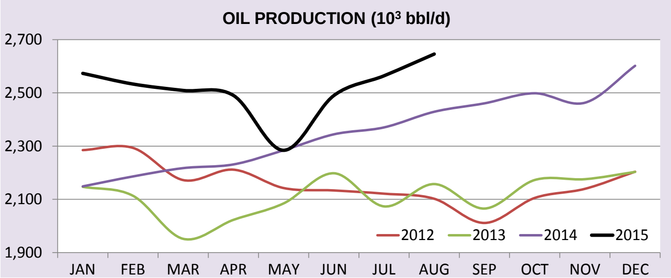


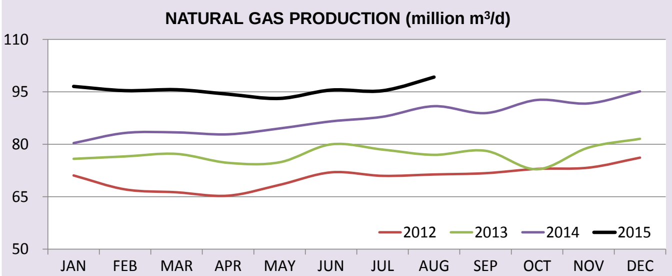


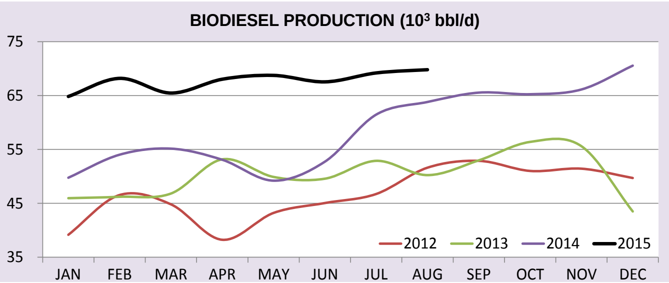


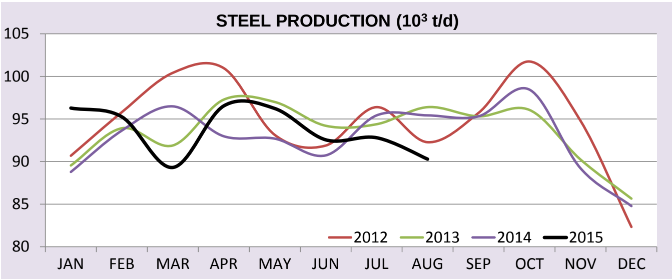


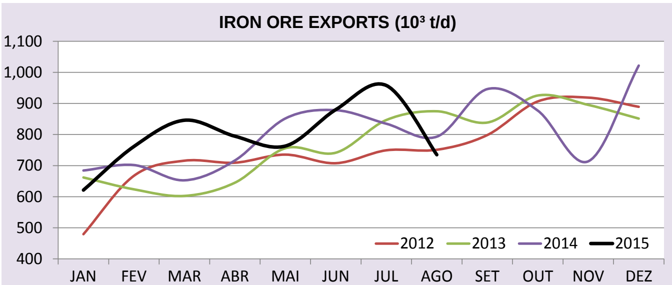




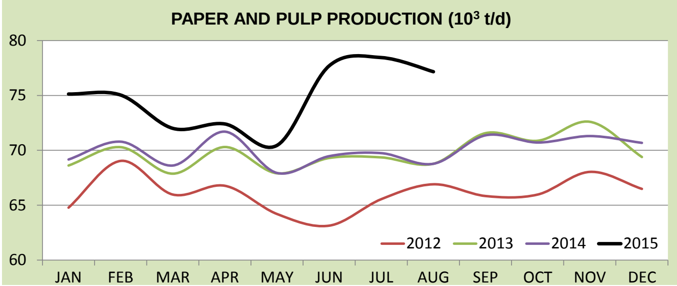


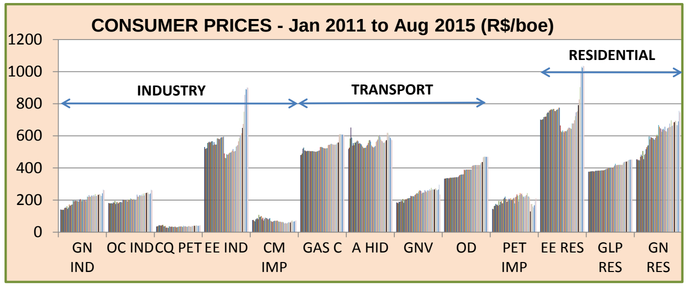


**Note: For a better visualization, the minimum scale of the graphs was raised to the level close to the lowest value of the curves.**

