

**Note:** For a better visualization, the graphs minimum scale 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.

"Tonne of oil equivalent" (toe) = 10 Gigacalorias (Gcal), is the standard unit used to consolidate power data. Firewood releases 3,100 cal / g, or 3.1 Gcal / t, when the combustion. The ratio of firewood indicator and oil indicator results in 0.31 toe / t, a factor that converts tons of firewood to toe. The same goes for the other combutíveis.

# Monthly Energy Bulletin - Brazil

Reference Month: May 2014

## Domestic Energy Supply

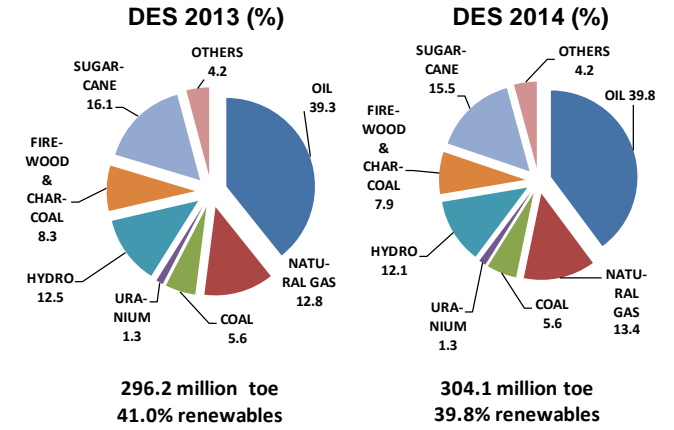
Remains the weak performance of some export products, such as steel, aluminum, pellets and sugar. In the population welfare question, the good performance in energy consumption persist, mainly on individual transport sector and on residential and commercial electricity sector. In terms of energy supply, the poor performance of hydraulic generation in May is offset by increased thermal generation, which increases the thermal energy losses. For the sugar cane products, there is a forecast of a lower performance in 2014. Under these conditions, until May, the available data shows a growth rate of 3.7% on the Domestic Energy Supply (DES) (\*), over the same period of 2013.

**Total energy demand in 2014 can grow between 2.5% and 3.5%**

For the full year 2014, the estimates for the DES growth are in the range of 2.5% to 3.5% (same as the previous month). Reasons: a) reduction of hydraulic generation, which causes an increase in thermal generation and their losses; b) poor performance of sugar-alcohol sector and of commodities; c) good performances of the Otto cycle transportation and electricity consumption.

Based on the available information at the date of this report, the DES's growth rate for 2014 was estimated at 2.7% (2.6% in the previous bulletin). Given the uncertainties in the early months of each year, in each new bulletin energy forecasts are reviewed and based on the information of that time.

Renewable sources should maintain its participation near to 40% in the 2014 DES Matrix, but below the indicator of 2013. Only the wind generation and the biodiesel production should present an above the average energy demand.



## Highlights until May 2014

### Steel production recoils

Until May, steel production retreated 1.2% (retreat of 0.3% until April), the production of aluminum retreated 16% (retreat 13.5% until April), iron ore exports grew by 9.6% (3.6% in the full year 2013), and pellets exports declined 4.1% (reduction of 8.8% in the full year 2013).

### Hydro supply declining

The hydraulic energy supply fell 3% over the same month in 2013, and fell 7.3% over the previous month. Year to date, the rate is still positive, at 2.3% (3.8% until April).

### Consumption of oil products remains high

The apparent consumption of petroleum products increased by 10.5% in May (over the same month of 2013) and 5.6% in the year date (4.3% until April), while diesel retreated 0.7% in May - the first negative rate for the year-, but the rate is positive, at 1.3% year to date. Gasoline C grew by 18.2% in May and 11.6% in the year (2.7% in the full year 2013). The total natural gas demand grew 9.4% in May, and 5.5% in the year.

Remains high energy use in the transport of Otto Cycle, with cumulative growth of 9.7% in the year (gasoline, ethanol and natural gas). In 2013, the average increase was 6.1%, and 8.7% in 2012.

