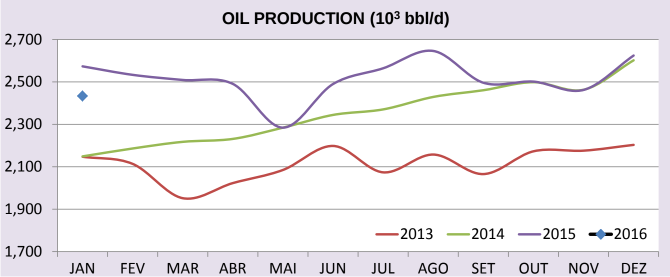

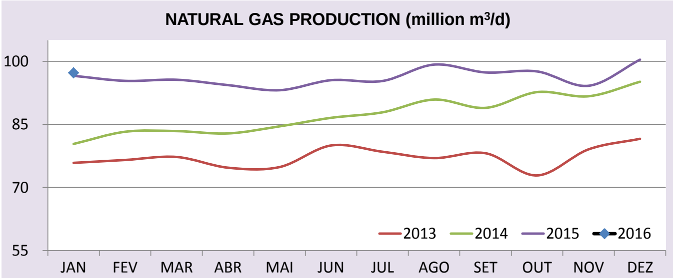

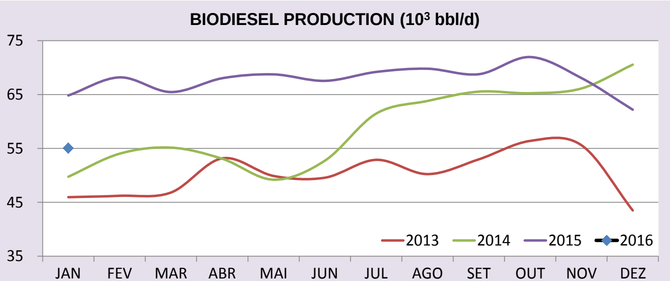

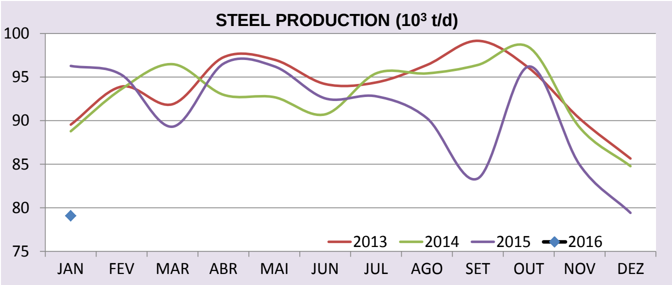

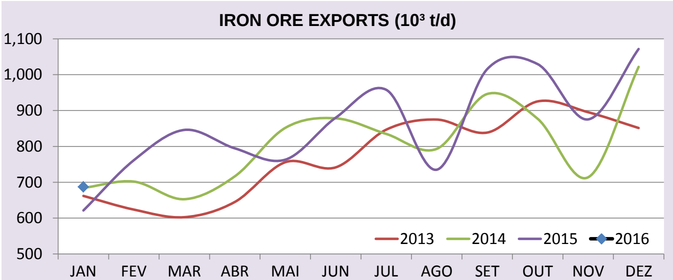

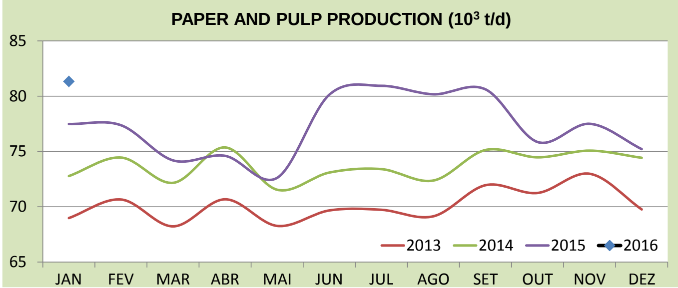

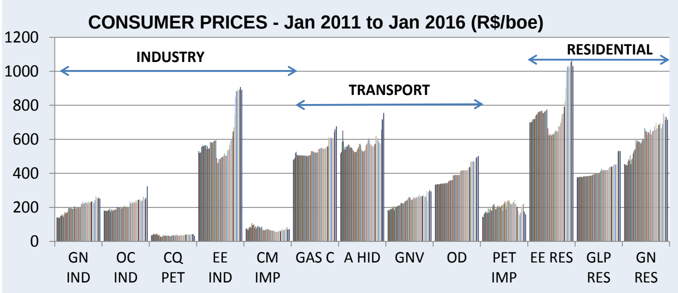

Note: For a better visualization, the minimum scale of the graphs was raised to the level close to the lowest value of the curves.

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.

(**) 2015 data reflect the **2016 cycle** of the **National Energy Balance**, completed in April by the Energy Research Company (EPE), with the support of MME and its institutions.

