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**FINAL REPORT****Submitted to:****United Nations Industrial Development Organization (UNIDO)**

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**Project Title:** Global Sustainable Energy Islands Initiative

**Activity:** Preparation and Execution of UNIDO-GSEII Event at SIDS – Mauritius Conference, on January 12, 2005

**Location:** Mauritius

**Submitted by:** Climate Institute

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## **1. Introduction**

The Climate Institute and its partners in the consortium called Global Sustainable Energy Islands Initiative (GSEII) is jointly working with UNIDO to assist Small Islands Developing States (SIDS) in implementation of their sustainable energy plans. Three Caribbean nations- St. Lucia, Dominica and Grenada - are participating in the Global Sustainable Energy Islands Initiative (GSEII) designed to transform their economies to a renewable power base. A series of projects have been identified under the UNIDO-GSEII project and they are at different stages of progress.

One of the objectives of the UNIDO-GSEII project is to highlight the leadership role that these SIDS have taken to adopt renewable energy options and to reduce their greenhouse gas emissions in the process. In order to publicize the actions of the SIDS and to build support for their work in the international community, the Climate Institute organized a special event at the SIDS International Meeting on Sustainable Development held in Mauritius, also known as Barbados+10 Meeting. This event was organized on January 12<sup>th</sup>, 2005 and the description and proceedings of the event are included in this report.

## **2. Description**

This event addressed two of the fourteen key thematic areas addressed by the Barbados Plan of Action (BPoA), Climate Change and Energy Resources. The event attempted to present a vision of the energy future for SIDS based on existing practical examples of commitment and leadership. It highlighted the leadership taken by the SIDS on clean energy and encourage the rest of the world to follow their example.

In addition to St. Lucia, Grenada and Dominica, several other island nations from the Caribbean, Pacific and Indian Ocean regions are taking this path, including the Marshall Islands. The event will highlighted these success stories and help build international public and private sector support for the SIDS actions on renewable energy. ~~A number of regional and international organizations have already joined or are~~ supporting this initiative, including the Caribbean and Pacific utilities associations that are now having training sessions for their engineers and planners on renewable energy.

The program brochure, press release, GSEII newsletter and other material distributed at the conference site are attached with this report, as **Attachment A-D**.

### *Contribution to the Mauritius International Meeting on SIDS (MIM)*

This event will highlighted the link between Climate Change and Energy, focusing on success stories from the SIDS and demonstrated that SIDS can serve as

models for the rest of the world. The event presented an optimistic view of the future and emphasize that with political will, commitment and collective action, the SIDS and international community can take effective action. A key objective of the event was to invite additional donor commitments and support for the SIDS national energy plans.

### 3. Event Proceedings

The event was chaired and moderated by Hon. Tom Roper, Board Member of the Climate Institute. The program and speakers were as following:

- Hon Tom Roper, Climate Institute - *A Vision for the Future- Sustainable Energy Islands - GSEII*
- Hon. Theophilus Ferfuson John, Minister for Planning, Environment, and Housing, St. Lucia – *St. Lucia, The Sustainable Energy Demonstration Country.*
- Hon. John Silk, Minister of Resources & Development, The Republic of Marshall Islands – *The Marshall Islands Renewable Energy Program*
- Hon. Ambrose George, Minister of Agriculture, Dominica Mark Lambrides, Organization of American States - *Geo-Caribes – The Eastern Caribbean Geothermal Development Project*
- Marco Matteini, United Nations Industrial Development Organization (UNIDO) – *UNIDO-GSEII Presentation*
- Conclusion / Q. & A

Hon. Tom Roper opened the event by welcoming the participants. He gave a detailed presentation about the background and ongoing activities of the Global Sustainable Energy Islands Initiative (GSEII). His presentation is included as **Attachment F.**

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The Minister from St. Lucia presented his country's progress. His speech is attached as **Attachment G.** The Minister from Dominica also highlighted the work carried on in Dominica under the GSEII. The key points of his speech are included as **Attachment I.**

The Republic of Marshall Islands expressed his interest in actively participating in GSEII and sought assistance from the international community for their renewable energy plan. He presented his plan, which is included in this report as **Attachment H.**

The last presentation was by UNIDO representative, in which UNIDO's role and details of specific UNIDO-GSEII projects were presented, see **Attachment J.**

The list of participants is included as **Attachment K**, and complete recording of the 90 minutes event was recorded and the tapes are included in this report as **Attachment L**.

### *Questions & Answers*

The presentations were followed by a brief Q & A session. Time could allow only two questions from the audience.

In the first question, a representative from the Government of Italy's Foreign Office emphasize the need for looking at energy systems as part of over all sustainable development plans and the need for systematic approach to solving energy problems of SIDS by a combination of energy sources. He asked about the use of fiscal incentives in the SIDS to encourage renewable energy investments. In response, Tom Roper agreed with the effectiveness of fiscal incentives and referred to St. Lucian Government's decision to remove import duties from renewable energy and energy efficiency equipment. He also mentioned the solar water heaters program in Barbados, whereby by giving tax benefits to the consumers the Government was able to encourage wide scale use of the solar water heaters and created a new industry in the country. Mr. Ambrose George of Dominica also mentioned the generous fiscal regime that is in place in Dominica for tax breaks for equipment and for foreign investments.

Dr. Spencer Thomas of Grenada Sustainable Development Council asked the second question. He reminded the presenters and the audience that Grenada is still part of this project (GSEII) and committed to renewable energy and that the Government of Grenada has developed a Sustainable Energy Plan, which is seriously under consideration for adoption. He referred to the recent devastation in Grenada due to Hurricane Ivan in September 2004, due to which nutmegs are not available and hence the most viable project of nutmeg shells to energy as mentioned by the presenters is not feasible any more. However, he said that they still have wind, solar and other sources of energy, which they would like to tap into to increase their capacity of renewable energy. Four months after the hurricane, some parts of the country were still without power, he said. He asked the presenters about the current trends about of various renewable energy technologies as they relate to the island needs. In response, Tom Roper said that various technologies are now technically feasible and financially viable depending on scale, which may vary widely. He gave example of solar power in outer islands in the Pacific, the feasibility of wind power in the Caribbean, such as Jamaica and the possibility of bio-diesel from coconut oil in Fiji that is currently being explored. He emphasized the need for the country representatives to discuss with various NGOs and private sector the opportunities that they see feasible for their countries.

In closing, Tom Roper thanked the presenters and the audience. The audience were asked to contact Marco Matteini of UNIDO for any specific questions about the projects.

## ATTACHMENT A-D

### Attachments

- A. Side Event Proposal, as submitted to UN CSD, and UN's conference schedule.
  - B. Flyer of the UNIDO-GSEII Event, distributed by email and at the Conference site.
  - C. Press Release issued at the event and distributed at the event and electronically.
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-

# MAURITIUS INTERNATIONAL MEETING ON SIDS (MIM)

## SIDE EVENT - PROPOSAL

**Title: Clean Energy Islands – SIDS as Examples of Sustainable Development  
(Global Sustainable Energy Islands Initiative – GSEII)**

### **Requesting Organizations & Governments**

- **Climate Institute, Washington, DC**
- **United Nations Industrial Development Organization (UNIDO)**
- **Organization of American States (OAS)**
- **Energy and Security Group, Reston, VA**
- **Counterpart International, Washington DC**
- **Government of St. Lucia, Ministry of Planning, Development, Environment & Housing**
- **Government of Grenada, Ministry of Agriculture, Public Utilities & Energy**
- **Government of Dominica, Ministry of Public Utilities**

### **Thematic Focus**

This event relates to two of the fourteen key thematic areas addressed by the Barbados Plan of Action (BPoA), Climate Change and Energy Resources. The event will present a vision of the energy future for SIDS based on existing practical examples of commitment and leadership. This event will highlight the leadership taken by the SIDS on clean energy and encourage the rest of the world to follow their example.

### **Description**

Three Caribbean nations- St. Lucia, Dominica and Grenada - are participating in the Global Sustainable Energy Islands Initiative (GSEII) designed to transform their economies to a renewable power base. Several other island nations from the Caribbean, Pacific and Indian Ocean regions are taking this path, including the Marshall Islands. The event will highlight these success stories and help build international public and private sector support for the SIDS actions on renewable energy. A number of regional and international organizations have already joined or are supporting this initiative, including the Caribbean and Pacific utilities associations that are now having training sessions for their engineers and planners on renewable energy.

The island nations are mostly dependent on imported fossil fuel, the rising price of which is increasingly putting huge burdens on their terms of trade and economic growth. There is an urgent need to develop an energy agenda for the SIDS as a whole that is consistent with their indigenous resources and less prone to disruptions from external forces. In addition, by taking actions on renewable energy and efficiency, and reducing their greenhouse gas emissions, SIDS can promote and help build international awareness on climate change and set examples for bigger countries to follow.

## **Contribution to the Mauritius International Meeting on SIDS (MIM)**

This event will highlight the link between Climate Change and Energy, focus on success stories from the SIDS and demonstrate that SIDS can serve as models for the rest of the world. The event is intended to present an optimistic view of the future and emphasize that with political will, commitment and collective action, the SIDS and international community can take effective action. A key objective of the event will be to invite additional donor commitments and support for the SIDS national energy plans.

In addition to having an experts' side event on energy solutions for SIDS, it will also provide expertise for the energy discussions at the plenary sessions of the conference. The sponsors will pay for travel/lodging expenses of at least two high level officials from SIDS, who would also be able to contribute to the negotiation process at the MIM. At the World Summit in Johannesburg in 2002, the Prime Minister of Dominica was the key speaker sponsored by this project, and it is expected that the Prime Minister of St. Lucia will be one of the guests of this event at the MIM. Informational material, publications and papers will be prepared and made available to all the conference participants that would also prove useful for ongoing discussions at the conference.