## 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.

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# Monthly Energy Bulletin - Brazil

**Reference Month: August 2015**

## Domestic Energy Supply – DES

2015 began with the expectation that the total energy demand in Brazil could have a future expansion near 2% over the next twelve months. Nowadays, expectations are already very different, indicating that energy demand may decline on more than 1% this year. The vectors of this tendency inversion are persistent high in interest rates, inflation, unemployment and administered prices.

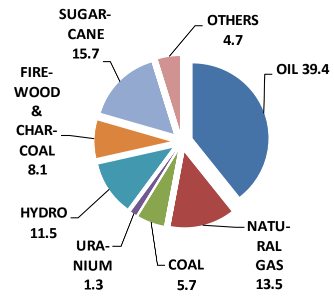
Economic and energetic indicators until August indicates that **Domestic Energy Supply (DES) (*) (**)** recoiled by 0.5%.

### *Energy Demand recoil in 2015*

For the full year 2015, the DES evolution rate may stand between -1.5 and -0.5% (between -1 and 0% in the previous bulletin). A good performance of some commodities and a stronger retraction in domestic energy demand associated with the population welfare are expected. Renewable sources should maintain their participation near 40% in the DES matrix of 2015.

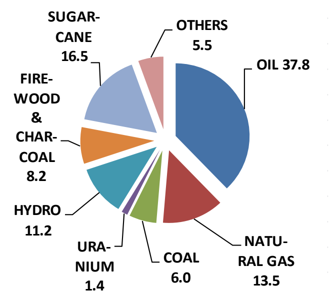
Until this report elaboration, the estimated DES's rate for 2015 was -1.1% (-0.4% until July).

**DES 2014 (%)**




**305.6 million toe**
**39.4% renewables**

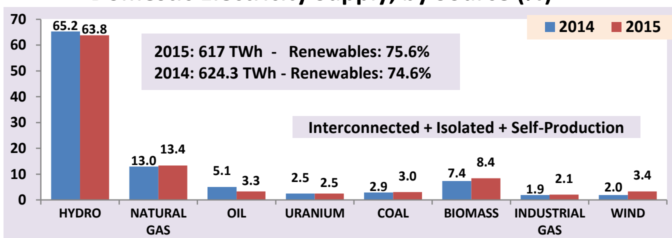
**DES 2015 (%)**




**302.2 million toe**
**40.7% renewables**

The **Domestic Electricity Supply** was estimated at 617 TWh for 2015(**), with a decrease of 1.2% over 2014. Until October 27, the National Interconnected System (**SIN**) load was 1.1% negative.

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

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# Highlights of August 2015

## Oil and Gas production on the up

In August 2015, oil and gas productions grew by 8.9% and 9.2%, respectively. Year to date, the rates are 10.3% and 12.5%.

## Minerals exports levels maintained

Steel production decreased by 5.4% in August, compared to the same month of 2014, but still accumulates 0.4% high in the year (1.2% until July). Iron ore exports recoiled 7.3% in the month, but, in the year, shows a positive rate of 4%. Pellets exports rose 18.1% in August, and 17.7% in the year.

## Mild Hydraulic Recovery

The hydro power supply declined 0.5% in August (-3.3% in July) and Itaipu generation increased by 0.5%. Up this month, the hydraulic supply is -5.3% (-5.9% until July).

## Oil products consumption sharply lower

In August, oil products apparent consumption recoiled 11.2% and C gasoline retreated 11.3% (-6.3% in July). Diesel oil decreased 5.7%, in part by the power plants deactivation. In the year, rates are **negative**: 4.4% for oil products, 6.1% for gasoline and 2.8% for diesel.

