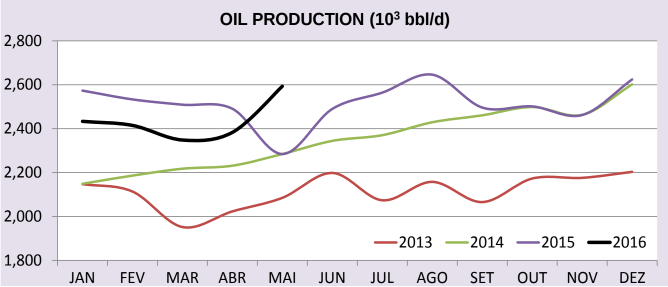
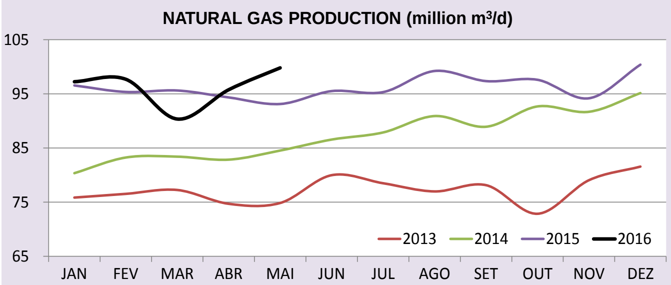
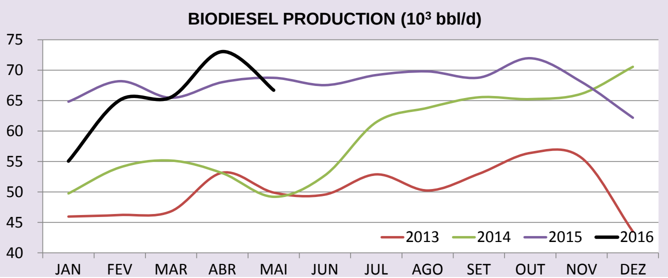


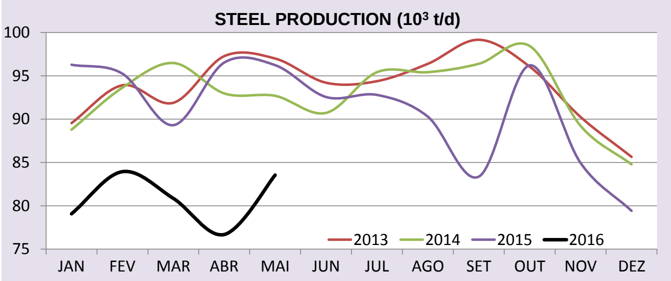
OIL PRODUCTION (10^3 bbl/d)



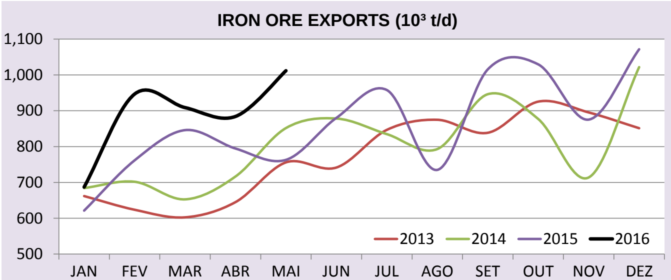
NATURAL GAS PRODUCTION (million m³/d)



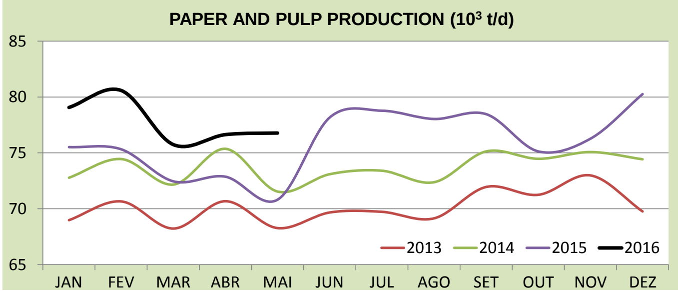
BIODIESEL PRODUCTION (10^3 bbl/d)



