

## THE POWER SECTOR IN: BRAZIL

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| <b>I. Current Status of Sector Reform: Key Points</b> |   |
| Power System Overview                                 | <p>As of December 1998, total installed capacity in Brazil was 65,134 MW, of which 88% was hydro. Electricity generation and consumption in 1998 were 363,300 and 308,200 GWh respectively, representing 15.2% in losses. Electricity demand growth was forecasted at 5% for 1999; however, because of the current crisis the actual rate may be much lower. Electricity service coverage is around 92% at the national level. The Brazilian electricity industry consists of two major interconnected systems (South-Southeastern-Central and North-Northeast-Central) and many isolated systems in small regions. The two main systems are interconnected and will operate as a single market within the new industry structure.</p>  |
| Structure   | <p>Even though the sector is still under a restructuring and privatization process, the ownership and operational structure of most companies in the electricity sector has already changed significantly. The new industry structure will consist of generators, distributors, transmission companies, marketers and suppliers. The Wholesale Electricity Market (Mercado Atacadista de Energia) and the Independent System Operator (Operador Nacional do Sistema Eletrico) have already been created and are expected to begin operations by mid-1999. Transmission assets belong to Eletrobrás, a federal holding company formerly responsible for implementing Brazil's electric power policy. Generation assets formerly own by Eletrobrás and by the states are being privatized. Therefore, system structure is unbundled, with some minor generation still owned by former state distribution companies.</p> <p>Guidelines for the restructuring process were established in two laws passed by Congress in 1995. These laws included the following criteria: competition at the generation level, free access to the transmission lines, deregulation of large electricity consumers, tariffs based on costs, and participation of Independent Power Producers (IPP).</p> |
| Competition   | <p>The new restructured power sector will allow competition in generation by 1999. Even though the pool is cost based, there will be competition in the bilateral contracts market, in which companies will be allowed to negotiate prices. The pool in Brazil will not only receive bids from the generation companies but also from the demand, determining the maximum prices that they are willing to pay for electricity. During the transitional period competition will be limited, since companies have already signed contracts until year 2002.</p> <p>The Law provides open access to transmission and distribution networks allowing for competition in both the wholesale and retail markets. New marketing companies will compete with distribution companies for final consumers, and will participate in the wholesale market by aggregating demands.</p> <p>Unbundling and privatization have resulted in a significant number of generation and distribution companies that will compete in the new market; the entrance of new investors will increase this competition.</p>   |
| Role of the State                                     | <p>The Ministry of Mines and Energy is responsible for the sector. Agencia Nacional de Energía Eletrica (ANEEL) has been the regulator for the last two years. IDESE, a new and independent agency will be in charge of long-term indicative planning with the initial support of Eletrobrás. The state will move away as much as possible from commercial activities restricting itself to the policy and regulatory functions. Eletrobrás will keep the Itaipu and the nuclear generation projects and will hold the transmission assets during the transition.</p>   |
| Regulatory Institution                                | <p>ANEEL created in December 1996 as a new regulatory authority, is operational at this moment and has been directly involved in the implementation of the new restructuring model for the sector. ANEEL's responsibilities include price regulation and competitive behavior, technical regulation and standards, and concessions. Although the agency will not be involved in operational activities, it will be responsible of overseeing the market to ensure its correct operation. ANEEL's attributions are larger than the regular attributions of a regulatory agency, in that it has to award concessions, regulate and set some of the sector policies. Having so many responsibilities make ANEEL less independent than expected, and reduces the</p>  |

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|   | <p>regulatory authority of the agency.</p> <p>Each state would have to create their own regulatory agency; this process has been slow and will duplicate efforts in many cases.</p>   |
| Private Sector Participation                | <p>The privatization process in Brazil was part of the aggressive strategy set-up by Cardoso's government in 1995. The process started with the privatization of a small distribution company, Escelsa in July 1995, which turned into a major selling trend encompassing most of the distribution companies in the country. It has already brought US\$27.7 billion dollars for the government and more than 60% of the Brazilian distribution market is already in private hands. The privatization of Gerasul at the end of 1998 was the first of the Federal Government-owned generation companies and will be followed with that of other Eletrobrás assets during 1999.</p> <p>Private companies will perform most of the needed expansion. After allowing the entrance of IPPs into the market, the Brazilian government has awarded many concessions to private companies to build new generation plants and is providing the incentives for companies to build the necessary expansion in the future. Including Gerasul's privatization and new investments in the sector, almost 20% of the generation industry is already in private hands.</p> <p>Private companies will also be allowed to participate in the market as marketers, selling their energy to the unregulated consumers and to distribution companies. They can also own transmission lines, which will be operated by the System Operator and regulated by ANEEL.</p>  |