### **Draft Program**

- Ambassador Enele Sopoaga, Vice Chairman AOSIS - *Climate Change and the Need for Clean Energy*
  - Hon Tom Roper, Climate Institute - *A Vision for the Future- Sustainable Energy Islands*
  - Prime Minister Dr. Kenny Anthony of St. Lucia OR Crispin D'Auvergne, Ministry of Planning, St. Lucia - *St. Lucia – The Sustainable Energy Demonstration Country*
  - Ambassador/Minister of the Republic of the Marshall Islands - *The Marshall Islands Renewable Energy Program*
  - Mark Lambrides, Organization of American States - *Geo-Caraibes – The Eastern Caribbean Geothermal Development Project*
  - Ambassador Jagdish Koonjul of Mauritius, Chairman of AOSIS OR Senior Mauritius Delegate - *Mauritius Sustainable Energy Initiative*
- 
- Conclusion / Q & A

*The Global Sustainable Energy Islands Initiative (GSEII)*, a consortium of international organizations, has been organized to support the interest of all SIDS and potential donors by bringing renewable energy and energy efficiency projects, models, and concepts together in a sustainable plan for small island nations. The GSEII is jointly administered by the Climate Institute, Organization of American States, Energy & Security Group and the United Nations Industrial Development Organization. More information is available at: [www.climate.org/gseii](http://www.climate.org/gseii)

### **Sponsors**

United Nations Foundation, Rockefeller Brothers Fund, Renewable Energy and Energy Efficiency Partnership, US Agency for International Development and the World Bank.



# MAURITIUS INTERNATIONAL MEETING ON SIDS (MIM)

## Side Events Request Form

**PLEASE PRINT ALL ENTRIES IN BLOCK LETTERS!**

Name of requesting organization: CLIMATE INSTITUTE, OAS, UNIDO, ENERGY AND SECURITY GROUP  
GOVERNMENT OF ST. LUCIA, GRENADA AND DOMINICA

Contact Person: NASIR A. KHATTAK  
Address: 1785 MASSACHUSETTS AVE, NW  
WASHINGTON, D.C. 20036

Telephone: 202 547 0104 Fax: 202 547 0111 Email: nkhattak@climate.org

**Title of the Event** (Please attach a separate sheet with a detailed description, including all organizing partners, the thematic focus, speakers and potential contribution of the side event activity to MIM)

Clean Energy Islands – SIDS as Examples of Sustainable Development  
(Global Sustainable Energy Islands Initiative – GSEII)

**Preferred dates and times** (Please indicate more than one option to help with the scheduling process.):

Priority	Date	Time Slot	
		1:15-2:45 pm	6:15-7:45 pm
First	January 12, 2005	X	
Second	January 11, 2005	X	
Third	January 10, 2005		X

**Need a room that can accommodate a total of** (please chose one):

30-50 persons      50-100 persons       100-500 persons

**Equipment and services requested:**

Slide Projector	X	Foldable Screen	X
Overhead Projector	X	Laptop-to-Screen Projection Unit	X
Video Projector		Sound (in room microphones)	X
VCR/with TV monitor		Sound recording	X

**PLEASE NOTE – LAPTOPS ARE NOT PROVIDED !**

Other (please explain):

**The costs related to the use of the above equipment and services will be covered by:**

CLIMATE INSTITUTE, 1785 MASSACHUSETTS AVE NW, WASHINGTON, D.C. 20036  
(Name of the Organization)

*Signed by*

Please print full name and title below signature line --- NASIR A. KHATTAK



Indicate name and contact details in Mauritius of the person conducting the side event!

NASIR A. KHATTAK – Hotel Information will be provided later.

**SUBMIT NO LATER THAN 31 OCTOBER 2004!**

**FAX TO: (212) 963 4260**

## II. PARTNERSHIPS ACTIVITIES

Date	Time	Title	Organized by	Location
Monday 10/01/2005	3:00 - 6:00 PM	<b>Pacific Partnerships for Sustainable Development</b> <ul style="list-style-type: none"> <li>• Adaptation to Climate Change in the Pacific</li> <li>• Mainstreaming Conservation &amp; Traditional Knowledge</li> <li>• Pacific Umbrella Partnership Initiatives- Best Practice Examples</li> </ul>	Secretariat of Pacific Regional Environment Programme (SPREP)	Amphitheater 2 <sup>nd</sup> Floor
Tuesday 11/01/2005	10:00 AM – 1:00 PM	<b>Caribbean Partnerships for Sustainable Development</b> <ul style="list-style-type: none"> <li>• CARIFORUM/FAO Food Security Partnership in the Caribbean</li> <li>• Ocean Governance (Partnerships in the Caribbean, Pacific and Indian Oceans)</li> <li>• Cultural Resilience and Vulnerability partnerships (focus on Caribbean)</li> </ul>	Caribbean Community (CARICOM) Secretariat	Amphitheater 2 <sup>nd</sup> Floor
Tuesday 11/01/2005	3:00 - 4:25 PM	<b>Mobilizing for Further Implementation of Ocean and Coastal Management in SIDS</b>	<b>International Ocean and Coastal Organization with UNEP, Intergovernmental Oceanographic Commission, Global Forum on Oceans, Coasts, and Islands and GEF</b>	Amphitheater 2 <sup>nd</sup> Floor
Tuesday 11/01/2005	4:35 - 6:00 PM	<b>White Water to Blue Water (WW2BW)</b>	<b>White Water to Blue Water Initiative</b>	Amphitheater 2 <sup>nd</sup> Floor
Wednesday 12/01/2005	10:00 - 11:25 AM	<b>Launch of the Global Environmental Vulnerability Index (EVI)</b>	<b>South Pacific Applied Geosciences Commission (SOPAC)</b>	Amphitheater 2 <sup>nd</sup> Floor
12/01/2005	3:00 - 4:25 PM	<b>Reefs, Island Communities and Protected Areas</b>	<b>International Coral Reef Initiative</b>	Amphitheater 2 <sup>nd</sup> Floor
12/01/2005	4:35 - 6:00 PM	<b>Clean Energy Islands – SIDS as Examples of Sustainable Development</b> (Global Sustainable Energy Islands Initiative – GSEII)	<b>Climate Institute with Government of St. Lucia, Government of Grenada, Government of Dominica, OAS, and UNIDO</b>	Amphitheater 2 <sup>nd</sup> Floor

\* Please note that the information contained herein may change without advance notice. Kindly refer to the Daily Journal for up-to-date information on the activities scheduled for each day, including room allocations. Copies of the Journal will be available in the Conference Centre and on the Official Conference Website [www.un.org/smallislands2005](http://www.un.org/smallislands2005).

SIDS – Mauritius 2005

**Partnership Event**

**Wednesday, January 12th, 2005**

**Clean Energy Islands –  
SIDS As Examples of Sustainable  
Development**

**Global Sustainable Energy Islands Initiative (GSEII)**

**Time: 4:35 – 6:00 PM**

**Location: Amphitheater – 2<sup>nd</sup> Floor**

Small Island Developing States (SIDS), although economically and environmentally vulnerable, are taking sustainable development seriously. Backing up their words with deeds some of the SIDS have already taken a lead on sustainable energy.

This event will present a vision of the energy future for SIDS based on existing practical examples of commitment and leadership.

***Speakers/Panelists:***

**Hon. Tom Roper, Board Member, Climate Institute, Washington D.C.**

**Ambassador Enele Sopoaga, Vice Chairman Alliance of Small Island States (AOSIS)**

**Hon. Theophilus Ferguson John, Minister for Planning, Environment and Housing,  
Government of St. Lucia**

**Hon. John M. Silk, Minister of Resources & Development, The Republic of Marshall  
Islands**

**Hon. Ambrose George, Minister for Agriculture and Environment, Government of  
Dominica**

**Mr. Marco Matteini, United Nations Industrial Development Organization**

The Global Sustainable Energy Islands Initiative (GSEII) and United Nations Industrial Development Organization (UNIDO) have joined forces to support the participating members of the Alliance of Small Islands States (AOSIS), in the implementation of their sustainable energy plans. Through the GSEII-UNIDO project, potential investment opportunities in renewable energy and energy efficiency technologies are identified and prioritized, and viable project-specific financing mechanisms are defined for these projects.

*GSEII partners include: Climate Institute, Organization of American States, Energy & Security Group, Winrock International, Counterpart International, and, International Network for Sustainable Energy*

Contact: Nasir A. Khattak, Climate Institute, Email: [nkhattak@climate.org](mailto:nkhattak@climate.org), Mauritius Ph: 753-5783  
Marco Matteini, UNIDO, Email: [M.Matteini@unido.org](mailto:M.Matteini@unido.org)

**Press Release**  
January 12, 2005  
SIDS – Mauritius 2005

Contact: Nasir Khattak, Climate Institute  
Email: [nkhattak@climate.org](mailto:nkhattak@climate.org)  
Phone (Mauritius): (230) 753-5783

### **Small Island States Set Green Energy Example**

A number of Small Islands Developing States (SIDS) have told a UN meeting on Sustainable Development in Mauritius of their plans to develop renewable energy.

Conference delegates were told that these small countries were setting a green example for the polluting developed world and at the same time boosting their economic and social development.

The Hon. Tom Roper of the Climate Institute told a side event organized by the Global Sustainable Energy Islands Initiative (GSEII) and the United Nations Industrial Development Organization (UNIDO), that at least six island countries were taking dramatic steps to reduce their greenhouse gas emissions.

He said that SIDS could not afford the high cost of fossil fuel energy and were changing to renewables.

The Marshall Islands Minister of Resources and Development, Hon. John M. Silk said that his Government has adopted a comprehensive plan to introduce solar energy for its many remote islands residents who currently have no access to electricity.

St. Lucia's Minister for Planning, Environment and Housing, Hon. Theophilus Ferguson John said that St. Lucia has developed a National Sustainable Energy Plan which is currently being implemented.

"Amongst the initiatives were wind energy development, geothermal, waste to energy and small hydro options and the promotion of solar hot water systems and energy efficient lamps," he said.

