

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.

Monthly Energy Bulletin - Brazil

Reference Month: April 2016

Domestic Energy Supply

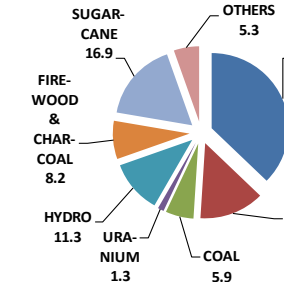
The economic and energy indicators of April 2016 still indicate low performance of household consumption and industrial production, but with some recovery compared to previous months.

The Domestic Energy Supply (DES)* estimated by this month shows a recoil of 3.2% 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 OIE is in the range of -1.5 to -2.5%. At the date of this report, the estimated rate was -1.9%.

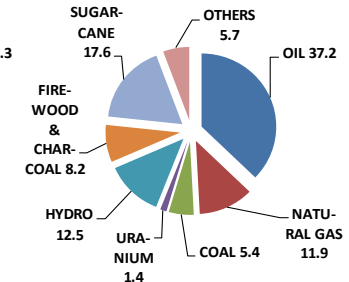
Total energy demand in 2016 may recede between 1.5 and 2.5%

DES 2015 (%)



299.2 million toe
 41.2% renewables

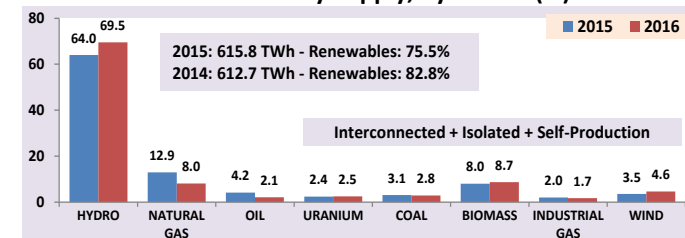
DES 2016 (%)



293.5 million toe
 43.5% renewables

The Domestic Electricity Supply (DELS) in 2016 was estimated at 612.7 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 (%)



Highlights of April 2016

Oil production grows

Up to April 2016, oil production rose 1.5% over March, but accumulates a decrease of 5.2% over the same period of 2015. With reference to natural gas production, the indicators are 6 and -0.3%, respectively.

Steel production is falling

Steel production fell 20.6% in April over the same month of 2015, accumulating a recoil of 15.8% in the year to date. Iron ore exports are 13.2% positive in the year. In other hand, pellets exports fell 38.3%.

Hydraulic supply in on the up

The hydraulic power supply rose 14.5% in April over April 2015, having Itaipu an increase of 22.7% (Paraguayan part). In the year, the national hydro generation is 7.7% positive (6.3% to March).

Drop in Oil Products consumption cools

The apparent consumption of oil products fell 0.1% in April, accumulating a fall of 3.5% in the year (-4.7% until March). Diesel fell 0.5% and C gasoline grew 3.7% in the month. In the year, the diesel indicator is -3.2% (-4.1% until March) and gasoline's, 1.1% (0.2% until March). The total demand for natural gas shows decrease of 18.3% in the year, with strong influence in the thermoelectric consumption declining, of 35.5%.

The consumption in the Otto cycle transport (gasoline, ethanol and natural gas) accumulates a recoil of 2.2% in the year (-1.9% to March, 0.8% in the whole year of 2015 and 6.2% in 2014).

Electricity consumption in recovery

Electricity consumption (excluding captive self-producer) increased 1.3% in April (-1.7% in March) and in the year is down 2.9 (-4.2% to March and -5.5% to February). The industry showed the greatest reduction in April, 4.7% (-6% in March). Residential consumption accumulated -0.2% in the year (-2.6% to March), and commercial consumption, of -2.0% (-3.2% to March).

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 in recovery

Biodiesel production rose 7.4% in April and accumulates -2.9% in the year to date (-6.5 to March). In 2015, the rate was 15%.

The pulp production continues with high performance, showing an increase of 14.2% in April and 10% in the year to date. Throughout 2015, the expansion was 8.5%, and in 2014, 9.2%.

Electricity rates

In 2016, the national average residential electricity tariff rose 17.4%. The commercial tariff grew 24.1%, and the industrial, 23.3%.

