

The Federal Court of Accounts (TCU), by means of the System Report for Energy Oversight (FiscEnergia), annually offers the National Congress and society with an overview of the government performance concerning the Brazilian electricity sector, focusing on regulatory and planning actions, management of state-owned companies and system expansion, by means of investments in infrastructure.

For such purpose, this sheet was prepared from the assessment conducted in 2014, which depicted the main results of several audits conducted by this Court over the last ten years.

### MAIN RESULTS

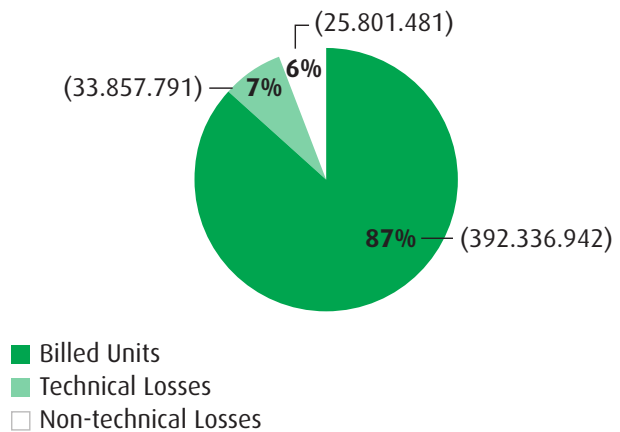
Analysis of energy security in Brazil showed that the Physical Guarantee (GF) certificates of hydroelectric power plants (UHE) were never reassessed, even in plants with over thirty years of operation. Such certificates represent the amounts of energy that the plants are allowed to sell, constituting the basis for several parameters of the sector, such as the need for expansion of the generating park. Such certificates being obsolete caused inaccurate signs regarding the need for expansion of the system, which resulted in: (i) compromise of energy security and respective increased risk of shortage of supply; (ii) premature depletion of UHE reservoirs; and (iii) contract for energy reserves, with double payment for such energy on the part of consumers.

Moreover, the sector regulation discourages investments in repowering and modernization of plants, with no governmental study or plan prepared for such purpose. Studies from the private sector estimate that, in 2014, the average quantity of 8,000 MW was no longer generated. Thus, there is inefficient use of water potentials, with subsequent increase in the need for new undertakings and in energy cost.

Analysis concerning electric losses showed that, in 2010, 13.2% of generated energy was either stolen or lost in systems. The worst indices were found in regions whose distribution concessionaires belong to Eletrobrás Group. Manaus system appears in the 1st position, with losses exceeding 40%. Main implications of the extremely high level of losses in Brazil include need for energy generation

at a larger scale in order to meet demand, and increase in energy cost, since such losses are divided, within regulatory limits, among the other consumers.

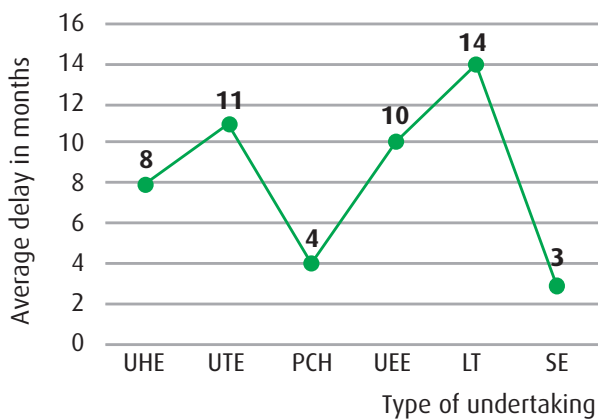
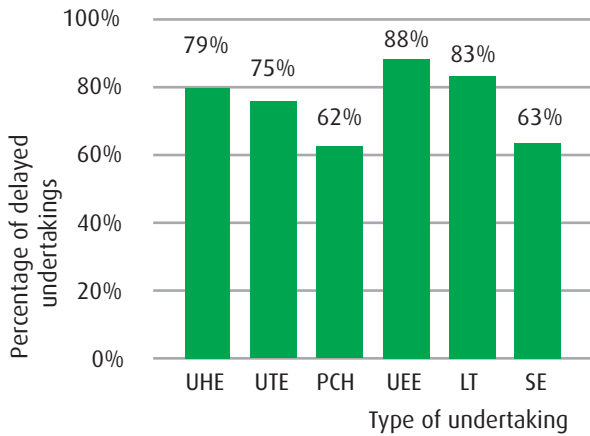
### Comparison between billed units and losses in the Brazilian electric system in 2010, in MWh