In the same month, gas consumption decreased by 7.8%, accumulating a 1.1% growth in the year (2.5% until July), and electricity generation sales recoiled 19%.

The energy consumption of the Otto cycle transport (gasoline, ethanol and natural gas), in gasoline equivalent, accumulates 1.4% in the year, much lower than the expressive rate of 6.4%, recorded in the same period of 2014.

## Electricity consumption declining

Electricity consumption (excluding captive self-production) recoiled by 2.2% in August (-2.7% in July and -1.3% in June), accumulating -1.3% in the year. Industrial consumption, with a negative rate of 5.2%, accumulates a reduction of 3.9% 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 2.2% in August, accumulates 0.4% negative in the year. The commercial sector accumulates 1.3% in the year (1.4% until July and 1.8% until June).

## Biodiesel production still high

Biodiesel production stood at 70 kbbl/day in August, with a high of 9.4% over the same month of 2014. In the year, it accumulates an increase of 23.3%.



## Electricity rates continues in high

In the year to date, the national average residential electricity tariff increased 43.7%, the commercial tariff grew 46.7%, and the industrial, 54.7%.

## Basic data of 2014 and 2015

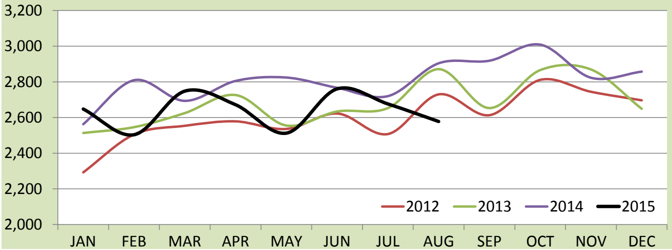
| SPECIFICATION | AUGUST — IN THE MONTH 2015 | IN THE MONTH 2014 | IN THE MONTH % 15/14 | ACCUMULATED IN THE YEAR 2015 | ACCUMULATED IN THE YEAR 2014 | ACCUMULATED IN THE YEAR % 15/14 | %2015 |
|---|---|---|---|---|---|---|---|
| **OIL** | | | | | | | |
| PRODUCTION - with Shale Oil and NGL($10^3$ b/d) | 2,646 | 2,429 | 8.9 | 2,511 | 2,277 | 10.3 | - |
| IMPORTS AVERAGE PRICE (US$/bbl FOB) | 66 | 118 | -44.0 | 63 | 114 | -45.1 | - |
| **OIL PRODUCTS** | | | | | | | |
| TOTAL CONSUMPTION ($10^3$ b/day) | 2,578 | 2,904 | -11.2 | 2,638 | 2,760 | -4.4 | **100.0** |
| hereof: DIESEL with biodiesel - ($10^3$ b/day) | 1,071 | 1,136 | -5.7 | 1,039 | 1,069 | -2.8 | 37.4 |
| hereof: GASOLINE C ($10^3$ b/day) | 667 | 752 | -11.3 | 702 | 748 | -6.1 | 21.3 |
| CONSUMER PRICE - DIESEL (R$/l) | 2.81 | 2.50 | 12.2 | 2.78 | 2.50 | 11.4 | - |
| CONSUMER PRICE - GASOLINE C (R$/l) | 3.30 | 2.96 | 11.3 | 3.27 | 2.97 | 10.2 | - |
| CONSUMER PRICE - LPG (R$/13 kg) | 46.0 | 42.6 | 7.9 | 45.6 | 42.6 | 6.9 | - |
| **NATURAL GAS** | | | | | | | |
| PRODUCTION ($10^6$ $m^3$/day) | 99.2 | 90.9 | 9.2 | 95.6 | 85.0 | 12.5 | - |
| IMPORTS ($10^6$ $m^3$/day) | 45.7 | 54.1 | -15.6 | 51.4 | 53.5 | -3.9 | - |
| NON-UTILIZED AND REINJECTION ($10^6$ $m^3$/day) | 29.6 | 19.9 | 48.5 | 26.7 | 19.5 | 36.9 | - |
| AVAILABILITY FOR CONSUMPTION ($10^6$ $m^3$/day) | 115.4 | 125.2 | -7.8 | 120.3 | 119.0 | 1.1 | **100.0** |
| INDUSTRIAL CONSUMPTION ($10^6$ $m^3$/day) | 44.1 | 43.8 | 0.5 | 43.4 | 43.1 | 0.6 | 36.1 |