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Monthly Energy Bulletin - Brazil

Reference Month: January 2016

Domestic Energy Supply

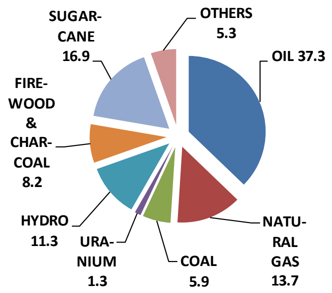
2016 begins with strong decreases in most energy and industrial production indicators. These indicators rose only in pulp production and iron ore exportation.

Thus, the estimated growth rate of Domestic Energy Supply (DES) (*) for January 2016 was negative: -11% over the same month of 2015.

Total energy demand in 2016 should recede between 4 and 5%

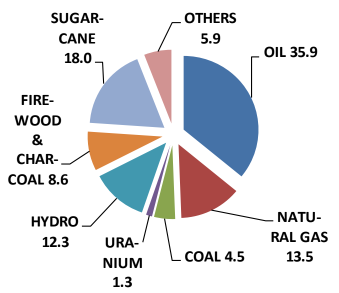
If the recessionary forces of the economy remain, it is possible that DES in 2016 will retreat between 4 and 5%. In admitting the premises that the hydraulic generation may grow 3% in 2016, and the total electricity demand recoils 0.4% (EPE estimate), the analysis shows that 1% of the DES reduction is due to transformation losses in thermal generation. Thus, the final energy consumption in economic sectors would have less reduction, between 3 and 4%.

DES 2015 (%)



299.2 million toe
41.2% renewables

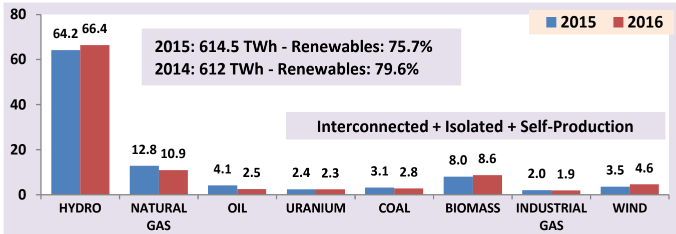
DES 2016 (%)



285.1 million toe
44.2% renewables

The Domestic Electricity Supply was estimated at 612 TWh for 2016(**), showing a decrease of 0.4% over 2015. Renewable sources may have strong high in the structure, as a result of increases in hydro, wind and biomass generations.

Domestic Electricity Supply, by Source (%)



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

Highlights of January 2016

Oil production in low

In January 2016, oil production recedes 5.4% over the same month of 2015. In contrast, the natural gas production showed a small increase of 0.7%.

Steel production decreases

Steel production fell 17.9% in January 2016 compared to the same month of 2015. Iron ore exports rose 10.6% and exports of pellets start the year with a low of 7.4%.

Hydraulic supply still low

The hydraulic power supply recedes 2% in January, have import of Itaipu a high of 14% (Paraguayan part). Under these conditions, the national hydro generation was down by 3% in the month.

Oil products consumption with strong recoil

The apparent consumption of petroleum products fell 17.4% in January (decreased 6.4% in the whole year 2015). The diesel fell 15.8% and C gasoline, 13.9%. The total demand for natural gas also had a negative rate in January, -10.8%, influenced by the significant drop in power generation (-19.8%).

Remains the sharp decline of energy consumption in the Otto cycle transport (gasoline, ethanol and natural gas). In January 2016, the rate was negative in 10.4% (-0.1% in the whole year of 2015 and 6.2% positive in 2014).

Electricity consumption recoiled

Electricity consumption (excluding captive self-producer) recoils 6% in January 2016, being the industry the worst rate, -9.2%. Residential and commercial consumptions had a decrease of 5.4% and 3.6%, respectively.

Biodiesel production with strong decrease

Biodiesel production declined 15.1% in January. In 2015, the rate was 15% positive.

Pulp production continues with high performance

The pulp production increased 9.2% in January. Throughout the year 2015, the production showed significant increase of 8.5%. In 2014, the increase was even higher, 9.2%.

Electricity rates

In January 2016, the national average residential electricity tariff rose 30.2% over the same month of 2015. The commercial tariff grew 21.1%, and the industrial, 37.8%.

