

**ADMINISTRACION NACIONAL DE USINAS Y
TRASMISIONES ELECTRICAS**

**(NATIONAL ADMINISTRATION OF POWER PLANTS
AND ELECTRIC TRANSMISSIONS)**

URUGUAY

**GENERAL INFORMATION ABOUT
URUGUAY, THE ENERGY SECTOR
AND UTE COMPANY**

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GENERAL INFORMATION ABOUT URUGUAY, THE ENERGY SECTOR AND UTE COMPANY

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1.- CHARACTERISTICS OF URUGUAY.

1.1.- GENERAL DATA.

Geographical situation

As shown in Figure 1, the República Oriental del Uruguay (Uruguay) is situated in the southeast of South America. It is one of the smallest countries in the continent. Brazil to the north and east and Argentina to the west are its neighboring countries (see also Figure 2). The River Plate is on the south of the country and the River Uruguay conforms the border with Argentina on the west. The total territory of Uruguay is 176,215 km².



Figure 1: Map of South America

The country is divided in 19 departments. The capital city, Montevideo, is the largest city in Uruguay with around 42 % of the total population of the country inhabiting the metropolitan area. Montevideo is also the commercial center and the financing core, as well as the most important port of Uruguay. Other important cities are Salto, on the coast of River Uruguay, Paysandú and Las Piedras. These three cities are the largest ones following Montevideo, although none of them represents more than 3% of the total population of the country. Some areas along the River Plate and the Atlantic Ocean (like Punta del Este) have become increasingly important as tourist centers.

The climate in Uruguay is mild. The mean temperature for the warmest months of the year, December, January and February is around 23.2 ° C, and for the coldest months, June, July and August it is 12.5° C. Rainfalls are around an average of 1110 mm per year and their distribution is uniform all along the year.

The southern part of the country is a slightly undulating plain, with the exception of the marshlands in the Atlantic coast. The north and northwest of the country consist of a low plateau, with hills that reach 377 m above sea level. The eastern area is dominated by a line of hills which from Brazil

continues to the South and down to the surroundings of Punta del Este. Its highest point is the Cerro Catedral with 514 m, which is also the highest point of Uruguay. The fluvial network is dense and rich and large rivers characteristics of the plains run across Uruguayan territory to the Atlantic Ocean.

Strategic location

Uruguay is located between Argentina and Brazil, two of the most important economies in Latin America. A significant fraction of the population and of the economic activity of both countries is situated near Uruguay. In Argentina, the capital city, Buenos Aires, across the River Plate concentrates around 30% of the total population (10.8 million people).



Figure 2: Map of Uruguay

This figure represents 3.5 times the total population of Uruguay. In Brazil 54 million people (35% of the population) live in the four southern states near Uruguay, a territory that represents 10% of the total area of Brazil. Combined with the integration in the Mercosur and also being seat of the Administrative Secretariat and of the Asociación Latinoamericana de Integración (ALADI) (Latin American Integration Association) the strategic location of Uruguay will have a great effect on any activity either at present or in the future.

Population.

The population of Uruguay reaches a total of 3.2 million inhabitants (1993) and is predominantly from a European origin, mainly from Spain and Italy. The last Indians disappeared from the territory of Uruguay more than 50 years ago, a fact that makes a difference with respect to the other countries of Latin-America. Figure 3 shows the past evolution of the Uruguayan population. Uruguay's total population in 1950 was 2,24 million compared with 2,96 million in 1985 and 3,15 million in 1990. The annual average rate of growth was of approx. 0.79% from 1950 to 1985 and of 0.57% from 1985 to 1993. This rate is among the lowest in Latin America.

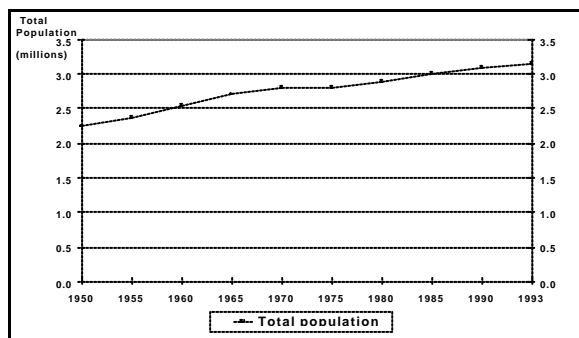


Fig. 3

The density of population is 18 people/km² and is concentrated in the south and along the coast with approximately 67% of the population inhabiting 12% of the territory of the country. At the same time, 90% approx. of the population of Uruguay live in urban areas and 42% dwell in the metropolitan area of Montevideo (Figure 4).

