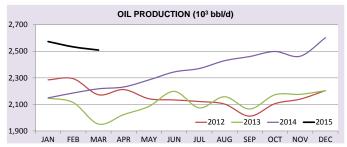
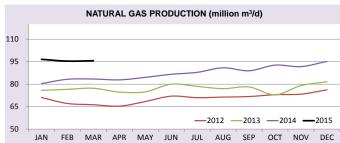
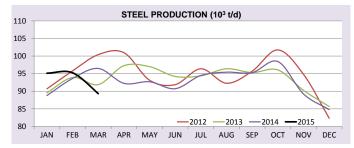
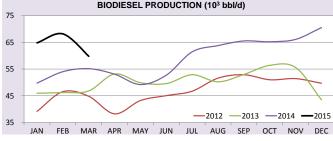
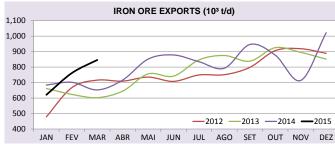
\_\_\_\_\_\_\_6

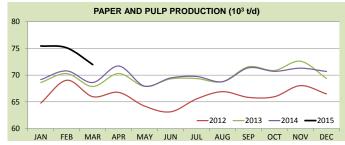


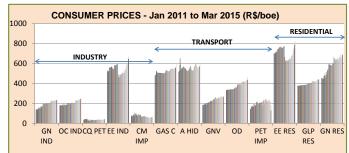












Note: For a better visualization, the minimum scale of the graphs was raised to the level close to the lowest value of the curves.

#### **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 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: March 2015

# **Domestic Energy Supply – DES**

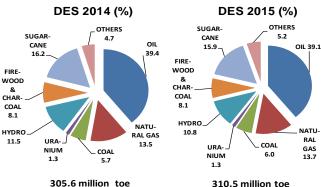
In March, remained the sharply higher oil production, gas, biodiesel and cellulose. Exports of iron ore and pellets also maintained good performances. In steel industry, the steel presents a tendency to lose ground for the export of pig iron. Oil products reversed the strong recoil in February, but still with little expressive positive rate in March.

In such conditions, the growth rate of the **Domestic Energy Supply (DES) (\*) (\*\*)** estimated by the month, was only 0.9%.

#### DES may grow between 1.5 and 2.5% in 2015

For the full year 2015, the estimates for the DES growth are in the range of 1.5% to 2.5%. It is expected a good performance of commodities production and a low of the internal energy demand, associated with the population welfare. Renewable sources should maintain their participation near 40% of the DES matrix in 2015.

Until the date of this report, the growth rate of the OIE for 2015 was estimated at 1.6%.

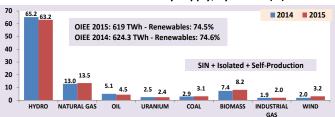


305.6 million toe 39.4% renewables

39.3% renewables

The **Domestic Electricity Supply** was estimated at 619 TWh in 2015 (\*\*), with a decrease of 0.9% over 2014. Until May, the charge of the National Interconnected System (**SIN**) was 1.3% negative.

#### Domestic Electricity Supply, by Source (%)



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

## **Highlights of March 2015**

## Oil and Gas production on the up

In March 2015, oil production grew expressive 13.2%, and natural gas, 14.6%. Year to date, the rates are 16.2% and 16.5%, respectively.

## Minerals exports high

Steel production fell by 7.4% in March, compared to the same month of 2014 and, in the year, accumulated a 0.2% growth. Iron ore exports up 29.6% in the month and have already accumulated expansion of 9.3% in the year. Pellets exports remain high, showing a rate of 17.1% in the year.

## Hydraulic energy supply at low

The hydro power supply declined 2.7% in March (-9.9% in February). Itaipu generation grew 6.7% in March. Up this month, the hydraulic supply is negative 7% (-8.9% until February).