Basic data of 2015 and 2016

SPECIFICATION	JANUARY						
	IN THE MONTH			ACCUMULATED IN THE YEAR			
	2016	2015	% 16/15	2016	2015	% 16/15	%2015
OIL							
PRODUCTION - with Shale Oil and NGL(10^3 b/d)	2,433	2,573	-5.4	2,433	2,573	-5.4	-
IMPORTS AVERAGE PRICE (US$/bbl FOB)	45	87	-48.1	45	87	-48.1	-
OIL PRODUCTS							
TOTAL CONSUMPTION (10^3 b/day)	2,187	2,648	-17.4	2,187	2,648	-17.4	**100.0**
hereof: DIESEL with biodiesel - (10^3 b/day)	850	1,010	-15.8	850	1,010	-15.8	36.9
hereof: GASOLINE C (10^3 b/day)	674	783	-13.9	674	783	-13.9	24.7
CONSUMER PRICE - DIESEL (R$/l)	3.00	2.61	15.0	3.00	2.61	15.0	-
CONSUMER PRICE - GASOLINE C (R$/l)	3.68	3.03	21.2	3.68	3.03	21.2	-
CONSUMER PRICE - LPG (R$/13 kg)	54.0	44.7	20.8	54.0	44.7	20.8	-
NATURAL GAS							
PRODUCTION (10^6 m^3/day)	97.2	96.6	0.7	97.2	96.6	0.7	-
IMPORTS (10^6 m^3/day)	45.8	50.8	-9.8	45.8	50.8	-9.8	-
NON-UTILIZED AND REINJECTION (10^6 m^3/day)	33.7	24.8	36.1	33.7	24.8	36.1	-
AVAILABILITY FOR CONSUMPTION (10^6 m^3/day)	109.3	122.5	-10.8	109.3	122.5	-10.8	**100.0**
INDUSTRIAL CONSUMPTION (10^6 m^3/day)	39.6	43.5	-8.9	39.6	43.5	-8.9	36.2
POWER GENERATION CONS. (10^6 m^3/day)	39.5	49.3	-19.8	39.5	49.3	-19.8	36.2
INDUSTRIAL PRICE SP(*) (US$/MMBtu) - consumption range of 20,000 m^3/day	11.0	15.6	-29.0	11.0	15.6	-29.0	-
MOTOR PRICE SP (US$/MMBtu)	13.0	17.8	-27.1	13.0	17.8	-27.1	-
RESIDENTIAL PRICE SP (US$/MMBtu)	31.5	45.7	-31.2	31.5	45.7	-31.2	-
ELECTRICITY							
NATIONAL INTERCONNECTED SYSTEM	65,608	69,062	-5.0	65,608	69,062	-5.0	**100.0**
SOUTHEAST/MIDWEST POWER LOAD (MWavg)	38,451	37,927	1.4	38,451	41,194	-6.7	58.6
SOUTH POWER LOAD (MWavg)	11,860	12,250	-3.2	11,860	12,250	-3.2	18.1
NORTHEAST POWER LOAD (MWavg)	10,078	10,616	-5.1	10,078	10,616	-5.1	15.4
NORTH POWER LOAD (MWavg)	5,219	5,002	4.3	5,219	5,002	4.3	8.0
TOTAL CONSUMPTION (TWh) (**)	38.2	40.7	-6.0	38.2	40.7	-6.0	**100.0**
RESIDENTIAL	11.8	12.5	-5.4	11.8	12.5	-5.4	30.9
INDUSTRIAL	12.5	13.8	-9.2	12.5	13.8	-9.2	32.8
COMMERCIAL	7.8	8.0	-3.6	7.8	8.0	-3.6	20.3
OTHER SECTORS	6.1	6.3	-3.1	6.1	6.3	-3.1	15.9
PLANTS ENTRY INTO OPERATING (MW)	979	429	128.1	979	429	128.1	-
RESIDENTIAL PRICE (R$/MWh)	625	480	30.2	625	480	30.2	-
COMMERCIAL PRICE (R$/MWh)	506	418	21.1	506	418	21.1	-
INDUSTRIAL PRICE (R$/MWh)	540	392	37.8	540	392	37.8	-
ETHANOL AND BIODIESEL							
BIODIESEL PRODUCTION (10^3 b/d)	55	65	-15.1	55	65	-15.1	-
MOTOR ETHANOL CONSUMPTION (10^3 b/d)	474	468	1.4	474	468	1.4	-
ETHANOL EXPORTS (10^3 b/d)	24	31	-22.5	24	31	-22.5	-
HYDRATED ETHANOL PRICE (R$/l)	2.72	2.06	31.9	2.72	2.06	31.9	-
COAL							
ELECTRICITY GENERATION (MWavg)	1,712	2,342	-26.9	1,712	2,342	-26.9	-
IMPORT PRICE (US$ FOB/t)	75.5	95.5	-21.0	75.5	95.5	-21.0	-
NUCLEAR ENERGY							
ELECTRICITY GENERATION - (GWh)	1,491	1,450	2.8	1,491	1,450	2.8	-
INDUSTRIAL SECTORS							
STEEL PRODUCTION (10^3 t/day)	79	96	-17.9	79	96	-17.9	-
ALUMINIUM PRODUCTION (10^3 t/day)	2.1	2.3	-8.3	2.1	2.3	-8.3	-
IRON ORE EXPORTS (10^3 t/day)	687	621	10.6	687	621	10.6	-
PELLETS EXPORTS (10^3 t/day)	121	130	-7.4	121	130	-7.4	-
PAPER PRODUCTION (10^3 t/day)	27.4	28.1	-2.5	27.4	28.1	-2.5	-
PULP PRODUCTION (10^3 t/day)	53.9	49.4	9.2	53.9	49.4	9.2	-
SUGAR PRODUCTION (10^3 t/daY)	16	21	-24.5	16	21	-24.5	-
SUGAR EXPORTS (10^3 t/day)	48	76	-36.7	48	76	-36.7	-

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

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