



# **International Trade Agreements and the Peruvian Electricity Sector**

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***International Trade Agreements and the Peruvian Electricity Sector***

***Acuerdos Comerciales Internacionales y el Sector Eléctrico Peruano***

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**Organismo Supervisor de la Inversión en Energía**  
**Oficina de Estudios Económicos**  
**Documento de Trabajo N° 13**

**Acuerdos Comerciales Internacionales y el Sector Eléctrico Peruano**

**Presentación**

Los acuerdos comerciales internacionales están reconfigurando el contexto económico en el mundo al permitir una mayor libertad en el flujo de inversiones, bienes y servicios. Un caso especial es la electricidad, la cual puede ser clasificada en los acuerdos comerciales tanto dentro de la categoría de bienes, así como de servicios. En este contexto, hay dos preguntas relevantes de interés: ¿Cómo debe ser tratada la electricidad específicamente dentro de estos acuerdos comerciales? ¿Cómo puede verse afectado el sector eléctrico de un país por los nuevos acuerdos comerciales internacionales? Se busca responder a estas preguntas analizando el sector eléctrico peruano, el cual ha experimentado recientemente una serie de reformas estructurales durante la década de 1990 pero cuyo marco regulatorio podría contener aún algunas inconsistencias con los principios de los acuerdos comerciales internacionales, específicamente con el Tratado de Libre Comercio de las Américas (FTAA).

Se comienza en la Sección 2 estableciendo como el Perú se enmarca en el contexto del comercio internacional para luego estudiar en la Sección 3 cómo la electricidad es considerada en el FTAA y en otros acuerdos internacionales como el GATS (General Agreement on Trade in Services) y el NAFTA (North American Free Trade Agreement). Las características del sector eléctrico peruano son presentadas en la Sección 4 para permitir el análisis sobre las probables consecuencias del FTAA sobre el sector eléctrico, tema que será tratado en la Sección 5.

## **International Trade Agreements and the Peruvian Electricity Sector**

**Pierre-Oliver Pineau<sup>1</sup>**

### **1. Introduction**

International trade agreements are reshaping the economic context of the world by allowing freer flow of investments, goods and services. Energy and electricity products have this particular characteristic of ranging over both good and service classifications. How is electricity in particular treated within these trade agreements, which clearly distinguish between good and service sectors? How can the electricity sector be affected by new agreements? We answer these questions and analyze the Peruvian electricity sector, which has recently been reformed, but whose regulation might still contains some inconsistencies with principles of international trade agreements, specifically the Free Trade Agreements of the Americas (FTAA).

We start in section 2 by setting the international trade context of Peru and then study in section 3 how electricity is considered in the FTAA and other international trade agreements, the General Agreement on Trade in Services (GATS) and North American Free Trade Agreement (NAFTA). The Peruvian electricity sector is presented in section 4, to allow the analysis on the probable consequences of the FTAA on the electricity sector to be made in section 5.

### **2. The International Trade Context**

#### **2.1. Peruvian involvement in trade agreements**

Peru is involved in different trade and bilateral agreements. The information summarized in Table N° 1 comes from the Foreign Trade Information System developed and maintained by the Organization of American States (OAS, 2003) and the Peruvian Ministry of Foreign Trade and Tourism (MINCETUR, 2003).

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**Table N°1: Peruvian participation in trade and economic integration agreements**

<b>Name</b>	<b>Type</b>	<b>Details</b>
<b>Latin American Integration Association (LAIA)</b> - <i>Asociación Latinoamericana de Integración (ALADI)</i>	Regional Scope Agreements	Association created in 1980 (Montevideo Treaty) promoting integration among the 12 Latin American member countries (Argentina, Bolivia, Brazil, Chile, Colombia, Cuba, Ecuador, Mexico, Paraguay, Peru, Uruguay y Venezuela). It succeeded the 1960 Latin America Free Trade Association ( <i>Asociación Latino Americana de Libre Comercio, ALALC</i> ) that failed due to simultaneous import-substitution policies that member countries were practicing (Kaltenthaler and Mora, 2002).
<b>Andean Community</b> – <i>Comunidad Andina (CAN)</i>	Customs Union	Established in 1969 through the Cartagena Agreement (signed by Bolivia, Colombia, Ecuador, Peru, and Venezuela). The Andean Community became more powerful in 1996 (Protocol of Trujillo) with the establishment of the Andean Integration System, a series of bodies and institutions that pursue the objectives of intensifying Andean subregional integration. Some negotiations with Mercosur took place with the signature in 1998 of a framework agreement for a South American free trade zone.
<b>Economic Complementation Agreement between Chile and Peru for the Creation of a Free Trade Area</b> - <i>Acuerdo de Complementación Económica entre Chile y Perú para la Conformación de una Zona de Libre Comercio</i>	Bi-lateral agreement	Signed in 1998, it establishes a schedule of progress for integration, within the LAIA framework.
<b>Partial Scope Economic Complementation Agreement with Colombia, Ecuador, Venezuela (as members of the Andean Community) and Brazil</b> - <i>Acuerdo de Alcance Parcial de Complementación Económica con Colombia, Ecuador, Venezuela (como miembros de la Comunidad Andina) y Brasil</i>	Multilateral agreement	Signed in 1999, it establishes a framework towards the integration of the Andean Community and the Mercosur.
<b>Andean Trade Preferences Act (ATPA)</b> - <i>Ley de Preferencias Arancelarias Andinas</i>	Multilateral agreement	Signed with the US in 2002 as part of the Andean Trade Program and Drug Eradication Act (ATPDEA), in which Colombia, Ecuador and Bolivia are also involved. This act renewed, until 2006, some customs exemptions on specific products.
<b>Investment and other treaties</b>	Bi-lateral treaties	Peru has signed various sectorial investment and trade treaties with Argentina, Bolivia, Colombia, El Salvador, Paraguay, Uruguay, Venezuela, Mexico.

Source: MINCETUR.

Peru is also a member of the Asia-Pacific Economic Cooperation (APEC) forum since November 1997, but this forum has no legislative power. Its goal is to facilitate economic growth, cooperation, trade and investment in the Asia-Pacific region.

In the electricity sector, important international trade developments are planned since the decision of Colombia, Ecuador, Peru and Venezuela to work towards the integration of their electricity transmission networks and market (CAN, 2001). The first transmission line linking Peru and Ecuador is planned to be in service in September 2004 (MEM, 2002). This initiative is discussed in more details in section 4.5.

Although Peru is already involved in many trade agreements and initiatives, as Table N° 1 shows, most of these will be subsumed under the FTAA, an global agreement that in aligned with both of the main agreements of the World Trade Organization (WTO): the General Agreement on Tariffs and Trade (GATT) and the GATS. In some views, the FTAA is extending to the south the NAFTA (Katz, 2002). This prompts for a better understanding of the NAFTA, would it be only because the main trading partner in both the NAFTA and the future FTAA is the United States.

Peru takes part in the FTAA negotiations as one of the 34 democratic countries of the Western Hemisphere that all agreed in the 1994 Summit of the Americas to unite their economies in a single free trade agreement. For the WTO, it is participating as a signatory member, since 1951, of the historical root of the WTO, the GATT. Because the FTAA will mostly prevail over previous agreements, we focus our attention on it. But before presenting the FTAA, we provide in the following sections some background information on the WTO's GATT and GATS and on the NAFTA, because they set an important context to understand the FTAA. After these introductions to the various agreements, we will conduct the analysis of their possible impacts on the Peruvian electricity sector.

## **2.2. The WTO: GATT and GATS**

As international trade increased after the 1947 GATT and expanded beyond goods, for which the GATT was designed, the need for an international body overseeing all trade issues (negotiations and disputes in all sectors) was being felt worldwide. The Uruguay Round of Multilateral Trade Negotiations (usually simply referred to as the “Uruguay Round”) took place between 1986 and 1994 among signatories of the original GATT. It led to the creation of the WTO, in 1995, the institution dealing with international trade issues. Along with the creation of the WTO, the results of the Uruguay Round were an update of the GATT<sup>2</sup> and the creation of the GATS, to set the ground for trade in services and well as for further liberalization in these sectors. Other agreements reached at the end of the Uruguay Round deal with Trade-Related

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<sup>2</sup>. There is now a “GATT 1994” that is the updated version of the “GATT 1947”. See the Annex 1A of WTO (1994).

Aspects of Intellectual Property Rights (TRIPS), dispute settlement, trade policy review mechanism and plurilateral agreements. A new “round” of WTO negotiations started in 2001 after a conference in Doha, with many trade issues on the agenda, such as agriculture, services or electronic commerce, among others (see WTO, 2001a, for all areas and more details on the content of the negotiations).

The GATS is built on the same principles used in the GATT, but applied to service sectors. It represents an international effort to develop a global *multilateral trading system* in services, as opposed to specific *regional agreements* among different countries, leading to regional free trade integration, but also to differently integrated groups of countries, such as the European Union, Mercosur or NAFTA.<sup>3</sup> The GATS does not dictate liberalization in services, but sets a framework on how liberalization of trade in services should be done, with a schedule of commitments each country submits and has to follow.<sup>4</sup> Hence, the GATS only applies to sectors in which member countries make commitments. Three important principles in the GATS define the backbone of this framework:<sup>5</sup> (1) Most Favored Nation (MFN) treatment; (2) Market Access and (3) National treatment. Transparency in regulation and information is also an important principle (article III of the GATS).

The MFN treatment principle (article II) compels member countries to treat service providers from all countries as well as the Foreign Service provider that has the most favored treatment. This means that if a country has specific rules that favor a service provider from another country, then these rules should apply to all service providers, without discrimination with respect to their country of origin. However, to limit the scope of MFN, a list of exemptions can be submitted by each country, to exclude some sectors from the MFN requirement (see article II.2 and Annex on article II Exemptions).

The two other principles, market access (article XVI) and national treatment (article XVII), apply only to sectors that countries voluntarily want to liberalize. In such a case, they list the liberalization commitments they want to make for each sector of their choice. This list is called the “Schedule of Specific Commitments” and is defined in article XX.

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<sup>3</sup>. See OEDC (1995) for more on the distinctions between multilateral trading system and regional agreements.

<sup>4</sup>. Commitments are made for specific sectors and for different *modes of supply*. Services are categorized into four different modes of supply (GATS, article I.2). The supply of a service from a *provider* in one country to a *consumer* in another country can be made through: **Mode 1** - Cross-border (only the service “travels”); **Mode 2** - Consumption abroad (the consumer travels); **Mode 3** - Commercial presence in the consuming country (the provider has a permanent commercial presence abroad); or **Mode 4** - Presence of natural persons (staff of the provider travels to the point of consumption).

<sup>5</sup>. See WTO (1999) for a complete introduction to the GATS.



The market access principle spells out six different types of limitations that a country cannot use to prevent a service supplier to operate in its territory (article XVI, 2a to 2f). The six forbidden types of limitations are limitations on:

- the number of suppliers in the market (in any possible manner);
- the value of transactions or asset values of the supplier;
- the quantity of services offered by suppliers;
- the number of employees of the suppliers;
- the legal status of suppliers that can provide services;
- the amount of foreign ownership in the supplier's capital.

Finally, the national treatment principle simply States that foreign suppliers should be treated exactly as national suppliers.

To sum up, it can be said that rather than directly opening the service sectors to international competition, the GATS sets a common backdrop for future liberalization in the service industries. With its “positive listing” approach (a sector has to be explicitly mentioned as a country commitment to liberalization to be subject to international trade), rather than mandatory liberalization, it leaves room for various speeds of progress to signatory countries.