| Major Outstanding Issues                    | <ol style="list-style-type: none"> <li>1. The diversity of responsibilities attributed to ANEEL raises doubts about its consolidation. It is a demanding job for a new entity with a restricted budget to perform sector planning, set policies for the industry, create a new regulatory framework, award concessions and oversee the market. A better structure could help ANEEL to concentrate on its regulatory functions. The creation of the regional regulatory entities is also unclear; they will be weaker as the states lack the institutionally strength of the federal government.</li> <li>2. A close look should be given to the development of the operational procedures for the new wholesale market and the beginning of its operations. ANEEL needs to complete the regulation process before the initiation of operations of the MAE.</li> <li>3. Although the privatization process has been extremely successful, the latest results have brought some concerns. The current economic conditions in the country and in the world markets and possible concerns about the accelerated pace of privatization could complicate future privatization processes. The same concern arises for the construction of new plants, since financing will be more difficult with the current conditions of the international markets. The construction of large hydroelectric projects by private entities will be especially difficult due to the high investment costs required.</li> <li>4. Natural gas should be highly promoted. The government should concentrate on liberalizing the market for the fuel, as the current conditions show a high demand in the country. This will also help diversifying the installed capacity in the country, which is currently highly dependent on hydropower.</li> <li>5. Operational concerns of the already privatized companies. CERJ and Light, Rio's privatized distribution companies have been sued for deteriorating the quality of service. The privatization process of those companies was performed before the new regulatory framework was completed; nevertheless, the necessary rules should be put in place to ensure the quality of service for final consumers.</li> </ol> |
| <b>II. Legal &amp; Regulatory Framework</b> |   |

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| Legal Basis  | <p><i>Article 175</i> of the Federal Constitution regulated by <i>concession bills No. 8.987/95 (Concessions Law) and 9.074/95 (which is specific to the electricity sector)</i>. These 2 laws provided a minimum legal basis to start the process of restructuring and privatization of the electricity sector. They focused on the concession regime and made tendering of concessions for hydro plant projects and public services mandatory. They also permitted the entrance of IPPs and allowed consumers with a demand higher than 10 MW to choose their electricity provider. Law 9.074 also determined open-access to the transmission network and determined the unbundling of the integrated companies.</p> <p><i>Law 9427</i> (December 1996) This law established a new sector regulator, the Agencia Nacional de Energía Elétrica (ANEEL).</p> <p><i>Decree No. 2.003/96</i> (Sept. 1996). Regulation of independent power producers and self-producers.</p> <p><i>Decree No. 459/97</i> (November 1997). This decree rules the open-access conditions to the transmission grid. Defines the rate-setting procedures and allows non-regulated consumers to buy energy from all parts of the country.</p> <p><i>Law 9648/98</i> (May 1998). This law establishes the restructuring of Eletrobrás, establishing six holdings and 14 generation and transmission companies from its subsidiaries. This law also creates the Wholesale Electricity Market (Mercado Atacadista de Energia Eletrica) and the Independent System Operator (Operador Nacional do Sistema Elétrico).</p> <p><i>Decree No. 2655/98</i> (July 1998). This decree rules the Wholesale Electricity Market and defines the organizational rules for the Independent System Operator.</p> <p><i>Market Agreement</i> (August 1998). Includes the procedures and rules of operation of the Wholesale Electricity Market. It also includes the rules of participation and the commercial and technical rules of the market.</p> <p>Statute of the Creation of the Independent System Operator (<i>August 1998</i>).</p> <p><i>Law 8.631/93</i>. This law reestablished individual tariffs per concessionaire and extinguished the financial compensation transfer, which leveled tariffs and returns and led to inefficiency. It abolished the rate of return regulation on investment previously set at 10% per annum.</p> <p>Decree No 1009 of 1993 creating the SINTREL (Sistema Nacional de Transmissão de Energia Eletrica), standing as an agreement to operate the existing transmission system, under Eletrobrás coordination. The federal high-voltage grid was incorporated to SINTREL with DNAEE's approval, according to the principle of free-access to transmission.</p> |