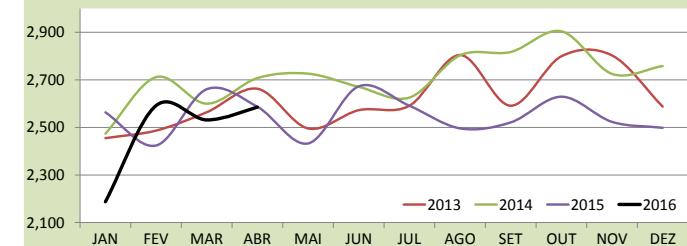
Basic data of 2015 and 2016

SPECIFICATION	APRIL						
	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)	2.383	2.490	-4,3	2.394	2.527	-5,2	-
IMPORTS AVERAGE PRICE (US\$/bbl FOB)	42	61	-31,0	41	71	-42,2	-
OIL PRODUCTS							
TOTAL CONSUMPTION (10 ³ b/day)	2.585	2.587	-0,1	2.471	2.562	-3,5	100,0
hereof: DIESEL with biodiesel - (10 ³ b/day)	1.010	1.015	-0,5	963	995	-3,2	37,0
hereof: GASOLINE C (10 ³ b/day)	748	722	3,7	732	724	1,1	23,7
CONSUMER PRICE - DIESEL (R\$/l)	3,02	2,81	7,5	3,02	2,75	9,6	-
CONSUMER PRICE - GASOLINE C (R\$/l)	3,72	3,31	12,4	3,72	3,24	14,7	-
CONSUMER PRICE - LPG (R\$/13 kg)	53,7	45,8	17,3	53,9	45,1	19,3	-
NATURAL GAS							
PRODUCTION (10 ⁶ m ³ /day)	95,8	94,3	1,5	95,2	95,5	-0,3	-
IMPORTS (10 ⁶ m ³ /day)	33,3	57,0	-41,7	39,3	54,2	-27,4	-
NON-UTILIZED AND REINJECTION (10 ⁶ m ³ /day)	31,5	27,6	14,2	33,1	25,5	29,6	-
AVAILABILITY FOR CONSUMPTION (10 ⁶ m ³ /day)	97,6	123,8	-21,2	101,5	124,2	-18,3	100,0
INDUSTRIAL CONSUMPTION (10 ⁶ m ³ /day)	41,1	45,0	-8,7	40,1	44,6	-10,0	39,5
POWER GENERATION CONS. (10 ⁶ m ³ /day)	26,5	49,7	-46,7	32,3	50,1	-35,5	31,8
INDUSTRIAL PRICE SP* (US\$/MMBtu) - consumption range of 20,000 m ³ /day	12,6	13,5	-6,8	12,0	14,2	-15,5	-
MOTOR PRICE SP (US\$/MMBtu)	14,7	15,5	-5,2	14,0	16,3	-14,2	-
RESIDENTIAL PRICE SP (US\$/MMBtu)	35,8	39,6	-9,6	34,1	41,6	-18,1	-
ELECTRICITY							
NATIONAL INTERCONNECTED SYSTEM	67.139	63.861	5,1	67.193	66.867	0,5	100,0
SOUTHEAST/MIDWEST POWER LOAD (MWavg)	39.391	37.073	6,3	39.522	39.452	0,2	58,8
SOUTH POWER LOAD (MWavg)	11.716	10.667	9,8	11.866	11.784	0,7	17,7
NORTHEAST POWER LOAD (MWavg)	10.630	10.512	1,1	10.517	10.544	-0,2	15,7
NORTH POWER LOAD (MWavg)	5.403	5.205	3,8	5.288	5.088	3,9	7,9
TOTAL CONSUMPTION (TWh) (**)	40,1	39,6	1,3	40,1	160,5	-75,0	100,0
RESIDENTIAL	11,8	11,0	7,5	46,3	46,4	-0,2	115,4
INDUSTRIAL	13,9	14,6	-4,7	13,9	57,3	-75,8	34,7
COMMERCIAL	8,1	7,9	1,7	8,1	32,0	-74,8	20,1
OTHER SECTORS	6,4	6,1	4,0	6,4	24,9	-74,4	15,9
PLANTS ENTRY INTO OPERATING (MW)	1.092	354	208,8	2.771	1.946	42,4	-
RESIDENTIAL PRICE (R\$/MWh)	531	607	-12,6	629	535	17,4	-
COMMERCIAL PRICE (R\$/MWh)	577	543	6,2	588	473	24,1	-
INDUSTRIAL PRICE (R\$/MWh)	532	522	2,0	549	445	23,3	-
ETHANOL AND BIODIESEL							
BIODIESEL PRODUCTION (10 ³ b/d)	73	68	7,4	65	67	-2,9	-
MOTOR ETHANOL CONSUMPTION (10 ³ b/d)	428	463	-7,7	440	462	-4,8	-
ETHANOL EXPORTS (10 ³ b/d)	15	4	242,6	37	19	96,0	-
HYDRATED ETHANOL PRICE (R\$/l)	2,74	2,18	25,8	2,78	2,17	28,1	-
COAL							
ELECTRICITY GENERATION (MWavg)	1.972	2.023	-2,5	0	2.171	-100,0	-
IMPORT PRICE (US\$/t)	72,9	93,7	-22,2	71,9	96,5	-25,5	-
NUCLEAR ENERGY							
ELECTRICITY GENERATION - (GWh)	1.428	1.442	-1,0	5.793	5.351	8,2	-
INDUSTRIAL SECTORS							
STEEL PRODUCTION (10 ³ t/day)	77	97	-20,6	80	95	-15,8	-
ALUMINIUM PRODUCTION (10 ³ t/day)	2,2	2,2	-0,2	2,1	2,3	-6,3	-
IRON ORE EXPORTS (10 ³ t/day)	884	795	11,3	855	755	13,2	-
PELLETS EXPORTS (10 ³ t/day)	82	163	-49,7	90	145	-38,3	-
PAPER PRODUCTION (10 ³ t/day)	28,1	28,4	-1,1	28,4	28,4	0,1	-
PULP PRODUCTION (10 ³ t/day)	50,8	44,5	14,2	50,2	45,6	10,0	-
SUGAR PRODUCTION (10 ³ t/day)	115	51	125,4	39	26	50,6	-
SUGAR EXPORTS (10 ³ t/day)	51	43	17,3	65	58	12,0	-