| POWER GENERATION CONS. ($10^6$ $m^3$/day) | 41.6 | 51.4 | -19.0 | 46.7 | 46.9 | -0.4 | 38.8 |
| INDUSTRIAL PRICE SP(*) (US$/MMBtu) - consumption range of 20,000 $m^3$/day | 12.7 | 17.7 | -28.1 | 13.9 | 17.6 | -21.2 | - |
| MOTOR PRICE SP (US$/MMBtu) | 11.4 | 20.6 | -44.7 | 15.4 | 20.2 | -23.6 | - |
| RESIDENTIAL PRICE SP (US$/MMBtu) | 36.3 | 52.0 | -30.1 | 40.4 | 50.7 | -20.4 | - |
| **ELECTRICITY** | | | | | | | |
| NATIONAL INTERCONNECTED SYSTEM | 61,041 | 62,700 | -2.6 | 63,672 | 64,608 | -1.4 | **100.0** |
| SOUTHEAST/MIDWEST POWER LOAD (MWavg) | 35,539 | 37,029 | -4.0 | 37,219 | 38,544 | -3.4 | 58.5 |
| SOUTH POWER LOAD (MWavg) | 10,299 | 10,853 | -5.1 | 11,035 | 11,089 | -0.5 | 17.3 |
| NORTHEAST POWER LOAD (MWavg) | 9,895 | 9,645 | 2.6 | 10,277 | 9,773 | 5.2 | 16.1 |
| NORTH POWER LOAD (MWavg) | 5,308 | 5,173 | 2.6 | 5,141 | 5,201 | -1.2 | 8.1 |
| TOTAL CONSUMPTION (TWh) (**) | 37.7 | 38.6 | -2.2 | 310.4 | 314.4 | -1.3 | **100.0** |
| RESIDENTIAL | 10.3 | 10.5 | -2.2 | 87.6 | 88.0 | -0.4 | 28.2 |
| INDUSTRIAL | 14.3 | 15.1 | -5.2 | 114.1 | 118.7 | -3.9 | 36.8 |
| COMMERCIAL | 7.0 | 7.0 | 0.5 | 60.0 | 59.3 | 1.3 | 19.3 |
| OTHER SECTORS | 6.1 | 6.0 | 2.1 | 48.7 | 48.4 | 0.5 | 15.7 |
| PLANTS ENTRY INTO OPERATING (MW) | 274 | 423 | -35.2 | 3,857 | 4,662 | -17.3 | - |
| RESIDENTIAL PRICE (R$/MWh) | 627 | 423 | 48.4 | 579 | 403 | 43.7 | - |
| COMMERCIAL PRICE (R$/MWh) | 569 | 374 | 52.0 | 520 | 354 | 46.7 | - |
| INDUSTRIAL PRICE (R$/MWh) | 546 | 343 | 59.0 | 494 | 319 | 54.7 | - |
| **ETHANOL AND BIODIESEL** | | | | | | | |
| BIODIESEL PRODUCTION ($10^3$ b/d) | 70 | 64 | 9.4 | 68 | 55 | 23.3 | - |
| MOTOR ETHANOL CONSUMPTION ($10^3$ b/d) | 500 | 404 | 23.8 | 474 | 415 | 14.3 | - |
| ETHANOL EXPORTS ($10^3$ b/d) | 40 | 16 | 150.9 | 25 | 25 | 0.0 | - |
| HYDRATED ETHANOL PRICE (R$/l) | 2.06 | 2.03 | 1.3 | 2.14 | 2.09 | 2.0 | - |
| **COAL** | | | | | | | |
| ELECTRICITY GENERATION (MWavg) | 1,960 | 1,897 | 3.3 | 2,064 | 2,001 | 3.1 | - |
| IMPORT PRICE (US$ FOB/t) | 84.5 | 101.2 | -16.5 | 93.2 | 109.9 | -15.2 | - |
| **NUCLEAR ENERGY** | | | | | | | |
| ELECTRICITY GENERATION - (GWh) | 1,358 | 629 | 115.8 | 10,171 | 9,538 | 6.6 | - |
| **INDUSTRIAL SECTORS** | | | | | | | |
| STEEL PRODUCTION ($10^3$ t/day) | 90 | 95 | -5.4 | 94 | 93 | 0.4 | - |
| ALUMINIUM PRODUCTION ($10^3$ t/day) | 2.0 | 2.2 | -9.2 | 2.1 | 2.8 | -23.9 | - |
| IRON ORE EXPORTS ($10^3$ t/day) | 735 | 793 | -7.3 | 795 | 764 | 4.0 | - |
| PELLETS EXPORTS ($10^3$ t/day) | 140 | 119 | 18.1 | 147 | 125 | 17.7 | - |
| PAPER PRODUCTION ($10^3$ t/day) | 28.3 | 28.2 | 0.6 | 28.4 | 28.6 | -0.6 | - |
| PULP PRODUCTION ($10^3$ t/day) | 48.8 | 40.6 | 20.3 | 46.4 | 40.9 | 13.3 | - |
| SUGAR PRODUCTION ($10^3$ t/daY) | 172 | 189 | -9.1 | 80 | 93 | -14.1 | - |
| SUGAR EXPORTS ($10^3$ t/day) | 58 | 74 | -21.5 | 61 | 61 | -0.1 | - |