| Role of the State                                      | <p>The Ministry of Mines and Energy and the Energy Secretariat are in charge of setting policies for the sector. The newly created Agencia Nacional de Energía Elétrica (ANEEL) is in charge of the regulatory functions of the electricity system and of overseeing the competitive performance of the sector. Long-term planning will be performed by IDESE, a new and independent organization. The Independent System Operator will operate the system.</p> <p>The government will move away from commercial activities by privatizing Eletrobrás and only keeping Itaipu, the nuclear generation assets and the transmission network divested from Eletrobrás.</p>   |
| Institutional and Regulatory Entities and Jurisdiction | <p><b>Ministry of Mines and Energy</b> (MME) sets sector policies and ultimately is the regulatory authority in all areas.</p> <p><b>ANEEL</b> is in charge of regulating and overseeing the electricity sector at the federal level. ANEEL is also in charge of awarding concessions. States will create regulatory agencies for the activities of local nature.</p> <p><b>Eletrobrás</b> is in the process of being restructured and privatized. It will retain the ownership of the transmission grid, the Brazilian part of the binational Itaipu dam; the nuclear plants; the research and development activities performed by CEPEL; and will be in charge of the energy efficiency programs. It will also be in charge of the promotion of the expansion of generation and transmission, sometimes having minority stakes in projects.</p>   |

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|   | <p><b>CONAMA, the Ministry of the Environment</b>, sets and oversees national environmental standards.</p> <p>State-level <b>Secretary of Energy</b> formulates fuel use and energy development policies and environmental criteria for regional development purposes. In 1993 Consumer Councils for each distribution concessionaire were created under federal law</p>   |
| Sector Planning   | <p>Indicative long-term system expansion planning for both generation and transmission will be conducted over 25 years and over 12-year horizons (annually) by IDESE. This entity could eventually absorb PROCEL, which is the national electricity-efficiency program and replace Eletrobrás in promoting new studies for the use of the hydroelectric potential. It could also control CEPEL, the government's electricity R&amp;D department currently under Eletrobrás.</p> <p>Up until now, the MME is ultimately responsible for sector planning functions. Working with DNAEE, Eletrobrás is in charge of coordination and supervision of programs for the construction, expansion and operation of electricity generation, transmission and distribution systems.</p>  |
| <b>III. Sector Structure and Participants</b>           |  |
| Structure   | <p>The restructuring of the electricity industry has resulted in a more competitive environment in which the private sector can enter at any level.</p> <p>Generation, transmission and distribution activities would have to be carried out in separate corporate entities, which are subject to some cross-ownership limits, but could be affiliated companies. Transmission companies will not have any interest in generation or retail activities. These limits will be accomplished in a transition period of 10 years.</p> <p>Unbundling has been a common characteristic for both the national and state companies. Eletrobrás was divided into 14 different companies and its generation portion is being privatized. The same case has occurred with most of the state companies, which have already privatized their distribution assets and will sell their generation companies soon.</p> <p>Horizontal unbundling has also been common in Brazil, large distribution companies were split and sold to various investors, obtaining various distribution companies for the same cities, this is the case for both Sao Paulo and Rio de Janeiro.</p> <p>The privatization process has been performed in parallel with restructuring; many companies were privatized even when the framework was not ready. These newly privatized companies will have to adjust to the new rules, which in some cases will cause conflicts to the government.</p>  |
| Participants and Degree of Private Sector Participation | <p><i>Generation:</i> Around 53% of the power generated in Brazil come from Eletrobrás' subsidiaries and Itaipu. The majority of the remaining 47% is produced by companies controlled by state and municipal governments. The most important are CESP (from Sao Paulo), with an installed capacity of 10,298.3 MW in 1997, CEMIG (Minas Gerais) with 5,076.3 MW (this company is still a vertically integrated company with 33% of its shares under private ownership), and COPEL (Paraná) with 3,362.1 MW of installed capacity. The 658 MW Cachoeira Dourada hydroelectric plant was privatized in 1997. Gerasul (3,688.0), which was the generation company derived from Electrosul, was privatized in 1998.</p> <p>The government expects to privatize Eletrobrás' remaining generation companies by the end of 1999, with the exception of the binational hydropower plant Itaipu and the nuclear plants, which will remain under control of Eletrobrás. The generation companies that are held by state governments will be also privatized soon. All new hydro projects will be classified as IPP-like on the basis that generation itself is an industrial activity, even if it makes use of a public good in the form of water resources. The Granting Authority (ANEEL) would continue to offer projects in the order identified in the indicative plan, but potential investors will be able to request that concessions for other sites be adopted in determining the tendering program. Most of the projects that are currently under development are in private hands and the government expects that private companies using the concession procedure will perform the future expansion.</p> <p><i>Transmission:</i> The main transmission lines are property of Eletrobrás' subsidiaries and state companies.</p> |