### **2.3. The NAFTA**

The NAFTA was signed in 1994 between Mexico, the United States of America and Canada to create a free-trade area for goods and services covering the three member countries.<sup>6</sup> It differs from the GATS in the way sectors are subject to liberalization, removal of trade barriers and absence of governmental favorable treatment. Under NAFTA, all goods and services from the member countries are subject to international competition without restrictions. Countries do not have to “commit” themselves in the sectors of their choice. The same principles of MFN, market access and national treatment are found in this agreement.

However, although NAFTA may first appear to be all-inclusive, its structure conveys a lot of distinctions between sectors. This limits the scope of influence of NAFTA to some sectors, and excludes some strategic sectors from international competition. Also, in some instances, it avoids the need to introduce regulatory reforms to eliminate protections provided by national

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<sup>6</sup> The text of NAFTA and more information on the agreement can be found at the NAFTA Secretariat's web site: [www.nafta-sec-alena.org](http://www.nafta-sec-alena.org)

laws. The main sectors benefiting from a special treatment under NAFTA, and for which a specific chapter has been written to exclude them from the general rules defined otherwise, are:

- Energy (Chapter 6);
- Agriculture (Chapter 7);
- Telecommunications (Chapter 13);
- Financial services (Chapter 14);
- Cultural industries (Chapter 21, Annex 2106).

Other less important reservations exist, as specified in the Canadian, US and Mexican schedules of Annex I, but also in other chapters and annexes. These reservations specify special treatment under NAFTA for sectors such as fisheries, transportation (especially air transportation) and others.

Furthermore, the Annex III contains some limits of the applicability of NAFTA in some sectors, with a list of “Activities Reserved to the State”. Although this annex is presented as applying to the three member countries, only Mexico has a schedule of activities that are under the exclusive power of the State. For instance, the government of Mexico has retained the right to provide all energy goods and services to the population (petroleum, electricity, nuclear power), as well as for some other sectors, such as postal service or railroads. Canada and the US do not have such power under NAFTA.

NAFTA is therefore a significant step forward in terms of trade liberalization of goods and services for the three member countries. It goes beyond the GATT and the GATS, because it automatically includes almost all sectors in the created free-trade area, which is the world's largest one. However, with numerous chapters on specific sectors and many annexes spelling out restrictions to free markets and international trade, NAFTA is far from the ultimate stage where liberalization can go.

## **2.4. The FTAA**

The negotiations for the Free Trade Area of the Americas<sup>7</sup> (FTAA) started in December 1994 with the First Summit of the Americas in Miami.<sup>8</sup> The goal of the negotiations is to sign an

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<sup>7</sup> The Spanish name for the FTAA is *Área de Libre Comercio de las Américas* (ALCA) and the French one is *Zone de Libre-Échange des Amériques* (ZLÉA).

<sup>8</sup> The Second Summit of the Americas was in April 1998 in Santiago (Chile), the Third was held in Quebec City (Canada) in April 2001. Many other Ministerial meetings and Negotiating Group meetings (from the 9 different negotiating groups) have been held more frequently (see FTAA, 2003, for more details).

agreement by January 2005, in order to have a free trade area into force by December 2005. This regional agreement builds from the GATT, GATS and NAFTA in the sense that it is consistent with both WTO agreements, but without a generalized positive listing approach. A negative listing approach is rather used in the FTAA, as in NAFTA: sectors have to be excluded to avoid coverage by the agreement. It also takes into considerations all other regional agreements, as the ones listed in Table N° 1.<sup>9</sup>

However, a slightly different negotiation approach is adopted in the FTAA, compared to NAFTA. Goods and services are dealt with in a very inclusive manner, with very few mention of specific sectors and exclusions to the agreement. Exceptions are mainly limited to agriculture (the only specific sector for which a chapter is devoted), air transport (that is simply not affected by the FTAA) and governmental activities and services. This being said, the same principles found in the GATS and NAFTA are again found: MFN treatment, market access and national treatment. In the chapter 8 on services, however, the possibility for countries to have a “list of specific commitments” is introduced.<sup>10</sup>

This would lead to an approach similar to the GATS “positive listing” approach in the service sector if the countries agree in the negotiations on this principle. However, this concept of a list of commitments, as spelled out in the current draft agreement (FTAA, 2002), is introduced much less formally than in the GATS, where the third part is specifically devoted to commitments (articles XVI to XVIII of the GATS). In the FTAA, the mention of this list of commitments is relegated to a section that is not even an article in the current version, and which has an unclear interpretation.

The key innovation of FTAA is therefore to include almost all sectors in the liberalization process, leading –if negotiations are successful– in an immense region of free trade where almost all economic activities will have to be opened to international competition, in a level playing field in each country with respect to MFN treatment, market access and national treatment.

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<sup>9</sup>. FTAA’s chapter 1, article 4 on Application and Scope of Coverage of Obligations establishes that the FTAA “shall co-exist with bilateral and subregional agreements, and does not adversely affect the rights and obligations that one or more Parties may have under such agreements, to the extent that such rights and obligations imply a greater degree of integration than provided for [in the FTAA]” (4.3).

<sup>10</sup>. For the specific paragraphs on this list of specific commitments, see the Section on other issues related to the above (“the above” being the eight articles of the chapter 8 on services), page 8.24 of FTAA (2002).

### 3. Electricity in Trade Agreements: a good or a service?

To see how the Peruvian and any other “western hemisphere” electricity sector could be affected by the FTAA, it is important to understand how the different products involved in the electricity supply are defined in the different trade agreements in terms of *goods* or *services*. We first present how electricity is classified in the main international product classification systems, covering different types of goods (commodities) and services. In the following sections, we analyze how NAFTA, the GATS and the FTAA treat electricity.

#### 3.1. International classification systems

The Statistics Division of the Department of Economics and Social Affairs of the United Nations maintains a list of international family of economic and social classifications.<sup>11</sup> Among the different types of classifications, the different product classifications help understand how different products are included in trade agreements. For instance, the 1947 GATT is an international agreement on goods, not explicitly including –nor excluding– electricity. This is paralleled by the fact that the Harmonized Commodity Description and Coding System (HS) does not strictly include electrical energy as a good (it is *optionally* considered as such in this system, see Table N° 2).<sup>12</sup> Indeed, as reported in WTO (1998), the GATT was never comprehensively applied as a framework for international electricity trade, simply because the non-storable nature of electricity did not lead to its inclusion in the commodity category. As an illustration of the little relevance of the GATT to the electricity sector, one can see Plourde (1990) where energy implications of the GATT and the 1987 Canada-United States Free-Trade Agreement are discussed, with very little impact on the electricity sector (access to transmission lines being an exception).

The place of electricity in different service classification systems is also unsatisfactory. Indeed, the WTO Services Sectoral Classification List (referred to as “W/120” see WTO, 1991) does not include electricity. As shown in Table N° 2, only “services incidental to energy distribution” are considered as services, and this would exclude most of the electricity sector (from production to distribution). The complexity of the nature of electricity and of its sector, involving a vast range of different intermediate products, is probably well demonstrated by the

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<sup>11</sup>. See the paragraph *International Economic and Social Classifications* at the web site <http://unstats.un.org/unsd/methods.htm>

<sup>12</sup>. The Harmonized Commodity Description and Coding System (HS) is maintained by the World Customs Organization. A 6-digit code is attributed to about 5,000 commodity groups. HS was agreed on in 1983 and is a modification of the 1950 Convention on Nomenclature for the Classification of Goods in Customs Tariffs. The goal of HS is to facilitate the identifications of internationally traded commodities for customs tariffs and statistical purposes.

many different sections and subclasses in which electricity-related products are listed in the Central Product Classification (CPC).

The CPC, whose custodian is the United Nations Statistics Division, covers both goods and services. Its objective is to facilitate the statistical analysis of trades through a unique coding system of products. Electricity-related products, without explicit categorization under “commodity” or “service” headings, are found in four of the ten different sections of products (sections 1, 5, 6 and 8). The seven different products (with their subclass number) are: electrical energy (17100), electrical wiring and fitting services (54611), transmission of electricity (69111), distribution of electricity (69112), other support services, including reading of electric, gas, and water meters (85990), electricity transmission services on a fee or contract basis (86311), electricity distribution services on a fee or contract basis (86312). Table N° 2 provides more details on these classification systems.

**Table N° 2: Product classification systems**

<b>Name of the system</b>	<b>Position of electricity in the classification system's hierarchy</b>	<b>Explanation</b>
<i>Harmonized Commodity Description and Coding System, (HS, 2002)</i>	<b>Chapter 27</b> Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes <b>2716.00</b> Electrical energy (optional heading)	This system only classifies goods. Electrical energy is included only optionally, its nature as a good or service being ambiguous.
<i>WTO Services Sectoral Classification List (1991) W/120</i>	<b>1. BUSINESS SERVICES</b> <b>F. Other Business Services</b> <b>j. Services incidental to energy distribution</b>	This list contains 12 sectors of services and reflects the fact that energy services were not discussed in the Uruguay round.

<i>Central Product Classification (CPC Version 1.1 2002)</i>	<p><b>Section: 1</b> - Ores and minerals; electricity, gas and water  <b>Division: 17</b> - Electricity, town gas, steam and hot water  <b>Group: 171</b> - Electrical energy  <b>Class: 1710</b> - Electrical energy  <b>Subclass: 17100</b> - Electrical energy</p> <p><b>Section: 5</b> - Construction services  <b>Division: 54</b> - Construction services  <b>Group: 546</b> - Installation services  <b>Class: 5461</b> - Electrical installation services  <b>Subclass: 54611</b> - Electrical wiring and fitting services</p> <p><b>Section: 6</b> - Distributive trade services; lodging; food and beverage serving services; transport services; and utilities distribution services  <b>Division: 69</b> - Electricity distribution services; gas and water distribution services through mains  <b>Group: 691</b> - Electricity distribution services and gas distribution services through mains  <b>Class: 6911</b> - Electricity transmission and distribution services  <b>Subclass: 69111</b> - Transmission of electricity  <b>Subclass: 69112</b> - Distribution of electricity</p> <p><b>Section: 8</b> - Business and production services  <b>Division: 85</b> - Support services  <b>Group: 859</b> - Other support services  <b>Class: 8599</b> - Other support services n.e.c.  <b>Subclass: 85990</b> - Other support services n.e.c. (including reading of electric, gas, and water meters)</p> <p><b>Division: 86</b> - Services incidental to agriculture, hunting, forestry, fishing, mining, and utilities  <b>Group: 863</b> - Services incidental to electricity, gas, and water distribution  <b>Class: 8631</b> - Services incidental to electricity  <b>Subclass: 86311</b> - Electricity transmission services (on a fee or contract basis)  <b>Subclass: 86312</b> - Electricity distribution services (on a fee or contract basis)</p>	<p>The products related to the electricity industry are in many different sections of goods and services.</p>
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Looking at the classification problem not from the *product* point of view but from an *industry* point of view is of no help. As a table similar to Table N° 2 shows in Annex N° 1, the electricity industry covers different sectors that are not equally treated in the different industry classification systems.

### 3.2. Electricity in the GATS

The text of the GATS specifies that this agreement covers “any service in any sector except services supplied in the exercise of governmental authority” (Article I, 3b). Governmental services are further restricted to “any service which is supplied neither on a commercial basis, nor in competition with one or more service suppliers” (Article I, 3c). However, electricity supply and the electricity sector in general, are not considered to be subject to the GATS. This comes from the ambiguity mentioned previously on the nature of the “electricity product” and is

formalized in the GATS structure by the absence of almost all energy services from the W/120 list, as illustrated in Table N° 2. This explains why there is only a limited literature on how the GATS could affect the electricity sector. The only contribution found was Griffin Cohen (2001), which provides a Canadian perspective on the issue. In this section, beyond reporting on the position of electricity in the GATS, we review how negotiations that have followed the signature of the GATS in 1994 could include the electricity sector in the future.

