

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 = domestic production (+) import (-) unused (-) reinjection.

Apparent consumption of oil derivatives = 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, is the energy required to move the economy of a country or region, and 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.

(**) 2014 data reflect the 2015 cycle of the National Energy Balance, completed in July by the Energy Research Company (EPE), with the support of MME and its institutions.

Monthly Energy Bulletin - Brazil

Reference Month: October 2015

Domestic Energy Supply

Increases in interest rates, inflation, unemployment and administered prices have been greatly affecting the domestic demand for goods and services, with repercussions in energy demand.

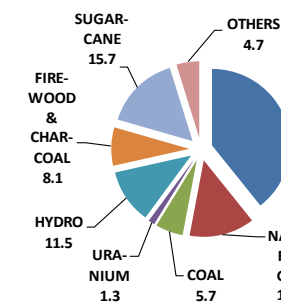
Up to October, economic and energy indicators indicates that **Domestic Energy Supply (DES) (*) (**)** receded by 1.1%.

Energy Demand recoil in 2015

For the full year 2015, the DES evolution rate may stand between -1 and -2%. Despite the good performance of some commodities for export, the poor performance of domestic demand for goods and services affects practically all economy sectors, particularly the industrial sector, that is more energy intensive.

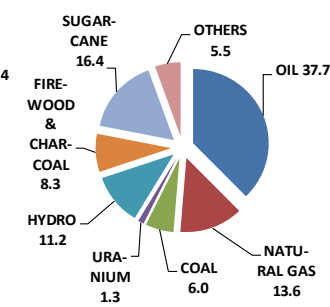
Until this report elaboration, the estimated DES's rate for 2015 was -1.5% (-1.4% in the last bulletin). Renewable sources must maintain a near 40% share in the 2015 DES.

DES 2014 (%)



305.6 million toe
39.4% renewables

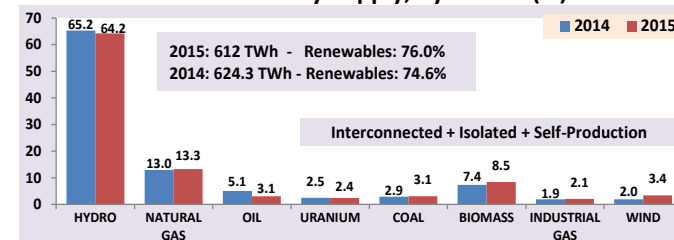
DES 2015 (%)



301.1 million toe
40.8% renewables

The **Domestic Electricity Supply** was estimated at 612 TWh for 2015(**), with a decrease of 1.9% over 2014. Until December 22, the National Interconnected System (SIN) load was 1.8% negative.

Domestic Electricity Supply, by Source (%)



Highlights of October 2015

Oil production accumulate significant rise in 2015

In October 2015, oil production grew by 0.1% and natural gas, 5.3%. Year to date, the rates are 8.2% and 11.4% respectively.

Minerals exports levels maintained

Steel production declined 2.3% in October and accumulates an increase of 0.1% in the year. Iron ore exports rose 17.4% in the month, and 5.9% in the year. Pellets exports decreased 51% in October, and rose 8.8% in the year.

Mild Hydraulic Recovery

The hydro power supply increased 3% in October over the same month of 2014, and Itaipu generation increased by 10.4%. Up this month, the hydraulic supply is -4.1% (-3.7% until September).

Oil products consumption remains in low

In October, oil products apparent consumption recoiled 9.7% and accumulates -5.6% in the year. C gasoline recoiled 13.2% (-12.2% in September) and diesel oil was constant. In the year, rates are negative: -7.5% for gasoline and -3.0% for diesel. The 18.0% increase in ethanol consumption in 2015 offsets the gasoline decrease.

In the same month, gas consumption decreased by 6.8%, accumulating a 0.1% growth in the year (0.9% until September). The electricity generation sales decreased 10%.

The energy consumption of the Otto cycle transport (gasoline, ethanol and natural gas), in gasoline equivalent, accumulates 0.7% in the year, much lower than the expressive rate of 6.8%, recorded in the same period of 2014.

Electricity consumption declining

Electricity consumption – excluding captive self-production – recoiled by 2.4% in October (-3.1% in September), accumulating -1.4% in the year. Industrial consumption, with a negative rate of 5.7% in October, accumulates a reduction of 4.2% in the year. The industrial sector is in large part affected by strong decline in aluminum production, which is energy-intensive. Residential consumption, with a recoil of 0.1%, accumulates -0.5% in the year. The commercial sector recoils 0.1% in the month, but still up positive rate of 1.2% in the year.