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|   | <p>Eletrobrás will initially retain the ownership of its transmission assets and the same is expected to occur with the state companies. The ownership of the transmission lines is open under concession contracts. The ONS will be responsible for the operation of the transmission network and will pay to its owners the corresponding tariffs. The ONS will also be in charge of generation and transmission operational planning for horizons up to five years.</p> <p>Two executive committees currently control the operation of the 2 interconnected systems: GCOI is in charge of the South-Southeastern-Center system and CCON is in charge of the North-Northeastern system. The committees are chaired by Eletrobrás, and all of the involved companies are members. The two systems are already interconnected with weak links that will be reinforced soon allowing the formation of the common market. ONS will replace GCOI and CCON.</p> <p><i>Retail Distribution:</i> State and municipal companies mostly conducted distribution, while a number of state utilities such as CESP, CEMIG and COPEL were vertically integrated. ELETROPAULO, which was the country's largest distribution company serving the city and part of the state of Sao Paulo (21% of electricity distributed in Brazil), was split into three new companies. Its two distribution companies Metropolitana and Bandeirantes were privatized in 1998. The privatization process in Brazil started with the distribution companies ESCELSA and LIGHT, in July 1995 and June 1996, respectively. Various states adopted the same type of initiatives, leading to the privatization of CERJ in 1996. In 1997 state governments privatized COELBA (Bahia), two distributors from CEEE (Rio Grande do Sul), CPFL (Sao Paulo), ENERSUL (Matto Grosso do Sul), CEMAT (Matto Grosso), ENERGIPE (Sergipe) and COSERN (Rio Grande do Norte). Apart from Eletropaulo's companies, two other distribution companies COELCE (Ceara) and Elektro (Sao Paulo) were privatized in 1998. Private sector participation in the distribution sector increased from 2.6% in 1994 to more than 60% by the end of 1998.</p> |
| Targets for Privatization   | <p>With the exception of Itaipu and the nuclear plants, the remaining generation companies that belong to Eletrobrás will be privatized. The privatization will consist of two generation companies coming from Furnas, three from Chesf and one from Eletronorte. The government expects to perform the sale by mid-1999. The generation assets held by state governments will also be privatized starting with the sale of 3 companies coming from CESP in 1999. The remaining distribution companies will also be privatized in the near term. As private participation is allowed in the transmission system, the privatization of transmission assets will probably occur in the mid-term.</p>   |
| New Investments   | <p>One of the major priorities of the government's plan was to reactivate 23 projects that were stalled at the beginning of 1995. The private sector has already committed investments of around US\$ 5 billion in this program, out of total value of US\$9.5 billion.</p> <p>The concession program was established in 1995 to attract private investments in the electricity sector. Under that program 23 of the 33 cancelled concessions (those concessions were cancelled because they didn't start operations at the agreed time) and more than 87 new projects were included in the expansion plan for the period 1995-2004. These 111 new projects (97 hydro and 14 thermal) will contribute with around 37,100 MW of new installed capacity, and will require investments of around US\$ 37 billion.</p> <p>Several projects have been authorized through this concession program. Among them, the 500 KV interconnection North-South, that will provide 700 MW of transmission capacity between both systems; the interconnections with Argentina in Garabi (1000 MW), with Uruguay (70 or 300 MW), and with Venezuela (200 MW); the construction of new thermal gas-fired plants totaling more than 2000 MW in Uruguaiana, Corumbá (150 MW) and Campo Grande (300 MW), in Mato Grosso do Sul and Cuiabá (150 MW in 1998 and 300 MW in 2000), in Mato Grosso (with Bolivian natural gas), and 2 units of 450 MW each one in Sao Paulo and Rio de Janeiro (associated with the gas pipeline Brazil-Bolivia); and upgrading and converting to natural gas 995 MW of existing plants. The Government is promoting the diversification of the Brazilian electricity matrix through the increasing use of natural gas.</p>  |
| <b>IV. Electricity Markets: Areas of Competition and Monopoly</b> |   |
| Bulk Power  | <p>The new wholesale electricity market in Brazil is expected to be highly competitive, as the number of participants will be significant. The horizontal unbundling of the generation companies and the entrance of new investors will guarantee a competitive environment in the country. Companies will be able to trade</p>   |