## Oil products consumption with mild recovery

The oil products apparent consumption increased by 2% in March (-10.9% in February), and, in the year, accumulates a decrease of 1.8%. Gasoline declined 4.8% in March (-9.4% in February), and diesel had recovery with an increase of 9.2% in the month. During the year, the rates are 3.2% for diesel, and negative 2.1% for gasoline.

The gas consumption grew by 2.5% in March and 7.9% in the year, no longer repeating the previous high rates arising from use in thermoelectric generation.

The energy consumption, in gasoline equivalent, of the Otto cycle transport (gasoline, ethanol and natural gas) fell 1.2% in March, the same month of 2014. For the year, the rate is still positive at 0.4% (6.2% in the full year 2014).

## **Electricity consumption grows slowly**

Electricity consumption (excluding captive self-production) fell 1.1% in March (-2.2% in February), accumulating in the year negative rate of 0.8%. Industrial consumption, with a negative rate of 3.2% in March, accumulates in the year a recoil of 4.2%. The industrial sector has been greatly affected by the 32% decline in aluminum production. Residential consumption, with a recoil of 1.1% in March, still accumulates 1.5% in the year. The commercial sector accumulates 1.7% in the year.

#### Biodiesel production still high

The biodiesel production stood at 60 kbbl/day in March, up 8.5% over the same month of 2014. In the year, production is up over 21%.

# Electricity rates continues to righ

The national average residential electricity tariff increased 29.5%, the commercial tariff grew 31.5%, and the industrial, 36%.

