

Dash for Geothermal Energy

Eastern Caribbean nations are pushing ahead with plans for geothermal exploration as they seek to decrease their reliance on imported energy.

Dominica, Nevis and now St Lucia are keen to extract energy derived from the natural heat and water resources within the earth, such as volcanoes and hot springs. Most Eastern Caribbean countries are volcanic in origin and are believed by experts to have the potential for geothermal power generation. Last month, it was announced that a North American company, Qualibou Energy, had been granted a 30-year contract for exploration in St Lucia. Dominica and Nevis were already pursuing their own projects through West Indies Power, which is owned by Caribbean and European interests.

Economies of scale Caribbean nations have talked for years of reducing their reliance on fossil fuels with alternative energy but progress has been limited, largely because of the high costs involved. The French island of Guadeloupe has however had a plant since the mid-1980s. The Organisation of American States is among agencies advising the three English-speaking countries on energy policy. According to a published OAS document on the project, "The small size of the power generation requirements make achievement of economies of scale a serious challenge, and the high front-end capital costs associated with many of the renewable alternatives pose a hurdle to the fragile Eastern Caribbean economies." According to West Indies Power, the first drilling in Nevis represented the first "commercial hydrothermal geothermal well" in the Organisation of Eastern Caribbean States. On 2 June, 2008, that well produced a 30-foot flow of steam. The company says it could produce several hundred megawatts of electricity from Nevis which could be transmitted as far as Puerto Rico through a proposed Caribbean Interconnect Plan. "The transmission of geothermal power via submarine electrical transmission cables is definitely one of the answers to lowering the cost and increasing the reliability of electricity for the islands of the Caribbean," Kerry McDonald, CEO of West Indies Power, has said.

"Most important" It's thought, however, that an initial development would likely include up to 10 megawatts of power to supply both St Kitts and Nevis. The installed electricity capacity in St Kitts and Nevis and Dominica is said to be less than 40 megawatts and St Lucia's at close to 60 megawatts. The Dominica government is also betting on returns from its programme. "Potentially the development of geothermal resources could become the single most important economic activity on the island for decades to come," former energy minister Charles Savarin has said. "What oil and natural gas has done for petroleum-exporting countries, geothermal energy can do for Dominica," he said. Dominica's geothermal power potential has been estimated to be as high as 600 megawatts. The government is already suggesting that any excess be exported to neighbouring Guadeloupe and Martinique well into the future if the project is successful.

Electricity providers Qualibou says it intends to develop a total of 120 megawatts of power in three phases in St Lucia, with a tenth of that the initial project plan. If energy is found in commercial quantities, the drilling companies, who are responsible for the upfront costs, will make their money by will then sell power to local electricity providers. In every case, they expect the price to be competitive with imported fuel. "We have an agreement with the power company to purchase the electricity which is going to be below the generating cost of Lucelec (St Lucia electricity company)," said Steven Baker, CEO of a Qualibou subsidiary. In St. Lucia and St. Kitts and Nevis, practically all of the electricity is generated with imported petroleum. Dominica is the notable exception, as it produces 30-50% of its electricity using that nation's abundant hydrological resources. One advantage of geothermal energy is that is regarded as clean energy which will potentially help the Caribbean to reduce emissions of greenhouse gases. BBC