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|  | <p>electricity via a deregulated bilateral contracts market and the MAE will only be used to administer these transactions, assign non-contracted energy and allow inter-generator sales.</p> <p>Even hydroelectric plants will be allowed to trade some of their capacity in bilateral contracts. This capacity can be considered as firm, since the ONS will realize a dispatch of the system under critical conditions and set the amount of energy that each hydro plant will be allowed to trade.</p> <p>The transition period (1999-2002) will not be as competitive, as the companies will hold already assigned contracts, which don't allow them to negotiate new transactions.</p>   |
| Transmission and Distribution (Networks)   | <p>The main transmission lines are property of Eletrobrás subsidiaries and state companies such as CESP, CEMIG and COPEL.</p> <p>Regulation recommends the vertical separation of all transmission assets (in order to guarantee free access for all market agents), whether owned by Eletrobrás or by state distribution companies. The restructuring of Eletrobrás contemplates the creation of new transmission companies that will initially remain under Eletrobrás' ownership.</p> <p>The new ONS will be responsible of the transmission and distribution networks and in charge of the operation of the Wholesale Market. It will charge the use of the transmission and distribution grids and transfer it to the owners. Both distribution and transmission activities will be regulated activities as they will be considered monopolies.</p>   |
| Retail Distribution                        | <p>There are already a large number of distribution/retail companies, some of them resulting from the division of the largest distribution companies in the country (such as Eletropaulo and CEEE). Several of these companies have already been privatized or are in the process of privatization. In the largest distribution areas (such as Sao Paulo, Rio de Janeiro and Rio Grande do Sul), there are distinct concessions that will be able to compete with each other. Distribution and retail functions of the companies will be separated (with the exception of small isolated systems) through separate accounting. Distribution and retail activities will be allowed to remain under the same company but the separate accounts would clearly show the charge for the use of distribution networks. This will allow for the competition with retailers from other companies, which will be charged the same distribution tariff. The agents that could be authorized to compete in the free retail market (Authorized Free Market Retailers) include generating companies, distribution/retail companies acting outside their areas, and independent retailers or brokers.</p> <p>The new trading arrangements would fully support retail competition for free consumers who already meet the relevant criteria and for the customers who will become free when the threshold is reduced. Free customers will be able to buy from any Authorized Free Market Retailer or join the MAE. The position of large customers who already have long-term contracts will remain unchanged.</p> <p>There would be an obligation on distribution/retail companies to publish a standard purchase tariff for the excess energy from qualifying co-generation plants of less than 30 MW and to require distribution/retail companies to purchase such excess, with a guarantee of full cost recovery from the captive market.</p> |
| <b>V. Load Dispatch and Pool Operation</b> |  |
| Dispatch Entity and Basis                  | <p>The ISO (Operador Nacional do Sistema Elétrico, ONS) is expected to begin its operations by mid-1999. This entity will be in charge of scheduling and dispatching the system. It will perform energy accounting and settlement, taking into account the signed contracts and the additional transactions of the Wholesale Market (Mercado Atacadista de Energia Eletrica, MAE). It will also be in charge of the operation of the transmission grid, charging transmission services and remunerating those who provide the transmission services. It will also perform short-term planning of generation and transmission.</p> <p>SINTREL, under Eletrobrás, is currently in charge of the central load dispatch functions for the integrated federal transmission systems; and the state government-owned utilities with their own generating capacity that undertake central dispatch functions for their own systems. There are oversight committees composed of federal and state utility representatives for each of the federal systems. These committees set general guidelines for the central dispatch operations. DNAEE oversees the overall functioning of the system.</p>   |

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| Pool Operation                              | <p>The Wholesale Energy Market (MAE) will rule the new competitive environment in Brazil. The participants of this new market will be all generators with installed capacity above 50 MW, retailers with annual sales in excess of 250 GWh and non-regulated consumers (initially consumers with loads higher than 10 MW). The market will be governed by the MAE Agreement, which was signed in 1998 and will include an obligation to trade all energy through the MAE.</p> <p>MAE will replace the present system of regulated generation prices and rolling supply contracts. The new Independent System Operator (ONS) will be responsible for operational planning, scheduling and dispatch. Under this new structure, generators and the public service distribution and retail companies will continue to trade most of their energy under bilateral contracts that will specify contract prices as well as fixed volumes for their entire duration. Only non-contracted energy flows will be directly traded in the MAE and settled at MAE's price.