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**Session II - Electricity Markets in Latin America: Regional Integration
and Competition Issues**

-- Contribution from Chile (TDLC) --

16-17 September 2014, Montevideo, Uruguay

The attached document from Chile (TDLC) is circulated to the Latin American Competition Forum FOR DISCUSSION under Session II at its forthcoming meeting to be held on 16-17 September 2014 in Uruguay.

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16-17 September 2014 • Montevideo • Uruguay

Session II - Electricity Markets in Latin America: Regional Integration and Competition Issues

REGIONAL INTEGRATION AND COMPETITION IN THE CHILEAN ELECTRICITY MARKET

-- CONTRIBUTION FROM CHILE (TDLC) * --

1. General Framework and Principles of Sector Regulation

1. Between the late 1970s and early 1980s, Chile opened up its energy sector amid a climate of State subsidiarity and the promotion of private-sector activity. This measure was consistent with the economic model characterized by competition and openness to the world adopted in all economic sectors.

2. The energy sector was thus decentralized by: (i) abolishing all state monopolies or oligopolies operating in petroleum, electricity and coal; (ii) allowing competitive markets to function where possible; (iii) distinguishing and untangling the market's three key segments, namely electric power generation, transmission and distribution; (iv) liberalizing power generation; (v) introducing a licensing regime for distribution and its regulation under a model efficient enterprise scheme, due to it being natural monopoly; (vi) taking the first steps toward regulating transmission, which is also a natural monopoly; (vii) creating a new institutional framework, comprising an ombudsman – the Fuel and Electricity Superintendence (*Superintendencia de Electricidad y Combustibles*) – and coordinating bodies – Economic Load Dispatch Centers (*Centros Económicos de Despacho de Carga*), and; (viii) producing an appropriate regulatory framework, which includes the law regulating electricity distribution tariffs.

3. All this was done for the purposes of attracting private investment into the energy sector and expanding access to electricity progressively to the entire population, both of which have been met. In fact, according to census data, while 85.2% of the country's homes had electricity in 1982, this percentage had increased to 97.1% by 2002, reaching 99.7% of homes in urban areas and 95.5% in rural areas by 2011 (meaning electricity network penetration of a total of 99.1% of the country's homes), this according to information from that year's National Socio-economic Characterization (Casen) survey.

* Tribunal de Defensa de la Libre Competencia (Competition Tribunal).

4. The regulatory framework of the Chilean energy sector assumes the principle of a free and competitive market in the generation segment. As a result thereof, power stations are given free access to transmission networks, projects are developed that are most economically viable while respecting technical and environmental regulations, and decisions over investment are taken at the risk of investors, who deal with a free price system to negotiate with end customers and distributors. The sales price charged to large consumers and distributors by energy generators is unregulated, and is the result of bilateral negotiations in the first instance, or competitive tender processes in the second.

5. Power generation companies, then, have free rein in their investment and marketing decisions. They can market their energy by entering into medium and long-term contracts at stable prices with distribution companies and large-scale mining and industrial clients, or they can sell on the spot market, negotiating the difference between their actual production and their contractual commitments by the hour.

6. Power station dispatch is programmed to satisfy total demand at the lowest possible cost. This is achieved by prioritizing the dispatch of units with lower over higher variable operating costs, a task carried out by the Economic Load Dispatch Centers in each Interconnected System.

7. In the transmission and distribution segments, the presence of economies of scale gives rise to the formation of natural monopolies, and regulation is therefore in effect, stipulating investment and open access obligations and regulating the setting of efficient cost-based pricing for service provision in both the transmission and distribution segments (Decree with Force of Law No. 4, 2007, of the Ministry of Economy, Development and Reconstruction). The National Energy Commission is the institution responsible for monitoring tariffs and implementing tariff regulation processes.

8. The transmission system is readily accessed by all generators and suppliers through a system of charges, which allows them to sell their energy regardless of their consumers' location.

9. In March 2014, the total installed generation capacity in Chile was 18,858.2 MW, of which 66% was thermally generated, and 31.7% was from hydro power.

10. Chile has four electricity systems: the Norte Grande Interconnected System, which covers the country's northern regions and contributes 28% of installed generation capacity. The Central Interconnected System, which extends throughout the central-southern region of Chile, provides energy to 92% of the country's population and contributes 71% of the total installed generation capacity. The Aysén and Magallanes Electricity Systems contribute 0.29% and 0.62% of installed generation capacity respectively, serving the two regions in the far south of Chile.