Biodiesel production still high

Biodiesel production stood at 72 kbbl/day in October, with a high of 10.3% over the same month of 2014. In the year, it accumulates an increase of 19.7%.

Retreat electricity rates

In the year to date, the national average residential electricity tariff rose 42.9% (43.4% until September), the commercial tariff grew 45.5% (46.0%), and the industrial, 53.3% (53.7%).

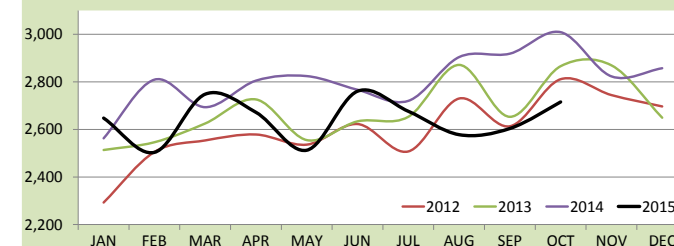
Basic data of 2014 and 2015

SPECIFICATION	OCTOBER				ACCUMULATED IN THE YEAR			
	IN THE MONTH		% 15/14		2015		% 15/14	
	2015	2014		2015	2014		2015	
OIL								
PRODUCTION - with Shale Oil and NGL(10 ³ b/d)	2,501	2,498	0.1	2,509	2,318	8.2	-	
IMPORTS AVERAGE PRICE (US\$/bbl FOB)	66	104	-36.8	64	114	-43.7	-	
OIL PRODUCTS								
TOTAL CONSUMPTION (10 ³ b/day)	2,716	3,009	-9.7	2,643	2,801	-5.6	100.0	
hereof: DIESEL with biodiesel - (10 ³ b/day)	1,216	1,216	0.0	1,062	1,095	-3.0	38.2	
hereof: GASOLINE C (10 ³ b/day)	705	812	-13.2	702	759	-7.5	21.2	
CONSUMER PRICE - DIESEL (R\$/l)	2.93	2.50	17.0	2.81	2.50	12.6	-	
CONSUMER PRICE - GASOLINE C (R\$/l)	3.48	2.96	17.4	3.29	2.97	10.9	-	
CONSUMER PRICE - LPG (R\$/13 kg)	53.9	44.4	21.2	47.1	42.9	9.8	-	
NATURAL GAS								
PRODUCTION (10 ⁶ m ³ /day)	97.6	92.7	5.3	96.0	86.2	11.4	-	
IMPORTS (10 ⁶ m ³ /day)	47.0	51.5	-8.6	50.7	52.9	-4.0	-	
NON-UTILIZED AND REINJECTION (10 ⁶ m ³ /day)	29.5	20.6	43.2	27.3	19.6	38.9	-	
AVAILABILITY FOR CONSUMPTION (10 ⁶ m ³ /day)	115.1	123.5	-6.8	119.5	119.4	0.1	100.0	
INDUSTRIAL CONSUMPTION (10 ⁶ m ³ /day)	43.0	43.2	-0.3	43.3	43.1	0.5	36.2	
POWER GENERATION CONS. (10 ⁶ m ³ /day)	43.6	48.4	-10.0	46.4	46.9	-1.0	38.9	
INDUSTRIAL PRICE SP(*) (US\$/MMBtu) - consumption range of 20,000 m ³ /day	11.6	16.4	-29.3	13.4	17.5	-23.2	-	
MOTOR PRICE SP (US\$/MMBtu)	13.2	19.2	-31.3	15.0	20.1	-25.4	-	
RESIDENTIAL PRICE SP (US\$/MMBtu)	0.0	48.1	-100.0	35.6	50.4	-29.5	-	
ELECTRICITY								
NATIONAL INTERCONNECTED SYSTEM	64,923	66,451	-2.3	63,758	64,894	-1.8	100.0	
SOUTHEAST/MIDWEST POWER LOAD (MWavg)	38,223	39,586	-3.4	37,298	38,687	-3.6	58.5	
SOUTH POWER LOAD (MWavg)	10,551	11,484	-8.1	10,910	11,105	-1.7	17.1	
NORTHEAST POWER LOAD (MWavg)	10,563	10,256	3.0	10,316	9,861	4.6	16.2	
NORTH POWER LOAD (MWavg)	5,586	5,124	9.0	5,233	5,206	0.5	8.2	
TOTAL CONSUMPTION (TWh) (**)	39.2	40.1	-2.4	38.7	39.3	-1.4	100.0	
RESIDENTIAL	11.1	11.1	-0.1	109.1	109.7	-0.5	28.2	
INDUSTRIAL	14.1	14.9	-5.7	142.2	148.5	-4.2	36.7	
COMMERCIAL	7.6	7.6	-0.1	74.8	73.9	1.2	19.3	
OTHER SECTORS	6.3	6.4	-1.1	61.2	60.8	0.5	15.8	
PLANTS ENTRY INTO OPERATING (MW)	366	776	-52.8	4,482	5,920	-24.3	-	
RESIDENTIAL PRICE (R\$/MWh)	631	453	39.4	588	412	42.9	-	
COMMERCIAL PRICE (R\$/MWh)	568	400	41.9	527	362	45.5	-	
INDUSTRIAL PRICE (R\$/MWh)	547	366	49.6	502	327	53.3	-	
ETHANOL AND BIODIESEL								
BIODIESEL PRODUCTION (10 ³ b/d)	72	65	10.3	68	57	19.7	-	
MOTOR ETHANOL CONSUMPTION (10 ³ b/d)	568	473	20.0	499	423	18.0	-	
ETHANOL EXPORTS (10 ³ b/d)	53	20	157.4	29	24	18.2	-	
HYDRATED ETHANOL PRICE (R\$/l)	2.37	2.00	18.3	2.15	2.08	3.7	-	
COAL								
ELECTRICITY GENERATION (MWavg)	2,058	1,841	11.8	2,062	1,959	5.3	-	
IMPORT PRICE (US\$/t)	91.8	102.6	-10.6	91.5	107.8	-15.1	-	
NUCLEAR ENERGY								
ELECTRICITY GENERATION - (GWh)	514	1,496	-65.7	11,820	12,487	-5.3	-	
INDUSTRIAL SECTORS								
STEEL PRODUCTION (10 ³ t/day)	96	98	-2.3	94	94	0.1	-	
ALUMINIUM PRODUCTION (10 ³ t/day)	2.0	2.3	-10.6	2.1	2.7	-21.6	-	
IRON ORE EXPORTS (10 ³ t/day)	1,029	877	17.4	840	794	5.9	-	
PELLETS EXPORTS (10 ³ t/day)	72	148	-51.2	142	130	8.8	-	
PAPER PRODUCTION (10 ³ t/day)	27.5	28.3	-2.7	28.4	28.6	-0.6	-	
PULP PRODUCTION (10 ³ t/day)	46.1	42.5	8.5	46.7	41.2	13.1	-	
SUGAR PRODUCTION (10 ³ t/day)	144	163	-11.3	95	105	-9.4	-	
SUGAR EXPORTS (10 ³ t/day)	83	88	-6.5	63	65	-3.2	-	

