



## Climate Profiles : Climate Brazil

### Brazil Climate Change Profile Part 4: Strategy

**During the 1970s, Brazil sought independence from expensive imported oil. Today, the country's mature ethanol fuel and hydroelectric sectors have turned the country into an example of renewable energy use. Brazil, however, still rejects emissions caps and international intervention in the Amazon.**



#### Climate and Deforestation Politics

Brazil's President Luiz Inácio Lula da Silva next to Environment Minister Marina Silva during an event about deforestation in the Amazon in October 2006 (Photo: Reuters)

#### Ethanol and Biofuels

For decades, Brazil has produced much of its transportation fuel from ethanol, which can be extracted from the country's vast harvests of sugar cane. Brazil's Ethanol Program was launched in 1975 as a response to spikes in oil prices during the 1970s. Today, around 30-40 percent of all automobile fuel used in Brazil comes from sugar cane-based ethanol.

Brazil's President Luiz Inácio Lula da Silva wants to increase ethanol production from the current 18 billion liters per year to 26 billion by 2010. Under Brazil's National Biodiesel Program, sunflowers and castor beans could be used to produce even more non-petroleum fuel. Brazil is also working with other developing countries, such as Indonesia and Mozambique, to start up large-scale ethanol and biofuel industries of their own.

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Supporters argue that ethanol is carbon-neutral, meaning that burning it releases exactly the amount of CO<sub>2</sub> that had been initially absorbed by the sugar cane plant. Growing and processing the crop, however, takes a lot of energy and produces additional carbon emissions. Critics also argue that Brazilian farmers clear large patches of rainforest to create

land for oil crops and thus release huge amounts of carbon dioxide stored in trees and soil. Lula, however, says the industry creates thousands of jobs and protects the country against rising oil prices.

### **Renewable Energy**

Blessed with abundant rain fall, Brazil relies on 450 hydroelectric dams along its rivers to produce over 80 percent of the country's domestic electricity. Renewable energy accounts for around 47 percent of Brazil's total primary energy production - which includes all forms of energy generation, including transportation fuels. But according to the World Wide Fund for Nature (WWF), Brazil is also beginning to step up its consumption of fossil fuels, particularly petroleum. The government's PROINFA program may counterbalance this trend by establishing a mandatory market for renewable energy and creating over 3,000 Megawatts of electricity capacity from wind and biomass.

### **Nuclear Energy**

Given the country's rapidly growing energy consumption - some five percent per year - government officials fear that renewable energy alone will not be sufficient. In July 2007, Lula announced a relaunch of the country's nuclear program. Mothballed twenty years ago, plans for a third nuclear power plant could be implemented soon. So far, only four percent of Brazil's electricity production comes from nuclear power. But the country holds the world's sixth-largest reserves of uranium and appears determined to develop its own uranium enrichment technology to enhance its nuclear capacity.

### **Forest Policy**

Brazil has long faced international criticism over its management - or lack thereof - of the vast Amazon rainforests, which continue to disappear at alarming rates. Construction of roads, resettlement, expanding farmland, and the fact that most rainforest land is not protected by the state have all contributed to its rapid destruction.

Despite Brazil's government aversion to international intervention in the Amazon, there are signs that things are changing. The government claims deforestation rates have slowed by half since 2004. In December 2006, the governor of the northwestern state of Pará put some 150,000 square kilometers of Amazon rainforest - an area larger than England - under government protection. The Kyoto Protocol's Clean Development Mechanism (CDM) could serve as further economic incentive to preserve Brazil's forests, though it is only one of several of the necessary measures needed to discourage deforestation.

### **Emissions Caps**

As the host of the landmark UN Rio "Earth Summit" in 1992, Brazil was the first country to sign the UN Framework Convention on Environment and Development (UNFCCC). Brazil is also party to the Kyoto Protocol, but like India and China, the Brazilian government does not accept mandatory caps on greenhouse gas emissions. Lula reiterated this stance at the June 2007 G8 Summit in Germany, saying that developed countries - not developing countries - must be the ones to "make sacrifices" on behalf of the climate.

Increasing public awareness about the dangers of climate change in Brazil may influence Lula to take a more proactive approach to climate change. Public concern increases with every extreme weather event, such as the severe drought in 2005 and a rare hurricane in 2004, not to mention the long-term trends like declines in agricultural productivity.

### **Local Action**

Like in the United States, local and state governments in Brazil have been quicker than federal authorities to act on concerns about the climate. The state of Sao Paulo produces 60 percent of the country's biofuels and has launched large-scale reforestation projects. To the northwest, Amazonas state Governor Eduardo Braga announced in June 2007 a multi-faceted climate change policy aimed at public education, protecting the region's forests, and promoting sustainable energy production and consumption.

**Sources:** WWF, The Guardian, Brazilian Ministry of Energy, Amazon Institute for Environmental Research, Conservation International, SciDev.net, New York Times, The Climate Group, Brazilian Ministry of Science and Technology, Open Democracy, BBC

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