In a Background Note on Energy Services (WTO, 1998), a general portrait of energy services in the GATS is provided. It describes how liberalization could take place in a GATS framework, with some indications on how energy is treated in other free trade agreements. It points to the need of clarifying how energy and electricity services are classified, as goods and/or services. Consequently, this theme is part of the new Doha round of GATS negotiations that started in 2000.<sup>13</sup> The energy sector is indeed included as a specific sector in which countries want be able to make specific commitments. Chile, the US and other countries have explicitly expressed their desire to see the energy sector included. In their position, Stated in WTO (2000a and b), the US ask to explicitly include energy services in the W/120 list, to allow all countries to reap the benefits of liberalization, as it is argued. For its part, Chile in WTO (2001b) calls for a much broader inclusion of types of services in the GATS, including energy services, but also air transport services.<sup>14</sup> Other proposals by the European Union (WTO, 2001c), Japan (WTO, 2001d) and Venezuela (WTO, 2001e) also support the inclusion of energy services in the GATS negotiation agenda and a renewed classification for energy products.

With this background, a Negotiating Proposal on Energy Services (WTO, 2002) has been put forth, setting a basis for the new round of negotiations. The global goal is of course to fully bring this sector under the GATS in order to favor more liberalization, but some willingness to “guarantee the right of developing countries to regulate and handle the supply of energy services in their territories in order to meet their domestic policy objectives” is also mentioned (paragraph 5 of WTO, 2002). As developments in negotiations occur, the extent to which the

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<sup>13</sup>. Although the Doha round only started in 2001, sector negotiations had already begun and were included in the Doha declaration (WTO, 2001a).

<sup>14</sup>. Air transport is a sector that has seen important *national* liberalization reforms but for which, surprisingly, *international* liberalization seems very difficult to obtain. It is, for instance, excluded very early in article 1 of the chapter 8 on services of the second draft version of the FTAA (FTAA, 2002), even if one of the FTAA’s negotiation principles is to exclude no sector. A possible explanation for this could be the current complexity of the international air transport regulation and the numerous bi-lateral agreements already in place. See for example the US final list of article II (MFN) exemptions to the GATS in WTO (2003b). The explanation for the Air Transport Service sub-sector exclusion is the “common policies and practices” already in place, in a context of “mutual agreements and balanced exchanges of rights and responsibilities”. Another possible explanation could be national security reasons. They would lead to a fear of giving up sovereign power to an international agreement, allowing commercial companies from any country to fly over national territories.

energy sector, and electricity supply, will be fully and clearly included in the GATS should be determined by January 2005, the scheduled deadline of these negotiations.

### **3.3. Electricity in the NAFTA**

Electricity, as an energy product, receives in NAFTA a similar treatment to the one it had in the 1987 Canada-US Free Trade Agreement (FTA), in the case of Canada and the US. Mexico, however, has reserved for itself a very different treatment. This section provides a presentation of the place of electricity in NAFTA, using the text of the agreement (Government of Canada et al., 1994) and research papers on NAFTA and the energy sector (Plourde, 1993, Horlick, Schuchhardt and Mann, 2002, and Bradley and Watkins, 2003).

The characterization of electricity as a good in NAFTA draws on the Canada-US FTA, GATT and HS classification of goods. This treatment of electricity as a good tends however to exclude from the agreements the service sectors associated to electricity supply (what falls under sections 6 and 8 of the CPC, as presented in Table N° 2). Indeed, NAFTA acts essentially as a trade and investment promotion tool for goods in this sector, leaving all energy service sectors free of direct pressure to be further liberalized. What follow describes the situation for Canada and the US, as Mexico excluded itself from these provisions through annexes 602.3 and III. In the case of Mexico, the State remains the dominant market regulator and actor, even if some private investment and energy trade are partially authorized.

Under normal circumstances,<sup>15</sup> no quantitative or price restrictions in trade in energy can be imposed by the countries, but a system of import and export licenses can however be used (article 603) to regulate –to some extent– energy exchanges. In practice, however, these licenses have never been binding. Trade and investment in electricity are therefore open to US and Canadian companies in both countries, but serious de facto limitations characterize the electricity sector through the presence of State monopolies in many American States and Canadian Provinces. Articles 1502 and 1503 on Monopolies and State Enterprises indeed maintain the right of governments to establish, designate and authorize monopolies and State enterprises in any sector, as long as other NAFTA requirements are respected. In the case of electricity, this allowance of State enterprises and monopolies leave all States and provinces with the possibility to heavily regulate the electricity sector, granted that electricity trade with other jurisdictions and investment are conducted according to NAFTA rules.

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<sup>15</sup>. Extraordinary circumstances, defined in article 607 of NAFTA, are essentially national security measures. They allow countries to restrict exports.



In effect, NAFTA has changed little of the electricity sector, first because no new obligation was introduced from the Canadian-US FTA and, second, because Mexico excluded itself from a similar agreement. A few jurisdictions have however taken the initiative to liberalize their electricity sector, the infamous examples being the State of California and to a lesser extent the Canadian provinces of Alberta and Ontario.

### **3.4. Electricity in the FTAA**

As the FTAA is still under negotiations, any analysis is limited by the fact that no definitive document is available. However, a second draft of the agreement is available (FTAA, 2002) and initial principles have been laid out, where consistency with the “rules and disciplines of the WTO” is Stated.<sup>16</sup>

The general approach of the FTAA is to make no a priori exclusions in services in the negotiations. The excellent background paper on services made by CEPAL (1998) has been used in the preparation of the FTAA. This document presents the complexity of defining services through an academic literature review of the definitions of service, reviews the principles on which liberalization can be introduced in this sector and the possible impediments to market access.

Following this broad, inclusive, sectorial approach, no explicit mention of electricity and energy products, as goods or services, is made in the second draft of the FTAA. This means that, a priori, all electricity goods and services will be treated exactly as any other goods and services, with the implication that no barriers to trade and investment could be maintained in the electricity sector. Enforcement of MFN treatment, market access and national treatment would be guaranteed for all service providers of all signatory nations. This has however to be mitigated by some different ways of defining exemptions, which are now reviewed.

The *non*-distinct treatment of the electricity (and energy) sector is at variance with the GATS (that currently does not cover most of the energy sector) and with NAFTA (that excludes it from the full scope of the agreement through a dedicated chapter). It can however be noticed that some other sectors receive a distinct treatment in the FTAA:

- *agriculture* – with chapter 2 being specifically dedicated to it;

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<sup>16</sup>. The principles of negotiation can be found in the yearly Ministerial Declaration of the 34 participating countries, since 1995, at [www.ftaa-alca.org](http://www.ftaa-alca.org) or in chapter 1, article 3 on Principles, in FTAA (2002).

- *law enforcement, correctional services, income or unemployment insurance or social security services, social welfare, public education, public training, health, and child care* – which are protected in various articles of the FTAA such as article 1.5 of chapter 4 on investment or article 1.6 of chapter 8 on services;
- *financial services, air transport services* and some other smaller sectors – which are excluded from the coverage of chapter 8 on services in article 1.2.

However, beyond these sectors, the FTAA will most probably also contain different provisions to protect specific sectors that some countries may not want to see open to international trade and investments, with full MFN treatment, market access and national treatment. Table N° 3 presents draft FTAA articles that could directly be applied to the electricity sector to exempt it from FTAA coverage. This table is derived from the more general Annex N° 2, where the main articles leading to exemptions are listed (from the draft version of the FTAA).

**Table N° 3: Draft FTAA articles leading to possible exemptions in the electricity sector**

FTAA chapter	Article	Description
<b>1. General and Institutional Issues</b>	13.1	Some special sector treatment could be permitted due to differences in the <b>levels of development</b> between countries.
<b>4. Investment</b>	1.3	Economic activities reserved by countries on Annex XX (unfound in a) to c) the draft) or for national securities reasons.
	1.3	Parties may exclude investment in certain sector (easier to do for smaller economies)
	12.1	Some exempted sectors may be listed in this article.
	12.2	Some principles [national treatment, MFN, performance requirements...] may not apply to some sectors listed in an annex.
	12.3	MFN does not apply to some sectors listed.
	12.9	Smaller/developing economies can maintain reservations in sensitive sectors.
<b>5. Market Access (for goods)</b>	4.10	(page 5.3) Smaller/developing economies can benefit from more favorable tariff elimination conditions.
	page 5.16-5.17...	Temporary safeguard measures.

<b>8. Services</b>	1.7	For smaller/developing economies there shall be flexibility in meeting the commitments of this chapter.
	1.8	Comprehensiveness of the coverage shall be linked to the extent and rate at which the modes of supply for the provision of services are liberalized
	1.9	No provision of this Chapter shall be construed to prevent a Party from having the right to regulate and to introduce new regulations to achieve domestic policy objectives.
	2.3	Smaller/developing economies can list exemptions to MFN treatments.
	5.1	Positive/negative listing has to be decided for <b>national treatment</b> .
	5.6	Smaller/developing economies can list exemptions to national treatments.
	8	Definition of service exclude “other activities conducted by a public entity for the account of or with the guarantee or using financial resources of the government”.
	page 8.17	“sectors in which commitments are undertaken”: this leaves the door open for countries to <i>not</i> commit some sectors to MFN treatment, market access and national treatment.
	page 8.24	List of specific commitments (for market access and national treatment)
	page 8.24	Reservations of MFN treatments / Non-conforming measures.
<b>10. Competition Policy</b>	2.2	Monopolies are protected as a right for Parties to designate and maintain a monopoly.

The analysis of Table N° 3 leads to a few conclusions:

- Developing countries will benefit from more acceptance to *not* open some sectors to trade and investment (chapter 1, 13.1; chapter 4, 12.9; chapter 5, 4.10; chapter 8, 1.7, 2.7, 5.6).
- Monopolies will not have to be terminated (chapter 8, 1.9; chapter 10, 2.2).
- Countries will be able to exempt some sectors without having to use a smaller/developing economies-type provision or having to create a monopoly (chapter 4, 1.3, 12.1-3; chapter 8, 5.1, 8, paragraphs on page 8.17 and 8.24).
- Coverage of the FTAA for services will depend on the level of liberalization (chapter 8, 1.8).

These articles should allow the signatories countries to exempt parts of the electricity sector from the FTAA, even if no particular treatment for electricity and energy has been included in the design of the agreement.

### 3.5. Analysis

The evolution of the treatment of the electricity sector in trade agreements clearly shows a trend towards its full inclusion. Table N° 4 summarizes this evolution. The 1994 GATS and NAFTA were not covering this sector for the most part, but FTAA is, and recent GATS negotiation proposals in the service sector indicate that energy services will be explicitly covered in the reviewed GATS, due in 2005, with a new classification of the sub-sectors to reflect the complexity of the sector. For instance, WTO (2003a) adopts a very positive tone for an all-inclusive liberalization of all energy services, and this is supported by other countries already cited in section 3.2.

**Table N° 4: Summary of trade agreements**

	<b>Year</b>	<b>Coverage</b> (Approach for commitments)	<b>Electricity</b>
<b>WTO – GATT</b>	1947	Universal coverage for goods (Positive listing)	Optionally as a good.
<b>WTO – GATS</b>	1994	Universal coverage for services (Positive listing)	Not included in the initial negotiations.
<b>NAFTA</b>	1994	Universal coverage (Negative listing)	As a good (HS definition), but with some restrictions.
<b>FTAA</b>	2002 (2005)	Universal coverage (Negative listing in general and possibly positive for services)	As a good and a service.