Regarding the construction of new UHE plants, the main plants implemented in the last years were designed to operate as run-of-the-river power plants, even in undertakings with possibility of reservoirs. Such is also the case for designed plants – there is no planning for constructing regulated reservoirs. As a result, there is reduction in energy stored/load ratio from 6.22 in 2001 to 3.35 in 2021, according to system expansion estimates. There is no study comparing environmental costs of reservoirs with environmental costs of thermal power backup used to replace reservoirs. Accordingly, water potentials are insufficiently used, with intensive use of more polluting thermal power plants, greater need for expansion in order to meet demand and increased energy cost.

Audit conducted by this Court showed generalized delays in UHE, thermal power plants (UTE), small hydroelectric stations (PCH), wind energy undertakings (UEE), transmission lines (LT) and substations (SE), as discriminated in the following charts. The worst situations affect wind energy undertakings and transmission lines, with 88% and 83% of undertakings delayed and average delay from 10 to 14 months, respectively.

### Status of main undertakings for electric power generation and transmission concerning initial term for operations



Another discovery was that the construction of interdependent transmission and generation undertakings was not synchronized, resulting in situations in which generating units were completed but energy could not be transferred due to lack of transmission lines and vice-versa. In such cases, the consumer pays twice for the same energy/energy transport, since revenue is collected by completed generation/transmission units, for contractual reasons, without actual energy generation/transfer, a service that consumers must purchase from a third party until complete synchronization of undertakings. Due to such double

contracting, direct losses of R\$ 8.3 billion are estimated for consumers.

At last, audits carried out from 2008 to 2012 showed risks of imprecise rules for governing bidding processes or extensions of concessions concerning the electricity sector. There is no previous study, guideline or transparency as to decisions. By means of MP no. 579/2012, converted to Act no. 12,783/2013, there was extension of generation and transmission concessions, with considerable reduction in revenues from state-owned companies awarded with renewed concessions, as well as reduced rates for the end consumer of 20%, when there is lesser capacity of reservoirs. Furthermore, noncompliance by some generation concessionaires with renewal terms resulted in financial exposure of electricity distributors at the time energy prices were high in short-term market, causing the sector to lose billions.

### COURT RESOLUTIONS

To indicate an audit concerning systemic planning of the electricity sector, encompassing effectiveness of government actions in achieving medium and long-term goals idealized for the sector, particularly focusing on assessment of impacts (whether environmental or on reasonable rates) of the generation expansion policy with thermal power plants run on fossil fuels and on actions for increasing energy from renewable sources.

To indicate an audit in order:

- to comprehensively assess the current scenario of applicable rates of the sector, not only analyzing direct impacts of Provisional Presidential Decree no. 579/2012, but also other topics directly related to reasonableness of rates applicable in Brazil, such as the rate flag system, revisions and special adjustments authorized by Aneel and increased indebtedness of companies of Eletrobrás Group; and
- to conduct a comparative study showing differences between national prices for electric power and prices practiced in other countries, considering Brazil has one of the highest rates worldwide, although it has a generating park that is predominantly water-based.

Identification of the action in TCU: 013.099/2014-0

Judge-Rapporteur: Minister Vital do Rêgo

TCU Resolution: Appellate decision 993/2015-TCU-Full Court

Date of Session: 04/29/2015