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Brazil to flood Amazon rainforest for hydroelectric power

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SAO PAULO, Brazil — Brazil's plans to dam two rivers in the Amazon basin to generate power threaten a treasure trove of animals and plants in a region with one of the world's richest arrays of wildlife, environmentalists say.

The government wants to harness the vast hydroelectric potential of the Madeira and Xingu rivers in multibillion dollar projects meant to boost electricity supply and ward off a repeat of a power crisis that crippled growth in 2001.

The government's plans run counter to advice from experts at the World Commission on Dams (WCD), an independent body of international experts, who say dams should be avoided in areas rich in species -- like the Amazon which is home to an estimated 30 percent of the world's animal and plant species.

"The Amazon, Congo, Nile, Parana and Yangtze watersheds are the most species-rich, with the Amazon far ahead," WCD specialists said in a report.

Brazil's plans include two dams on the Madeira, a main tributary to the Amazon, at a cost of \$9 billion to produce 6,400 MW of electricity. The project, in Rondonia, will flood 210 square miles of forest.

International Rivers Network said the dams would threaten the survival of several species of large catfish that migrate some 2,800 miles to breed in the upper Madeira.

Thirty-three endangered mammal species live in the region to be flooded, including the spotted jaguar, the giant anteater, the giant armadillo, giant otter and several species of birds.

The government says the Madeira project is critical if the country is to keep pace with energy demand in the next decade.

The case illustrates the dilemma facing many developing countries -- often rich troves of biodiversity but also struggling to cater for poor, growing populations for whom environmental concerns often seem an unaffordable luxury.

It's a conflict-of-interests that will likely hang over United Nations talks on biodiversity, opening in Curitiba, Brazil next week.

"NECESSARY? NO"

Brazil's government wants to protect the country from the kind of power crisis caused by a 2001 drought. Then, hydroelectric power accounted for around 95 percent of total generation capacity and rationing crippled growth.

Environmentalists say the government has overestimated future demand for energy and even energy sector leaders have doubts about the Madeira plan, and a second project on the Xingu river, called the Belo Monte.

"Necessary? No," **Claudio Sales**, head of the Chamber of Electric Energy Investors, said. "These mega-projects are not indispensable, although the government is trying to present them as such. This is a big mistake."

Sales said several smaller hydroelectric projects could easily meet energy needs, already had environmental clearance and could actually deliver cheaper energy to the consumer.

The massive 11,000 MW Belo Monte Hydroelectric Complex would flood the Xingu river basin and cost close to \$7 billion.

Belo Monte was first proposed years ago and shelved because of public anger over the environmental and economic costs. The government is trying to get a revised version approved for 2007.

Although the Belo Monte dam is seen as efficient in terms of energy per dollar invested and area flooded, the rate of flow of the Xingu drops drastically from June through August and would seriously reduce its generation capacity.

"The obvious conclusion is that other dams upstream are being planned, and the energy sector does not deny this, so that large volumes of water can be stored to turn the turbines at Belo Monte during the dry season," Glenn Switkes, the South American specialist for International Rivers Network, said.

There is a plan to build a massive reservoir called Altamira, about four years after Belo Monte is completed. This would flood 2,355 square miles of dense forest, a good portion of which is part of the Xingu Indian reservation.

"Altamira is the albatross around Belo Monte's neck," said energy specialist Allen Poole, adding that plans to reduce the cost of transmission lines for Belo Monte by redirecting them through environmentally sensitive areas would likely have as negative a social impact as the dam itself.

The Madeira and Belo Monte projects require huge investments for transmission lines, which carry the electricity to consumers and often open remote forests to illegal logging and mining.

Another bone of contention for critics is cost.

Brazil's history abounds with examples of politicians using large public works projects as a means to siphon off funds.

"This would not be the first example of hubris on the part of the Brazilian government in grand public works," Sales said.

He cited Brazil's Transamazonica highway and the Balbina hydroelectric dam as classic examples of a combination of "irresponsible megalomania and disrespect for public coffers."

The highway consumed \$12 billion but cars and trucks can only travel on 93 miles of the 3,100 miles route. The Balbina flooded 911 square miles and only generates one MW for every 3.6 square miles.