Dominica's Minister for Agriculture and Environment, Hon. Ambrose George outlined a potentially huge project to harness the countries' geothermal resources. The project known as Geo-Caraïbes and implemented by the Organization of American States (OAS) with the support from Global Environment Facility (GEF) and the United Nations Environment Programme (UNEP), includes establishing regulatory and policy framework, resource characterization and technical feasibility as well as setting up of a \$10 Million drilling risk fund.

"We hope to catalyze the development of geothermal power which not only supplies low cost power to Dominicans, but also can be exported to neighboring islands – Guadeloupe and Martinique – thereby increasing the scale of the project and lowering the cost and benefits for all consumers," he said.

"Grenada, recovering from hurricane Ivan's destruction is incorporating elements of its Sustainable Energy Plan in the reconstruction efforts," Mr. Roper said.

"Pilot solar PV systems for clinics and hurricane shelters are being considered, and at least 10,000 energy efficient light bulbs will be installed."

The Climate Institute's Roper said that New Caledonia had already proved that wind turbines could resist hurricanes with winds of over 200 km/hr.

"We are also working with Caterpillar in the Pacific to use coconut oil instead of diesel for electricity generation."

He said that the GSEII and the Governments were tackling some of the highest energy costs on the planet, between 20 – 30 cents US per kilowatt hour.

Marco Matteini of UNIDO presented details of the specific renewable energy and energy efficiency projects that are at various stages of implementation in the Caribbean under the GSEII-UNIDO project.

He outlined a Caribbean Solar Financing Program, a project to use nutmeg shells to generate energy in Grenada and a program to improve the efficiency of Dominica's electricity transmission and distribution system.

Mr. Roper called on international banks and donors to start paying attention to the needs and opportunities in the Small Islands Developing States which to date have been ignored.

"We are delighted by the leadership being taken by the Marshalls, St. Lucia, Dominica and Grenada and the examples they are setting for the rest of the world", Mr. Roper said.

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*The Global Sustainable Energy Islands Initiative (GSEII), a consortium of international NGOs, has been organized to support the interest of all small island states and potential donors by bringing renewable energy and energy efficiency projects, models, and concepts together in a sustainable plan for small island nations.*

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- **Hon. John M. Silk**, Minister of Resources & Development, The Republic of Marshall Islands. Hon. John M. Silk was elected Senator to the Marshall Islands Nijijela (Parliament) in 2000 and 2004, and since 2000, has been serving as the Minister of Resources and Development. He comes from a legal background and also served as Deputy Executive Director of the Micronesian Legal Services Corporation.
- **Hon. Theophilus Ferguson John**, Minister for Planning, Environment and Housing, Government of St. Lucia. Hon. Ferguson John has been a Member of Parliament in Saint Lucia for the past eight years. He got his Law education from London where he also worked as Principal Lawyer in Housing and Environmental Health. He also taught for eight years in Primary schools in his early years.
- **Hon. Ambrose George**, Minister of Agriculture and Environment, Dominica. Hon. Ambrose George is the Minister of Agriculture and Environment since January 2004. He was the Minister of Finance and Planning from 2000 to 2002. He has held several senior level Government positions including and was also the Head of the Dominica Banana Management Corporation.
- **Mr. Marco Matteini**, United Nations Industrial Development Organization (UNIDO). Mr. Matteini works with the Energy and Cleaner Production Branch of UNIDO on development and management of technical assistance projects. Marco holds a "Laurea" degree and a PhD in Electrical Engineering from the University of Bologna, Italy.

### Contact Information

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**Marco Matteini**, United Nations Industrial Development Organization  
 Vienna International Centre, P.O. Box 300, A-1400 Vienna, Austria  
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 Email: [m.matteini@unido.org](mailto:m.matteini@unido.org), Web: <http://www.unido.org>

## Clean Energy Islands – SIDS As Examples of Sustainable Development

### Global Sustainable Energy Islands Initiative

**Partnership Event**  
**Wednesday, January 12th, 2005**



Time: 4:35 – 6:00 PM

Location : Conference Room No. 10



CLIMATE INSTITUTE



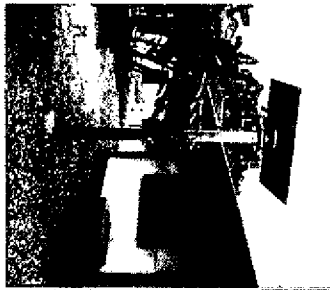
MAURITIUS 2005



UNIDO

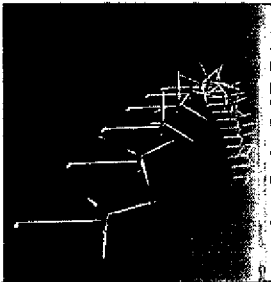
## Introduction

This event highlights the pioneering initiatives by the Small Islands Developing States (SIDS) to transform their energy systems from a fossil fuel base to greater reliance on renewable and energy efficiency applications. The United Nations Industrial Development Organization (UNIDO) and GSEI, a consortium of International NGOs and multi-lateral institutions, have joined forces to support the members of the Alliance of Small Islands States (AOISIS), potential private investors and donors by bringing renewable energy and energy efficiency projects, models, and concepts together in sustainable energy plans for SIDS. The GSEI seeks to showcase national efforts to significantly reduce greenhouse gas emissions.



## Global Sustainable Energy Islands Initiative

Three Caribbean nations- St. Lucia, Dominica and Grenada - are participating in the Global Sustainable Energy Islands Initiative (GSEII) designed to transform their economies to a renewable power base. Several other island nations from the Caribbean, Pacific and Indian Ocean regions are taking this path, including the Marshall Islands. The event will highlight these success stories and help build international public and private sector support for the SIDS actions on renewable energy. A number of regional and international organizations have already joined or are supporting this initiative, including the Caribbean and Pacific utilities associations.



## Sponsors

- United Nations Foundation
- United Nations Industrial Development Organization (UNIDO)
- Rockefeller Brothers Fund
- Renewable Energy and Energy Efficiency Partnership
- US Agency for International Development

## Speakers / Panelists:

**Hon. Tom Roper**, (Moderator & Chair)

*Board Member, Climate Institute*

**Ambassador Enele Sopoaga**,

*Vice Chairman Alliance of Small Island States (AOISIS)*

**Hon. Theophilus Ferguson John**,

*Minister for Planning, Environment and Housing, Government of St. Lucia*

**Hon. John M. Silk**,

*Minister of Resources & Development, The Republic of Marshall Islands*

**Hon. Ambrose George**,

*Minister for Agriculture & Environment,  
Government of Dominica*

**Mr. Marco Matteini**,

*United Nations Industrial Development  
Organization*



## About the Speakers

- **Hon. Tom Roper**, Board Member, Climate Institute. Hon. Tom Roper retired from the Victorian Parliament in Australia in 1994 and has been involved in environmental policy and issues at all levels – local, State, Federal and international. His wide-ranging Ministerial experience included Treasury, Planning and Environment, Aboriginal Affairs and Health and Transport.
- **Ambassador Enele Sopoaga**, Vice Chairman of AOISIS. Mr. Sopoaga became the first Ambassador and Permanent Representative of Tuvalu to the United Nations. A Political Economist, he received his Masters in International Relations at the University of Sussex in 1994. Prior to his current assignment, he was his country's Ambassador to China, High Commissioner to Fiji, Papua New Guinea, and Samoa.

## **ATTACHMENT E**

### **Attachments**

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The Global Sustainable Energy Islands Initiative (GSEII)

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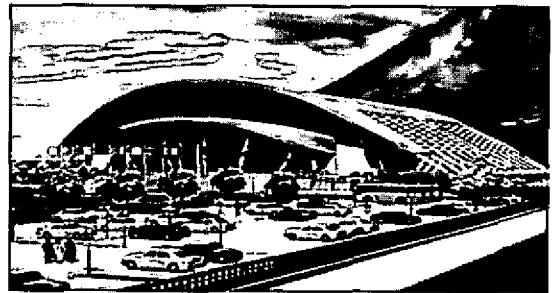
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Small Island Developing States (SIDS), the focus of many concerned climatologists around the globe, are rightfully receiving attention. Amid the resource wealth and sheer beauty of these islands, they are plagued by and dependent upon the actions of industrialized nations. With the issue of sea level rise coming out of obscurity and the accelerating pounding that storms are inflicting upon these nations' landscapes and infrastructures, it is no wonder that these nations are striving to provide exemplary methods by which greater contributors to the ubiquitous global warming dilemma may follow. Their intentions are not histrionic. Their plight is reality and, if ignored, could eventually lead to the literal submersion of a way of life.

In January of 2005 the Mauritius International Meeting on SIDS (BpoA+10) will begin, serving as a serious follow-up to the Global Conference on the Sustainable Development of Small Island Developing States that convened in Barbados in 1994 to address the problems mentioned above. Commensurately, states reached various conclusions on rational, substantive measures to

combat global warming while providing energy for their respective citizens. Sustainable Development Plans were the major result, and this vital conference will review the successes and plights connected with fulfilling these mandates. As such, the conference is slated to review the resolutions and actions proposed and agreed upon by those in at-



tendance in 1994 and to highlight the implementation of those projects. Under the mandates of the first conference, nations are expected to produce results at this conference, giving them opportunities to showcase their progress. Lastly, this conference should serve as a vibrant forum to pique interest and concern from other participants.

GSEII-UNIDO Side Event

The United Nations Industrial Development Organization (UNIDO) and GSEII are working together to help implement the sustainable energy plans of the islands states of St. Lucia, Grenada and Dominica. To highlight progress made to date, a side event entitled "Clean Energy Islands – SIDS as Examples of Sustainable Development," will be organized at the SIDS International Meeting in Mauritius in January 2005. The event will present a vision of the energy future for SIDS

based on existing practical examples of commitment and leadership. Additionally it will highlight the leadership taken by the SIDS on clean energy and encourage the rest of the world to follow their example. By highlighting success stories from the small island states, this event will seek to

*"UNIDO's vision is to improve the living conditions of people and promote global prosperity through offering tailor-made solutions for the sustainable industrial development of developing countries and countries with economies in transition."*

build international public and private sector support for the SIDS' actions on renewable energy.