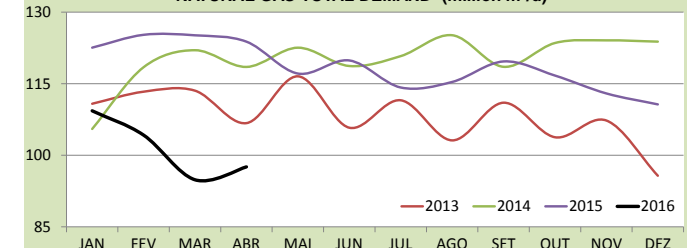
(*) SP is the acronym of the state of São Paulo.

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

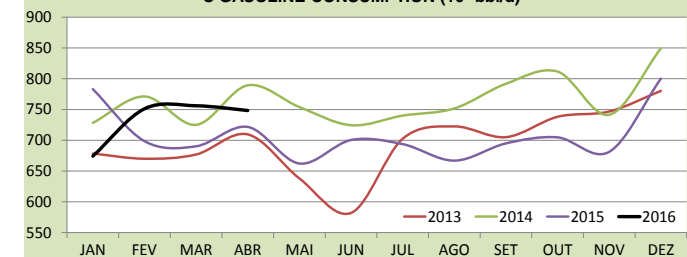
OIL PRODUCTS TOTAL CONSUMPTION (10³ bbl/d)



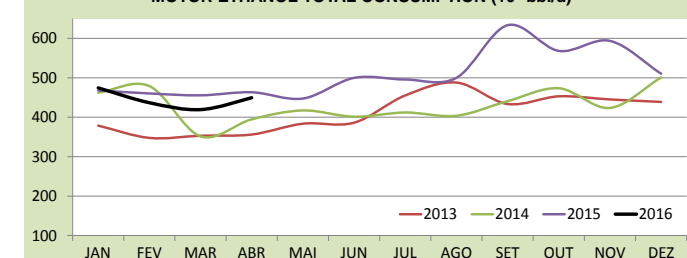
NATURAL GAS TOTAL DEMAND (million m³/d)



C GASOLINE CONSUMPTION (10³ bbl/d)



MOTOR ETHANOL TOTAL CONSUMPTION (10³ bbl/d)



NATIONAL INTERCONNECTED SYSTEM POWER LOAD (GWavg)

