491	-3.4	1,440	1,491	-3.4	-
INDUSTRIAL SECTORS							
STEEL PRODUCTION (10^3 t/day)	91	81	13.3	91	81	13.3	-
ALUMINIUM PRODUCTION (10^3 t/day)	2.2	2.1	4.5	2.2	2.1	4.5	-
IRON ORE EXPORTS (10^3 t/day)	858	687	24.9	858	687	24.9	-
PELLETS EXPORTS (10^3 t/day)	75	121	-38.1	75	121	-38.1	-
PAPER PRODUCTION (10^3 t/day)	27.8	27.9	-0.5	27.8	27.9	-0.5	-
PULP PRODUCTION (10^3 t/day)	53.7	51.2	4.8	53.7	51.2	4.8	-
SUGAR PRODUCTION (10^3 t/daY)	18	16	15.0	18	16	15.0	-
SUGAR EXPORTS (10^3 t/day)	71	48	47.9	71	48	47.9	-

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

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