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## The Political Economy of Electricity in Brazil\*

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Over the last four decades, energy supply in Brazil has been regulated through three different models. During the 1970s, investment planning and decision making was coordinated by Eletrobras, whereas production capacity expansion projects were financed through foreign loans and taxes specifically charged on energy consumption. The 1980's fiscal crisis and non-availability of foreign credit sources eventually made the 1970's model unfeasible.

In 1995, the federal government began a reform program that included privatizing the electricity industry and implementing a set of regulations based on the principle that, given the current stage of technological development, power generation and marketing activities are potentially competitive, while power transmission and distribution activities are naturally monopolistic. Such model has never been fully implemented and became somewhat discredited during the energy crisis of 2001.

\* This text summarizes the main conclusions of the publication *Breves Cindes 49, A Economia Política da Energia Elétrica no Brasil (Electric Power Economic Policy in Brazil)*, available at [www.cindesbrasil.org](http://www.cindesbrasil.org)

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In 2004, the Lula Administration reestablished governmental planning as the guiding principle for power supply expansion, which included creating the Energy Research Company (Empresa de Pesquisa Energética - EPE) and redefining rules for private-sector participation.

Under the impact of its evolving regulatory-institutional framework, the electricity industry has undergone deep changes. The industry's governance model, centered on state-run companies coordinated by Eletrobras, has been replaced by a new model, led by private investors under the coordination of the Ministry of Mines and Energy. The cost-of-service tariff regime was discontinued to allow competitive pressure into the industry and thereby improve its economic performance, which is essential to making the nation's industrial base more competitive.

In this new environment, the industry's risk management became the touchstone for the success of the reform. The reform program focused its attention on managing hydrologic risks during the 1990's and market risks during the last decade. The need for coming up with an expansion plan consistent with social and environmental demands was neglected. However, the difficulties faced by investors while seeking to foster the industry's expansion chiefly stem from this issue.

EPE has made available as part of the public inquiry process its 10-year plan for expansion of the electric industry by 2020. The plan reveals a clear intent to concentrate power generation capacity expansion initiatives on renewable sources, particularly hydroelectric power plants in the Amazon region. There is relative consensus on the benefits of this expansion strategy in terms of gas emissions, but its social and environmental impacts in connection with dam construction has met with strong criticism.

The government has responded to such criticism by reducing the size of planned reservoirs, but it has not succeeded in minimizing the strong reaction among non-governmental organizations that oppose construction of large hydroelectric power plants in the Amazon region. Development of the Amazon region is a complex issue that cannot be confined to the sizes of hydroelectric power plant reservoirs. Hydro power expansion in the region needs to be studied in the context of a regional development project with focus on environmental protection.

Reform of the electricity market is a uncompleted task. Concerned with promoting hydro power expansion, the government has neglected grid reliability and economic efficiency. Expansion projects in the Amazon region makes the national grid dependent on very long transmission lines to reach major consumption centers in the nation's urban-industrialized areas. In addition, the possibility of extreme weather events suggests growing risks associated with rainfall periods more adverse than historically reported. To mitigate such risks, hydro power expansion requires the presence of thermal power plants near major load centers to ensure supply of power during unexpected events that interrupt power flow from hydroelectric plants.

On the other hand, the planned expansion of oil production will lead to substantial increase in production of associated natural gas whose potential market is comprised of thermal power producers. Yet, gas-fired thermal power plants are not economically feasible to supplement hydro power supply. They need to operate competitively with hydro power plants. The cost-benefit index has been used as part of bidding/auction procedures to arbitrate competition between thermal and hydro power plants, but such tool has not yielded satisfactory results.

Current electricity rates are not competitive, although the government has followed the strategy of prices below the cost of opportunity for selling power from existing power plants (old power). Now that the end of the term of most concessions is coming near, such strategy is facing political, regulatory and legal difficulties that suggest that it will be difficult to keep it in place. Continuing with the privatization process begun during the 1990's reform is the simplest way to avoid a tariff shock that would again disarrange the electricity industry. Revenue from permission to use hydro power plant sites might be allocated to reduce current taxes and fees associated with electricity rates/bills.

The electric industry reform has allowed progress to be made on role sharing between the government and the private sector. However, the reform has led to a long agenda of issues that need to be investigated in order to adjust it to the current economic, social and environmental reality. How environmental permitting has been handled in the Amazon region is the most visible of such issues, but the agenda also includes a number of other issues that need to be addressed (supply reliability, taxes and fees in electricity bills, term of concessions, integration with power grids in neighboring countries, extreme weather events). For all of them, it should be borne in mind that proposed solutions set different business coalitions on a collision course.