#### Basic data of 2014 and 2015

	MAF	RCH					
SPECIFICATION	IN THE MONTH			ACCUMULATED IN THE YEAR			
	2015		%15/14	2015	2014	%15/14	%2015
OIL							
PRODUCTION - with Shale Oil and NGL(10 <sup>3</sup> b/d) IMPORTS AVERAGE PRICE (US\$/bbl FOB)	2,509 63	2,217 116	13.2 -46.0	2,539 63	2,184 115	16.2 -45.7	-
	03	110	-40.0	03	113	-43.7	-
OIL PRODUCTS							
TOTAL CONSUMPTION (10 <sup>3</sup> b/day) hereof: DIESEL with biodiesel - (10 <sup>3</sup> b/day)	2,748 1,069	2,694 978	2.0 9.2	2,637 1,039	2,684 1,007	-1.8 3.2	100.0 37.4
hereof: GASOLINE C (10 <sup>3</sup> b/day)	690	725	-4.8	725	741	-2.1	22.0
CONSUMER PRICE - DIESEL (R\$/I)	2.81	2.50	12.5	2.74	2.49	9.8	22.0
CONSUMER PRICE - GASOLINE C (R\$/I)	3.32	2.98	11.5	3.22	2.49	8.6	
CONSUMER PRICE - LPG (R\$/13 kg)	45.2	42.6	6.1	44.9	42.6	5.5	_
NATURAL GAS	73.2	72.0	0.1	44.5	72.0	3.3	
PRODUCTION (10 <sup>6</sup> m <sup>3</sup> /day)	95.6	83.4	14.6	95.9	82.3	16.5	_
IMPORTS (10 <sup>6</sup> m³/day)	56.0	57.9	-3.3	53.5	51.8	3.3	_
	26.5	19.3	37.3	25.1	18.9	32.8	
NON-UTILIZED AND REINJECTION (10 <sup>6</sup> m³/day)							-
AVAILABILITY FOR CONSUMPTION (10 <sup>6</sup> m³/day)	125.1	122.0	2.5	124.3	115.2	7.9	100.0
INDUSTRIAL CONSUMPTION (10 <sup>6</sup> m³/day)	44.0	43.5	1.2	44.5	42.5	4.5	35.8
POWER GENERATION CONS. (10 <sup>6</sup> m³/day)	52.4	50.1	4.7	50.8	43.8	15.9	40.9
INDUSTRIAL PRICE SP(*) (US\$/MMBtu) - consumption range of 20,000 m³/day	14.1	17.3	-18.5	14.7	17.0	-13.4	-
MOTOR PRICE SP (US\$/MMBtu)	16.4	19.6	-16.1	17.0	19.3	-12.1	
RESIDENTIAL PRICE SP (US\$/MMBtu)	42.1	49.2	-14.4	43.5	48.4	-10.1	
ELECTRICITY							
NATIONAL INTERCONNECTED SYSTEM	67,145	66,056	1.6	68,035	68,417	-0.6	100.0
SOUTHEAST/MIDWEST POWER LOAD (MWavg)	39,405	39,549	-0.4	40,212	41,037	-2.0	59.1
SOUTH POWER LOAD (MWavg)	11,903	11,097	7.3	12,147	11,934	1.8	17.9
NORTHEAST POWER LOAD (MWavg)	10,679	10,113	5.6	10,620	10,155	4.6	15.6
NORTH POWER LOAD (MWavg)	5,159	5,297	-2.6	5,057	5,291	-4.4	7.4
TOTAL CONSUMPTION (TWh) (**)	39.8	40.3	-1.1	121.0	121.9	-0.8	100.0
RESIDENTIAL	11.1	11.3	-1.1	35.4	34.9	1.5	29.3
INDUSTRIAL	14.6	15.1	-3.2	42.8	44.6	-4.2	35.3
COMMERCIAL	7.9	7.7	2.1	24.1	23.7	1.7	19.9
OTHER SECTORS	6.1	6.1	0.3	18.8	18.7	0.1	15.5
PLANTS ENTRY INTO OPERATING (MW)	508	1,272	-60.1	1,593	2,122	-24.9	-
RESIDENTIAL PRICE (R\$/MWh)	551	392	40.5	510	394	29.5	-
COMMERCIAL PRICE (R\$/MWh)	492	343	43.4	450	342	31.5	-
INDUSTRIAL PRICE (R\$/MWh)	458	305	50.2	419	308	36.0	-
ETHANOL AND BIODIESEL							
BIODIESEL PRODUCTION (10³ b/d)	60	55	8.5	64	53	21.2	-
MOTOR ETHANOL CONSUMPTION (10 <sup>3</sup> b/d)	455	386	18.1	461	418	10.2	-
ETHANOL EXPORTS (10³ b/d)	22	16	42.6	23	23	0.0	-
HYDRATED ETHANOL PRICE (R\$/I)	2.23	2.17	2.7	2.17	2.10	3.5	-
COAL	2 204	2.276	2.2	2 224	2.076		
ELECTRICITY GENERATION (MWavg) IMPORT PRICE (US\$ FOB/t)	2,201 97.2	2,276 120.5	-3.3 -19.3	2,221 97.5	2,076 114.7	6.9 -15.0	
NUCLEAR ENERGY	37.2	120.5	13.5	37.5	11.11	15.0	
ELECTRICITY GENERATION - (GWh)	1,314	1,417	-7.3	3,909	4,209	-7.1	-
INDUSTRIAL SECTORS	-,	-,		-,	-,		
STEEL PRODUCTION (10³ t/day)	89	96	-7.4	93	93	0.2	-
ALUMINIUM PRODUCTION (10³ t/day)	2.3	3.3	-31.4	2.3	3.3	-31.7	-
IRON ORE EXPORTS (10 <sup>3</sup> t/day)	846	653	29.6	742	679	9.3	-
PELLETS EXPORTS (10 <sup>3</sup> t/day)	147	137	7.7	139	119	17.1	-
PAPER PRODUCTION (10³ t/day)	27.7	28.6	-3.0	28.2	28.8	-1.9	-
PULP PRODUCTION (103 t/day)	44.3	40.0	10.6	45.9	40.7	12.8	-
		12	23.3	17	17	0.4	
SUGAR PRODUCTION (103 t/daY)	14	12	23.3	1/	1,	0.4	
SUGAR PRODUCTION (10° t/day) SUGAR EXPORTS (10° t/day)	71	50	41.8	62	61	2.0	

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



