

S-187 ALTERNATIVE TECHNOLOGIES: RESEARCH AND DEVELOPMENT BY CEER IN PUERTO RICO By J.-A. Bonnet, Jr. and J.T. Pytlinski, Center for Energy and Environment Research.

Proceedings of the 1964 Annual Meeting of the American Section of the International Solar Energy Society, 5-9 June, 1984, Anaheim, California. Research and development of alternative energy by the Center for Energy and Environment Research (CEER) are discussed. Projects on bioenergy, solar energy, and other alternatives supported by governments and industry are examined. Factors such as Puerto Rico's geographical location, infrastructure, economic conditions, available human resources, and bilingual character are also considered, along with ecological zones and the energy situation in Southern Florida and the Caribbean region.

The technical guidance in the region, the need for petroleum and high income, are the driving forces behind these initiatives. The process is regulated by the U.S. Department of Energy (DOE), and 80 percent of the energy comes from oil. Local enterprises are also involved.

Solar and bioenergy technologies are being developed. Research accomplishments and the sugar cane industry in the Caribbean region are discussed. Sustainable urban development (SUD) in Puerto Rico is also considered, along with environmentally safe technologies that could provide community water facilities. Commercial activities and the sugar cane industry, managed specifically as an energy crop or "energy cane", are highlighted. CEER is involved in the planning and execution of a substantial 25 percent increase in capacity.

Efforts are directed towards the development of renewable energy sources and the use of cellulosic feedstocks and base stocks for energy production.

I'm sorry, but this text is too garbled to provide a coherent revision. It appears to contain multiple languages and possibly technical or specific jargon. If you could provide more context or a clearer version of the text, I would be more than happy to help.

A novel concept of a variable geometry wind turbine model was proposed in 1995 and the results from the engineering simulation were promising. A wind resource map of Puerto Rico was developed by CEEN for further study of wind resources on the island.

Puerto Rico has one of the best solar power plants. The right water depth and temperature conditions are ideal for generating electric power. The project is funded by DOE. A separate study was also performed on the feasibility of an OTEC plant at potential sites. The surface water temperature is 26°C.

Biofuel is also being explored as a potential source of renewable energy. Fouling and corrosion tests were performed over a six-week period off Punta Tuna in order to develop a durable and reliable heat exchanger for future OTEC power plants. A seawater study was also performed to assess the project's commercial potential. The project consisted of design, conservation, and the

development of 16 cable samples. The project was financed by DOE. Various experiments were performed on the use of a mixture of materials for more efficient energy storage. More research and development are needed for an organic plant.

The text is significantly jumbled and hard to decipher, but with the few recognizable phrases, it could be corrected to:

"Rico's business state once expressed an interest in the concept of 3.5 Marine and Terrestrial Ecology 1. Activities in marine ecology were conducted in the coastal area. Alternatives for the preservation of marine areas were considered.

Studies on marine animals in the vicinity of potential war zones were conducted. A study was done on the ecological impact on the coastal areas. A study conducted by CEER in 1980 and supported by the Puerto Rico Research and Development Authority in 1981 initiated a thorough characterization and environmental impact assessment for an oil site.

In 1982, a project funded by the U.S. Environmental Protection Agency was initiated to study the environmental impact of marine activities. In Puerto Rico, a clean water treatment plant was developed.

Methodologies for preserving special marine environments were developed. The tropical rainforest section of El Verde is used for research and is likely to be affected by industrial development in Puerto Rico.

A study of the entire watershed was done under the Terrestrial Ecology Program. This study investigated the interrelationship between the inhabitants and their combined influence on the hydrological cycle of the watershed.

3.6 Technology and Energy Assessment started in 1979. The objective of this project was to conduct a survey of the Puerto Rico private sector regarding the project. In 1980, funding was received from the Energy Development for the island of Culebra. The objective of this project was to address the socio-economic aspects of Culebra's energy efficiency."

Survey was conducted through a series of workshops and interviews, and a survey of 156 households. In 1980, CEER designed a computer program on methodology for Social Sprinting to provide researchers with a tool for their first appreciation of the economic potential and problems of sociology programs in development. In 1982, CEER received a grant from the Office of Minority Economic Impact to analyze the distribution and economic impacts of changes in electricity use in Puerto Rico. As the project progressed, cooperation was established with Puerto Rico's character services of the population.

During 1962, a computer security link and the Chatcow secretariat were set up as an agency for internal use. It currently has an indefinite guarantee. Cooperation was established with the Agency for International Development to provide support for renewal energy technologies. The success of such a program in the Caribbean depends on an understanding of the economic costs and impacts of relevant technology. Workshops, conferences, and seminars are part of CEER's service to

Puerto Rico. Participants include representatives from private and public organizations interested in research and technology transfer.

Also in 1980, CEER established a relationship with the Scientific Research Society (SERENE). In 1981, CEER received two grants, one from the National Science Foundation and another from the Obica Foundation, to facilitate the running of workshops for further cooperation. These grants also supported the development of new renewable energy technologies.

The CEER also served as the secretariat for the training session in 1982. The conference, which included about 100 participants from the scientific community and the federal and private sectors, was co-sponsored by CEER. The conference focused on renewable energy sources and tropical climates. The project was completed in 1980. The convention of the workshop was announced later.

The text is quite garbled and hard to understand, but here's a possible attempt:

Please provide more context or a clearer text for a more accurate correction.