

# THE GLOBAL SUSTAINABLE ENERGY INITIATIVE (GSEII)

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## *Sustainable Energy for SIDS—Time for Action - by Hon. Tom Roper*

The international community will once again gather in New York at the 14<sup>th</sup> Session of the United Nations Commission on Sustainable Development (UN CSD-14) to review progress in the areas of Energy for Sustainable Development, Climate Change, Industrial development and Air Pollution. One full day will be devoted to review progress made in the implementation of the SIDS sustainable development plans, such as the Barbados Plan of Action (BPOA) and the Mauritius Strategy for Implementation (MSI). In addition to renewing its interest and commitment to sustainable development of energy resources in SIDS, the international community must make resources available to help facilitate the transition of many of these vulnerable economies from a fossil fuel base to a system based on renewable energy.

Many of the small islands states are economically vulnerable to external factors such as fluctuations in energy prices, with record high oil prices. Secure supplies of affordable and reliable energy are an essential element of economic and social development. However, energy systems in most SIDS are inefficient and expensive, and add to national economic vulnerability. Electricity prices are generally between 20 and 35 cents (US) per kilowatt-hour, which is much higher than prices in the USA or Europe. At present, 70% of Pacific residents do not have access to electricity and depend on a mix of fuel wood, kerosene and batteries for energy supply.

SIDS, with few exceptions, have significant renewable energy resources that provide a base for reducing their dependence on high-cost, environmentally damaging fossil fuels. For SIDS, the benefits of using renewable energy are at least fivefold: a clean, green, dynamic image and marketing tool for the country; the preservation of natural and tourism resources; economic benefits, including reducing imports, thus saving scarce foreign exchange; creating employment and generating new income; and providing cheaper and more reliable energy for businesses



SIDS to get special attention at UN CSD-14

and individuals. But policy announcements are one thing, achieving change is another much more difficult task. Major policy, capacity, technical and financial barriers have to be overcome. Not the least of these barriers is the very size of island utilities themselves. The 24 Pacific utility members of the Pacific Power Association (PPA) covering the world's largest region generate a peak demand of 905 MW, which is less than many single plants in the USA or Canada. More than half of PPA members generate a peak demand of less than 15 MW.

The Global Sustainable Energy Islands Initiative (GSEII) aims to have approved national sustainable energy action plans in a dozen SIDS by 2010, have US\$100 million committed and/or leveraged in investments and enterprises, and initiate at least 15 new projects for at least 100 MW of clean energy projects. Nineteen potential GSEII projects have already been identified in three Caribbean partner States, ranging from the small to the large, including a geothermal development in Dominica. At the same time through its international outreach activities, GSEII intends to catalyze the interest of other larger nations to follow the SIDS example. GSEII partners look forward to working with international and regional organizations, SIDS governments, utilities and communities, and businesses and investors to make sure that the massive amount of talk at international conferences is translated into tangible progress.

*The Global Sustainable Energy Islands Initiative (GSEII) was launched in November 2000 by a consortium of international organization, to assist the small islands states in their efforts to transform their energy base from fossil fuels to a system based on renewables and energy efficiency technologies.*

## *UNIDO & GSEII in St. Kitts*

The Government of St. Kitts & Nevis is the fourth Caribbean island nation to join the Global Sustainable Energy Islands Initiative. While the Organization of American States is already working with the Government of St. Kitts & Nevis on exploration of the geothermal energy potential as part of the Geo-Caraibes project, beginning June 2006 GSEII team will also begin a broader sustainable energy planning process in St. Kitts.

The Energy and Power Sector of St. Kitts and Nevis has to contend with several difficulties including increasing international oil prices, and providing adequate supply. The Government has been forced to cease subsidizing the electricity in St. Kitts and Nevis, one of the cheapest in the Caribbean. The



Government is vigorously pursuing efforts to identify alternative sources of energy as well as incentives to encourage citizens to conserve energy.

The Government of St. Kitts and Nevis has expressed its willingness to develop a new energy policy and implementation strategy aimed to promote and support transitioning away from energy consumption and supply patterns based on conventional

fossil fuels, towards a more economically and environmentally sustainable energy development; based on sound renewable energy technologies and more efficient use of energy. In this regard, there are attempts to restructure the sugar industry that became inoperative in 2004. The decision was made in light of the steady financial losses in the last two decades.

GSEII and the United Nations Industrial Development Organization (UNIDO) team will initiate a consultative process and engage local stakeholders in the development of a sustainable energy plan. It will also conduct a comprehensive study, including financial and economic analysis, of the viability of utilizing sugar cane and/or other biomass for energy production, in particular ethanol for transport and bagasse for heat and power generation.