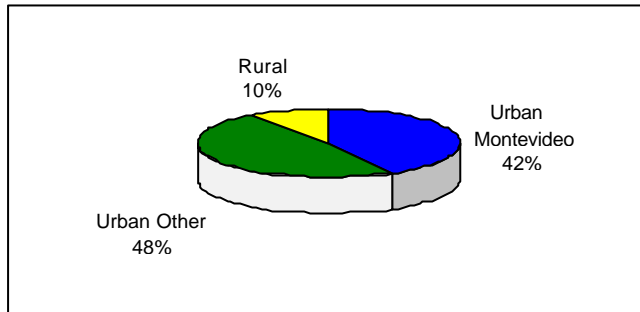


Fig. 4

Educational System

The official educational system in Uruguay consists of both private and public institutions. The public sector provides a non-religious, free and obligatory education. Since 1877 this is the system in Primary Education. At present, also secondary education is obligatory and all levels -including university- are free. The non-religious characteristic of the system does not put a hindrance to the existence of religious education in private schools. The level of literacy of the country is 94% .

Political System

Uruguay is a democratic republic where elections are held every 5 years both for the Legislative and Executive powers. The state is organized in three independent powers: Executive, Legislative and Judicial. Local Administrations are divided into 19 departments each of them with a legislative and an Executive Local Authority.

Together with Argentina, Brazil and Paraguay, Uruguay conforms the Mercado Común del Sur (Southern Common Market) (Mercosur). In March, 1991 the four governments signed the treaty of Asunción to create a common market of goods and services. At present, there are no trade barriers among the member countries of the Mercosur and there is a common tariff for foreign trade with countries others than the member countries.

The Mercosur has already signed an agreement to establish a free trade zone also with Chile, Bolivia and Perú. Future challenges include the integration with the NAFTA and the European Union. The Mercosur and the USA have signed an agreement to promote and facilitate reciprocal investments and to continue with a process of tariff reduction. A Framework Agreement has also been signed with the European Union aiming at the constitution of a free trade zone by 2005.

In the region, the Mercosur is strengthening the links among the country members and creating a dynamic trade zone with a combined economic product of US\$ 605 billion serving more than 200 million people. The Mercosur has had and will continue having a deep influence in the economic growth of the area. Montevideo has been chosen as the Permanent Seat for the Administrative Secretariat of the Mercosur, in like manner as it has already been seat of other international organizations such as ALADI (Latin American Integration Association).

Integration and national deregulation policies have had and will probably continue having deep effects on the energy supply alternatives. Considering the present legal and technical infrastructure, energy companies (gas, oil, electricity) will have a broader market base and will increasingly be able to take these characteristics into account at the moment of making economic decisions for their expansion. Other effects on the energy sector may include an improvement in the use of the regional hydraulic potential and a more efficient and rapid development of energy resources.

2.- CHARACTERISTICS OF THE URUGUAYAN ELECTRICITY SECTOR

2.1.- ORGANIZATION OF THE ENERGY SECTOR

After the XIX century in which the country's process to independence and its later stabilization from a socio-political point of view were the most remarkable elements, Uruguay experienced from the beginning of this century an early process of State participation in areas and activities of vital importance for the society, which meant an important approach to the current concept of the modern state. The first steps to conform the present institutional structure of the Energy Sector were taken in this period.

In 1912 a Parliament Act created the Administración General de las Usinas Eléctricas del Estado (General Administration of the State Power Plants) founding the present Administración Nacional de Usinas y Trasmisiones Eléctricas (UTE) (National Administration of Power Plants and Electric Transmissions). The objective of UTE was to provide electricity for lighting, power, traction and other applications to third parties in all the territory of Uruguay as a monopoly. Its institutional status was that of a Autonomous State Agency.

In like manner, in 1931 another law created another public company, the Administración Nacional de Combustibles Alcohol y Portland (National Administration of Fuel, Alcohol and Portland) (ANCAP) with the objective of exploiting and administrating the monopoly of alcohol and national fuel, and of importing, refining and commercializing oil and oil products and manufacturing Portland cement. Along the years some aspects of the system of exploitation of alcohol and cement have varied, but the system of monopoly on hydrocarbons has been kept until the present.

These industrial public companies of the energy sector are communicated with the Executive Power through the Ministry of Industry, Energy and Mining, created in 1974, it was the first specific attribution of competence on the sector to a State Ministry. Another State office with functions related to the energy sector is the Planning and Budgeting Office, created with the Constitutional Reform of 1966 and which advises the Presidency of the Republic on all aspects related to national development planning, budgets and tariff-related issues.

Through the new regulatory framework law, passed in 1997, and related acts, a Regulatory Unit (URSEA) and an Administration of the electric market (ADME) were created.

In addition to UTE, another institution acting in the generation area is the Comisión Técnica Mixta (Binational Technical Commission) of Salto Grande, which is in charge of managing the hydro Power Plant of Salto Grande. Since this commission is a binational institution, it also depends on the Ministry of Foreign Affairs.

