

Colombia

The Republic of Colombia (República de Colombia) with its capital Bogotá (Santa Fe de Bogotá, 6.004.782 inhabitants, 1997) covers an area of 1.138.850 km² and 42,321 million inhabitants. The population density with 37 inhabitants per km² is below the regional average whereas the urban population is with 74 percent extraordinary high.

Colombia, in the northwest part of South America, is the only country in this region that fringes both, the Atlantic and the Pacific Ocean. The country is bordered by Panama in the northwest, by Venezuela and Brazil in the east and by Peru and Ecuador in the southwest. The western half of the country is covered by the Andes while the east is a low, jungle-covered plain, drained by spurs of the Amazon and Orinoco Rivers, inhabited mostly by isolated tropical-forest Indian tribes. The fertile plateau and valley of the eastern range are the most densely populated parts of the country.

In 2000, the Colombian economy began to recover from the recession of the previous year, with growth reaching 2,8 percent and inflation at 8,7 percent. Growth in 2001 was only 1,5 percent due to lower world prices for Colombian exports and reduced domestic demand. The government is estimating that growth in 2002 will be between 2,5 and 3 percent, with inflation at 6 percent.¹ The government is expected to continue to narrow the fiscal deficit and try to achieve inflation targets in order to meet conditions agreed with the International Monetary Fund. Recently, higher world oil prices provided a significant boost to Colombian export earnings, as oil is Colombia's top export product (followed by coal and coffee). Oil exports accounted for about 25 percent of government revenues in 2001. Rebel groups control large parts of Colombian territory.² Full-scale violence erupted in February 2002, after Pastrana broke off three-year peace talks with the largest rebel group, the Fuerzas Armadas Revolucionarias de Colombia (FARC).

Colombia's electricity consumption of about 33,4 million MWh in 2000 was provided with a share of 76 percent hydro-electricity. The combustion of fossil fuels contributed 22 percent while the remaining 2 percent were generated by other renewable energy resources like solar energy and geothermal plants.³ Colombia's power sector endured a difficult year in 1992, as a severe drought left hydroelectric plants unable to meet electricity demand and forced power rationing.

In the wake of drought, plans to reform the sector began to form. The construction of coal and natural gas-fired power plants is being encouraged over the medium to long term, and the hydropower share of generation is expected to decline. The Colombian electricity sector continues to face serious challenges as repeated attacks on electric infrastructure by rebel

¹ World Bank 2002.

² Independent Alvaro Uribe won 53 percent of the vote in the presidential election held on May 26, 2002. Current President Andrés Pastrana of the Conservative Party has ruled since 1998, and is constitutionally banned from running for re-election. Uribe plans to increase the size of the military in order to break up rebel groups. The day after his election, he appealed to the United States for increased aid, and stated plans to approach the United Nations for assistance in negotiating between leftist rebel groups and right wing paramilitary groups.

³ WEC 2002. and EIA SIEE 2000.

separatist groups are straining the system. Grid interconnections have been blown up, leaving the country divided into several, smaller grids and preventing repair crews from reconnecting the fragments.⁴ Plans to connect Colombia's Atlantic Coast and its capital city, Bogotá, by transmission grids have been put on hold. After the February 2002 end to peace talks, attacks increased further. The current problems have delayed privatisation in the sector.

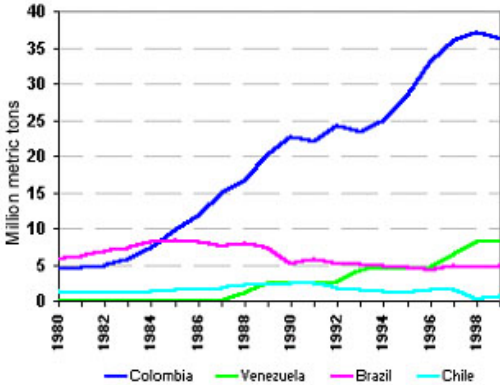
A 1994 electricity reform law deregulated the industry, and privatisation progressed throughout the late 1990s. However, the increase in guerrilla attacks on the system has put plans on hold.

As of December 2000, Colombia had about 1,97 milliard barrels of proven oil reserves and produced 248 million barrels. The overall oil consumption was 99,2 million barrels while exports amounted about 148 million barrels in 2000.⁵ The Colombian government owns the country's hydrocarbon reserves. Oil and natural gas production is regulated by state oil company Empresa Colombiana de Petroleos (Ecopetrol) and the Energy and Mines Ministry. Private companies operate in joint ventures with Ecopetrol which, by law, holds at least a 30 percent share.

Colombia's proven natural gas reserves are estimated at 204 milliard cubic metres while the overall consumption was 6,03 milliard cubic metres. Consumption is expected to grow significantly in the next decade as governmental plans to increase natural gas use, especially for electricity generation and public transportation. Natural gas production is centred along the Northern Coast and Barranca regions; other areas of production are in the south and in basins to the east of Bogotá.

Colombia's coal reserves are the largest in Latin America and are estimated at 6,65 milliard metric tons in 2000. With an production of 36,1 million tons Colombia is the largest coal producer in Latin America. The consumption of 4,2 million tons in 2000 led to an overall export of 31,9 million metric tons. Even though the country is already one of the largest coal exporters in the world, exports are expected to increase significantly in the next years. Figure 4-4 illustrates the coal production of Colombia, Venezuela, Brazil and Chile of the last two decades.

Figure Fehler! Kein Text mit angegebener Formatvorlage im Dokument.-1 - South American coal production 1980-1999



⁴ World Bank 2002.

⁵ WEC 2002.

The National Energy Plan of 1997 (Plan Energético Nacional) underlines the importance of renewable energy, as the current use of renewable energies for electricity generation is completely inadequate.⁶ Apart from the use of hydro-power and the promotion of solar electricity, the penetration of corresponding technologies in Colombia, mostly in the electrification of rural regions is considerably lower than in other countries of the LAC region. This is mainly due to the weak foundation and the limited influence of the Colombian government in large parts of the country. Apart from the hydroelectric plants that supply power to an interconnected network system (with the state as the main stakeholder), there are approximately 250 small hydropower plants with a capacity of less than 10 MW.⁷

Taking into consideration the political situation in Colombia the promotion of bioenergy and especially the utilisation of biomass is very much related to the strengthening of the idea of Civil Society through a strong involvement of non-governmental organisations in the information and promotion process.⁸ Residues from the large-scale coffee, sugar and banana industries as well as agricultural residues from products like rice, corn, potatoes, soybeans, sorghum, cotton and tobacco can provide the necessary biomass potential for an increased implementation of bioenergy. The liquid and semi-liquid manure of livestock-farming is suitable for biogas generation. The sugar production in 1999 amounted 2.240 tons while the estimated bagasse potential was 7.300 tons.⁹

⁶ GTZ 2002: 76 f.

⁷ GTZ 2002: 76.

⁸ One example for strengthening the Civil Society approach is the Local Governance Programme of the United Nation Development Programme (UNDP) which is operating in several countries all over the world. The main idea is to build up Community Based Organisations and the implementation of participatory planning. For further information see the Local Governance Programme on <http://www.undp.org>

⁹ ISO 1999. and WEC 2002.