## *News from the Caribbean*

GSEII-UNIDO continue to assist the participating Caribbean countries with the implementation of their sustainable energy plans. During the spring and summer of 2006, the GSEII teams are reviewing the progress on sustainable energy projects made in St. Lucia, Grenada and Dominica and assisting these SIDS in writing their implementation plans for next five years.

### **St. Lucia**

The Sustainable Energy Plan of St. Lucia was finalized in 2001 and several activities have taken place since then. In April 2006, GSEII and the German aid agency, GTZ sponsored a 2

days stakeholders meeting in St. Lucia where the energy policy of St. Lucia was discussed and progress made over last five years was reviewed. The meeting brought together representatives from various Government agencies, the national power utility (LUCELEC), the private sector and trade organizations. The meeting found that while a number of efficiency measures and small-scale renewable energy projects were either implemented or are in the pipeline, St. Lucia is still waiting for its first major breakthrough in the shape of a grid-tied renewable energy project, such as wind or geothermal energy. At least one of these two possibilities is expected to become a reality in the next 12 months.

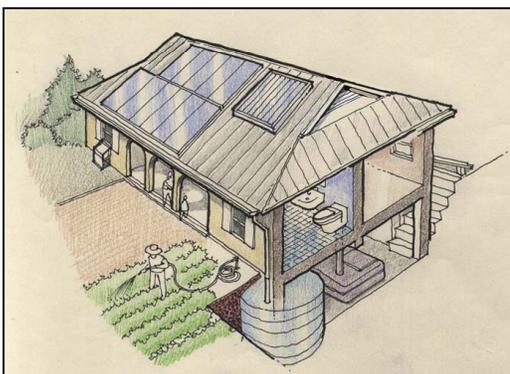
Based on the discussion held and input from the participants a number of policy measures and prioritized actions to be taken by the Government were identified. The meeting resulted in renewed commitments to meet the 2010 targets given in the St. Lucian sustainable energy plan.

### **Grenada**

In Grenada, due to the hurricane Ivan in September 2004, about 90% of

their infrastructure was either destroyed or severely damaged. While Grenada is going through a recovery and reconstruction phase, there are opportunities for sustainable reconstruction such as renewable energy and energy efficiency applications that must be incorporated in their future plans. The sustainable energy plan is being revised to reflect the post-hurricane needs, and efforts are being made to integrate the energy projects in broader National development and reconstruction plans.

The Grenada's Agency for Reconstruction and Development (ARD) will be actively participating in this process and a preliminary multi-agency energy committee has been organized. GSEII-UNIDO will organize a stakeholders meeting in Grenada in the summer of 2006. GSEII is also introducing the Earth Home concept to the reconstruction program in Grenada. Additional projects in Grenada include a capacity building and awareness program, an energy efficient lighting project to install 10,000 light bulbs, and a solar water heaters financing program.



The Earth Home system is a fully integrated building system, using local materials to meet all the living needs of the occupants, for example electricity, hot water, cooking and sewer system.

## **Dominica**

The sustainable energy plan and progress made to date is currently being reviewed in order to update and revise this plan. The major renewable energy intervention in Dominica's power sector would be the success of the commercial development of geothermal energy. Organization of American States (OAS) has been taking the lead on the Eastern Caribbean Geothermal Development Project – Geo-Caraïbes, which has completed the pre-feasibility component of the Project. The stake-

holder's consultation was held in March 2006 to finalize the project document for the Global Environment Facility (GEF).

An energy efficient lighting project was also initiated in Dominica in March 2006 in collaboration with the University of Vermont and the UK based Climate Care. About 200 light bulbs were distributed in a local community and energy awareness activities were organized. A total of 5000 energy efficient light bulbs will be installed in selected communities in Dominica.

## ***Updates in the Pacific***

### ***Fiji***

Recent developments in Fiji have been encouraging for an experimental initiative being conducted by The Energy and Security Group (ESG). This is a part of the GSEII's mission to help Small Island Developing States (SIDS) acquire and expand the use of sustainable energy systems for production of biofuels, electricity, and thermal energy. The establishment of a government biofuels program in fall 2005 provides a new framework and enabling environment for GSEII's mission. Local entrepreneurs are also seeing the potential economic and environmental benefits of coconut-biodiesel production and are taking an interest in expanding their rural agro businesses consistent with Coconut Industry Development Authority's (CIDA) strategy to decentralize the coconut industry through small-scale value-adding.

ESG notes that Coconut Methyl Ester (CME), a processed ('esterified') product of coconut oil, with glycerine removed, is fully compatible with petrodiesel. Moreover, tests in Japan and the Philippines indicate that a small percentage of CME added to the petrodiesel used in the Pacific for vehicles may significantly increase vehicle mileage and reduce particulate emissions. ESG is working with Fiji's Land Transport Authority (LTA) and experts in the Philippines to develop, implement, and evaluate the results of road tests in Fiji with various mixtures of CME and diesel fuel.