### Electricity consumption is cooling down

Electricity consumption (excluding captive self-producer) grew by 1.5% in May (2.2% in April and 4.6% in March). In the year, the rate was 4.4% (5.1% until April), still above the 2013 rate of 3.5%. In May, residential consumption grew 6% and commercial consumption 7.3%, already with less influence on the use of air conditioning. Industrial consumption remains low, with a negative rate of 4.2% in May (-2.7% in April), and a negative rate of 1% in the accumulated year. The decreasing production of aluminum explains part of the low industrial performance.

### Biodiesel production grows above 11%

Biodiesel production retreated 1.4% in May, but in the year the rate is positive in 7.8%. In the full year 2013 the rate was 7.4%.

### Electricity tariffs for high

The national average residential electricity tariff decreased 2.2% in the year, the commercial tariff increased 8.1%, and the industrial tariff increased 0.6% in the year (negative rate of 0.4% until April).

Cement production in May, with a negative rate of 0.7%, repeats the weak dynamics of the previous month, but in the year the rate is still positive, at 5.5% (3.6% in the full year 2013). Pulp production continues to maintain good performance of 6% in the year (7.1% in the full year 2013).

## Basic Data

ESPECIFICAÇÃO	MAIO							
	NO MÊS			ACUMULADO NO ANO				
	2014	2013	% 14/13	2014	2013	% 14/13	%2014	
<b>PETRÓLEO</b>								
PRODUÇÃO - inclui xisto e LGN (10 <sup>3</sup> b/d)	2.284	2.085	9,6	2.199	2.050	7,3	-	
PREÇO MÉDIO DE IMPORTAÇÃO (US\$/bbl FOB)	114	96	18,6	114	114	0,4	-	
<b>DERIVADOS DE PETRÓLEO</b>								
CONSUMO TOTAL (10 <sup>3</sup> b/d)	2.824	2.555	10,5	2.738	2.593	5,6	100,0	
do qual: DIESEL - inclui biodiesel (10 <sup>3</sup> b/d)	973	980	-0,7	1.000	987	1,3	34,7	
do qual: GASOLINA C (10 <sup>3</sup> b/d)	754	638	18,2	753	674	11,6	22,0	
PREÇO AO CONSUMIDOR - DIESEL (R\$/l)	2,50	2,33	7,2	2,50	2,29	9,0	-	
PREÇO AO CONSUMIDOR - GASOLINA C (R\$/l)	2,98	2,86	4,1	2,97	2,85	4,1	-	
PREÇO AO CONSUMIDOR - GLP (R\$/13 kg)	42,7	40,9	4,3	42,6	40,6	5,0	-	
<b>GÁS NATURAL</b>								
PRODUÇÃO (10 <sup>6</sup> m <sup>3</sup> /d)	84,5	74,9	12,9	82,9	75,8	9,3	-	
IMPORTAÇÃO (10 <sup>6</sup> m <sup>3</sup> /d)	63,6	54,2	17,4	54,9	49,4	11,3	-	
NÃO-APROVEITADO E REINJEÇÃO (10 <sup>6</sup> m <sup>3</sup> /d)	20,6	12,5	64,7	19,5	13,0	49,7	-	
DISPONIBILIDADE PARA CONSUMO (10 <sup>6</sup> m <sup>3</sup> /d)	127,5	116,5	9,4	118,4	112,2	5,5	100,0	
CONSUMO INDUSTRIAL (10 <sup>6</sup> m <sup>3</sup> /d)	44,5	41,9	6,1	43,2	40,0	8,0	36,5	