</p> <p>During the transitional period, between 1999 and 2002, companies will have an initial set of contracts to initiate the MAE. Most initial contracts will be between generators and distribution/retail companies, each one specifying volume of energy that will be supported by the generator's whole plant portfolio. Most Initial Contracts will contain a simple price for energy expressed in R\$/MWh, which may vary by season or time of day. Contracting volumes will gradually decline starting in 2002 leaving the generators and the distribution/retail companies free to negotiate new contracts at market prices to replace the non-contracted volumes and to meet growing demand.</p> <p>Due to the high hydroelectric component of the system, and to the hydrologic risks related to it, all the hydroelectric plants will be centrally dispatched, and will use an Energy Reallocation Mechanism in order to participate in the electricity market. Under this mechanism, each hydroelectric plant will be allowed to trade certain amount of energy in the bilateral market. This energy will be defined by the dispatch of the plant in a deterministic simulation taking into account a risk of deficit of 5%. The plants that are dispatched at levels that are lower than their assured energy will buy the energy from those that are dispatched in excess at the prices set by the MAE. If the total dispatched energy is lower than the energy assured to all generators, then the difference will be allocated among all the market participants.</p> |
| <b>VI. Pricing</b>                          |   |
| Bulk Power                                  | <p>With the entrance of the MAE, contract prices will be deregulated and agreed between the parties within the framework of a competitive market, with the exception of Initial Contracts. Non-contracted energy will also be traded in the MAE, which will set spot prices based on generation costs and using models and procedures reflecting the underlying supply and demand for energy. Each generation company will have to provide the ONS with all the technical characteristics of their plants in order for the ONS to determine the optimal dispatch of the system. There would be no competitive price bidding by generators in the spot market.</p>   |
| Transmission/<br>Distribution<br>(Networks) | <p>As the system will have open access conditions for all users of the market, each "transco" (transmission company) will sign a Transmission Services Agreement (TSA) with the ONS (Operador Nacional do Sistema Eléctrico), which will be in charge of the operation and contracting of the transmission system. In return for the operation of the transmission system, the ONS will give the transmission owners a regular payment that will be linked to availability. All transmission lines with voltages equal or higher than 230 kV will constitute the basic Network of interconnected electrical systems.</p> <p>The ONS will define a set of published charges for the use of the transmission network on each interconnected system. Separate charges will apply to generation and load and will reflect the cost imposed on the transmission system by incremental use at different locations. Network users will sign Transmission Use of System Agreement (TUOS) with the ONS. The ONS will collect revenue from use of system charges and pay each transmission network owner the agreed amount. The proposed methodology for setting transmission charges is a version of long run marginal costing in which charges are based on the costs of new investment needed to meet incremental use of the network.</p> <p>In the case of distribution charges, the proposal is to use system charges for each voltage level equal to long run average incremental cost, based on a model network designed to reflect the system</p>   |

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|  | characteristics of each distribution concessionaire.   |
| Retail Tariffs                             | <p>Distribution/retail companies would use a formula that will give them some freedom to determine the structure of tariffs used to raise the allowed revenue, particular to some safeguards. Final tariff revenue should be given by the sum of transmission, distribution/retail regulated elements, and the cost of purchases of bulk energy made under contract or directly from the MAE. The formula will contain fixed and variable components to reflect the underlying cost drivers. To provide incentives in certain areas regulators would use standard costs as the basis of cost recovery, as well as other incentive elements to reward or discourage good or bad performance. ANEEL would be responsible for putting in place the initial formula for all concessionaires, however, the reviews needed at the end of each price control period could be delegated to State regulators.</p> <p>The retail cost would be regulated for captive customers, but large and unregulated customers will have the option to buy electricity either directly from the MAE or from other providers of retail service.</p>  |
| Subsidies                                  | <p>Subsidies or special discounted tariffs would apply for low-income residential consumers and for rural electricity cooperatives. The government will permit geographical cross-subsidies across the same concession area to equalize tariffs in both urban and rural areas, including any isolated systems operated by the same concessionaire.</p> <p>They also recommend that the present system of support for the excess costs of generation on isolated systems should be replaced with a new levy, the National Subsidy for Isolated Systems, which would provide funds to help keep tariffs down in those states.</p>  |
