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## Clean But Not Green: Geothermal Developers In Costa Rica At Odds With Environmentalists

by LADB Staff

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Costa Rica leads Central America in the production of wind and geothermal energy and has been lauded for its progress in renewable power projects while others flounder. A new report prepared for the Inter-American Development Bank (IDB), *A Blueprint for Green Energy in the Americas 2009*, faulted Latin America in general for governmental failure to provide the regulatory frameworks and supportive policies needed to field renewable projects, and for reluctance to take risks in the energy sectors because of the lack of development. Only Costa Rica stood out as an exception on the isthmus and, in the hemisphere, was joined by Chile and Brazil as standouts in the field. But now Costa Rica is running up against another of its trademark values, environmentalism, in its attempt to tap even more ecologically sound power. In January, Ormat Technologies, Inc. announced the signing of a contract with Banco Centroamericano de Integración Económica (BCIE) "for the supply, supervision, installation, startup, and testing of Las Pailas Geothermal Plant, a new geothermal power plant that is to be constructed in Las Pailas Field, Costa Rica." The press release valued the project for the Instituto Costarricense de Electricidad (ICE) at US \$65 million and projected the time to completion at 18 months. Ormat is not new to Costa Rica. ICE has had an Ormat geothermal plant online since 2004 at Miravalles V, and the company has been in the region since 1999. Pailas will be its fifth in Central America, generating a combined total of 150 megawatts. The contract with BCIE accounts for only a part of the US\$160 million the bank has contracted for the design, construction, and electrical equipment for the 35-MW plant. There is little objection to what the government is doing to generate renewable power, but there is concern about where it is doing it. In November 2008, the legislature rejected a proposal to allow geothermal development in national parks. The same phenomena that produce power hot water, live magma, volcanoes also produce tourism and foreign exchange. These are not places suitable to industrial infrastructure with pipe-work jungles, pumps, turbines, and noise. Power in the parks. The bill the legislature shot down would have allowed these ecosystem-devouring monoliths to be constructed anywhere in a national reserve, and this, says the Ministry of Environment, Energy, and Telecommunications, is unconstitutional. The Procuraduría General de la República (PGR) agreed that, without delineating boundaries for these projects, such an enterprise on these lands would be illegal. As illegal as it may be, it is also enticing, and ICE is not content to let geothermal development fall by the wayside. In January, ICE executive president Pedro Pablo Quiros called upon the legislature to modify existent legislation to let him into the parks where, he says, the greater part of the potential lies. He considers geothermal the champagne of energy sources and is not inclined to see it go flat. "I'm doing the impossible to strengthen geothermal, because it doesn't depend on water and it gives the country important support. Where there is steam is where there are volcanoes, and national reserves is where we have the steam." Quiros' statement was meant to differentiate this method of energy production from the hydroelectric that the private sector favors, involving giving away public water rights to build the infrastructure. These concessions have been suspended, but hydroelectric facilities already produce 80% of the nation's power. He was also emphasizing that he was going after this resource in the parks not because he wanted to

trample the fragile ecosystems but because he estimates that, in the Poas volcano zone, there is a productive capacity of about 800 MW. That is where the Pailas project, the Miravalles expansion, and the Borinquen are. Currently, these projects are generating 163.5 MW, or about 14% of the national demand. Pailas will add another 35 MW. The bill in the congress will permit prospecting for the superheated water that is somewhat like exploring for oil. The wells can go as deep as 3.7 km. The water can reach 400 degrees C. For Angeline Marin of the Wildlife Preservation Association (Asociacion Preservacionista de Flora y Fauna, APREFLOFAS), opening the parks to tourism was bad enough. The proposed activity is out of the question. Marin wants to see solar and wind generation given more emphasis because, she said, they are less environmentally harmful. She also questioned the need for as much energy as is being contemplated, suspecting that it is not for domestic consumption but rather intended to be sold onto the grid for export. Quiros has denied the allegation and suggested that, if this resource cannot be used, the only alternative would be nuclear. He said that, during the dry season from December to May, ICE uses 90% of the national fuel bill, about US\$260 million, to generate electricity. With geothermal on line, that expense could be halved. An underused, clean resource The Blueprint for Green Energy report notes that, despite its potential, renewable energy including geothermal is vastly underused. With solar and wind generation included, the region only produces 0.7% of its needs in these ways, compared with a world average of 2.5%. Part of the problem is financing. Latin America and the Caribbean received US\$2.5 billion in renewable-power investments in 2007, less than 3% of the world total of US\$87 billion, most of it coming, as in Central America, from development banks and multilateral lenders. Ormat, a geothermal specialist, operates some other plants on the isthmus. In Nicaragua, it has the 30-MW Momotombo plant. It is continuing to expand in Guatemala with the 24-MW Zunil plant and another under construction at Amatitlan. In December, the UN Framework Convention on Climate Change (UNFCCC) officially registered the facility as a Clean Development Mechanism (CDM). This designation is designed to provide private-sector incentives for carbon reduction and sustainable development. The Amatitlan project is expected to offset about 83,000 tons of carbon dioxide annually. The CDM designation makes the project eligible for Certified Emission Reduction (CER) credits, which can be traded or sold. The project already has a long-term contract for the credits with a European polluter. This is the only CDM-registered project in Central America and one of very few worldwide, according to the company. Thus, geothermal investors make money on what they do not produce, as well as on what they do. Ormat has a long-term contract with Guatemala's Instituto Nacional de Electrificacion (INDE) for the 20 MW that will be produced. The US has also sought to encourage renewable-energy projects in the region. In January the US Trade and Development Agency (UDTDA) called for proposals for a definitional mission (DM) to identify short and medium-term renewable projects in Costa Rica, El Salvador, Guatemala, Honduras, and Panama. These would include geothermal, solar, waste-to-energy, and wind projects. The winning bidder would produce a briefing book profiling projects including costs, US export potential, sponsors, sites, timelines, financing options, and environmental issues, along with a primer on renewable energy demand in each of the countries. The Blueprint study is unimpressed by the renewable-resource activity in the region, however. It concludes that, while there are enormous opportunities, the region is falling behind the rest of the world in these areas.

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