The event is intended to present an optimistic view of the future and emphasize that with political will, commitment and collective action, the SIDS and the international community can act effectively. A key objective of the event will be to invite additional donor commitments and support for the SIDS national sustainable energy plans.

## Two Pacific Islands States Partner with GSEII

The Republic of the Marshall Islands, a nation of scattered reefs and atolls in the North Pacific, is under grave threat from climate change and an accompanying issue: sea level rise. With its highest point standing at a mere thirty feet, the Island's existence is in danger of submersion as industrialized countries continue to equivocate in their lackluster attempts to tackle global warming.

This group of islands sits at a favorable location for deriving its energy needs from the fierce tropical sun. Impressively, the government of the Marshall Islands has implemented extensive solar energy projects to electrify homes, workplaces and other facilities. These projects have assisted the Marshall Islands in becoming a formidable power in the effort to utilize small islands' abundant solar en-

ergy resources.

The Marshall Islands will be joining the GSEII, and pre-



Solar Panel, Marshall's Island

Fiji has made a commitment to trying to become 100% renewables based and the local utility is also supportive. The GSEII consortium will be working on a pre-feasibility study for a bio-diesel facility using coconuts as the feedstock, whereby Caterpillar is providing a 30 MW power plant and the Government of Fiji is to provide the fuel. This study would also look at related economic and productive applications associated with the plan.

## News from the Caribbean

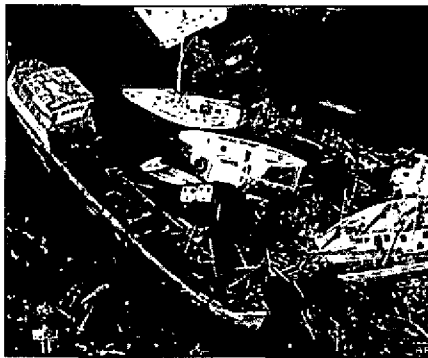
**1 Grenada/Hurricane Ivan:** The Atlantic hurricane season has proved to be one of massive proportions- both in the astounding size and strength of Hurricanes Charley, Frances and Ivan and in the staggering level of destruction that they caused.

In particular, the nation of Grenada witnessed the depth of the economic abyss into which catastrophic hurricanes can throw them, as Hurricane Ivan thrashed the island on September 7 and 8 2004, killing twelve and destroying 90% of the nation's homes. A Category 4 storm packing a potent punch with winds of 140 mph, Ivan delivered serious setbacks to this tiny Caribbean nation vying for economic success.

In addition to Grenada, other nations have been belted by high-powered hurricanes this year include Cuba, Jamaica, the United States and Haiti. Grenada has sought and received

international aid to rectify its current situation and the rebuilding process is well under way, as the international community has responded positively.

Eighty percent of the electric grid was damaged and it is expected to take months by the time the power is



restored to the Northern parts of the main island. GSEII is working with the Ministry of Agriculture, Energy & Works in Grenada to identify opportunities for renewable energy and energy efficiency measures during this period of reconstruction.

**2 St. Lucia/ Energy Week:** The Caribbean Island of St. Lucia observed Dec 6<sup>th</sup> - 10<sup>th</sup> as the Energy Awareness Week. This initiative was taken by the government of St Lucia as part of the effort to reduce their dependency on fossil fuels and to become one of the first nations to develop a comprehensive sustainable energy plan. Themed "A Vision for St Lucia's Energy Future", the event opened with a keynote address by the Minister for Physical Development, Environment & Housing, Honorable Ferguson John. In his speech, Mr. John reiterated the importance of hosting such events as a move aimed at working seriously towards securing the energy needs for the future.

The main event for the week, sponsored by the Climate Institute, was an energy exhibition, which opened with the formal launching of an energy efficient lighting project jointly undertaken by Climate Care of United Kingdom and

the Government of St. Lucia. A school project competition was also organized in order to encourage students to learn more about energy efficiency.

The event was also the venue for a seminar on national and regional energy initiatives. A panel discussion on renewable energy initiatives was aired on the National Television Network as part of the awareness and outreach efforts.

This week was an important step in St. Lucia's progress towards achieving an economy dependent on clean and green fuel alternatives. It has helped facilitate development of a solid energy policy for St. Lucia and has also been instrumental in projecting St. Lucia as a country with a bright future in the field of alternative fuel technologies.

**3** **Dominica/Geothermal:** A team of high level Geothermal Scientists and international experts in geothermal resource development will begin confirming the potential of the geothermal fields in Dominica. Led by the GSEII partner, Organization of American States (OAS) and with grant money from the Global Environment Facility (GEF), and in partnership with the United Nations Environment Programme (UNEP), the Eastern Caribbean Geothermal Development Project (Geo-Caraïbes) aims to create positive conditions for the commercial development of geothermal power generation in the Eastern Caribbean. In addition to the resource exploration, the project is assisting the governments of Saint Kitts & Nevis, Dominica and St. Lucia with the prepara-

tion of Geothermal Resource Development Laws, and will establish an estimated \$10 million regional Drilling Risk Fund that will provide commercial developers with low cost financing for the high risk exploratory drilling phase.

The Geo-Caraïbes Project seeks to overcome the barriers to the development of geothermal power in the Eastern Caribbean and seeks to catalyze the development of one or more geothermal power plants that might export electricity to several islands of the region, including Guadeloupe and/or Martinique.

Earlier in the year a host of conferences and expeditions took place, including the Project Launch Workshop held in Guadeloupe, a resource exploration mission to Nevis and a legal/policy mission to St. Lucia.

**Update on Projects — St. Lucia, Grenada and Dominica**

GSEII partners with the additional support from UN Foundation/UNIDO are assisting the three participating Caribbean nations in their implementation of sustainable energy plans. GSEII works closely with the local utilities on most of its projects and also organizes training sessions on renewable energy technologies for utilities professionals on an annual basis in collaboration with the regional utilities associations. The projects that were selected for the 2004-07 phase are currently at various stages of implementation. The following table presents an update and status as of December 2004, and gives future implementation plans of these projects:

<b>St. Lucia</b>	LUCELEC Point de Caille 4.25 MW Wind Farm St. Lucia Solar Hot Water Heating Financing Program St. Lucia Ciceron Landfill Gas to Energy Project Poultry Litter to Energy Project Sulphur Springs Geothermal Project Energy Efficient Lighting Project Energy Audits & Training Project for Hotel Industry Energy Efficiency and Renewables Awareness Campaign	Wind analysis ongoing by LUCELEC To be launched in Spring 2005 Pre-feasibility completed Pre-feasibility completed Part of Geo-Caraibes (OAS) Complete - 6000 bulbs installed Complete – Fall 2004 Energy week held – Dec 2004
<b>Dominica</b>	Geothermal Project Pre-feasibility Development Efficiency improvements in DOMLEC Distribution System Dominica Solar Hot Water Heating Financing Program Pilot Phase for a potential 4MW Wind Farm DOMLEC Micro Hydro Project Energy Efficiency Lighting Project	Part of Geo-Caraibes Project (OAS) Study in progress by UNIDO Planned for late 2005 or 2006 Initial stages of discussion Pre-feasibility stage Planned for Fall of 2005 or 2006
<b>Grenada</b>	225 kW Wind Turbine on Carriacou island Grenada Nutmeg Shell to Energy Project Grenada Solar Hot Water Heating Financing Program Energy Efficient Lighting Project PV system for Grenada Chocolate Company	Discussion renewed with utility Postponed indefinitely (hurricane) Expected launch in Spring 2006 10,000 bulbs to be installed in 2005 Found not economically viable

## Endangered Islands Campaign

Although island nations are actively promoting clean energy and international awareness on climate change, international commitment and cooperation, particularly among industrialized countries, are paramount in order to mitigate and adapt to the exacerbating impacts of climate change. Without quantifiable international efforts, island nations stand the risk of eventually being submerged.

Working with groups skilled in climate adaptation and its GSEII partners such as the International Hurricane Research Center, Island Resources Foundation, James Lee Witt Associates and the International Codes Council, the Climate Institute is developing an Endangered Islands Campaign, to be launched at

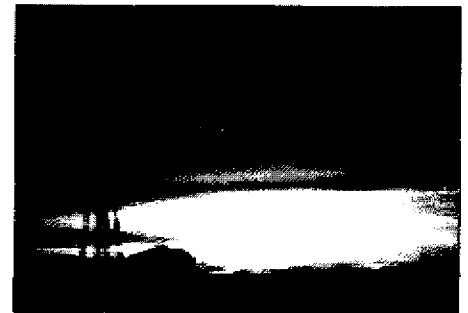


the January 10-14, 2005 SIDS conference in Mauritius.

This strident effort will enhance the capacity of island nations to respond to climate change by transforming current pollution-laden energy sources into renewable and indigenous ones and developing anticipatory coastal and emergency preparedness measures to lessen human, environmental and structural damage. Furthermore, it will elevate building code standards and land use planning to ensure resiliency from natural disasters and utilize natural resources such as passive solar. The World Bank is now managing \$2 million of Global Environment Facility Funds to implement specific climate adaptation measures in three Caribbean nations- St. Lucia, Domin-

ica, and St. Vincent and the Grenadines. The Climate Institute is partnering this effort and is seeking to attract other institutions to help these nations develop an anticipatory strategy.

Once the Endangered Islands Campaign has been fully solidified the Climate Institute will seek to build partnerships between Caribbean island nations and US and Canadian coastal cities such as Miami, New Orleans, Charleston, Boston and Halifax to work on common vulnerabilities, improved building design and implement clean, sustainable energy infrastructure. Ultimately similar links may be forged among US cities such as Honolulu and San Francisco. Moreover, the cities of Sydney, Melbourne and Cairns, Australia and Wellington and Auckland, New Zealand may partner with numerous small-island nations in the Pacific.