The principles do not, however, always translate directly into real commitments. Indeed, in country offers for new commitments, a more limited coverage of sub-sectors is included. This is illustrated by the US initial offer on new sectorial commitments for market access, MFN and national treatment (WTO, 2003b), where no new commitment is made for the electricity sector. Furthermore, a paragraph of this US offer makes sure that nothing in it “should be construed as extending a mode 3 right [see footnote3 on modes of supply] to acquire or invest in a government monopoly that provides a service within any of the sectors or sub-sectors included in the offer” (WTO, 2003b, page 96). This clearly protects the current electricity sector of many American States, where monopolies are involved in transmission, distribution and other sub-

sectors. Publicly available initial offers of other countries do not even mention energy services (WTO, 2003c, d and e), except the Norwegian one (WTO, 2003f) that goes extremely far. It proposes complete opening in the “energy commercialization services”. It should however be mentioned that Norway already has an open market in its electricity industry (see Pineau et al., 2003, for more on Norway and its level of openness and integration with other Nordic countries).

This trend in trade agreements to not treat differently the energy/electricity sector from other goods and services sectors will make it more difficult for countries not to open this sector to international trade and investment. Even in the presence of some provisions allowing exemptions to be defined and specific commitments to be made, in the long run, the same coverage is very likely to apply to all sectors. Exemptions will have to be regularly justified to be maintained, and are presented only as temporary measures, until “further liberalization” is made. Indeed, specific commitments have to be broadened over the years, and this will have to include all electricity sector goods and services, at least if the objectives adopted in the FTAA and GATS negotiations are kept the same: “to enhance competition and improve market access” (FTAA, chapter 1, article 2.c) and reaching “the early achievement of progressively higher levels of liberalization of trade”.<sup>17</sup>

#### **4. The Peruvian Electricity Sector**

Before presenting the Peruvian electricity sector, we introduce a general framework to better understand how the sector can evolve.

##### **4.1. A framework for the electricity sector**

The electricity sector is a multiplayer industry with many different sub-sectors. The diversity of players comes from the fact that they may be involved in one, many or all sub-sectors, and from the obligation to have regulators when only a single player, or only a small number, is involved in a sub-sector. Different manner of dividing the electricity sector have been proposed. When the sector was unchallenged as a natural monopoly by economists, international institutions and pressure groups, the sub-sectors were said to be generation, transmission and distribution. These sub-sectors respectively consisted in energy generation from power plants, transmission of energy through a network of high voltage power lines and distribution of energy to final users through a network of low voltage power lines. With the reforms that were carried out in many

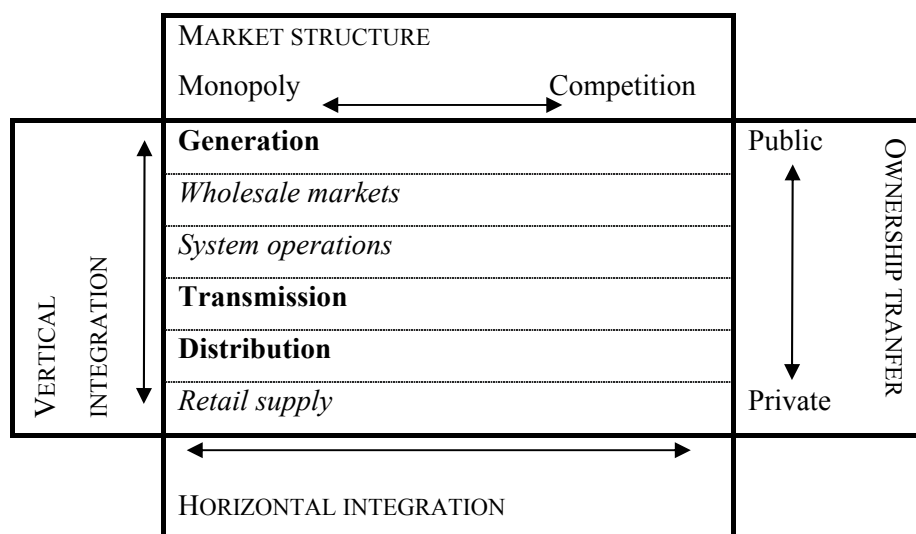
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<sup>17</sup>. Introduction to the GATS, in the Annex 1B of WTO (1994).

countries, the unbundling of the sector created “new” sub-sectors that could be organized in a different way. These newly identified sub-sectors are the *wholesale markets*, *system operations* and *retail supply*. Wholesale markets correspond to the way electricity trade is organized. Trade can be done through standardized (or not- standardized) bi-lateral contracts of various lengths, or in a spot market operated by a third party, where sellers and buyers almost continuously trade energy for short periods of time. Wholesale markets also include financial markets where risk management products are traded. System operations cover the technical tasks of operating the electrical network in such a way that the physical constraints are respected. Finally, retail supply groups the activities related to sales and communication with final consumers.

Table N° 5 displays these sub-sectors of the electricity sector, along with the four types of reforms that can be undertaken: (1) Ownership transfer (between different types of public and private ownerships); (2) Market structure change (from monopoly to competition or vice-versa); (3) Vertical integration or de-integration (or unbundling) and (4) Horizontal integration or de-integration.

**Table N° 5: The electricity sub-sectors and the four types of reforms**



This framework for the electricity sector is of course only one way of describing the sector and the possible reforms that can affect it. Some other approaches do not consider wholesale markets as a sub-sector on its own or combine system operations and transmission. However, when these sub-sectors are omitted, it is harder to precisely account for the different models chosen across the world on how sales and system operation are done. Table N° 6, based on a communication prepared by the United States for the WTO (see WTO, 2000a) presents a different description of the energy and electricity sector based on five different sub-sectors. Detailed sub-sectorial activities are presented, including further upstream activities in the sector

(planning and development) and a different grouping of activities (system operations, transmission and distribution are grouped into a single sub-sector: “energy networks”).

**Table N° 6: Layers of the electricity sector**

Sub-sectors	Different sub-sectorial activities
Development and redevelopment of the energy resource	<ul style="list-style-type: none"> <li>• Resource identification, such as site investigation, site preparation, seismic studies, imaging, sub-surface and satellite surveying by mining consultants, feasibility studies, design and engineering, drilling, core analysis, etc.</li> <li>• Resource development and redevelopment, such as drilling, mud preparation, computer analysis, and revitalization</li> </ul>
Operation of an energy facility	<ul style="list-style-type: none"> <li>• Construction of facilities necessary to produce and transform energy</li> <li>• Operation, management and maintenance of the facilities on a fee or contract basis. Such activities can be provided for refiners, pipelines and natural gas facilities, power stations, transmission and distribution networks, on-site handling and disposal services for residues from the power generation process (coal ash, solid particulates, etc.)</li> <li>• Operation, management, and maintenance of energy source, e.g., natural gas. Such activity can include expansion of the field through drilling and/or installation and use of enhanced recovery systems and disposal services for produced water, drill cuttings, drilling fluids, spent process fluids, other.</li> <li>• Production-related activities, such as operation of power-generating equipment or liquefaction and regasification of natural gas and services related to refining</li> <li>• Decommissioning of energy facilities and networks and conversion to other uses, such as services for the plugging and abandoning of wells, site reclamation and restoration services, disposal and reprocessing or other waste management services</li> </ul>
Energy networks (e.g., energy transportation, transmission, and distribution)	<ul style="list-style-type: none"> <li>• Transmission, the movement of energy from the central production facility to a local distribution facility, such as operators of high voltage electricity transmission equipment or operators of natural gas, oil, or liquid petroleum gas pipelines and central pumping stations</li> <li>• Distribution, the movement of energy from a local distribution facility to a final consumer, such as operators of electricity distribution networks (grids and mains), including central network control services, scheduling services for electricity transmission and distribution, frequency management, and voltage maintenance services</li> <li>• Installation of lines to existing and new customers, upgrading lines and facilities</li> </ul>
Wholesale markets in energy	<ul style="list-style-type: none"> <li>• Energy-related storage services, such as the leasing or other commercial provision of storage and handling services for fuels, and specialist treatment and disposal services</li> <li>• Management of wholesale supply and demand, and risk management, including substitution of sources of supply, suppliers, and types of energy</li> <li>• Trading and brokering of energy and other wholesale intermediation among buyers and sellers of energy sources</li> </ul>
Retail supply of energy (residential, industrial, commercial)	<ul style="list-style-type: none"> <li>• Advisory services related to energy management and efficiency</li> <li>• Outsourcing of energy management, including advising on efficiency of energy products and systems and alternative energy sources to optimize energy supply</li> <li>• Metering and billing for energy, data collection services, energy audit services, customer call-out services</li> </ul>

It is important to describe the electricity sector in terms similar to those above, because a classification following these lines will be used in the GATS and will affect which sectors will be covered or not by the trade agreements using the GATS as a reference, such as the FTAA does.

#### **4.2. Background of the 1992 reform**

As for almost all countries in the world,<sup>18</sup> the electricity industry in Peru was first developed by private investors, as early as 1886.<sup>19</sup> The State took control of the sector in 1972 through a nationalization program aiming at a universal public service of electricity and at the development of the hydraulic potential. The State company Electroperú was created as a holding of many companies involved in the sector. Independent producers, mainly industries producing for their own consumption, were generating in isolation as much as 30% of the Peruvian electricity. Table N° 7 describes the structure the sector before the 1992 reform that introduced some competition and more private participation in the sector.

As Table N° 7 illustrates, although the State company Electroperú was dominating the sector, the market structure was not completely integrated, neither vertically nor horizontally, as different distribution and retail supplies companies were operating in different interconnected systems. Electroperú generated most of the electricity, but the distribution company Electrolima also owned and operated power plants and private producers were active.

As discussed by Campodónico Sánchez (1999) and World Bank (1990), the important financial problems of the electricity sector in the 1980s and early 1990s are mainly explained by the inadequate tariff structure that could not cover the fixed and production costs and that was not providing cost signals to consumers. Large investments, mainly in hydropower (59% of total capacity in 1992, Campodónico Sánchez, 1999) were made in the first half of the 1980s, but the poor financial situation in the second half of the 1980s resulted in no significant investment in the electricity sector. These financial problems were the result of the incapacity of Electroperú to raise prices (in the Peruvian national currency) due to political interference, in a context of hyperinflation, money devaluation and external debt in US dollar. As an obvious consequence,

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<sup>18</sup>. Pineau (2002) presents a summary of the historical developments of the electricity sector in the US, South Korea and the province of Quebec (Canada), along with a broader description of the Cameroonian electricity sector. Similar patterns of initial private development, partial or total nationalization and then progressive withdrawal of the State from the sector can be observed in all cases.

<sup>19</sup>. Many excellent documents describe the Peruvian electricity sector. We are using in this section Campodónico Sánchez (1999), CTE (2001) and Bonifaz (2001), which are in Spanish. Other references on the current electricity sector in Peru include WEC (2001).



huge losses were observed and an important debt was created.<sup>20</sup> The crisis prevented investment in normal maintenance to be done, fueling a cycle of increasing inefficiencies, as the system was becoming less and less operational due to deteriorating equipments. Furthermore, concurrent terrorist attacks targeting the electricity system destroyed 1,146 transmission towers between 1980 and 1990.<sup>21</sup> Electrification programs, in such a context, were not working, so less than 50% of the population had access to electricity in 1992, and the average per capita consumption was 500 kWh, half of the Columbian per capita consumption and a quarter of the Chilean one (Bonifaz, 2001). In 1990, Alberto Fujimori was elected and started drastic structural adjustment measures with the support of the World Bank, International Monetary Funds (IMF) and the Inter-American Development Bank. One of the reforms concerned the electricity sector.