CONSUMO GERAÇÃO ELÉTRICA (10 <sup>6</sup> m <sup>3</sup> /d)	55,0	44,8	22,8	46,9	42,1	11,3	39,6	
PREÇO INDUSTRIAL SP (US\$/MMBtu) - faixa de consumo de 20 mil m <sup>3</sup> /dia	18,3	17,6	3,8	17,7	18,2	-2,7	-	
PREÇO AUTOMOTIVO SP (US\$/MMBtu)	20,5	21,0	-2,5	19,8	21,3	-6,9	-	
PREÇO RESIDENCIAL SP (US\$/MMBtu)	51,2	55,6	-7,9	49,5	53,7	-7,7	-	
<b>ELETRICIDADE</b>								
CARGA DO SIN (MWmed)	62.446	60.283	3,6	66.052	62.504	5,7	100,0	
CARGA - SE/CO (MWmed)	37.172	36.330	2,3	39.711	37.851	4,9	60,1	
CARGA - SUL (MWmed)	10.348	10.216	1,3	11.377	10.622	7,1	17,2	
CARGA - NORDESTE (MWmed)	9.720	9.452	2,8	10.029	9.817	2,2	15,2	
CARGA - NORTE (MWmed)	5.206	4.285	21,5	4.887	4.214	16,0	7,4	
CONSUMO TOTAL (TWh) (*)	38,9	38,4	1,5	200,3	191,9	4,4	100,0	
RESIDENCIAL (TWh)	10,9	10,2	6,0	56,5	52,3	8,2	28,2	
INDUSTRIAL (TWh)	14,9	15,6	-4,2	74,7	75,4	-1,0	37,3	
COMERCIAL (TWh)	7,3	6,8	7,3	38,6	35,2	9,5	19,3	
OUTROS SETORES (TWh)	5,9	5,7	2,3	30,6	29,0	5,2	15,3	
ENTRADA EM OPERAÇÃO DE USINAS (MW)	212	620	-65,8	3.155	3.246	-2,8	-	
TARIFA RESIDENCIAL (R\$/MWh)	400	384	4,2	394	403	-2,2	-	
TARIFA COMERCIAL (R\$/MWh)	373	334	11,8	371	343	8,1	-	
TARIFA INDUSTRIAL (R\$/MWh)	309	294	5,0	308	306	0,6	-	
<b>ETANOL E BIODIESEL</b>								
PRODUÇÃO DE BIODIESEL (10 <sup>3</sup> b/d)	49	50	-1,4	52	48	7,8	-	
CONSUMO DE ETANOL AUTOMOTIVO (10 <sup>3</sup> b/d)	354	384	-7,8	397	364	9,0	-	
EXPORTAÇÃO DE ETANOL (10 <sup>3</sup> b/d)	29	29	-0,3	26	36	-29,8	-	
PREÇO DE HIDRATADO (R\$/l)	2,13	2,03	5,2	2,12	2,02	4,9	-	
<b>CARVÃO MINERAL</b>								
GERAÇÃO DE ELETRICIDADE (MWmed)	2.100	1.493	40,6	2.078	1.404	48,0	-	
PREÇO DE IMPORTAÇÃO (US\$ FOB/t)	104,5	141,7	-26,2	141,0	141,0	0,0	-	
<b>ENERGIA NUCLEAR</b>								
GERAÇÃO DE ENERGIA ELÉTRICA - (GWh)	1.398	1.354	3,2	6.568	5.761	14,0	-	
<b>SETORES INDUSTRIAIS</b>								
PRODUÇÃO DE AÇO (10 <sup>3</sup> t/dia)	93	97	-4,3	93	94	-1,2	-	
PRODUÇÃO DE ALUMÍNIO (10 <sup>3</sup> t/dia)	2,6	3,6	-26,4	3,1	3,7	-16,0	-	
EXPORTAÇÃO DE MINÉRIO DE FERRO (10 <sup>3</sup> t/dia)	852	756	12,7	722	658	9,6	-	
EXPORTAÇÃO DE PELOTAS (10 <sup>3</sup> t/dia)	138	121	14,5	120	126	-4,1	-	
PRODUÇÃO DE CIMENTO (10 <sup>3</sup> t/dia)	191	192	-0,7	196	186	5,5	-	
PRODUÇÃO DE PAPEL (10 <sup>3</sup> t/dia)	28,0	27,5	1,5	28,9	28,4	1,7	-	
PRODUÇÃO DE CELULOSE (10 <sup>3</sup> t/dia)	43,5	40,4	7,7	42,9	40,5	6,0	-	
PRODUÇÃO DE AÇÚCAR (10 <sup>3</sup> t/dia)	88	122	-27,9	33	39	-13,6	-	
EXPORTAÇÃO DE AÇÚCAR (10 <sup>3</sup> t/dia)	47	61	-22,7	55	61	-10,3	-	

(\*) Não inclui autoprodutor clássico (que não usa a rede pública)