Finally, in Montevideo, there is also a gas company Gaseba-Uruguay, a private firm which produces and distributes city gas manufactured from oil and natural gas imported from Argentina. In the rest of the country, another company called Conecta plays a similar role.

2.2.- THE ELECTRICITY SECTOR AND THE ENERGY STRUCTURE

To analyze the electricity sector it is important first to place it within the framework of the energy structure of Uruguay, according to the recent historical evolution.

No hydrocarbon reserves have been discovered in Uruguay; the coal reserves (of low heating value and high ash content) are scarce and there are some non-exploited turf deposits. Practically 100% of

Uruguay's energy resources are renewable and are constituted by hydro-energy, firewood, and biomass residues.

In reference to the final energy consumption, crude oil has been historically very important. From values of 69% of the consumption during the 70's it has come to a present 55%-60% (57,5% in 2001), due to the incorporation of hydroelectric projects and the increasing share of firewood, biomass residues and natural gas (23.5%, 15.9%, 1.8% and 1.2% respectively in 2001).

Although the installed hydroelectric generation capacity (1538 MW) is greater than the maximum instantaneous demand of the system (1450 MW), the random variability of the water flow determines that it is necessary to count on thermal back-up. In dry periods, where the water flow is significantly reduced, sometimes even nil, thermal machines are operated at full. Uruguayan electric sector has 563 MW of thermal plants (GT's and ST's) and an electric interconnection with Argentina, with a capacity of 2000 MW.

Also firewood represents an important energy resource for the country. In 1993, Uruguay had 980000 hectares (ha) of forests from which 310000 ha were use plantations. The total production of 1992 was 2.5 million m³, and the foreseen average increase is 4.7 million m³ per year for the period 1997-2025.

The final total consumption of energy -despite some biannual fluctuation- have been essentially stable, growing at an annual rate of 1% during the last 30 years, and reaching 2350 kTOE(tons of oil equivalent) in 2001.

More information on the energy sector can be found on the web site of the National Energy Direction (www.dne.gub.uy).

The availability of natural gas as of 2002 will be an important change in the energy structure of Uruguay. UTE has actively participated in the projects of implementation gas pipelines from Argentina.

2.3.- CURRENT LEGAL FRAMEWORK OF THE ELECTRICITY SECTOR.

All the activities of the electricity industry were ruled by the National Electricity Law (1977), modified by the following Acts: 16211 (of Public Services, 1992) and 16832 (new regulatory framework of the electricity sector, 1997). Essentially the present legal framework establishes that:

- it corresponds to the Executive Power to formulate and control the policy on electric power issues.
- the Unidad Reguladora de Servicios de Energía y Agua (URSEA - Regulating Unit of Energy and Water Services) was created with the functions of controlling the fulfillment of the law, provide rules and advise the Executive Power on the subject matter.
- the Administración del Mercado Eléctrico (ADME - Electricity Market Administration) was also created.
- the ADME will operate the National Load Dispatching Center
- the wholesale electricity market is created, and shall operate both at the generation and consumption stages; generation, transmission and distribution companies and large consumers shall be agents of this wholesale market;
- the function of UTE is to perform the activities that conform the electricity public service (supply of electricity to third parties on a regular basis);
- generation shall not continue to be considered a public service but a free activity;
- transport and distribution companies shall be bound to permit non-discriminated access to third parties to the available electric power transport capacity.

- It is possible to export and import energy, subject to the authorization of the Executive Power.

2.4.- INTERNATIONAL ENERGY INTERCONNECTIONS

Electricity

Together with the construction of the binational hydro-plant of Salto Grande (1890 MW), a transmission interconnection system with Argentina was developed, composed of 500 kV overhead lines arranged in a quadrilateral with two sides crossing the river Uruguay whose vertexes are the Salto Grande Uruguay Station, Salto Grande Argentina, San (Uruguay) and Colonia Elía (Argentina). These overhead lines and the rest of the 500 kV system present a thermal capacity rating of 1400 MW (55°C). Additionally, as an important part of the 500 kV circuit is made of a double overhead line, the associated transport capacity exceeds 2000 MW.

Both countries agreed to establish the principle of "Open Access" for the binational transmission system, with the payment of the corresponding wheeling.

In reference to Brazil, as a consequence of the different frequency in both systems (60 Hz Brazil, 50 Hz Uruguay) and the evolution of the electric systems in the borderline areas the first projects were of small size and connecting neighboring towns. After the signing of the Agreements in 1993 by the Presidents of Brazil and Uruguay, the institutional and technical relationship has become deeper and some studies have been developed on various interconnection alternatives.

UTE, Eletrobras and Eletrosul have signed the respective contracts for the Interconnection Rivera-Livramento, of 70 MW, 150/230 kV, with a back-to-back frequency converter located near the 150 kV Rivera Station in Uruguay. The installation was completed on October/2001.