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

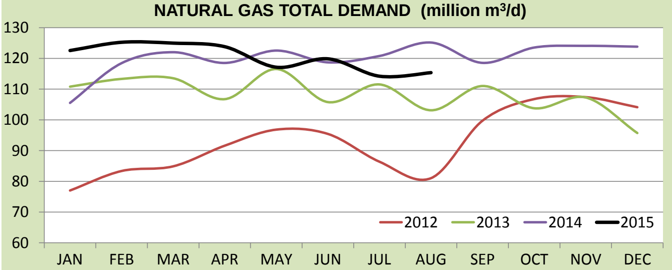
**(**) The traditional self-producers (consumers that do not use public grid) is not included.**



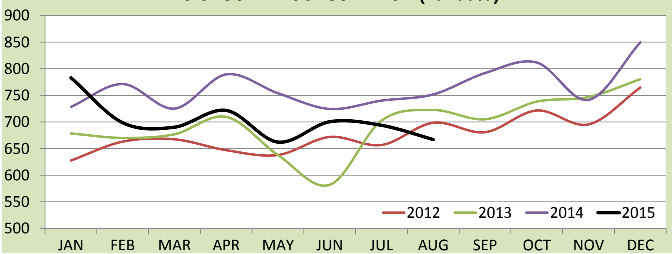
OIL PRODUCTS TOTAL CONSUMPTION ($10^3$ bbl/d)



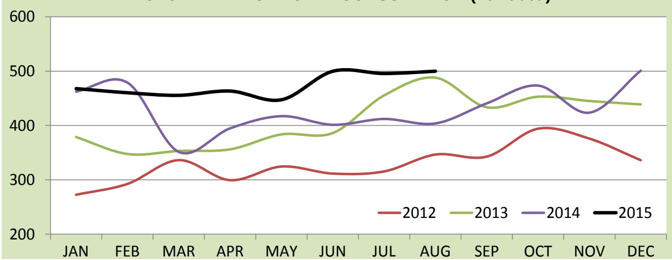

NATURAL GAS TOTAL DEMAND (million $m^3$/d)




C GASOLINE CONSUMPTION ($10^3$ bbl/d)




MOTOR ETHANOL TOTAL CONSUMPTION ($10^3$ bbl/d)




NATIONAL INTERCONNECTED SYSTEM POWER LOAD (GWavg)