11. Institutional policy is developed by the **Ministry of Energy**, created in 2010. This task was previously undertaken by the Ministry of Economy, working jointly with the National Energy Commission.

12. The sector has a **Panel of Experts**, set up in 2005 for the purpose of resolving differences and disputes between firms.

13. In this sector, as in all sectors of the economy, economic agents must satisfy free competition regulations. The sector authorities and the authorities overseeing free competition (**FNE** and **TDLC**) are mutually independent, and their scopes and actions are clearly defined.

2. Regional Integration

14. With the opening-up of the energy sector and the Chilean electricity market, the Central Interconnected System was developed with a focus on hydroelectric and coal thermal power stations as a result of their reduced cost. The Interconnected System of Norte Grande, on the other hand, was largely developed based on coal power stations.

15. Chile's only experience in terms of regional integration in the electricity field is its natural gas imports from Argentina, the evolution of which is described below.

16. In 1995, the Governments of Chile and Argentina signed a Gas Integration Protocol, which guaranteed there would be no discrimination by Chilean purchasers towards Argentinian sellers, and ensured non-discriminatory treatment in the event of a supply deficit in Argentina, meaning that any unforeseen shortage that may arise would be apportioned between both countries.

17. Initially, the Argentine Government was willing to sell approximately 5 million m³/day of gas from its Neuquén deposits to a single purchaser in Chile (Transgas Project).

18. Later on, in response to pressure from other Chilean industrial groups that were ready and willing to develop competitive pipelines, as well as the readiness of Argentine gas producers to export the resource, the Argentine Government agreed to export natural gas from any of its deposits where sufficient reserves were available to supply internal consumption and any export commitments established.

19. This led to the Chilean "Pipeline Wars", during which several industrial groups competed to seal contracts for the sale of gas to power stations and network gas distributors in the northern (Norandino and GasAtacama pipelines) and central zones (Transgas project and GasAndes). The war eventually resulted in the materialization of four pipelines (Norandino and GasAtacama in the North, GasAndes and Pacífico in the central-southern region), as well as an electrical interconnection line connecting the 630 MW TermoAndes plant with the Norte Grande Interconnected System, and a pipeline supplying the Methanex plant in Magallanes. Thus, 3,500 MW of gas power stations were installed in the country, and natural gas distribution networks were developed in the large urban centers in central and southern Chile. This increased competition resulted in a price war in terms of the energy supply to large-scale electrical consumers purchasing at non-regulated prices, and bonuses being offered to electricity distributors for each contract they won.

20. This led the then Resolution Commission to propose a standard-setting recommendation, suggesting that an obligation be introduced for distributors to implement tenders for their energy supply in order to give all generators the same opportunity to enter into contracts with distributors. This recommendation eventually resulted in a legal amendment (known in Chile as the Short Law II, 2005).

21. The fall in prices (from 65 US\$/MWh, to prices in the region of 30 to 32 US\$/MWh – a 50% reduction) was primarily due to the lower investment costs of gas-fueled combined cycle plants, the lower cost of the fuel and the opportunity of accelerated construction, all of which facilitated the market entry of new power stations. The fact that many contracts with free clients used base-price indexing formulae (based on the regulated generation price during the period) led to successive price falls.

22. General perceptions of an unlimited natural gas supply from Argentina led the Chilean electricity sector to practically abandon all alternative technology energy generation projects – hydroelectric and coal-powered.

23. Regrettably, the devaluation of the Argentine currency in late 2001 and the price-freezing of a whole series of public goods and services including the wellhead price of natural gas – to a level ten times lower than its international value – led to a situation of paralyzed investment in the fuel's exploration and exploitation in Argentina, resulting in an increasingly uncertain climate in relation to the fuel's supply to Chile. This scenario caused the Argentine Government to breach its Gas Integration Protocol with Chile in 2004, resulting in cuts to Argentine natural gas exports to Chile.

24. This had a huge impact on Chile. All current investment programs for new gas-fueled combined cycle plants were stalled, and the available power supply was concentrated on meeting residential and commercial demands only. In industry, Argentine natural gas was substituted by diesel fuel, thus averting any energy deficit problems. However, this substitution generated sizeable losses due to the higher costs involved in using diesel compared to natural gas (from 30 to 150 US\$/MWh).