### THE GSEII CONSORTIUM

#### Members include:

- **Climate Institute**  
[www.climate.org](http://www.climate.org)
- **Counterpart International**  
[www.counterpart.org](http://www.counterpart.org)
- **Energy and Security Group**  
[www.energyandsecurity.com](http://www.energyandsecurity.com)
- **International Network for Sustainable Energy**  
[www.inforse.org](http://www.inforse.org)
- **Organization of American States**  
[www.oas.org/usde](http://www.oas.org/usde)
- **Winrock International**  
[www.winrock.org](http://www.winrock.org)

### Donors

The GSEII donors have been instrumental in enabling the Consortium to work in the small island nations - areas most susceptible to climate change impacts but often overlooked by the multilateral financial community.

We want to highlight the support and commitment of our donors including: Rockefeller Brothers Fund, United Nations Foundation, Renewable Energy & Energy Efficiency Partnership, United States Agency for International Development and the Government of Italy.

For more information on the GSEII, please contact :

Nasir A. Khattak, Climate Institute  
Ph:(202)547-0104, Fax:(202)547-0111  
Email: [nkhattak@climate.org](mailto:nkhattak@climate.org)

*The Global Sustainable Energy Islands Initiative (GSEII), a consortium of international NGOs and multi-lateral institutions, has been organized to support the interest of all small island states and potential donors by bringing renewable energy and energy efficiency projects, models, and concepts together in a sustainable plan for small island nations. The GSEII seeks to showcase national efforts to significantly reduce greenhouse gas emissions.*

## ATTACHMENT F

### Attachments

- A. Side Event Proposal, as submitted to UN CSD, and UN's conference schedule.
- B. Flyer of the UNIDO-GSEII Event, distributed by email and at the Conference site.
- C. Press Release issued at the event and distributed at the event and electronically.
- D. UNIDO-GSEII Brochure for the event.
- E. GSEII Newsletter – January 2005.
- F. **GSEII Presentation by Hon. Tom Roper, Board Member, Climate Institute.**
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## CLEAN ENERGY ISLANDS - SIDS As Examples of Sustainable Development

The Hon. Tom Roper  
Board Member, Climate Institute  
Project Leader,  
Global Sustainable Energy Islands Initiative  
(GSEII)

Partnership Event - SIDS Mauritius 2005



1

## Overview

- Climate Change and SIDS
- Global Sustainable Energy Islands Initiative (GSEII)
- Role of the Utilities
- Success Stories from SIDS
- Energy Efficiency
- Endangered Islands Campaign

2

## Climate Change and Small Island States

- Small Island States produce only a tiny fraction of global greenhouse gas emissions
- Island States are among the most vulnerable to Climate Change
- Most island nations are dependent on high-cost fossil fuels and very expensive electricity
- A significant number of people don't have access to electricity
- Island States are especially suited to utilize modern renewable energy and energy efficiency technologies due to their economic and geographical conditions

3

## Impacts

- Sea level rise – beach erosion, coastal inundation, coral damage
- Increase in extreme weather events
- Higher temperatures – 2 to 5 degrees
- Loss of habitat and species
- Economic, social and health impacts

4

## An Example For The World

"The Small Island States can by promoting a clean energy environment set an example for the rest of the world. Too much of our national budgets (up to 12%) are spent on fossil fuels for diesel generation of electricity. This is a drain on our national budgets and does not work towards a solution to the problems of climate change. When the tanker comes in the foreign reserves go out.

Far too little attention has been given - amongst the Small Island States leadership and by the donor countries - to the development of alternative means of energy"

T. Neroni Slade  
Former Chairman, Alliance of Small Island States  
(AOSIS) and Ambassador of Samoa to the UN

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## Tuvalu Speaks

"Our islands' peoples, irrespective of occupation - in government, the private sector, in the villages or in service providers like the utilities - are going to be the first to suffer. My country, Tuvalu, barely six feet above sea level, is already seeing the impacts of extreme weather events including foreshore erosion, unusual flooding and the increased intrusion of seawater into freshwater lenses. Our people are already discussing resettlement and refugee status.

The urgency to switch to efficient, affordable and renewable energy sources is real. Every contribution counts. Our interest in moving to a less carbon intensive world is not just self-serving. The consequences of global warming that our nations encounter first will be felt later by others."

Ambassador Enele S. Sopoaga of Tuvalu  
Vice Chairman, AOSIS

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## A Voice from the Caribbean

The Government of Dominica has determined that dependence on foreign energy resources cannot be in our long-term national interest. First of all, the recent decline in our export income generation does not provide us with the ability to import energy resources on a long-term basis. Second, in view of our country's natural endowment of renewable energy resources, we have come to the realization that the only future for Dominica in the energy arena is development of renewable energy. This approach is fully consistent with our national goal to harness all our natural resources for the economic transformation of our country.

The Late Hon. Pierre Charles, Prime Minister of Dominica  
- Johannesburg Summit, 2002

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## Energy And Development

More than 1.6 Billion people don't have access to electricity - 70% of Pacific Island Residents.

Energy use is linked to both economic and social development

Electricity is vital to the delivery of social services such as health, education, water & sanitation

It enables job creation and frees time for productive pursuits

8

## Barriers To Sustainable Energy

- A lack of commitment on the part of Government Ministers, officials & utilities
- A lack of knowledge and capacity - skilled personnel are in short supply
- Utility dependence on established diesel technology combined with little or no experience of renewables and few resource assessments
- Few successful demonstration projects that can be seen and touched, and
- The often high up front cost of renewables and a scarcity of finance

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## Global Sustainable Energy Islands Initiative (GSEII) - Objectives

- to help those Small Island Developing States (SIDS) seeking to become sustainable energy nations;
- to establish donor support and private sector investment for sustainable energy initiatives
- to increase awareness of the potential and advantages of renewable energy utilization and energy efficiency in the SIDS and provide practical examples
- to demonstrate that SIDS can set examples for the bigger and more polluting countries by cutting their greenhouse gas emissions;

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## PARTNER ORGANIZATIONS

- Climate Institute
- United Nations Industrial Development Organization
- The Organization of American States
- Energy & Security Group
- Counterpart International
- Winrock International
- International Network for Sustainable Energy
- Multilateral Funding Base:
  - Rockefeller Brothers Fund
  - UN Foundation
  - US Agency for International Development
  - Renewable Energy and Energy Efficiency Partnership
  - Government of Italy

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## COMPONENTS OF GSEII

- Identification of Candidate Countries
- Development of Sustainable Energy Plans
- Implementation of Sustainable Energy Action Plans
- Capacity Building and Awareness
- International Outreach

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## 1. Identification of Candidate Countries

- Criteria to include:
  - ◆ Government commitment,
  - ◆ the existence of a renewable energy resources
  - ◆ and local industry and utility capability

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## 2. Development of Sustainable Energy Plans

- Setting up of a National Working Group on Sustainable Energy
- Targets for energy transformation
- Resource Assessments
- Policy Options and Reforms
- Identification of Renewable Energy and Energy Efficiency Project Opportunities
- Removal of barriers for RE and EE commercialization
- Approval by the Government and stakeholders

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## 3. Implementation of Sustainable Energy Plans

- Facilitating private sector investments
- Ensuring access to financing (World Bank, Global Environment Facility, International Finance Corporation, Regional Development Banks, Renewable Energy and Efficiency Fund, etc.)
- Project development and business development assistance
- Facilitate financing through sale of carbon offsets such as the Clean Development Mechanism

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## 4. Capacity Building and Awareness Activities

- Training Seminars, Workshops
- Community Education and Awareness Campaigns
- Sharing of Experiences with other regions and islands

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## 5. International Outreach

- Publicize the leadership of the small island states in utilizing sustainable energy technologies to combat climate change
- Build support for SIDS sustainable energy activities
- Influence the international negotiations on Climate Change & Sustainable Development

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## GSEII - CARIBBEAN

- ST. LUCIA - AS A SUSTAINABLE ENERGY DEMONSTRATION COUNTRY
- St. Lucia was the first island nation to announce its plans to transform its energy systems from a fossil fuel base to renewables and energy efficient systems.
  - > Sustainable Energy Plan (SEP) developed and approved by the Cabinet. SEP calls for 35% reductions in GHG Emissions by 2010 in the Power Sector
  - > Implementation Plan Developed and is in Progress with broad participation of local and international organizations and private sector
  - > Next Major Steps:
    - > Broader National Energy Policy - Reforms
    - > Capacity Building and Awareness Programs - Solar Water Heaters Finance Initiative
    - > Major Geothermal and Wind Energy Projects

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## GSEII - CARIBBEAN

- **GRENADEA** - The Green Island State
  - > Government of Grenada Requested GSEII Assistance in Developing a Sustainable Energy Plan (SEP)
  - > Team of Local Stakeholders developed a Draft Sustainable Energy Plan
- Hurricane Ivan hit Grenada in August 2004**
  - > Efforts are being made to incorporate elements of Sustainable Energy Plan in the Reconstruction efforts
  - > Pilot projects of Solar PV systems for clinics and hurricane shelters are proposed
  - > 10,000 Energy Efficient bulbs will be installed as part of energy efficient reconstruction

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## GSEII - CARIBBEAN

- **DOMINICA** - The Nature Island
  - > Government of Dominica Requests GSEII Assistance in Developing a Sustainable Energy Plan (SEP)
  - > Sustainable Energy Plan finalized in 2004
  - > 1 kW Wind Energy Pilot Project
  - > Next Major Steps:
    - Sustainable Energy Plan sent for Cabinet Approval
    - Geo-Caribes Project underway
    - Energy Efficiency in the Transmission lines - UNIDO

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## Identified Potential Projects in St. Lucia, Grenada & Dominica