#### **4.3. The reformed sector and the current market structure**

The structural adjustments measures essentially consisted in a progressive withdrawal of the government from the many economic sectors it was involved in. The goal was to introduce competition and to attract both national and international investors to acquire the State companies. Tamayo et al. (2000) provide a description of the general context of the reforms and a detailed presentation of the types of contracts investors in the telecommunication, electricity and road transportation sectors were signing for the privatization of the Peruvian State assets.

In the electricity sector, the reform started in 1992 and introduced a model very close to the Chilean model that was implemented in 1982 (see del Sol, 2002 for a description of the Chilean reform). An important difference is however the limits it puts on the possible vertical and horizontal integration within the sector, as the next section on the legal framework will make clear.

The reforms had four main components:

- The vertical and horizontal de-integration of Electroperú and Electrolima in many generation, transmission and distribution companies.
- The progressive and partial privatization of the new companies.

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<sup>20</sup>. For instance, between 1987 and 1988, residential sales have grown by 8.5% while revenues fell by 41.4%, when expressed in US\$ (OSINERG, 2002). Electricity rates in local currency did not significantly change, but money depreciation in 1988 was catastrophic. The currency exchange problem on its own can explain a large share of the financial losses.

<sup>21</sup>. See World Bank (1990) page 127, paragraph 8.14.

- The creation of a “free market” where customers with a capacity higher than 1 MW could freely negotiate the conditions of their supply contract.
- The establishment of a new mandate for the old Electricity Tariffs Commission (CTE), which became the Energy tariff regulation agency (OSINERG’s GART, see Table N° 8) regulating prices according to marginal cost principles.

We now discuss each of these components. As a comparison between Table N° 7 and N° 8 in Annex N° 2 shows, from a sector dominated by Electroperú and, to a much lesser extent, Electrolima, the market structure evolved to situation in 2001 where more than 30 companies produce electricity, 7 are involved in the transmission grid and 21 distribute electricity. Even if some vertical cross-ownership exists between these companies (essentially, but still at a very small level, between generation and distribution companies) this change is certainly an important step forward in terms of de-integration of the sector, since 1992.

On the privatization axis of reform, initial steps were taken in 1994 (see Table N° 9 for the details) and since then shares of State companies have been sold, leading to either a majority of private ownership or complete private ownership. However, key generation and transmission companies remained under the full control of the Peruvian State. In generation, the dominant Electroperú -now only a hydro producer- remained public, as for many smaller generators. In transmission, the assets of the grid were not privatized either. Further investments are however not undertaken by these public companies, but rather made through the creations of new concessions held by private investors. It is the Ministry of Energy and Mines that decides, on advices made by the COES and GART (see Table N° 8), when submissions by interested investors should be called for (see De la Cruz Sandoval and García Carpio, 2002). It is through such a process that the consortium TransMantaro, led by the Canadian company Hydro-Québec, won in 1998 the concession to build a 220 volt, 680 km-long, connection linking the Central-Northern and Southern grids.<sup>22</sup> The transmission lines started its commercial activities in October 2000. In 1999, the Spanish company Red Eléctrica also became a player in Peru through Redesur, with a grid concession in Southern Peru. These investments are remunerated through toll fees (decided by the GART) and paid by users. Finally, the scope of privatization in distribution was greater, with the two main distributors of the capital, Luz del sur and Edelnor (created from the split of Electrolima), entirely privatized (although in two steps, 1994 and 2002, for Edelnor). Many small distributing companies remain public (see Table N° 9), partly because no private investor was willing to operate in these regions.

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<sup>22</sup>. The South-Western and South-Eastern grids, as displayed in Table 7, were linked in 1997 by Etesur.

Table N° 9: Companies in the Peruvian electricity market in 2003

Company/Activity	Share of revenue	Privatization	State ownership (%)
<b>Generation</b>			
Electroperú	31.41		100.00
Edegel S.A.A.	18.88	30-Nov-95	0.00
Enersur	11.25		0.00
Egenor S.A.	7.70	09-Aug-96	0.00
Egasa	4.57		100.00
Electroandes	4.33		100.00
Termoselva S.R.L.	2.79		0.00
Ege San Gabán S.A.	2.74		0.00
Shougesa	2.64		0.00
Eepsa	2.34	20-Nov-96	40.00
Etevensa	2.08	22-Jan-96	38.20
Cahua	1.86	30-May-95	0.00
Aguytia Energy Del Perú S.R.L.	1.54		0.00
Egamsa	1.51		100.00
Egecen S.A.	1.44		0.00
Energía Pacasmayo	1.19		0.00
Egesur	1.01		100.00
Sinersa	0.38		0.00
Gea Atocongo	0.25		0.00
Chavimochic	0.09		100.00
<b>Transmission</b>			
Etecen S.A.	54.89		100.00
Consortio Transmantaro S.A.	24.24	15-Jan-98	15.00
Redesur	8.40	29-Jan-99	15.00
Etesur	7.33		100.00
Eteselva S.R.L.	4.55		0.00
Conenhua	0.39		0.00
Proyecto Olmos Tinajones	0.21		0.00
<b>Distribution</b>			
Luz Del Sur S.A.	33.33	18-Aug-94	0.00
Edelnor S.A.A.	30.69	18-Aug-94	0.00
Electro Norte Medio S.A.	8.23	22-Dec-98	64.70
Electro Centro S.A.	4.06	22-Dec-98	70.00
Seal	3.96		100.00
Electro Noroeste S.A.	3.79	22-Dec-98	70.00
Electro Sur Medio S.A.A.	3.22	25-Mar-97	36.90
Electro Norte S.A.	2.96	22-Dec-98	70.00
Electro Oriente S.A.	2.91		100.00
Electro Sur Este S.A.A.	2.01		100.00
Electrosur S.A.	1.47		100.00
Electro Puno	1.22		100.00
Electro Ucayali S.A.	1.22		100.00
Edecañete S.A.	0.48	27-Jun-95	0.00
Coelvisa	0.20		100.00
Emseu S.A.C.	0.05		0.00
Emsemsa	0.05		100.00
Sersa	0.05		100.00
Electro Tocache	0.04		100.00
Emsel	0.03		100.00
Chavimochic (Inade)	0.03		100.00
Electro Pangoa S.A. – Epsa	0.01		100.00
Egepsa	0.00		100.00

Source: OSINERG (2003a).

These two initiatives, de-integration and partial privatization, increased the level of competition in the industry in two different ways. First, by intensifying the benchmark possibilities available to GART, the tariff regulator (for transmission, distribution and regulated energy tariffs). Second, through the national and international calls for submission for transmission investments. However, the competition in the industry was more directly introduced through the ability of large consumers (with a capacity greater than 1 MW) to negotiate their electricity rates directly with sellers (either generators or distributors). This is considered to be the “free market”, because terms and conditions of these electricity supply contracts can be set freely. The only obligation parties have is to make the contract public by sending it to the GART. This energy tariff regulation agency can therefore monitor the free market in order to establish if prices in the regulatory market are competitive or not.

The fourth main component of the 1992 reform is the introduction of marginal cost-based regulated tariffs. Small consumers have no other option and have to use the regulated tariff, whereas large consumers can decide to sign a contract in the regulated or in the free market.<sup>23</sup> The regulated tariff is computed every six months and changes according to market conditions. It corresponds to the expected average marginal costs of production, for different load periods in the next 48 months, based on current production capacities and expected demand. To this *energy price*, a *capacity charge* is added. The capacity charge corresponds to the annualized investment cost of the least expensive production unit that can be used to supply an additional unit of energy during peak hours.

Every aspect of the computation of the regulated price is specified in the 1992 Electric Concessions Law (LCE, *Ley de Concesiones Eléctricas*, *decreto ley* N°: 25844, November 19, 1992). See articles 45 to 57 for the regulation of the energy price. This approach to electricity pricing aims at estimating the long-run marginal cost of production, which is the adequate signal consumers should have in an efficient competitive market (see Munasinghe, 1990, for some theory on electricity pricing and a few applications).

To the energy and capacity prices are added the network user charges, to remunerate transmission and distribution owners. The methodology to compute these charges is also specified in the law, in articles 58 to 62 for transmission and 63 to 73 for distribution. We now complete this section on the Peruvian electricity sector with a presentation of its legal context and of regional market developments.

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<sup>23</sup>. They must choose one or the other, to avoid arbitrage possibilities.

#### 4.4. The legal context

In order to make more precise the description of the Peruvian electricity sector, which is necessary to better understand how it could be inconsistent with the FTAA, we present here the different laws that regulate the sector.

Three groups of laws define the main elements of the regulation:

- electricity concessions laws;
- promotion of investment laws;
- and the antitrust and antioligopoly law.

The first law giving important powers to the Peruvian State the electricity sector was the Electricity Law of 1972. It created an electricity agency, established within the Ministry of Energy and Mining, as well as the State-owned electric corporation Electroperú. The 1972 Law was amended in 1980, dividing Peru in eight districts, with local utilities held liable for the construction and operation of respective facilities. In 1992, the new Electricity Concessions law (LCE) allowed a further de-integration of the sector and set the ground for easy entry of investors from the private sector. A mixed regulated-free market regime has been introduced, as described in the previous section. Further details on how the LCE should be implemented are presented in other important legal texts: the 1993, 162-page document, specifying technical and commercial norms for the supply of electricity (*Reglamento de la Ley de Concesiones Eléctricas, Decreto Supremo*, N°: 009-93-EM). In 2000, some minor modifications to these legal texts have been introduced with the *Reglamento para la Comercialización de Electricidad en un Régimen de Libertad de Precios, Decreto Supremo* (N°: 017-2000-EM).

To promote national and international investment in the electricity sector, two laws have been enacted. The first one, in 1991, is the Foreign Investment Promotion Law (*Ley de Promoción de las Inversiones Extranjeras, Decreto Legislativo*, N°: 662) that guarantee a level playing field for foreign investors compared to Peruvian ones. The second law, on private investment in public services and regulatory agencies (*Ley Marco de los Organismos Reguladores de la Inversión Privada en los Servicios Públicos*, N°: 27332) entered into force in 2000. It provided a framework for private investors in telecommunication, energy, transport and sanitary services specifying how the operations in each of these public service sectors are organized. In the case of the electricity sector, it established OSINERG as the regulator for the sector, with the power to oversee, regulate, set norms, punish, arbitrate and solve disputes among parties (article 3).

Finally, the last law directly relevant to the electricity sector is the 1997 law against oligopolies and monopolies (*Ley Antimonopolio y Antioligopolio Del Sector Eléctrico*, N°: 26876). It can limit the horizontal concentration of firms to a 15% market share in the electricity sub-sectors of generation, transmission or distribution and to a 5% market share in the case of vertical concentration. The market share is measured as a percentage of the sub-sector total revenues. The law requires companies considering acquisitions and concentrations of significant scope (as established by the above percentages) to receive approval from the Peruvian commission of free competition, INDECOPI.

