

## Selective translations

### Cover

# REPORT ON HUMAN DEVELOPMENT 2005 THE AUTONOMOUS REGIONS OF THE CARIBBEAN COAST

## Nicaragua Assumes its Diversity?

### Page 1 (125 on the document)

#### A Joint Venture Between Local and International Actors to Produce Low-Cost Renewable Energy in Bluefields and Punta de Aguila

The alliance made up of blueEnergy and its collaborators IPCC-INATEC, BICU, URACCAN, and the Rama Congress is an example of good practice of cooperation between international, national, regional, local, and community actors to create a local technical capacity that contributes to the development of indigenous communities and the region through the manufacture and installation of renewable energy sources.

blueEnergy and the alliance have two long-term objectives: provide electricity to communities that are currently without and to undertake initiatives that are financially self-sustaining and autonomous. These two objectives appear to be contradictory initially, but in the long-term the revenue generated by the energy systems will be key to sustaining the quality of the delivered services and to allowing for expansion into additional communities in need of energy services.

The pilot project was financed by various institutions: Energy and Environment Partnership with Central America, Alianza; The government of Finland and governments of Central America; Ministry of Environment of Nicaragua, MARENA; National Energy Commission of Nicaragua, CNE; French Embassy in Nicaragua; and the French Association Renewable Energy and Sustainable Development, ER&DE.

Please note that this previous paragraph is NOT accurate. Out of all the names listed, blueEnergy and its collaborators have, to date, only received funding from the Energy and Environment Partnership with Central America. All the rest of the institutions named have provided logistical support, but not financial support.

The pilot project consists of five key activities: carrying out capacity building workshops, manufacturing, installing, and maintaining energy systems, conducting an energy need / market study, conducting a wind resource study, and conducting an environmental impact assessment. The project calls for the construction, installation, and maintenance of eight energy systems, four of which consist of wind energy only and four of which consist of hybrid wind-solar components. Three of the systems will be built during the capacity building workshops and a total of six of them will be installed in Rama communities.

Please note that this previous paragraph was written when the grant being considered by the Energy and Environment Partnership with Central America was twice the size that was eventually awarded. blueEnergy and its collaborators scaled back its plans in proportion to the actual budget received.

The primary role of blueEnergy is that of a catalyst that focuses effort and resources with the capacity to address local concerns within the context of local, regional, and national development schemes. With the help of international, human, financial, and technological capital, the project alliance promotes an environment of “technical development with local innovation”, where best practices are combined with local technical skills. The sustainability of this project depends on its environmental impact and its economic viability, but the most important factor has been the success of the local manufacture of wind generators with local materials and the creation of an innovative knowledge and capacity base.

The business and management models that are applied to the energy systems are being developed in conjunction with the Rama leadership to assure their compatibility with local culture. The organizations involved are using the pilot project to experiment with different ownership and financial models in the communities of Rama Cay and Punta de Aguila. The local traditions and institutions are major factors in determining the models to use.

The capacity building efforts and the manufacturing of wind generators take place in blueEnergy’s shop on the IPCC-INATEC campus in Bluefields. Forty-eight people have participated in the capacity building workshops; among them seven indigenous people, seventeen university professors, and twenty international volunteers. Four complete systems have been built during these workshops and two are already installed and operational: one on the campus of IPCC-INATEC in Bluefields and one in the community of Punta de Aguila.

Please note that the workshop attendee total is actually forty-four, not forty-eight.

## **Page 2 (126 on the Document)**

The hands-on workshops are intended to create skills in design, siting, manufacturing, installing, maintaining, and administering of the energy systems. The training is organized such that the process remains in the hands of those involved: processors and students at INATEC, BICU, and URACCAN, as well as members of the Rama community.

The principal environmental impacts that are anticipated are visual and auditory. The wind turbines and their towers modify the traditional landscape since they are highly visible. On the other hand, the noise produced by the turbine is often less than the noise of the wind itself. The system component that poses the most environmental risk is the battery, which contains lead and acid. The project collaborators are providing recommendations on the proper handling of batteries and have established a system for their proper disposal.

Please note that blueEnergy and its project collaborators are investigating how best to establish a battery disposal system, but have not acted on this yet.