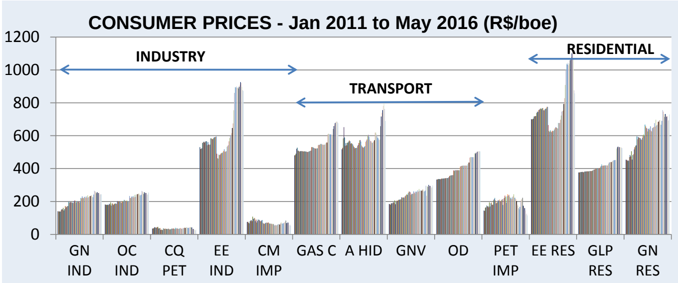
STEEL PRODUCTION (10^3 t/d)



IRON ORE EXPORTS (10^3 t/d)



PAPER AND PULP PRODUCTION (10^3 t/d)



CONSUMER PRICES - Jan 2011 to May 2016 (R$/boe)

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.

N3E Office of Strategic Energy Studies/ SPE/MME
www.mme.gov.br / n3e.spe@mme.gov.br
(55 61) 2032-5967 and 2032-5764

Monthly Energy Bulletin - Brazil

Reference Month: May 2016

Domestic Energy Supply

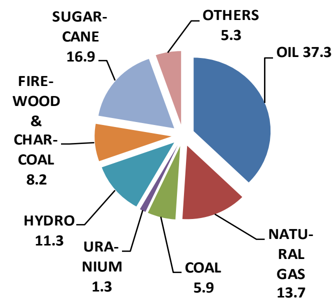
The economic and energy indicators of May 2016 practically do not change the predictions of April bulletin, i.e., they continued low performances of household consumption and industrial production.

The Domestic Energy Supply (DES)* estimated by this month shows a recoil of 2.8% over the same period of 2015. There are still sharp decreases on the oil and natural gas demands, as well as on the metallurgy products production.

For the full year 2016, the estimated rate for the DES is in the range of -1.5 to -2.5%. At the date of this report, the estimated rate was -2% (-1.9% in the previous bulletin).

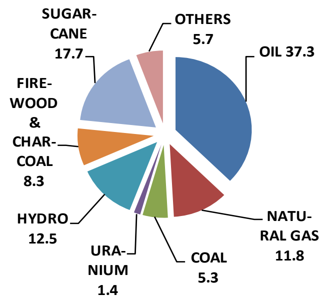
Total energy demand in 2016 may recede between 1.5 and 2.5%

DES 2015 (%)



299.2 million toe
41.2% renewables

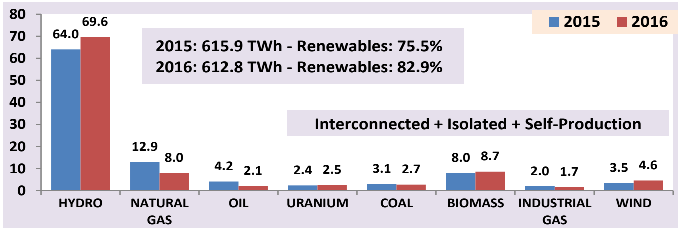
DES 2016 (%)



293 million toe
43.6% renewables

The Domestic Electricity Supply (DELS) in 2016 was estimated at 612.8 TWh, showing a 0.5% decline over 2015. Renewable sources should increase participation, due to good performance of 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 May 2016

Oil production grows

The oil production of May 2016 rose 13.5% over May 2015, but accumulates, in the year, a decrease of 1.7% over the same period of 2015. With reference to natural gas production, the indicators are 7.2% and 1.2%, respectively.

Steel production is falling

Steel production fell 13.2% in May over the same month of 2015, accumulating a recoil of 12.4% in the year to date. Iron ore exports are 17.2% positive in the year. In other hand, pellets exports accumulate a reduction of 37.6%.