Country	Project
St. Lucia	<ul style="list-style-type: none"> <li>• 10/20/2010 Power 20 Cells x 20 MW Solar Plant</li> <li>• 10 Cells x 20 MW Solar Plant and 2000 Cells x 10 MW Solar Plant</li> <li>• 10 Cells x 20 MW Solar Plant and 2000 Cells x 10 MW Solar Plant</li> <li>• 10 Cells x 20 MW Solar Plant and 2000 Cells x 10 MW Solar Plant</li> <li>• 10 Cells x 20 MW Solar Plant and 2000 Cells x 10 MW Solar Plant</li> <li>• 10 Cells x 20 MW Solar Plant and 2000 Cells x 10 MW Solar Plant</li> <li>• 10 Cells x 20 MW Solar Plant and 2000 Cells x 10 MW Solar Plant</li> <li>• 10 Cells x 20 MW Solar Plant and 2000 Cells x 10 MW Solar Plant</li> <li>• 10 Cells x 20 MW Solar Plant and 2000 Cells x 10 MW Solar Plant</li> <li>• 10 Cells x 20 MW Solar Plant and 2000 Cells x 10 MW Solar Plant</li> </ul>
Grenada	<ul style="list-style-type: none"> <li>• 200 MW Wind Turbine on Carriacou Island</li> <li>• 200 MW Wind Turbine on Carriacou Island</li> <li>• 200 MW Wind Turbine on Carriacou Island</li> <li>• 200 MW Wind Turbine on Carriacou Island</li> <li>• 200 MW Wind Turbine on Carriacou Island</li> <li>• 200 MW Wind Turbine on Carriacou Island</li> <li>• 200 MW Wind Turbine on Carriacou Island</li> <li>• 200 MW Wind Turbine on Carriacou Island</li> <li>• 200 MW Wind Turbine on Carriacou Island</li> <li>• 200 MW Wind Turbine on Carriacou Island</li> </ul>
Dominica	<ul style="list-style-type: none"> <li>• Large Scale Offshore Wind Farm Development</li> <li>• Energy and Power Company Participation in DSMAC, DSMAC and DSMAC</li> <li>• Available Capacity to Support and Develop Wind Solar Hot Water Heating Financing Program</li> <li>• 1000 MW for a proposed wind plant in the</li> <li>• 1000 MW for a proposed wind plant in the</li> <li>• 1000 MW for a proposed wind plant in the</li> <li>• 1000 MW for a proposed wind plant in the</li> <li>• 1000 MW for a proposed wind plant in the</li> <li>• 1000 MW for a proposed wind plant in the</li> <li>• 1000 MW for a proposed wind plant in the</li> <li>• 1000 MW for a proposed wind plant in the</li> </ul>

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## Republic of Marshall Islands – National Energy Policy Vision

“Renewable energy is the most appropriate long-term alternative sources to replace imported petroleum products for electricity production in the Marshall Islands; solar photovoltaic (PV) is already technically and financially attractive for relatively small remote island demands when properly planned, operated and maintained.”

> Solar is especially viable due to the high cost of imported petroleum from distant markets.

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## Small Utility Characteristics

- Geographic Isolation (high cost transport, tenuous supply line)
- Few generation sources (low diversity)
- High Energy Costs (fuel & oil, imported equipment, spares, external expertise)
- Variable loads (daily, seasonal, growth)
- Variable Power Quality and Reliability

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## Pacific Utilities

PPA Member	Max Demand (MW)
Guam Power Authority	278.8
Papua New Guinea Electricity Commission	133.8
FIJ Electricity Authority	91.8
New Caledonia, Enerco	76.1
Norfolk	71.6
Eschschfeld de Tahiti	71.5
New Caledonia, SEEDC	66.2
American Samoa Power Authority	25.4
Samoa, EPC	18.5
Pitcairn PPLC	14.8
Solomon Islands Electricity Authority	14.7
Marshall Islands Energy Company	14.1
Vanuatu SEED	6.7
Tonga, TEPB	7.6
Palmyra Utility Corporation	6.2
Chuuk, PUC	3.4
Cook Islands, TAU	2.8
Tai, PUC	2.7
Kiribati, PUN	2.4
Wallis & Futuna, EECOWEP	2.4
Nauru, KAU	1.8
Marshall Is., KAJIM	1.8
Tahiti, POWERTEL	1.8
Mua, MPC	0.8
Turkey, TEC	0.8
Total	664.8 (MW)

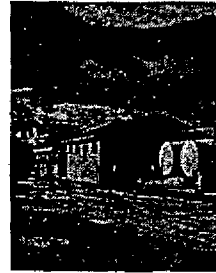
24

## French Leadership - Guadeloupe

- Renewables supply 25% of all energy needs and cost less than diesel
  - ◆ Geothermal – from the volcano
  - ◆ Small hydropower – the mountain foothills
  - ◆ Wind turbines – designed to resist hurricanes
  - ◆ PV Solar for rural power supply – 2000 units
  - ◆ Solar thermal for water heaters – 15000 units
  - ◆ Bagasse as a sugar industry byproduct
  - ◆ Ethanol from molasses
  - ◆ Energy from waste
- 350,000 energy efficient lamps installed in 44,000 households – saving of 7 MW of Peak Demand

25

## Thursday Island Wind System



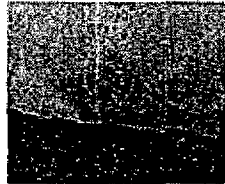
### Ergon Energy, Torres Straits

- 2 x 225kW Vestas Turbines
- Peak demand about 3.7MW on diesel system
- low penetration (modern PS controls already installed)
- fuel savings were 440,000 litres of diesel per year with both turbines
- No major outages, performance has exceeded expectations, longer service intervals and diesel life

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## Prony – New Caledonia

- ◆ 6,8 MW (31,220 kW)
- ◆ Wind average speed : 7,5 m/s.
- ◆ Electricity output: 13.8 GWh/yr
- ◆ CO2 saving: 13,300 t / year
- ◆ Cyclone Experience:
  - Fifteen major 16th-2000 - 150 built in average – more than 210 built reserved part.
  - All the Prony wind turbines (15) blown down, on the 13th.
  - 2 smaller plants were hard hit to access land on the point.
  - 1 turbine blown.
  - All but one turbine available before grid restoration



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## Solar Off-Grid Hospital/ Institution/ Clinic



### Mains-style Power

- AC power via inverter
- Battery Storage
- Backup Generator

### Refrigeration/ Freezers

- Separate System for critical loads (vaccine storage)

### Emergency Lighting

- Portable Solar Lantern

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## Other Renewable Energy Examples

- Barbados
  - ◆ More than 30,000 Solar Hot Water Heater Systems – payback for individuals: 2.5 years
- Curacao
  - ◆ A 3 MW wind farm to reduce high fuel costs
- Galapagos
  - ◆ A wind farm on San Cristobal Island to replace 50% of diesel power and reduce the risk of disastrous oil spills
- Cape Verde
  - ◆ 20% reduction in diesel use through energy efficiency measures and wind turbines
- Jamaica
  - ◆ A 20 MW wind farm facility at Wigton, Jamaica involving World Bank carbon funding

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## Some Leaders in Efficiency

- St. Lucia
  - ◆ Energy Weeks 2003 & 2004
  - ◆ Tourism Sector Energy Efficiency Training and Energy Audits – CIDA support
- The Maldives
  - ◆ Villa Shopping and Trading
  - ◆ Coco Palm Resort
- Barbados
  - ◆ Casuarina Beach
- Guadeloupe / Martinique
- American Samoa Power Authority

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## St. Lucia Energy Week

- December 6th to 10th – Theme: A Vision for St. Lucia's Energy Future
  - ◆ Minister of Energy's address on Television and Radio
  - ◆ Energy Supplement Placed In The Local Newspapers
  - ◆ Energy Exhibition and School Project Competition – 50 participants, 10 projects
  - ◆ Seminar On National And Regional Energy Initiatives
- Energy Efficient Lighting Project - Climate Care, UK & Ministry of Planning & Environment, St. Lucia
  - ◆ Voluntary scheme – outside Kyoto
  - ◆ Climate Care paid for 6,000 lamps
  - ◆ Each lamp saves import of half a barrel of oil

31

## Funding Mechanisms

- Kyoto – Clean Development Mechanism
- World Bank Prototype Carbon Fund
- Global Environment Facility/UNDP
- World Bank / Regional Development Banks / International Finance Corporation
- Donor Programs – European Union, US AID, AUSAID
- Private Sector Investments
- Kyoto parties' carbon purchases - particularly for Europe

32

## CDM Project Types

- FUEL CONSUMPTION
  - ◆ Community or Large Scale PV
  - ◆ Wind Power
  - ◆ Hydro
  - ◆ Waste to Energy
  - ◆ Biomass
- ENERGY EFFICIENCY
  - ◆ Improve Generation and Distribution
  - ◆ High Efficiency Lighting and Appliances
  - ◆ Solar Water Heaters
  - ◆ Improved Building Codes & Methods
- TRANSPORTATION
  - ◆ Vehicle Efficiency
  - ◆ Fuel Substitution
  - ◆ Transit Systems

33

"Eco-efficiency is more than just a convenient rallying cry for companies concerned about sustainable development and the environment. It's actually one of the signs that a company is well managed."

Frank Popoff  
Chairman, Dow Chemical Company

34

## Endangered Islands Campaign

- to build international support by awareness and outreach activities for mitigation and adaptation measures undertaken by participating SIDS
- to enhance the capacity of island nations to respond to climate change by changing their energy systems toward renewable and indigenous energy sources,
- to develop anticipatory coastal and emergency preparedness measures to lessen damage to people, structures, and fragile ecosystems, and improve building codes and land use planning
- to implement specific climate adaptation measures in three Caribbean nations
- to establish partnerships and twinning relationships between SIDS and coastal cities in the US and Canada
- to work with existing regional organizations by adding value while avoiding duplication

35

## Conclusion

Sustainable energy is not only an environmental necessity...