25. With generation prices posing a problem for adjusting to the new system and as a result of growing energy demand (which was growing at an average 6% a year over the period), the authorities opted to legislate and liberalize base prices.

26. Law No. 20,018 (known as Short Law II) allowed distributors to grant supply contracts through competitive bidding processes, causing base prices to be liberalized and replaced by the mean price of these tenders.

27. A further consequence of the Argentine natural gas crisis was the development of two Liquefied Natural Gas (LNG) projects: the Quintero LNG Terminal and the Mejillones LNG Terminal.

3. SIC SING Interconnection

28. Article 117 of Decree with Force of Law No. 4 of the Ministry of Economy, Development and Reconstruction allowed private enterprises to develop interconnection projects between independent systems. However, any company interested in developing such a project was obliged to convene all potential clients of its interconnection line in an open process aimed at reaching a common agreement over the terms of the contract. Under this model, the investor assumed the risks of construction and negotiating financing with the companies interested in implementing the project, and the interconnection line would become part of the additional transmission lines for the Trunk System under this model.

29. The recently approved Law 20,726, published on February 7, 2014, ensures that interconnections between independent electricity systems can now be considered new transmission projects forming part of the Transmission Trunk System. This enables the National Energy Commission to organize a competitive bidding process for the project as part of its Annual Expansion Plan for the Transmission Trunk System. Through its incorporation into this System, private investors no longer assume the risk of negotiating directly with clients, and the remuneration structure also changes, with generation paying 80% of the Transmission Trunk System's line charges and demand paying the remaining 20%. This should incentivize the development of this interconnection project.

4. Cases of Free Competition in the Electricity Sector

30. Despite some cases of enterprises having participated in the electricity sector since the Court for the Protection of Free Competition (*Tribunal de Defensa de la Libre Competencia – TDLC*) was created in 2004, the most significant cases in the matter were ruled upon by the Resolution Commission (CR), the predecessor of the TDLC, over a decade ago.

31. In the late 1990s, the National Economic Attorney (*Fiscalía Nacional Económica – FNE*) launched an investigation against generation, transmission and distribution sector enterprises that were largely owned by the same company. In Resolution No. 488 of June 11, 1997, the CR identified the risk that the market could become vertically integrated, and issued general instructions aimed at reducing this risk. The CR suggested that (i) the government should issue a Regulation aimed at resolving issues in relation to the use, tariffs and charges process in transmission networks; (ii) enterprises engaged in electricity transmission should be required to own their assets and become open corporations exclusively dedicated to transmission; (iii) it emphasized the opportunity for transmission companies to open the door to third-party shareholders, whether generation firms or not, and; (iv) in the interests of greater transparency, it recommended that distribution companies should implement public bidding processes for energy and power supply based on their own terms and conditions, which would be universally implemented, objective, non-discriminatory and in the public domain, thus removing any scope for arbitrary or illegitimate discrimination.

32. In 2002, the CR reviewed the market once more. Enersis had gained control of Endesa, which led the FNE to launch an investigation, since it believed this would bring risks in relation to: (i) the possibility for a single legal entity to monopolize the market by having majority shareholdings in companies engaged in all segments of the market; (ii) Enersis having absolute control over Endesa would negatively impact on current and potential competitors in the generation segment, as it would restrict their access to energy supplies with distributors associated with Enersis and the lines required for electricity transmission to customers, and; (iii) its control over Endesa could enable Enersis to implement discriminatory actions that favor the parent company or other companies owned by the parent company. Furthermore, the FNE mentioned the potential conglomeration effects of the transaction.

33. For the purposes of analyzing the contempt proceedings, the CR held in prime consideration the sale by the Enersis group of the transmission company Transelec S.A. to a third party, since this situation *“is predicated on the investigation insofar as its core demands were based on Endesa’s degree of control over the transmission segment”*.

34. Notwithstanding the above, in Resolution No. 667 of October 30, 2002, the CR held the view that the transaction in question did bring adverse consequences and issued a series of measures applicable to Enersis and companies under the control thereof in relation to the transparency that must exist in the administration of vertically-integrated companies, going on to reiterate the instructions stated in Resolution No. 488 in relation to the requirement to tender energy supplies, as well as issuing general instructions on how these bidding processes should be carried out.