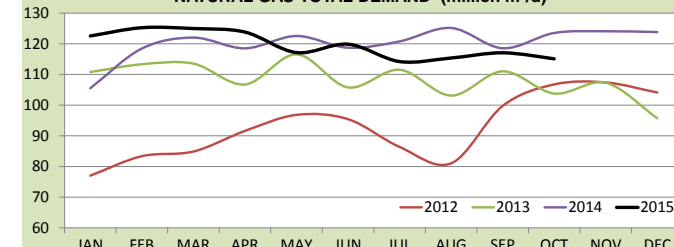
(*) SP is the acronym of the state of São Paulo.

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

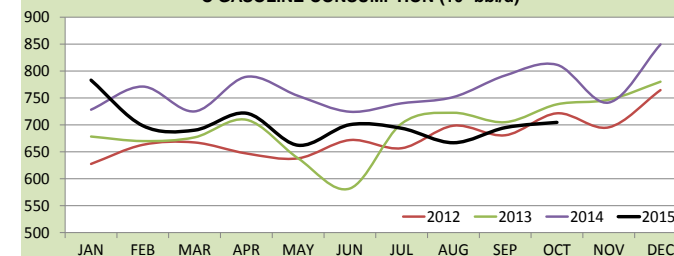
OIL PRODUCTS TOTAL CONSUMPTION (10³ bbl/d)



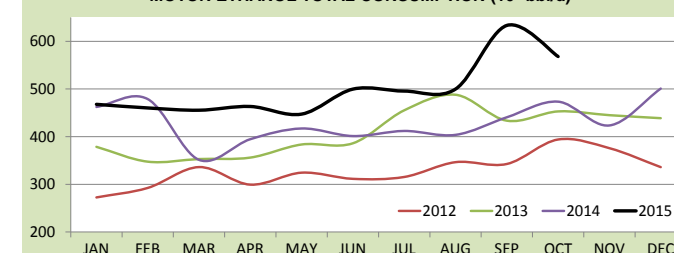
NATURAL GAS TOTAL DEMAND (million m³/d)



C GASOLINE CONSUMPTION (10³ bbl/d)



MOTOR ETHANOL TOTAL CONSUMPTION (10³ bbl/d)



NATIONAL INTERCONNECTED SYSTEM POWER LOAD (GWavg)