It makes economic and social sense

36

## ATTACHMENT G

### Attachments

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ADDRESS BY THE HONOURABLE FERGUSON JOHN  
MINISTER OF PHYSICAL DEVELOPMENT, ENVIRONMENT AND HOUSING  
SAINT LUCIA  
TO THE SIDE EVENT ORGANISED BY GSEII  
MAURITIUS

Salutations:

Permit me a moment to extend to the Government and people of Mauritius my thanks for their hosting of the 10-year review of the Barbados Programme of Action for the Sustainable Development of Small Island States. I also thank the Global Sustainable Energy Island Initiative (GSEII) for hosting this side event, which is most appropriate within the context of the sustainable development of SIDS. And as we deliberate here in Mauritius, we should spare a thought for our unfortunate friends in South-East Asia who have suffered and are suffering from what may yet be the world's greatest natural disaster.

Colleagues, more than three decades after the Stockholm gathering, sustainable development remains an elusive goal for mankind. Varied and complex though the reasons may be, the fundamental challenge is the capacity of developing countries to address this goal.

The ability of a country to achieve sustainable development is directly dependent to a large extent on the capacity of its people and its institutions. Widely defined, capacity-building encompasses the country's human, scientific, technological, organizational, institutional and resource capabilities. A fundamental goal of capacity-building is to enhance the ability to evaluate and address the crucial questions related to policy choices and modes of implementation among development options, based on an understanding of a wide range of parameters and as perceived by the people of the country concerned. Cognizant of this, capacity building has become a core goal of technical assistance provided by the United Nations system and is no longer regarded as merely a component or a by-product of development programmes and products.

Now, sustainable development involves the complex interplay of a number of economic, socio-cultural and environmental issues. These issues include, *inter alia*, Agriculture, Biodiversity, Energy, Finance, Poverty, Trade, Transport, Tourism and Technology. As a strategy towards achieving sustainable development, many countries have become signatories to a wide cross-section of international and regional conventions, agreements and commitments. These multilateral agreements cover a plethora of themes, many of which contain individual components for capacity building. Such capacity-building components though successful in their own right are sometimes disjointed, narrow in focus and do not consider the broad sustainable development capacity building needs of the benefiting country. There appears to be lacking a co-ordinated effort by national governments and the international community to approach both Institutional Strengthening and Capacity Building in ways that places sustainable development at the centre of all Capacity Building Initiatives.

However, all is not lost. With friends like those in the GSEII, we can, and indeed are addressing our sustainable development challenges in important sectors. My hope was that Mauritius would have defined the necessary, wider framework within which we could have "connected the dots" on our sustainable development drawing board. I am still hopeful – but in Saint Lucia we are not relying on this hope alone. Rather, consistent with the Millennium Development Goals, and the Johannesburg outcomes, we are crafting a long-term sustainable development strategy using an integrated planning approach. We are at the early stages in this process but already it holds exciting prospects. I hope to be able to share this with you some time soon.

Our involvement with the GSEII goes back to COP 6 in The Hague, where my Prime Minister committed Saint Lucia to taking action to address global climate change, noting in the process that on this subject, developing countries provide an environmental subsidy to the north. His statement to make Saint Lucia a sustainable energy demonstration country was both a commitment and a challenge. In doing so, he recognized that Saint Lucia cannot achieve this alone and expected that those who could, would have taken up the challenge. GSEII responded, and I thank them. Others should have grasped this opportunity, and I hope to thank them also – sometime in the future.

Before proceeding, I wish to clarify a misconception. Our declaration to become a sustainable energy demonstration country was misinterpreted to mean that we would build a petroleum-free economy. This is not the case. Our intention is to demonstrate how far this is possible, given the nuisances of small island economies and energy systems – and we have made some progress in this direction.

With assistance provided by GSEII, and more recently by the Organisation of American States, we are developing capacity to address our challenges in the energy sector. Through their support, we were able to mobilize a national team to which developed a national Sustainable Energy Plan, which we are currently implementing. The team is currently working on a National Energy Policy to address, inter alia, some of the legal and institutional barriers to achieving our goals. Our local utility company is currently pursuing wind energy development for integration into the national grid and Government has recently entered into an agreement to further explore our geothermal option.

We also support the proposal by Trinidad and Tobago to lay a gas pipeline connecting the southern Caribbean islands to bring cleaner, and hopefully cheaper, energy to those countries. We are also exploring some smaller options, including waste-to-energy systems and small hydro installations. Efforts are also underway to make low cost financing available through credit unions to purchase solar water heaters and through a partnership with Climate Care, we will soon be distributing 6000 energy efficient lamps to consumers. We have also institutionalised the observance of Energy Awareness Week

to get the public involved in our pursuits and will shortly be looking at efficiency standards for appliances.

Clearly we have taken our commitment seriously. However, had our expectations of wider support been met, much of what have I just outlined would have reached the point where real, sustainable changes could have been demonstrated. We do intend to reach that point and invite others to join the GSEII and ourselves in meeting this challenge.

Colleagues, transforming national energy systems is not easy – even in a small country like Saint Lucia. We know this. What we also know is that this transformation must take place – notwithstanding the ostriches of this world. When I took up my portfolio less than a year ago, I suggested to a CARICOM Task Force developing a Regional Energy Policy to build into their deliberations a future based on an oil price of US\$60.00 per barrel. Not long after that President Hugo Chavez cautioned the world to begin to think of a US\$100.00 per barrel energy future. Whatever the figure will be is unclear. What is clear is that prices will continue to rise, and we must take action to address this economic challenge – whose solution will encompass sustainable energy options, a cleaner environment, and ultimately contribute to overall sustainable development. In this picture, the Kyoto Protocol represents an important beginning. I was delighted to learn that following what must have been a difficult period of reflection and debate, Russia has given life to Kyoto, and I look forward to COP/MOP later this year.

I wish to close my statement by noting that at the global level, Science and Technology offers solutions to our individual and collective sustainable energy challenges. The barriers that remain are legal, structural and political. In the context of SIDS, whose Science and Technology infrastructure is weak, it is all of the above. I suggest therefore, that within the context of sustainable development, much greater focus should be placed on energy because it drives the “development” in “sustainable development”. In this regard, energy issues must be integrated into all discussions on development and not restricted to the climate change and Kyoto negotiations. I trust that this matter will attract the attention it requires in the main hall here in Mauritius.

I thank you.

# ATTACHMENT H

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## ADMIRE

Acting for the Development of Marshall Islands Renewable Energy

### NATIONAL ENERGY POLICY VISION:

- "Renewable energy is the most appropriate long-term alternative source to replace imported petroleum products for electricity production in the Marshall Islands; solar photovoltaic (PV) is already technically and financially attractive for relatively small, remote island demands when properly planned, operated and maintained."
- Solar is especially viable due to the high cost of imported petroleum from distant markets.

## Benefits of Solar Energy in RMI

- Produces little to no noise, fumes or greenhouse gases
- Virtually zero visual impact
- Completely avoids leakage in to marine habitat and costly treatments
- Dramatically reduces cost to all parties, especially poor households
- Affords schools and homes with sufficient and reliable artificial light, as well as expand handicraft industry into night operations
- Two individuals will be trained to service the systems, overseen by the Marshall Energy Company
- All customer service, maintenance, system upgrades and fee collection will be handled by the MEC, a utilities company with an outstanding Pacific reputation, further ensuring accelerating sustainability
- Best technical and economic solution to supply electricity to outer islands
- Decreases reliance on foreign oil while favoring electricity in times of shortages, higher prices and other conflicts
- Reduces "urban drift" from outer islands, thus decreasing urban congestion

## OBJECTIVES

- Improve quality of life for Marshallese
- Face major environmental issues by thinking globally and acting locally
- Improve access to government services, especially schools and medical dispensaries
- Create an environment conducive to supplement and increase incomes for all
- Sustaining this program is relatively easy to maintain and operational

## COST/BENEFIT ANALYSIS - LIGHTING/RADIO

Table: Benefits (Avoided Costs) Based on Electricity Subsidies

	Frequency Circuits	Kerosene Candles		Fluorescent (%)	Radio (\$)	Total
		(\$)	(\$)			
1 room House	1	19.36	2.45	-	-	21.81
2 room House	2	21.00	1.80	10.80	10.80	54.60
Stores w/ small working machines	3	31.90	2.89	10.80	45.15	90.74
Stores w/ VCR/TV	4	31.90	2.84	18.50	15.16	68.40
Stores w/ VCR/TV/Refrigerator	4	57.25	2.50	10.80	79.21	158.42
Church Hall (2)	2	21.00	2.80	25.80	48.80	97.60
Primary school	2	21.00	2.80	-	23.80	47.60
Store/assembly	2	21.00	2.80	10.80	24.60	49.20

- Notes:
1. Based on total avoided costs of \$18.50 per candle per hour, for kerosene lamps, and to the cost of a house with a radio terminal, one generic battery at an avoided cost of \$12.80 per month per battery
  2. Assumes a saving of \$2.80 on 20% of the monthly battery cost
  3. Assumes a saving of \$10.80 on 75% of the monthly battery cost
  4. In the past of church and primary school assumed that use of batteries battery over a month was equivalent to a 2-candle house
  5. An alternative of \$2.80 per month for kerosene or gasoline or equivalent on electric output to PA houses

## The Marshalls Energy Company

With approval from the Marshallese Cabinet, the Energy Office has turned over the installation, operation and maintenance of the Outer Island Electrification Project to the Marshalls Energy Company. The MEC has proved its viability through managerial, technical and financial successes and greatly strengthens the promise of the project.

