



Climate Profiles : Climate Brazil

Brazil Climate Change Profile Part 5: Opportunities

Brazil is the world's number one producer of ethanol fuel, and with rising international demand of biofuels, could see exports triple in the next decade. The country is also exploring new ways of reducing greenhouse gas emissions from deforestation and energy generation.



Protecting the Amazon Rainforest

Virgin Amazon jungle in the Brazilian state of Mato Grosso. Incentive schemes, like the UN Clean Development Mechanism (CDM) could help further slow the pace of deforestation (Photo: Reuters)

Biofuels and Flex-fuel Cars

Brazilian companies profit from exporting biofuels, particularly ethanol, as global demand and prices are rising. Brazil exports over three billion liters of ethanol a year, but hopes to triple that figure by 2015. The state-run oil company Petrobras is planning construction of an "Ethanol Export Corridor" that will link the sugar cane-producing regions of central and western Brazil to coastal ports by 2010 or 2011.

Ethanol will also remain strong domestically. Around 80 percent of all new cars sold in Brazil have "flex-fuel" engines, which can run on gasoline, cheap ethanol, or a combination of both. Many foreign carmakers, including Honda, Toyota, and Peugeot produce flex-fuel cars specifically for the Brazilian market. A few years ago, German carmaker Volkswagen even ceased production of all gasoline-only cars in Brazil, opting to build only flex-fuel models in local plants.

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Clean Development Mechanism

Clean Development Mechanism (CDM) gives industrialized countries the opportunity to meet some of their Kyoto Protocol obligations by purchasing Certified Emission Reductions from greenhouse gas reduction projects in developing countries. At the beginning of August 2007, Brazil reported that it had 231 certified CDM projects operating in the country - only China (with 694 projects) and India (671) have more. The

majority of these were projects dedicated to energy generation projects, like biomass and wind.

Since forests can be a major sink of emissions, Kyoto negotiators have recognized afforestation and reforestation projects as credible CDM projects. Environmentalists, however, criticize this as an incentive to cut down virgin forests only to reforest later with inferior vegetation. Other kinds of land use, such as agricultural management, ecological restoration, and avoided deforestation, have not yet been incorporated into the CDM or European Emissions Trading Scheme. If this happens, Brazil could have more economic incentive to preserve its rainforests.

Renewable Energy

Along with its burgeoning biofuels industry, hydropower makes Brazil a renewable energy leader. Brazil's rich solar resources are not yet developed yet, but could help reduce conventional energy demand. Solar water heater systems, for example, could replace electric showers that currently consume around 8 percent of all electricity produced in Brazil. A law proposed in Sao Paulo - a city of 11 million people - would make solar water heaters obligatory on all new and renovated buildings.

In wind power generation, Brazil is still very small compared to world leaders Germany, Spain, and the United States. Brazil added 208 Megawatts (MW) of wind energy capacity in 2006 - a 700 percent leap from the 29 MW of capacity at the end of 2005.

Reducing Methane Emissions

Brazil is a member of the multilateral "Methane to Markets" cooperation that is looking to reduce emissions from methane - an important greenhouse gas - from agriculture, mines, landfills, and oil and gas systems.

Meanwhile, scientists at Brazil's National Space Research Institute (INPE) have recently thought up a way to reduce methane emissions produced by hydroelectric dams, and even capture some of the gas to burn for energy. Although the concept is still being tested, INPE scientists are hopeful that improving Brazil's dams could save hundreds of millions of tons of methane emissions each year; up to 800 million tons of CO₂ equivalent - more than all the gases produced in Britain annually.

Sources: Brazilian Ministry of Science and Technology, Vitae Civilis, World Wind Energy Association, Green Car Congress, BBC, Reuters, Associated Press, Xinhua

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