Hydraulic supply on the up

The hydraulic energy supply rose 12.1% in May, over the same month of 2015, having Itaipu an increase of 27.0% (Paraguayan part). In the year, the national hydro generation is 9.0% positive (7.7% to April).

Drop in Oil Products consumption cools

The apparent consumption of petroleum products fell 2.8% in May, accumulating decrease of 3.4% in the year (-3.5% to April). Diesel oil fell 7.0% and C gasoline increased 5.0% in the month. In the year, the diesel indicator is negative 4.0% (-3.2% to April) and the C gasoline is 1.9% positive (1.1% to April). The natural gas total demand shows decrease of 18.4% in the year, with strong influence on the decrease of 38.2% in thermoelectric consumption.

The consumption in the Otto cycle transport (gasoline, ethanol and natural gas) accumulates a recoil of 0.9% in the year (-2.2% to April, 0.8% in the whole year of 2015 and 6.2% in 2014).

Electricity consumption in recovery

Electricity consumption (excluding captive self-producer) increased 0.5% in May (1.3% in April and -1.7% in March) and in the year is -2.2 (-2.9% to April and -4.2% to March). The industry showed the greatest reduction in May, 3.7% (-4.7% in April). Residential consumption turned to grow 0.2% in the year (-0.2% to April), and commercial consumption, 0.7% (-0.4% to April).

The fact of the Interconnected System load be 0.5% positive in the year indicates that the drop in electricity consumption is influenced by the increase in commercial losses, which is explained by the Brazilian economic recession.

Biodiesel production fall again

Biodiesel production recoiled 3.0% in May and accumulates -3.0% in the year to date (-2.9 to April and -6.5 to March). In 2015, the rate was 15%.

The pulp production continues with high performance, showing an increase of 13.2% in May and 9.6% in the year to date. Throughout 2015, the expansion was 8.5%, and 9.2% in 2014.

Electricity rates falling down

The national average residential electricity tariff accumulates a rise of 9.5% in the year (17.4% to April). The commercial tariff grew 18.9% (24.1% to April), and the industrial, 17.3% (23.3% to April).