2.5.- LAW OF ASSESSMENT OF THE ENVIRONMENTAL IMPACT

According to Law No. 16.466 and respective Regulating Decree No. 435/94, there are various types of construction activities and public and private works which must apply for and obtain a Previous Environmental Authorization in order to start the works.

In reference to the electric system this applies to:

- the construction of power plants of over 10 MW whatever their primary energy source, and the remodeling of the existing ones which imply an increase of the generation capacity or the change of the primary energy source;
- the construction of transmission overhead lines of 150 kV or more;
- the construction of oil pipelines or gas pipelines exceeding 10 km length.
- the construction of dams with a water reservoir capacity of more than 10 million cubic meters, or with water surface area exceeding 50 ha.
- any construction or work projected in a zone that may be considered as protected coastal area, according to art. 153 of the Code of Waters.

It is important to note that the Uruguayan law, unlike other international laws, requires the presentation of a Study of the Environmental Impact at the executive project.

Decree 435/94 established the following stages for the granting of a Previous Environmental Authorization:

1.- Communication of the Project before the DINAMA (National Board of Environment)
It shall include the definition by the applicant of the Project, authors and responsible persons for its preparation and execution, localization and influence area, receiving medium, possible impacts, and proposal for the Classification of the Project.

The project may be classified under one of these three categories:

Category "A".- Projects of activities, constructions or other works whose execution does not present negative environmental impacts, or whose environmental impacts are minimum, tolerable and foreseen by the provisions in force. These Projects do not require an Environmental Impact Study.

Category "B".- Projects of activities, constructions or works whose execution may have moderate environmental impacts, or would only partially affect the environment, and whose negative effects may be eliminated or minimized through the adoption of well-known and easily applicable measures. In these cases a partial or sectorized Environmental Impact Study should be undertaken.

Category "C".- Projects of activities, constructions or other works whose execution may produce negative environmental impacts of qualitative or quantitative significance, whether there are or not any foreseen prevention or mitigation measures. A complete Environmental Impact Study is required.

2.- Classification of the Project

The MVOTMA (Ministry of Housing, Territory Arrangement and Environment) has a term to decide upon the ratification or rectification of the classification proposed. In the case of Category "B", indication shall be given of the sectors on which the Environmental Impact Study will be applicable. A certificate of environmental classification is issued.

3.- Application of Previous Environmental Authorization:

This application shall at least include a copy of the Certificate of Environmental Classification, the Project Documents, the Environmental Impact Study and the Abstract of the Environmental Report.

4.- Public notice

The Abstract of Environmental Report shall be made available in the MVOTMA offices for anyone interested to read it and state in writing any consideration he deems pertinent.

5.- Public audience

The MVOTMA may decide the holding of a Public Audience when considering that the project implies serious consequences in the cultural, environmental or social spheres.

6.- Resolution

The MVOTMA will assess if the project presents residual negative impacts taking into account the Environmental Impact Study and other information, granting a Previous Environmental Authorization when they are acceptable or otherwise conditioning or rejecting its issuance. The MVOTMA has a deadline of 150 days to decide upon the Previous Environmental Application. Classification "A" also requires a Ministry Resolution.

From the moment of promulgation of the Law, UTE has fulfilled the procedural steps provided by the law, obtaining the corresponding environmental authorizations in due term. The projects submitted were associated to the enlargement of the 150 kV system and the 70 MW interconnection with Brazil. The law has not represented any difficulty to the implementation of any of the projects.

**NATIONAL ADMINISTRATION OF POWER PLANTS AND ELECTRIC
TRANSMISSIONS
U.T.E.**

3.- INSTITUTIONAL INFORMATION ON UTE.

As determined by the Constitution of Uruguay, the National Administration of Power Plants and Electric Transmissions -UTE- is defined as one of the public companies of the industrial and commercial area, and performs its activities with the technical autonomy established for the decentralized offices of the public administration and in accordance with its own Bylaws. Therefore, UTE is a legal person of public law and its objective is to render the “public service of electricity” in accordance with the provisions of the National Electricity Law, its respective Regulating Decree and recently passed laws on the sector (Law of Public Services and Law of Regulatory Framework), UTE deals with all the activities in reference to the electricity sector: generation, transmission, distribution and commercialization. Except for generation where it shares part of the market with the binational power plant of Salto Grande it is the only agent in the other activities.

See web site www.ute.com.uy for more information about the company. Specific technical and economic data can be found in “La Empresa”, inside the “Información Institucional” option (for example, download a data brochure in the “UTE en Cifras” option). The site is in spanish language.

Additional general economic information can be found, in spanish and english, in the web site of the Central Bank of Uruguay: www.bcu.gub.uy