

Uruguay

The Oriental Republic of Uruguay (República Oriental del Uruguay) with its capital city Montevideo (1.378.705 inhabitants, 1996) is bordering Argentina and Brazil with a coastline on the South Atlantic Ocean. It comprises an area of 176.244 km² and a population of 3,337 million. The population density of 19 inhabitants per km² is average while the urban population with 91 percent is at the top of LAC. The society is extremely homogeneous, with an majority of 88 percent of European descent. Uruguay is one of the most developed Latin American countries, boasting a 97,3 percent literacy rate among its population - one of the highest in the world.

Uruguay is a member of the Mercosur, the common market, including Brazil, Argentina, and Paraguay as full members and the associate members Chile and Bolivia. Historically, Uruguay has had one of the strongest and most stable economies in South America, with average gross domestic product growth of 4,2 percent from 1992 to 1998. In recent years, however, Uruguay's economy has struggled with market reforms and falling exports. Furthermore the country has a high unemployment rate of 15,6 percent and a currency which continuous to fall. The government stated in February 2001 that 'free competition' would be a government priority while privatisation plans in the energy sector must be intensified.

Uruguay's overall electricity consumption in 2000 was about 6,422 million MWh and was covered by an 95,4 percent hydropower, a 3,9 percent share of fossil fuels and a 0,7 percent contribution renewable energy sources. Uruguay has four dams producing hydroelectric power: Gabriel Terra Dam (148 MW capacity); Baygorria Dam (108 MW); Constitucion Dam (333 MW); and the Salto Grande Dam, shared with Argentina (total capacity of 1.890 MW, of which Uruguay is using 945 MW)¹. Electricity had to be imported in 1999 and partly 2000 as a drought reduced hydroelectric power supply.

Uruguay has no fossil fuel resources and, compared to its neighbours, only a small amount of hydroelectric power potential. The country's energy laws prohibit the use of nuclear energy. Thus the country relies heavily on hydropower and imports to meet its energy needs. The possibility of enlarging the hydroelectric generation dams is limited, as Uruguay's rivers already are highly utilised. Uruguay's electricity consumption is expected to grow over the next decade. The country's interconnection system has a 500 kV grid, linking the hydroelectric generators in the central part of the country with the southern area, where more than 60 percent of total demand is located. According to the Regional Electrical Integration Commission (CIER), Uruguay has, at 95 percent, one of the highest rates of electricity supply in Latin America². In June 1997, the Parliament approved legislation liberalising the generation and commercialisation of electricity and allowing independent power producers to generate power.

Uruguay has no fossil fuel resources and therefore no utilisation of coal in its energy mix. The consumed oil of about 15,69 million barrels in 2000 has to be imported. The Administracion Nacional de Combustibles, Alcohol y Portland (ANCAP), owns Uruguay's only refinery in Montevideo. ANCAP is active abroad and also announced in January 2002 that France's General Company of Geophysics (CGG) will conduct seismic studies of Uruguayan waters

¹ WEC 2002., IEA 2002.

² Worldbank 2001.

near the border with Brazil in order to determine hydrocarbon potential in the area. The study is expected to be completed by mid-2003.

Even if Uruguay has no proven resources, the role of natural gas in Uruguay's energy sector is expected to grow over the next few years. The 2000 consumption was estimated at 47 million cubic metres³. Over the next 10 years, approximately 850 megawatts of new gas-fired generating capacity is expected to be installed. Natural gas is to come from new pipelines linking Argentina to Uruguay, including the 170 million U.S. dollar 'Cruz del Sur' line, being built to enhance natural gas trade between Argentina, Brazil and Uruguay. The first natural gas pipeline connecting Argentina and Uruguay was inaugurated in late 1998, running from Entre Rios, Argentina, to Paysandu, western Uruguay, where a large power plant is planned. Although there are approximated numbers available on the present utilisation of biomass for the generation of energy, there are more reliable estimations on Uruguay's potentials in this field. Sugarcane bagasse, residues from forestry/wood-processing, rice husks as well as sunflower husks are potential biomass resources.

Table Fehler! Kein Text mit angegebener Formatvorlage im Dokument.-1 - Uruguay's bioenergy resources with conversion yields

Sugar cane bagasse	quantity of raw material available	0,04 million tons
	electricity generation	415 TJ
	total energy production	432 TJ
Forestry/wood-processing	quantity of raw material available	0,4 million tons
Rice husks	quantity of raw material available	0,27 million tons
	electricity generation	5 TJ
	direct use from combustion	508 TJ
Sunflower husks	quantity of raw material available	0,05 million tons
	direct use from combustion	377 TJ
Black liquor	quantity of raw material available	0,04 million tons
	electricity generation	59 TJ
	direct use from combustion	531 TJ
	total energy production	590 TJ

Source: World Energy Council, Survey of Energy Resources, 2002

³ EIA 2000. and SIEE 2000.