The next step furthering the GSEII's biofuel mission in the Pacific Islands is the successful integration of the GSEII's coconut-based initiatives with the Fiji government's new biofuels



program and with the work of the Coconut Industry Development Authority (CIDA). The ESG team will develop a plan and budget for testing the efficiency and market potential of CME as a diesel fuel additive in Fiji. A strategy will be developed to create a smooth transfer of CME production technologies and coconut-based rural industry from the Philippines to the Pacific Islands. In addition, the team plans to assess the opportunities, costs, and benefits of local production and pilot installations of geotextile soil stabilization nets ("coconets") designed to decrease soil erosion problems persisting in the Pacific Islands. The nets, made from coconut husk fiber, are a product of rural enterprises and have a high value internationally. Coconut husk and waste may be used for village energy generation. The GSEII mission thus includes facilitating the transfer of both energy and non-energy high-value product production and sales in Fiji and elsewhere in the Pacific.

### ***Republic of Marshall Islands***

The Republic of Marshall Islands continues to focus on the issue of sustainable energy development and has included in its National Energy Policy, solar energy that it sees as a key alternative source of energy for the long term development of the Marshall Islands. To date the residents of two outer islands have received solar home system. Such policy initiatives have been translated into a number of implemented solar photovoltaic projects for providing modern energy services to outer island communities.

The GSEII continues to assist the Government of the Marshall Islands in developing an energy efficient lighting programme in order to use electricity more efficiently. GSEII through its partner Climate Care, has secured 10,000 energy efficient bulbs for the Energy Efficient Lighting Program (EEL). In addition, there will be the development of an EEL Program Distribution Plan for installation of bulbs at various government buildings, schools and houses.

## *GSEII Project To Build Greater Resilience Into Energy Systems*

Small Island States are recognized as a special case for both environment and development as they are ecologically fragile and vulnerable and face particular constraints in their efforts to achieve sustainable development. The challenge is further complicated by climate change impacts in the region, including extreme weather conditions, changing rainfall patterns, threats to coastal zones and other impacts. One of the impacts of global warming on a country's electric energy system is an emergency involving an energy supply disruption, such as in the case of hurricane Ivan in Grenada in 2004.

The GSEII in collaboration with the World Bank is looking into the energy systems in St. Lucia, Dominica and Grenada to evaluate the impact on these sys-

Power lines in Richmond, Grenada



tems by climate induced changes. The on-site emergency generation of electric power is essential for maintaining critical infrastructure and lines of communication. In addition, to the impact on the building sector and related infrastructure and support (e.g., water and sewage system, telecommunication services, etc.), there is also an impact on the transportation sector. The initial focus of this project will be on the electricity energy system.

### *Washington Summit on Climate Stabilization*

The Climate Institute will host the Washington Summit on Climate Stabilization in September 19-20, 2006 exploring the possibility of rapid climate change. The summit will feature a scientific symposium addressing abrupt climate change and ways to avoid reaching the tipping points leading to it.

At this conference, expanding on the work of Global Sustainable Energy Islands Initiative, a broader International Leadership Alliance will be launched, by a coalition of island nations and states within populous developing countries committed to pioneering climate protection strategies. This event also marks the Climate Institute's 20th anniversary.

## *Renewable Energy Training for Utilities*

GSEII continues to organize and facilitate training exercises in collaboration with the Pacific Power Association (PPA) After the initial training workshop held by e7 (group of seven utilities within G8 nations) and the PPA in March of 2005 for Pacific Island utility engineers, a second such workshop that took place in Fiji in November. Like the one before it, this workshop was designed to coach PPA member utilities engineers and technicians in ways to develop sustainable energy sites for wind, solar and micro-hydro power systems as well as biofuels.

The purpose of the workshop was to facilitate the preparation of experts who would be capable of creating, operating and maintaining future renewable energy structures on their islands. This workshop trained 4 participants from the Tonga, Kiribati and Cook Islands governments as well as 14 participants from southern Pacific utilities.

In the Caribbean, GSEII organized a training session on the Clean Development Mechanism (CDM) in collaboration with the Caribbean Electric Utilities Services Corporation (CARILEC) in 2005. A follow up training session will be organized in the summer of 2006 that will provide up to date information on CDM for small scale renewable energy and efficiency projects.

#### THE GSEII CONSORTIUM

##### Members Include:

- Climate Institute  
[www.climate.org](http://www.climate.org)
- Organization for American States  
[www.oas.org/real](http://www.oas.org/real)
- Energy and Security Group  
[www.energyandsecurity.org](http://www.energyandsecurity.org)
- Counterpart International  
[www.counterpart.org](http://www.counterpart.org)
- UNIDO (United Nations Industrial Development Organization)  
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