The only exceptions provided in the law are for acquisitions of a value lower than 5% of the value of the acquiring company or for acquisition of shares of another company, if it is less than 10% of this other company's shares, and if this does not result in the control of the other company (article 3.a and 3.b). This has the potential to be strong and to prevent the progressive development of an oligopolistic market through acquisitions. The law, voted in 1997, was not retroactive to companies already having market shares greater than 15%. Indeed, Table N° 9 shows that the two largest companies in generation, transmission and distribution all have a market share greater than 15%. Furthermore, the application of the law since 1997 has not been restrictive and all the submitted market concentration cases have been authorized by INDECOPI. As Table N° 10 shows, seven cases have been presented and all of them led to the authorization of the transaction.<sup>24</sup>

**Table N° 10: Decisions in electricity market concentration cases  
(decision number, year and result)**

<b>Generation</b>	<b>Transmission</b>	<b>Distribution</b>
015-1998 Authorization	02-1998 Authorization	<i>none</i>
012-1999 Authorization	016-2002 Authorization	
031-2001 Authorization		
030-2001 Authorization		
020-2002 Authorization		

#### **4.5. Regional integration**

With the creation in 1996 of the Andean Integration System (CAN, 1996), the Andean Community decided to increase the integration efforts in various areas, one of them being the

<sup>24</sup>. The detailed analysis of each concentration case is available at INDECOPI's web site [www.indecopi.gob.pe](http://www.indecopi.gob.pe). The evaluation methodology consists in observing the change in the Herfindahl-Hirschman concentration index and, in some cases, in a market simulation.

physical integration of the countries through better infrastructures. In the electricity sector, this led to the signature in 2001 of an agreement on the principles guiding the development of an international network infrastructure and electricity trade among the Andean countries (CAN, 2001). The guiding principles of the agreements are the free, short and long-term, trade of electricity, in a competitive environment, with consideration given to the national regulations. This last principle is however subject to some minimal level of harmonization, without which the different systems would not offer a level playing field.

The Decision 536 of the Andean Community (CAN, 2002) provides more precise directives on the rules of the new Andean electricity market, that really became multinational when the transmission line between Ecuador and Colombia started in October 2001, allowing parties from three countries to trades through interconnected systems. Peru should be connected by September 2004 to this market, through Ecuador. The 146 km long, 230 kV transmission line between the two countries will have an initial capacity of 50 MW (MEM, 2002). The private, Colombian-owned company, Red de Energía del Perú, is making the investment for the Peruvian portion of the line. Table N° 11 displays the capacity of the regional interconnections.

**Table N° 11: Regional interconnections (MW)\***

	<b>Colombia</b>	<b>Ecuador</b>	<b>Peru</b>	<b>Venezuela</b>
<b>Colombia</b>		235	-	336
<b>Ecuador</b>	195		50	-
<b>Peru</b>	-	50		-
<b>Venezuela</b>	156	-	-	

\*The Peru-Ecuador interconnection is planned for 2004. Interconnections capacities might not be equal in both directions between countries due to technical constraints.

Source: Transferencias Internacionales (2003) and MEM (2002).

These developments in the Andean Community were also recommended by different economic analysis made by the Regional Commission for Power Integration (*Comisión de Integración Energética Regional*, CIER), summarized in World Bank (2001). The Stated benefits of integration are “(i) a more efficient supply to meet the regional demand by better use of resources, (ii) possibility of development of large-scale projects, (iii) increased competition, (iv) increased market liquidity, (v) reduced supply risks, (vi) improved supply quantity and reliability, and (vii) reduced environmental impact.” However, some countries might face adverse effects of integration as the markets become more and more interrelated. Exporting countries will see the electricity price increasing until no more exports are economically or technically feasible. Countries with volatile price will export the volatility to other countries, as

these fluctuations create trading opportunities in all countries, with resulting price changes. These issues are acknowledged in World Bank (2001).

## **5. Analysis: Peruvian Laws and International Trade Principles**

Objectives of the GATS and FTAA are to foster trade and international investment in all sectors, preferably in a competitive environment, to support economic growth and prosperity. The main tools used to reach these goals are the three principles we have presented in section 2: MFN treatment, market access and national treatment. To these, transparency and competitiveness should also be added because they are central elements of these agreements (FTAA, chapter 1, article 2.c for competition). We analyze in this section how the Peruvian electricity sector might be at variance with these principles. Before starting this analysis, the impacts of the Andean Community integration efforts on the Peruvian electricity system are discussed.

### **5.1. Impacts of the Andean electricity sector integration**

The Andean Community electricity market integration initiative can be analyzed in terms of progresses in (1) infrastructure integration, (2) commercial integration and (3) regulatory integration.<sup>25</sup> On the first aspect, infrastructure, the decisions to create more interconnections between countries can only have a positive impact. From isolated electricity systems, an Andean Community system will be created by 2004 when Peru will be connected to Ecuador. The development of this international infrastructure is the result of important political and governmental initiatives, through the Andean Community framework. The dominant role of governments in the whole process of developing international connections will continue with their planning role. Indeed, it is specified in the Decision 536 (CAN, 2002, Chapter V, article 9) that the governmental institutions responsible for the planning of the transmission systems (the Ministry of Energy and Mines in Peru) should adopt a coordinated regional vision. This can only be done by public institutions, as private companies cannot be expected to follow this type of goals unless it directly benefits their financial interests, which would be a very strong assumption to make.

On the commercial dimension, two progresses will be observed. First, the systems operators of each country (COES in Peru) will be able to add new supplies and demands nodes in their dispatch, from the international interconnections, consequently creating new cost-minimization

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<sup>25</sup>. These are the three dimensions on which an electricity sector integrates. See Pineau et al. (2003) for a comparative assessment of the electricity sector integration of Nordic countries, NAFTA-countries and MERCOSUR-countries.



opportunities at a global level, through the trading between the different systems. This will increase the level of non-contractual, short-term, spot transactions between system operators. Second, contractual, commercial trade between countries will also develop, as they are now authorized between sellers (generators) and buyers (large consumers and distributors) of different countries. However, for many reasons these contracts will take time to develop between countries. The main reason is that most clients already have a long-term contract with a local generator, so rapid switch is not possible. Furthermore, Peruvian and other local generating companies have little foreign commercial experience and do not have a culture of market aggressiveness, due to the history of long-term, fixed terms, contracts. For these reasons, commercial integration will therefore take time to develop beyond the new spot arbitrage possibilities that will be handled by the system operators.

Finally, at the regulatory level, only limited development will take place. The Ecuadorian system operator (*Centro Nacional de Control de Energía*, CENACE) is now in charge of coordinating international spot transactions between system operators (see CONELEC, 2003, for more details). Some regulatory harmonization is also planned between countries (see CAN, 2002, chapter VIII, article 19), notably through the recommendations of a new Andean committee grouping all electricity regulatory bodies (ibid, chapter IX, article 20). However, the regulatory autonomy of national regulations is maintained (as mentioned in the preamble of the Decision 536) and no supra-national institution is considered to either plan the network development, compute the international optimal dispatch, establish an official market place or regulate electricity activities in the Andean Community. Regulation against oligopolies and monopolies at a Community level might also be an issue, as inevitable expansions and mergers take place. For instance, the 15% market share used in the Peruvian law to eventually control the companies' expansion will lose its significance, as the market is not Peruvian anymore, but Andean.

In summary, the Andean Community electricity integration will allow spot transactions between systems operators to immediately develop, likely raising the average marginal cost in Peru as Ecuador will be an importer most of the time. Access to the Peruvian electricity consumers is granted to Andean Community electricity sellers, but as we have discussed, this is not expected to materialize in the short run. Also, because careful precautions were taken not to create any new powerful body or to remove any national authority, no significant change is expected in Peru. Even the harmonization process with Ecuador, Colombia and Venezuela will have no major impact, as all these countries already function on a largely similar market design.

## **5.2. FTAA coverage and inconsistencies with the electricity sector**

As definitive electricity sector classification has not yet been agreed on, some ambiguity on how to treat different sub-sectors could be encountered in the application of FTAA. However, as the agreement is very inclusive and does not separately consider the electricity sector, the assumption should be that the whole sector will be covered by the agreement. Consequently, the five sectors presented in Table N° 8 should not receive any a priori exemption from FTAA coverage, and could only be excluded if it is authorized to exclude them from the application of the three guiding principles. Furthermore, if retail supply of electricity is considered to be a distinct sub-sector from distribution in the sector classification (as we have presented in section 4.1), then pressure to apply the principles distinctively in the two sectors (distribution and retail supply) will be felt, opening the way to more unbundling of the sector.

The FTAA, and the underlying GATS, cannot directly dictate changes in the competition level of a sector, but rather prompt the implementation of the three principles, depending on the extent to which the sector is covered by the agreement. They can also make pressure to increase the level of transparency and competitiveness in the different sectors covered. We analyze in the following how each principle can affect the Peruvian electricity sector.

### **MFN and national treatments**

MFN and national treatments are both respected in all sub-sectors. The Peruvian legislation introduced since the 1992 in the electricity sector is in general very well aligned with the principles of the FTAA. MFN and national treatments are guaranteed with the laws on foreign investment and investment in public services,<sup>26</sup> so foreign investors are already benefiting from a level playing field in investment opportunities.

Within the Andean Community electricity market, sellers from other countries can act without further authorization in Peru (CAN, 2002, chapter I, article 7). This MFN treatment to Andean Community countries could have to be extended to all other FTAA countries. This could have an impact on Peru if Chile or Brazil (the non-Andean Community neighbors of Peru) wanted to develop interconnections with Peru, against Peru's will.<sup>27</sup> This could occur if these countries

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<sup>26</sup>. *Ley de Promoción de las Inversiones Extranjeras, Decreto Legislativo* (N°: 662) and *Ley Marco de los Organismos Reguladores de la Inversión Privada en los Servicios Públicos* (N°: 27332).

<sup>27</sup>. Bolivia, an Andean Community member, has decided not to integrate its electricity sector with other Andean countries. A formal notification to the Andean Community would however allow Bolivia to join the current framework (CAN, 2002, chapter XI, article 24).

had very high prices that could raise Peruvian prices, benefiting Peruvian generators (through higher revenues) but not Peruvian consumers (because of higher prices).

### **Market access**

The principle of market access is more problematic than MFN and national treatment. In the wholesale market, market access is limited by the article 3 of the Peruvian electricity commercialization rule.<sup>28</sup> This article only allows generators and distributors to negotiate with customers, excluding from this market energy brokers and industrial consumers producing for themselves. Industrial customers may be willing to sell their surplus and energy brokers may find business opportunities in the sector, making both of them willing to access the market. Furthermore, only customers with a demand greater than 1 MW have access to the free market.

In the sub-sector of system operations, the activities of the COES are indefinitely reserved to generators and transmitters (LCE, article 39). It is a not-for-profit organization, as COES operations are paid by a contribution of each generator and transmitter member of the COES, proportional to its revenues (*Reglamento de la LCE*, article 87). Clearly, COES operations are a technical service that could be open to other providers, even if this sub-sector remains a monopoly. With the current structure, market access to this sector is closed, and a commercial group like the Colombian *Grupo Empresarial Interconexión Eléctrica S.A. (ISA)*, which is responsible for the Colombian system operations, could be interested in this sub-sector's activities. Although there is no indication that this would occur in the short-term, the FTAA could set the ground for such a claim.

In transmission and in the blended distribution/retail supply sub-sectors, market access is total when the concessions are open to tenders, and for new BOOT transmission projects (“Built-Own-Operate-Transfer”). However, as concessions are given for an indefinite period (LCE, article 22), the access to these sectors is de facto closed. While another firm can always buy the company holding a concession, not having regular tenders for the concessions certainly decreases market access and the competitive pressure in the sector. However, as nothing in the current definition of limits on market access (see section 2.2) involves time or the frequency of tenders, the FTAA could not directly be used to challenge the current organization of this sub-sector.

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<sup>28</sup>. *Reglamento para la comercialización de electricidad en un régimen de libertad de precios*, part of the *Reglamento de la LCE*.