| <b>VII. Sector Problems and Priorities</b> |  |
| Framework and Other Issues                 | <ol style="list-style-type: none"> <li>1. Although there has been significant progress in the restructuring process of the electricity sector, the final regulation that will allow the initiation of the operations of both the WEM and the ISO is still not ready. ANEEL has been working hard in order to have all the necessary rules in place. Nevertheless, some regulations regarding the operation of the market need to be set in place along with the approval of the market agreement and the statute of the ISO.</li> <li>2. ANEEL needs time to be consolidated, it is already working at an accelerated pace to put in place all the needed regulation, while at the same time is bidding for new concession projects. The creation of different entities in charge of the various activities and some institutional consolidation of the company will result in a more structured entity. The consolidation of the regional agencies, however, will be even more difficult, as their strength and support will be highly diminished.</li> </ol>   |
| Operating Needs                            | <p>Substantial investment will be required in generation, transmission, and distribution to meet the growth in demand. The Expansion Plan prepared by Eletrobrás states that for the year 2008 an installed capacity of 95,700 MW (compared to the current installed capacity of 57,300 MW) will be required. The growing demand and the delays in the construction of some generating plants can create serious problems in the South/South East/Western Central system where the largest portion of the population is concentrated as well as the most important economic activities, with shortage risks of 14% in 1998. One of the essential motifs of the power sector reform is to ensure that the private sector undertakes most of the investments necessary to meet these demand requirements. However, the public sector will still need to finance the investment costs of companies that remain in public sector hands, and the costs of social or public interest investment. These include much of the transmission investments, work on rural electrification, and certain elements of new hydro schemes.</p> <p>The Government has to complement or facilitate finance through co-financing and the provision of certain guarantees and risk-sharing arrangements that would make it easy for private sources to lend. A proposed Sector Financing Agent (SFA) can play these facilitating roles. The proposed SFA will provide loans, credit facilities and guarantees for projects. It will provide indemnities against a change in law or changes in the environmental conditions that affect the cost of a particular project, and it can share risks with the private sector in a number of areas. It should also provide partial credit support for the sales by IPPs to financially weak public sector distribution companies. In the long run, the SFA should seek to mobilize domestic savings to support its activities.</p> |

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| <p>Electrification and Energy Efficiency</p>   | <p>Electricity service coverage is around 92% at the national level, but somewhat lower in the rural areas (around 45%). Up until now, distribution utilities had some responsibility for continuing electrification programs. Some industrial generators in isolated areas served to expand electrification on an <i>ad hoc</i> basis.</p> <p>The main objective of the PRODEEM program is to make possible the supply of electricity to rural areas. Recent Eletrobrás studies show that more than 100,000 communities and 3 million rural properties do not have electricity, representing more than 20 million people without access to the service. PRODEEM is a decentralized program that promotes projects in those areas. Up until now, most of the funds have come from the government or government agencies, but the government has been working with the multilateral agencies to create incentives that promote private sector participation in the program. Many of the non-served areas are productive and can attract private companies that can implement new technologies in these isolated regions.</p> <p>The primary responsibility for rural electrification would fall under the relevant distribution/retail concessionaire and should be based on targets or programs agreed with the federal and state governments.</p> <p>Regarding energy efficiency, PROCEL would be the technical advisor, catalyst, and executing agency in charge of these issues. Distribution concessionaires are under the obligation to expend 1% of their revenues in energy-efficiency type activities.</p> |
| <p><b>VIII. Sources and Relevant Web Pages</b></p>   |  |
| <p>Latin American Power Watch. Monthly Newsletter. Washington DC.</p> <p>Agencia Nacional de Energia Eletrica (ANEEL): <a href="http://www.aneel.gov.br/">http://www.aneel.gov.br/</a></p> <p>Eletrobrás: <a href="http://www.Eletrobrás.gov.br/">http://www.Eletrobrás.gov.br/</a></p> <p>Operador Nacional do Sistema Elétrico (ONS): <a href="http://www.ons.org.br/">http://www.ons.org.br/</a></p> <p>Ministério de Minas e Energia (MME): <a href="http://www.mme.gov.br/">http://www.mme.gov.br/</a></p> <p>Catholic University of Chile: <a href="http://www.ing.puc.cl/~power/southamerica/southamerica.htm">http://www.ing.puc.cl/~power/southamerica/southamerica.htm</a></p> |  |

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