Guatemala

The Republic of Guatemala (República de Guatemala) with its capital Guatemala (1.167.495 inhabitants, 1995) comprises an area of 108.889 km² and a population of 11,385 million inhabitants. The population density of 104 inhabitants per km² is higher than in most of the other countries of LAC but the urban settlement of 40 percent is below the average. Mountainous, heavily forested and dotted with Mayan ruins, lakes, volcanoes, orchids and exotic birds, Guatemala is one of the most beautiful countries in Central America. It has a indigenous population, the Maya, which speak Mayan languages and follow Mayan traditions.

Guatemala's beauty and strength of identity have not been matched by its cohesion and prosperity. In 1996 the country emerged from a 36-year-long civil war in which more than 200.000 people were killed or disappeared. Nevertheless the military remain dominant and continue to subvert an already corrupt justice system. Guatemala, a country in which 90 percent of the people are living below the poverty line have serious problems like a high infant mortality rate, malnutrition and a low life expectancy.[1]

Economically, tourism as well as the export of textiles, apparel, and new agricultural products like fruits and cut flowers has boomed, while more traditional export goods such as sugar, bananas, and coffee continued to represent a large share of the export market. Due to the strong reliance on coffee exports, the recent downturn in world prices has led to an relatively slow growth over the past years.
Guatemala is the only oil-producing country in Central America. Its estimated reserves, accumulated to 840 million barrels are concentrated in the remote northern jungle region. The consumption in 2000 was estimated at 21,8 million barrels. As the production of 7,5 million barrels, Guatemala is an net importer of crude oil and petroleum products. In contrast to the oil resources, there are just little resources of natural gas at 600 million cubic metres. The production which fully covered the consumption turned out to be about 29 million cubic metres in 2000.[2] Up to now, Guatemala has no proven coal resources and do not utilise coal in the energy mix.

Beginning in the 1970s, Guatemala became heavily reliant on hydropower with the construction of large power stations. By 2000, hydropower accounted for 62 percent of Guatemala's total electricity generation which was 3,8 million MWh in 2000.[3] The remainder of 38 percent demand was covered with fossil fuels. Due to estimations of the Instituto Nacional de Electrificación (INE), the hydropower sector will be enlarged by building more than 1.000 megawatts in the next years. Furthermore, potential sites for the geothermal energy production enabled pre-feasibility studies for several geothermal power plants with a total capacity of 100 MW.[4]

An important future-project is the planned interconnection with the national grids of Mexico, El Salvador, Honduras, Nicaragua, Costa Rica and Panama. The project, called SIEPAC (Sistema de Interconexion Electrica de los Paises de America Central) will enable transmission within the grids of the participating countries and is foreseen to connect 37

[1] World Bank 2002: 44.

[2] EIA, SIEE 2000.

[3] EIA, SIEE 2000.

[4] WEC 2002: 122.

million consumers. The project will be governed by the Comisión Regional de Interconexión Eléctrica de América Central (CRIE)

In April 2002, a transmission line between Honduras and El Salvador was opened, marking the complete interconnection of all six SIEPAC countries. Prior to the Honduras-El Salvador link, Guatemala and El Salvador were not connected to the Honduras-Nicaragua-Costa Rica-Panama network of bilateral linkages. Endesa (Spain) is currently planning a 230 kV transmission line that will extend from Guatemala to Panama. This overarching power line is designed to mitigate the poor quality of existing interconnections, making regional transactions possible. In order to visualise the SIEPAC project, Figure 4-2 shows the proposed grid-route, which is already realised in parts.

Figure ***Fehler! Kein Text mit angegebener Formatvorlage im Dokument.****-1 - Proposed SIEPAC route*

Source: SIEPAC

CRIE will regulate the wholesale market, and the Regional Operating Agencies, and is foreseen to act as administrator of regional power transactions. SIEPAC will allow the member countries to trade electricity regionally. It will also allow countries with severe electricity deficits to purchase power from their neighbours, as well as enabling countries dependent on thermal power to have access to Central America's abundant hydropower. Interconnecting the country's electricity grids might also open up the possibility of an enhanced bioenergy utilisation.

Up till now, there is no considerable utilisation of biomass even though Guatemala has potential biomass resources. The agricultural sector provides residues from coffee pulp, sugar cane, bananas, vegetables and rice. The overall sugar cane production in 2000 was 1.687 tons while the estimated bagasse potential is more than 5.000 tons per year.[5] This will provide a increasable biomass resource for the production of bioalcohol, pellets and biogas. A large-

[5] ISO 1999

scale promotion of bioenergy, including policies and subsidies could help to implement bioenergy to Guatemala's energy mix.