A more important and already significant market access problem can be found in supply at the distribution level. This problem concerns generators that want to sell to large consumers (> 1 MW) which are in a distributor's territory, and distributors that want to sell to a large consumers only connected to the network by "secondary" transmission lines. These secondary transmission lines are cables owned by a generation company for its own use, as opposed to primary lines that are shared by everyone. Although open access to all transmission and distribution lines should have avoided market access problem (LCE, articles 33 and 34), problems occur at two levels. First, the tariff for the use of secondary and distribution lines is not set by the GART (as it is for primary transmission lines), but through negotiations between the owner of the lines and the potential user. This creates a negotiation burden that limits access. The GART only intervenes in case negotiations fail (LCE, article 62). Second, as distributors are in charge of the technical operation of their network, they can use technical reasons to bar a generator from accessing a client. These problems are also discussed in Tamayo et al. (1999) and are serious market access problems.

Finally, in the three main sectors, generation, transmission and distribution, market access is challenged by the current Peruvian law on trust and oligopolies. If trusts can be defended against the market access principle by using the FTAA right to maintain them, the anti-monopoly and anti-oligopoly law sets quantitative restrictions on the behavior of electricity sector's players, by setting a limit on the scope of their activities. Paradoxically, this law is made to protect competition by ensuring that no player, by becoming too important, can use its market power in its favor. However, by setting explicit limits on the value of the suppliers' activities, it clearly limits market access. Furthermore, as pointed out in section 4.4, some companies are clearly above the 15% limits in sub-sectors (see Table N° 9). This situation comes from the fact that companies in this situation were already large when the law was enacted, and that no retroactive measures were considered. This could be considered to be a competitive advantage given to some (national and other) companies, resulting in a different treatment. It does not violate the MFN and national treatments as no distinction was or is made on the origin of the supplier benefiting from this advantage, but could become a competition issue.

### **Transparency**

Transparency is very high in the Peruvian electricity sector, with a lot of information provided online through the websites of the regulatory bodies (OSINERG, COES, Ministry of Energy and Mines, INDECOPI). However, some transparency issues regularly arise with the COES because of conflicts of interests between its role and its constituents. The COES main function is to set

the optimal dispatch according to supply and demand conditions. This puts the COES in the best position to forecast future supply and demand conditions, on which the regulated tariff is based (and decided by the GART). As generators have a financial interest in having higher tariffs, they have a bias towards predicting a lower supply and a higher demand, resulting in a higher regulated tariff. Complaints about the transparency of their computing and forecasting methods are therefore sometimes heard, notably from the GART, but also from possible investors that would like to understand the real market conditions and mechanisms. See Tamayo et al. (1999) for a similar diagnostic<sup>29</sup>.

### **Competitiveness**

Limits in the competition level of some of the different sub-sectors can also be found.

In wholesale, two main issues affect the competition level. The first one could be described as being an information problem and is linked to the second one, which is more fundamental, because it is a market design problem. As there is no official trading place where electricity products are exchanged, but only private negotiations between large consumers and sellers to settle on long-term contracts, the information flow about details of these contracts is limited and delayed. Indeed, when contracts are privately signed in the free market, they cannot rely on current market conditions, because these conditions are only made public when the GART published, once a year, detailed information on these contracts.<sup>30</sup> Although this makes public all the contract's information, it creates a lag in the information flow. This is problematic as buyers and sellers may act on incomplete market information, making the market less competitive.

The second problem more directly diminishes the competitive level in the market. By design, no short-term ("spot") transactions can be done on a commercial basis between sellers and buyers. Only long-term contracts can be signed, and short-term optimization is done by the COES when setting the optimal dispatch of the power plants. Short-terms price signals are therefore not directly sent to large consumers, which only see average peak price and average off-peak prices. This makes some trading opportunities impossible to do and diminishes the competitive nature of the market.<sup>31</sup> Furthermore, in the regulated market, generators are paid the regulated price

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<sup>29</sup>. They see this lack of transparency as a barrier to entry for new generators (see their section 5.1.2, page 63).

<sup>30</sup>. See OSINERG's statistical reports on the free market (OSINERG, 2003b) releasing, for each individual large customer, information on its maximum demand, share of energy demand in peak and off-peak hours, average price, and more.

<sup>31</sup>. Such a problem has also been pointed out in an undated, not quotable without permission, World Bank *Technical Annexes* on the Peruvian regulated sector. The authors, J. Guasch and J. Shukla (from the World Bank's Finance Private Sector and Infrastructure, Latin America and the Caribbean Region), State that a competitive spot market is

based on the 48-month forecast. However, they are dispatched on the basis of their short-term marginal cost, which may, or may not, correspond to the regulated price they receive, depending on how well the average price has been forecasted. The price signal they receive, the regulated price, is therefore not directly related to the real, short-term, cost conditions they face. The inadequacy in the cost/price signals due to the market design diminishes the competitive level of the market.<sup>32</sup> Of course, the justification of this market design is to have price signals based on long-run marginal cost and to avoid disruptive short-term price fluctuations, but these concepts are not part of the principles of the FTAA, which considers competition from a much narrower short-term point of view.

At the transmission level, a similar criticism on the competitive incentives for investments could be made. First, it is the Peruvian Ministry of Energy and Mines that ultimately decides when new concessions should be opened to an international tender process, and not the market forces that directly “decide” if investment is needed. Second, as the transmission fees are largely based on GART regulation using a fixed rate of return, market forces are only remotely involved in the investment decisions. This limits the extent to which investment in the transmission sector is competitive.

Finally, at the retail level, all tariffs are fully regulated with no consumer choice or direct competition. There exist furthermore a subsidy for very small (low income) electricity users. The Social Compensation Electricity Fund (*Fondo de compensación social eléctrica*, FOSE) was established by a 2001 law (*Ley que crea el Fondo de compensación social eléctrica*, N°: 27510). It provides a subsidy for household consumers using less than 100 kWh per month, which represent the majority of residential consumers, as the average monthly consumption was 108 kWh in 2000 (OSINERG, 2002).<sup>33</sup> The fund is financed through a surcharge applied to other electricity consumers. It started in November 2001, but is -by designed- only valid for a period of 30 months (normally ending in April 2004). If this measure were to be maintained in the future, then clear subsidy case could be made under the FTAA.

Table N° 12 summarizes the results of this analysis, where most of the issues are related to competitiveness and market access, often in a related manner.

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needed (paragraph 63, page 27), to increase the allocative efficiency and to provide the “discipline of a competitive spot market”.

<sup>32</sup>. Tamayo et al. (1999) provide a more detailed discussion of this in their section 5.1.4.

<sup>33</sup>. For comparison purposes, US household in 1997 consumed a monthly average of 851 kWh, or 10,219 kWh a year (EIA, 1997).

**Table N° 12: The electricity sector and FTAA guiding principles**

<b>Sub-sectors</b>	<b>MFN treatment</b>	<b>Market Access</b>	<b>National treatment</b>	<b>Transparency</b>	<b>Competitiveness</b>
<b>Generation</b>	√	√	√	√	√
<b>Wholesale markets</b>	√	Limited	√	√	Limited
<b>Systems operations</b>	√	No	√	Limited	No
<b>Transmission</b>	√	√ - Limited	√	√	No
<b>Distribution &amp; Retail</b>	√	Limited	√	√	No

### **Other considerations**

There are also two other aspects where inconsistencies between the current legislation and the FTAA might raise some issues.

The first problematic aspect concerns the definitive concessions attributed to hydropower plants in generation (LCE, article 3). These concessions have to be associated with the right to use the water, as defined in the general water law (*Ley general de aguas*, N°: 17752, articles 26, 27). But without a market where water right can be traded, two problems could be anticipated. First, access to the “market of water rights” could be accused to be limited by the number of sites with water rights. This could possibly lead to a change in the *definitive* nature of the concession, or of the water rights. Second, the generator benefiting from the water rights could be considered to receive an indirect subsidy, as their payment to the Peruvian State (as defined in the LCE, article 107) is very small. This problem would in turn lead to the creation of tradable water permits, were a “market price” would be set. These ideas are explored by organizations such as the World Bank (see Thobani, 1995).

The second problematic aspect is the definition of some segments of the electricity supply as a “public service”. The notions of “public service” and “public utility” are not recognized in the FTAA. The FTAA only defines “service supplied in the exercise of governmental authority” (services not supplied on a commercial basis and by more than one competing suppliers, see FTAA, chapter 8, article 1.6) and excludes some sectors from the FTAA (e.g. public education,

health, see section 3.4 of this document), but not electricity service. The LCE, however, uses the concept of a “public electricity service” (LCE, article 2) as being of public utility. A full section of the LCE (section VI, articles 82-100) defines the rules of the public service of electricity, notably the obligation to supply if the customers comply with the general rules of supply (LCE, article 82). The absence of the notion of public service in the FTAA, with the obligation of countries to have national regulation consistent with the FTAA (FTAA, chapter 1, article 4.2) could have the consequence to remove the obligations of Peruvian distributors to offer a “public service” of electricity.

This could even have an impact up to the Peruvian constitution, where public services are discussed in articles 58, 119 and 162. These three articles establish the legitimacy of the State involvement in some economic sector, within the context of a market economy. These constitutional articles, for example, allow a Ministry to be involved in the electricity sector, because it has some public service features. Although the Peruvian regulation can be defended as being part of “regulations to achieve domestic policy objectives” (as allowed in FTAA, chapter 8, article 1.9), there are a lot of grounds in the FTAA to attack the notion of a public service: (1) It goes against some market access principles, notably the interdiction to put a limit on the value of services from supplier and to have quantitative restrictions on the supply of a service.<sup>34</sup> The public service of electricity indeed entails some cost and quantity considerations in supply. (2) The notion of public service also restricts competition, as exclusivity of supply is granted to a single supplier, the local distributor. This could be interpreted as going against article 1 of FTAA’s chapter 10, for the promotion of economic efficiency and consumer welfare.

### **5.3. Discussion**

As already mentioned, the analysis presented here only explores possible impacts on the Peruvian electricity system. Depending on the final version of the FTAA, and on how GATS negotiations settle on the classification of electricity products as part of distinct service sectors, different levels of coverage and exemptions could affect the Peruvian sector. Furthermore, all countries of the Americas will be in the same position with regards to the application of FTAA principles, so a similar analysis could be done in other jurisdictions. Some of these could have far more problems in integrating the principles of MFN and national treatment, market access, transparency and competitiveness in their market. Mexico, for instance, as many American

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<sup>34</sup> In the draft FTAA text (FTAA, 2002), these principles on market access for services are found in chapter 8, article 7. Different formulations are proposed, but the interdiction of any type of quantitative limits on the services supplies is present in all of them.



States and Canadian provinces, would be in a much more difficult situation if all the principles had to be strictly applied.

However, as Peru is already well advanced in the application of these principles, it is unlikely that a sector exemption would be sought. Indeed, the Peruvian sector already complies with most of the FTAA requirements. Why excluding a sector from the FTAA when it is already open to international trade and investment? So unlike other jurisdictions that have an electricity sector much less open, Peru might not look for any special treatment in this sector. But then, Peru would probably be in a situation where more change would be required, as the principles cannot be *half* applied. Market access and competition have to be completely open, or completely closed, but not set arbitrarily at partial levels, as our analysis has shown. Then, some significant changes would have to take place in the Peruvian electricity sector: a short-term spot market open to all interested participants would have to be created, retailers would have to be independent of distributors and, possibly, no support for low-income electricity users could be provided.