Basic data of 2015 and 2016

SPECIFICATION	MAY						
	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)	2,593	2,284	13.5	2,435	2,477	-1.7	-
IMPORTS AVERAGE PRICE (US$/bbl FOB)	37	58	-36.5	39	68	-42.4	-
OIL PRODUCTS							
TOTAL CONSUMPTION (10^3 b/day)	2,364	2,433	-2.8	2,449	2,535	-3.4	**100.0**
hereof: DIESEL with biodiesel - (10^3 b/day)	898	966	-7.0	950	989	-4.0	36.8
hereof: GASOLINE C (10^3 b/day)	696	662	5.0	725	711	1.9	23.7
CONSUMER PRICE - DIESEL (R$/l)	3.02	2.81	7.4	3.02	2.77	9.2	-
CONSUMER PRICE - GASOLINE C (R$/l)	3.67	3.30	11.4	3.71	3.25	14.0	-
CONSUMER PRICE - LPG (R$/13 kg)	53.4	46.0	16.2	53.7	45.3	18.6	-
NATURAL GAS							
PRODUCTION (10^6 m^3/day)	99.8	93.1	7.2	96.2	95.0	1.2	-
IMPORTS (10^6 m^3/day)	26.8	50.4	-46.9	36.7	53.4	-31.2	-
NON-UTILIZED AND REINJECTION (10^6 m^3/day)	31.6	26.4	20.0	32.8	25.7	27.6	-
AVAILABILITY FOR CONSUMPTION (10^6 m^3/day)	94.9	117.1	-19.0	100.1	122.7	-18.4	**100.0**
INDUSTRIAL CONSUMPTION (10^6 m^3/day)	40.7	43.5	-6.6	40.2	44.4	-9.3	40.2
POWER GENERATION CONS. (10^6 m^3/day)	22.4	44.8	-50.0	30.3	49.0	-38.2	30.2
INDUSTRIAL PRICE SP(*) (US$/MMBtu) - consumption range of 20,000 m^3/day	12.1	13.4	-9.9	12.2	14.0	-12.7	-
MOTOR PRICE SP (US$/MMBtu)	14.7	15.5	-5.4	14.5	16.1	-10.0	-
RESIDENTIAL PRICE SP (US$/MMBtu)	36.0	39.6	-9.0	35.4	41.2	-14.1	-
ELECTRICITY							
NATIONAL INTERCONNECTED SYSTEM	61,349	60,909	0.7	66,024	65,676	0.5	**100.0**
SOUTHEAST/MIDWEST POWER LOAD (MWavg)	34,994	36,330	-3.7	38,616	38,605	0.0	58.5
SOUTH POWER LOAD (MWavg)	10,472	10,152	3.2	11,587	11,457	1.1	17.5
NORTHEAST POWER LOAD (MWavg)	10,582	10,334	2.4	10,530	10,502	0.3	15.9
NORTH POWER LOAD (MWavg)	5,301	5,208	1.8	5,291	5,112	3.5	8.0
TOTAL CONSUMPTION (TWh) (**)	38.4	38.2	0.5	194.3	198.7	-2.2	**100.0**
RESIDENTIAL	10.9	10.6	2.8	57.2	57.0	0.4	29.4
INDUSTRIAL	13.8	14.3	-3.7	67.3	71.6	-6.0	34.7
COMMERCIAL	7.4	7.3	1.3	38.7	39.3	-1.4	19.9
OTHER SECTORS	6.3	6.0	5.2	31.1	30.8	0.7	16.0
PLANTS ENTRY INTO OPERATING (MW)	523	485	7.9	3,300	2,431	35.7	-
RESIDENTIAL PRICE (R$/MWh)	520	630	-17.4	607	554	9.5	-
COMMERCIAL PRICE (R$/MWh)	570	563	1.2	584	491	18.9	-
INDUSTRIAL PRICE (R$/MWh)	529	543	-2.5	545	465	17.3	-
ETHANOL AND BIODIESEL							
BIODIESEL PRODUCTION (10^3 b/d)	67	69	-3.0	65	67	-3.0	-
MOTOR ETHANOL CONSUMPTION (10^3 b/d)	442	447	-1.1	445	459	-3.0	-
ETHANOL EXPORTS (10^3 b/d)	24	19	30.0	34	19	82.6	-
HYDRATED ETHANOL PRICE (R$/l)	2.48	2.14	15.7	2.72	2.17	25.8	-
COAL							
ELECTRICITY GENERATION (MWavg)	1,790	1,765	1.5	1,924	2,090	-7.9	-
IMPORT PRICE (US$ FOB/t)	62.3	92.7	-32.8	70.0	95.8	-26.9	-
NUCLEAR ENERGY							
ELECTRICITY GENERATION - (GWh)	1,495	1,120	33.5	7,288	6,471	12.6	-
INDUSTRIAL SECTORS							
STEEL PRODUCTION (10^3 t/day)	84	96	-13.2	84	95	-12.4	-
ALUMINIUM PRODUCTION (10^3 t/day)	2.2	2.0	7.0	2.2	2.2	-2.1	-
IRON ORE EXPORTS (10^3 t/day)	1,012	763	32.6	887	757	17.2	-
PELLETS EXPORTS (10^3 t/day)	85	130	-34.6	89	142	-37.6	-
PAPER PRODUCTION (10^3 t/day)	27.4	27.2	0.8	28.2	28.2	0.2	-
PULP PRODUCTION (10^3 t/day)	49.4	43.6	13.2	49.5	45.2	9.6	-
SUGAR PRODUCTION (10^3 t/daY)	117	96	22.4	55	40	37.5	-
SUGAR EXPORTS (10^3 t/day)	65	59	9.7	65	58	11.5	-