## **6. Conclusion**

We have in this study established the context in which internal trade agreements are negotiated, in general and for Peru in particular. The status of the electricity sector has been highlighted, with the ambiguity of the definition of the electricity *product*, as a good or a service exemplified through the different international classification systems. A trend to clearly include all energy services in trade agreements has been identified, notably by the analysis of recent GATS negotiations in the service sector.

The Peruvian evolution of the electricity sector has been described and its legislative context presented. Although the recent reforms have brought Peru along the lines of the main principles put forth in these agreements, some important probable inconsistencies have been identified in the analysis. The classification of some activities as being a “public service” could be problematic from a market access and competitive point of view. Furthermore, market access has been found to be limited in the Peruvian electricity sector by what is a possibly strict antimonopoly and antioligopoly law, compared to international standards and free-trade requirements. Finally, competition objectives are not directly attained in the Peruvian electricity market, with a regulation that aims at simulating competition through regulation rather than implementing it directly, in an open trading place where market forces would be exercised.

More than ten years after the start of the reform, many have observed important improvements in the Peruvian electricity sector (e.g. WEC, 2001, or Torero and Pascó-Font, 2001). The participation in international trade agreements will not directly induce change, but will create pressures to make some changes. These changes might not entirely be motivated by real problems or possible improvements, but simply as the result of the application of the FTAA. Our goal was to document the possible impact of this international trade agreement to allow better-informed decisions to be made.

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## Annex N° 1: Industry classification systems

Name of the system	Position of Electricity in the Hierarchy	Explanation
<p><i>International Standard Industrial Classification of All Economic Activities (ISIC Revision 3.1 2002)</i></p>	<p><b>Section: E</b> - Electricity, gas and water supply  <b>Division: 40</b> - Electricity, gas, steam and hot water supply  <b>Group: 401</b> - Production, transmission and distribution of electricity  <b>Class: 4010</b> - Production, transmission and distribution of electricity</p>	<p>This class includes:</p> <ul style="list-style-type: none"> <li>- operation of generation facilities that produce electric energy; including thermal, nuclear, hydroelectric, gas turbine, diesel and renewable</li> <li>- operation of transmission systems that convey the electricity from the generation facility to the distribution system;</li> <li>- operation of distribution systems (i.e., consisting of lines, poles, meters, and wiring) that convey electric power received from the generation facility or the transmission system to the final consumer</li> <li>- sale of electricity to the user</li> <li>- activities of electric power brokers or agents that arrange the sale of electricity via power distribution systems operated by others.</li> </ul>
<p><i>North American Industry Classification System (NAICS 2002)</i></p> <p>The North American Industry Classification System (NAICS) has replaced the U.S. Standard Industrial Classification (SIC) system.</p> <p>There are US, Canadian and Mexican versions of this classification system.</p> <p>A product classification is under development.</p>	<p><b>22</b> Utilities  <b>221</b> Utilities  <b>2211</b> Electric Power Generation, Transmission and Distribution  <b>22111</b> Electric Power Generation  221111 Hydroelectric Power Generation  221112 Fossil Fuel Electric Power Generation  221113 Nuclear Electric Power Generation  221119 Other Electric Power Generation  <b>22112</b> Electric Power Transmission, Control, and Distribution  221121 Electric Bulk Power Transmission and Control  221122 Electric Power Distribution</p>	<p>Industries in the Utilities subsector (221) provide electric power, natural gas, steam supply, water supply, and sewage removal through a permanent infrastructure of lines, mains, and pipes. Establishments are grouped together based on the utility service provided and the particular system or facilities required to perform the service.</p> <p>The industry group 2211 comprises establishments primarily engaged in generating, transmitting, and/or distributing electric power. Establishments in this industry group may perform one or more of the following activities: (1) operate generation facilities that produce electric energy; (2) operate transmission systems that convey the electricity from the generation facility to the distribution system; and (3) operate distribution systems that convey electric power received from the generation facility or the transmission system to the final consumer.</p>
<p><i>Statistical Classification of Economic Activities in the European Community (NACE Rev.1 1999)</i></p>	<p><b>E</b> Electricity, gas and water supply  <b>EA</b> Electricity, gas and water supply  <b>40</b> Electricity, gas, steam and hot water supply  <b>40.1</b> Production and distribution of electricity  <b>40.10</b> Production and distribution of electricity</p>	<p>The industrial sector 40.10 includes:</p> <ul style="list-style-type: none"> <li>- generation of electricity by all means, including thermal, nuclear, hydroelectric, gas turbine, diesel and renewables</li> <li>- transmission, distribution and supply of electricity</li> </ul>



**Annex N° 2: Main exemptions in the draft FTAA (2002)**

<b>Chapter</b>	<b>Article</b>	<b>Exempted sector or reason for exemption</b>
<b>1. General and Institutional issues</b>	13.1	Special sector treatment due to differences in the <b>levels of development</b> .
<b>2. Agriculture</b>	15.1	<b>Agricultural</b> domestic support measures (recognized but the objective is to reduce them). + other “hard” issues + sanitary reasons
<b>3. Government Procurement</b>	3.1	Exemptions from a forthcoming article listing goods and services for <b>governmental procurement</b> not covered by the provisions of the chapter.
	4.2	Compensatory conditions can be applied to local suppliers by developing countries for <b>governmental procurement</b> to <i>qualify</i> for a contract (not for the awarding).
	7.3 a) to q)	All <b>procurements from the government</b> to support research, social and health services...
	9.1 a) to c)	<b>Gvt. procurements</b> linked to defense, national security, public order, natural disasters...
	33.2	If the governmental entity making the procurement is <b>privatized</b> then the privatized entity is not subject to this chapter.
<b>4. Investment</b>	1.3 a) to c)	Economic activities reserved by Parties on Annex XX (unfound in the draft) for national securities
	1.3	Parties may exclude investment in certain sector (easier to do for smaller economies)
	1.5	Law enforcement, correctional services, income or unemployment insurance or social security services, social welfare, public education, public training, health, and child care [ <i>this article allows investment from all, but does not exclude parties to invest</i> ]
	12.1	Some exempted sector may be listed in this article.
	12.2	Some principles [national treatment, MFN, performance requirements...] may not apply to some sectors listed in an annex.
	12.3	MFN does not apply to some sectors listed.
	12.4	Some principles do not apply to some procurement by Parties or State enterprises + subsidies or loans
	12.9	Smaller economies can maintain reservations in sensitive sectors.
<b>5. Market access (for goods)</b>	4.10	(page 5.3) Smaller economies can benefit from more favorable tariff elimination conditions.
		(page 5.16-5.17...) Temporary safeguard measures.

<b>8. Services</b>	1.2 a) to d)	Exemption for: cross-border trade in financial services; air transport services; government procurement by a Party [or a State enterprise; subsidies or grants granted by one Party or by a State enterprise, including loans, guarantees, insurance...
	1.6 b)	This Chapter does not apply to “services supplied in the exercise of governmental authority” (any service which is supplied neither on a commercial basis, nor in competition with one or more service suppliers)
	1.7	For smaller economies there shall be flexibility in meeting the commitments of this chapter.
	1.8	Comprehensiveness of the coverage shall be linked to the extent and rate at which the modes of supply for the provision of services are liberalized
	1.9	No provision of this Chapter shall be construed to prevent a Party from having the right to regulate and to introduce new regulations to achieve domestic policy objectives.
	2.3	Smaller economies can list exemptions to MFN treatments.
	5.1	Positive/negative listing has to be decided for <b>national treatment</b> .
	5.6	Smaller economies can list exemptions to national treatments.
	8	Definition of service exclude “other activities conducted by a public entity for the account of or with the guarantee or using financial resources of the government”.
	page 8.17	“sectors in which commitments are undertaken”
	page 8.22	*General exceptions (public morals, order, safety, artistic, historic...) *Social security system
	page 8.24	List of specific commitments (for market access and national treatment)
	page 8.24	Reservations of MFN treatments / Non-conforming measures.
	page 8.27	Restrictions to protect the balance of payments
<b>9. Intellectual Property Rights</b>		Some specific exemptions in patents and property rights are discussed here.
<b>10. Competition policy</b>	2.2	Monopolies are protected as a right for Parties to designate and maintain a monopoly.

Table N° 7: The electricity sector before 1992

REGULATORS		Sub-sectors	Electricity market structure				
DEPARTMENT OF ELECTRICITY, MINISTRY OF ENERGY AND MINES (DIRECCIÓN GENERAL DE ELECTRICIDAD, MINISTERIO DE ENERGÍA Y MINAS)		Generation	Electrolima, owned by Electroperú	Electroperú, State company			Independent private producers
	ELECTRICITY TARIFFS COMMISSION (COMISIÓN DE TARIFAS ELÉCTRICAS, CTE)	Wholesale markets					
		System operations					
		Transmission	Central-Northern Grid ( <i>Sistema interconectado Centro-Norte, SICN</i> )	South- Western Grid ( <i>Sistema interconectad o Sur-oeste, SISO</i> )	South- Eastern Grid ( <i>Sistema interconectad o Sur-este, SISE</i> )	Isolated systems	
	CTE	Distribution & Retail	Electrolima	Regional electricity companies ( <i>Empresas Regionales de Electricidad</i> ), owned by Electroperú			

Table N° 8: The electricity sector in 2001

REGULATORS		Sub-sectors	Electricity market structure	
DEPARTMENT OF ELECTRICITY, MINISTRY OF ENERGY AND MINES (DIRECCIÓN GENERAL DE ELECTRICIDAD, MINISTERIO DE ENERGÍA Y MINAS)	Commission of free competition ( <i>Comisión de Libre Competencia,</i> <i>Instituto Nacional de Defensa de la Competencia y de la Protección de la Propiedad Intelectual,</i> INDECOPI)	<b>Generation</b>	Companies: <ul style="list-style-type: none"> <li>• 18 generators (97.1% of the energy produced)</li> <li>• 14 distributors (2.9% of the energy produced)</li> </ul> Source of energy (19,131 GWh in 2001): <ul style="list-style-type: none"> <li>• 89.6% hydraulic</li> <li>• 10.4% thermal</li> </ul>	
	Energy tariff regulation agency (OSINERG- <i>Gerencia Adjunta de Regulación Tarifaria,</i> GART)	<b>Wholesale markets</b>	Regulated market for small consumers (and large if the opt for it) <ul style="list-style-type: none"> <li>• 47.3% of the energy sold</li> </ul> Free market for large consumers (> 1 MW) <ul style="list-style-type: none"> <li>• 52.7% of the energy sold</li> </ul>	
		<b>System operations</b>	Least-cost operation committee ( <i>Comité de Operación Económica del sistema,</i> COES), composed of representative from generation and transmission companies.	
	Energy tariff regulation agency (OSINERG-GART)  INDECOPI	<b>Transmission</b>	7 companies	
			National Grid ( <i>Sistema Eléctrico Interconectado Nacional,</i> SEIN) Connecting the Central-Northern and South Grid since 2000.  Central-Northern Grid ( <i>Sistema interconectado Centro Norte,</i> SICN) <ul style="list-style-type: none"> <li>• 82.4% of the energy sold</li> </ul> South Grid ( <i>Sistema interconectado Sur,</i> SIS) <ul style="list-style-type: none"> <li>• 15.4% of the energy sold</li> </ul>	Isolated systems <ul style="list-style-type: none"> <li>• 2.3% of the energy sold</li> </ul>
Energy tariff regulation agency (OSINERG-GART)  INDECOPI	<b>Distribution &amp; Retail</b>	21 distribution companies (selling 64.1% of the energy sold, the balance is sold directly by generators)		

Source: OSINERG (2002).

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