## A SHARED VISION OF SUSTAINABILITY...

"Available, reliable, affordable and environmentally-sound energy for sustainable development for all Pacific islanders." (Rarotonga Declaration, 2002)

Thus, the RMI supports and is striving to abide by the environmental mandates outlined in the following agendas:

- Earth Summit- 1992
- Kyoto Protocol- 1997
- Millennium Development Goals- 2000
- World Summit for Sustainable Development- 2002
- International Conference for Renewable Energies- 2004



# ATTACHMENT I

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Geo-Caraïbes Project  
Talking Points  
Mauritius Conference – Barbados +10

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- Several island nations in the Eastern Caribbean possess tremendous potential for the development of geothermal energy.
- The use of geothermal resources offers many advantages over the current electricity generation patterns in these countries
  - Domestic natural resource versus imported petroleum products
  - Clean renewable resource
  - Long-term low cost resource versus high, fluctuating oil prices
  - Energy security
- Despite the potential no geothermal power development in the Eastern Caribbean, except for French Guadeloupe.
- Many barriers have limited development of geothermal power in the region
- In an effort to overcome barriers, several countries [Dominica, St. Lucia, and St. Kitts & Nevis] have joined with the UNEP and OAS to secure funding from the GEF (and French AfD) for the Eastern Caribbean Geothermal Development Project (Geo-Caraïbes)
- The GEF funds will be used to address market barriers and attract sustainable development of geothermal in each of the countries.
- Additionally, inter-island electricity transmission allowing for clean electricity exports is planned.
- The project will address market conditions in three main areas:
  - Policy and regulatory
  - Resource characterization and technical feasibility
  - Financing – Drilling Risk Fund
- In the policy and regulatory area... a legal team including lawyers from each of the countries is working on the preparation of a geothermal resources development law. The lack of a transparent, enforceable policy environment have left our countries vulnerable and at the same time have not offered a framework that attracts reliable world class developers. The geothermal law will balance protection of the environment, the economic interests of the country, and the financial interests of the developers.
- In the area of resource characterization and technical feasibility... we are working with international geothermal development specialists to evaluate and model the geothermal resources. In Dominica, exploration was launched in the early 1980s but was halted due to the limited scale of the potential projects. Today we are exploring further (through geology, geochemistry and geophysics) with a grander vision for the development of this resource. We hope to catalyze the development of geothermal power which not only supplies low cost power to Dominicans, but also can be exported to neighboring islands – Guadeloupe and Martinique – thereby increasing the scale of the project and lowering the cost and benefits for all consumers.


- In the area of project financing... a key barrier to geothermal development is the high cost and high risk of exploratory well drilling. Developers have difficulty borrowing for this phase of project development. Therefore, the Geo-Caraïbes project, with funds from the GEF, AfD and others will create a Drilling Risk Fund. This fund is expected to offer US\$10 million as a conditional loan/grant to the developers selected by each of the project countries. For successful drilling efforts the monies will be repaid to support other geothermal initiatives in the region. Unsuccessful efforts will convert to a grant.
- From the perspective of my country, Dominica, we are very eager for the development of geothermal energy. At present our citizens pay a high price for electricity (>US\$.25/kWh) and the price is going higher with the rise in oil prices. Further, as the "Nature Island" we are eager to move away from a dependency on imported fossil fuels and to grow our reliance on domestic renewable natural resources. We hope that the initial geothermal project produces 5-10MW for local consumption, but the long-range plan calls for 50MW or more for export to the French Islands. Such a development would not only further improve the environment in the Eastern Caribbean, but would be the largest business venture in our country....

# Geo-Caraïbes Project Overview



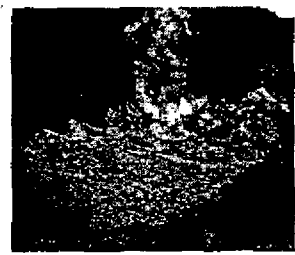
## Eastern Caribbean Geothermal Development Project (Geo-Caraïbes)


Ambassador Crispin Gregoire, Permanent Representative of Grenada to the United Nations

**Geo-Caraïbes**  


### The Foundation for the Geo-Caraïbes Project


- The Opportunity:** The island nations of Dominica, St. Lucia, and St. Kitts and Nevis possess geothermal resources that may be exploitable for commercial power generation

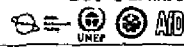


**Geo-Caraïbes**  


### The Foundation for the Geo-Caraïbes Project

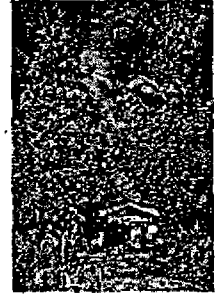
- The Challenges:** Despite repeated attempts, efforts to prove the geothermal resources and develop commercial power have been unsuccessful

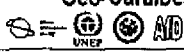


**Geo-Caraïbes**  


### The Foundation for the Geo-Caraïbes Project

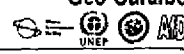
- The Response:** The Countries, OAS, UNEP, AFD and others, have secured grant assistance from the Global Environment Facility to address the Challenges



**Geo-Caraïbes**  


### What is the Vision for the Project?


- Create the conditions for the "best case" commercial development of geothermal energy in the Eastern Caribbean**
  - ◆ "Best Case"
    - ↳ Maximum Power
    - ↳ Low Cost Electricity
    - ↳ Safe Conditions
    - ↳ Environmental Protection

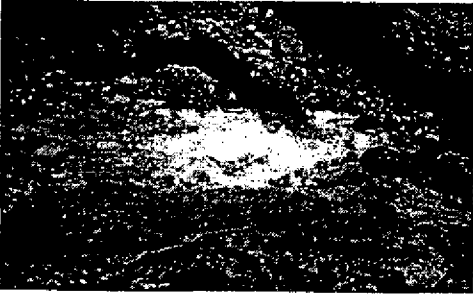
**Geo-Caraïbes**  


### How is the Vision Achieved?


- Maximize Geothermal Development by Aggregating Demand including Inter-island transmission**
- Create market conditions (policies, financing, human/institutional capacity) for development**
- Attract proven geothermal developers**

# Geo-Caraïbes Project Overview

Geo-Caraïbes  





Watten Waven, Dominica

Geo-Caraïbes  



### Pursuing The Vision – Financial Resources

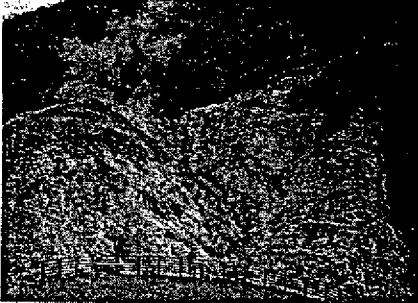
- OAS, UNEP, Dominica, St. Kitts and Nevis, St. Lucia, AID, EDF, CFG... Have secured grant funding from the Global Environment Facility (GEF)
- Phase 1 (GEF PDF/B):
  - ◆ Pre-feasibility assistance toward geothermal development in the project countries
  - ◆ US\$700,000 (GEF) + Matching funds (AID, EDF, OAS, Countries)
  - ◆ 12 months (April 2004 – April 2005)
- Phase 2 (GEF Full Project):
  - ◆ Feasibility and commercial development of several geothermal energy projects
  - ◆ US\$7.5 MM (GEF) + Matching Funds
  - ◆ Up to six years

Geo-Caraïbes  



### Pursuing the Vision – Three Project Pillars

- I. **Technical:** Assess the resource/technical potential for the several sites and electricity interconnection scenario = Reduce resource uncertainty and development risks
- II. **Policy/Legal:** Reform legal framework and Develop Local/Regional Capacity = Reduce contract/policy uncertainties, expedite licensing/permitting, and strengthen local inputs
- III. **Financial:** Prepare Geothermal Drilling Risk Fund = Reduce financial risks associated with initial commercial exploration

Geo-Caraïbes  






Sulfur Springs, St. Lucia

Geo-Caraïbes  


### I. What Are the Technical Expectations for the Project?

- **Resource Evaluation:** The Project will deliver predictable geology, geochemistry, and geophysics data
- **Infrastructure Assessment:** Analyze local and regional power demand, and feasibility of inter-island electricity transmission
- **Highlight Commercial Project Development Scenarios**
- **Facilitate Arrangements For Project Deals** (Assist project countries with bidding (RFP or sole source negotiations)

Geo-Caraïbes  





# Geo-Caraïbes Project Overview

**II.a What are the Policy/Legal Expectations?** Geo-Caraïbes  
UNEP AID

- Enable sound, transparent Legislation, Regulations, Contracts, Licenses, International PPAs, Treaties
  - ◆ Balance protection of national resources and attraction of investors
  - ◆ Establish geothermal-specific laws
  - ◆ Eliminate existing legal disputes
- Create commercially acceptable legal environment to attract and arrange for project deal



**II.b What are the Capacity Building Expectations?** Geo-Caraïbes  
UNEP AID

- Develop local expertise to support legal, technical, and financial aspects of project development
  - ◆ Establish national government geothermal desk
  - ◆ Build local expertise in legal sector
  - ◆ Create cadre of young geothermal professionals



**III. What are the Geothermal Finance Expectations?** Geo-Caraïbes  
UNEP AID

- Reduce the Risks Associated with Geothermal Exploratory Drilling
  - ◆ Despite the potential, there has not been any exploratory drilling in Dominica nor St. Kitts and Nevis
  - ◆ The high cost / high risk of exploration deters drilling activities

**Project Approach - Finance** Geo-Caraïbes  
UNEP AID


- Establish an Eastern Caribbean Geothermal Drilling Risk Fund
  - ◆ Up to \$10,000,000 total fund
    - \$5,000,000 from GEF
    - Additional from AID, FFEM, EU, others
  - ◆ Drilling funds will be available to developers on a competitive basis
  - ◆ Fund design will be led by AID
  - ◆ Concept: Funds are as a loan for successful projects; grant for unsuccessful project

**Timeline** Geo-Caraïbes  
UNEP AID

- Six to Twelve Months
  - ◆ Create legal environment, technological proof of concept, institutional arrangements for international deal(s), domestic wherewithal to administer investment and revenue flow
- Nine to Eighteen Months
  - ◆ International Project Arrangements
- Two to Three Years
  - ◆ Launch Project Investments
- Three to Four Years
  - ◆ Turn power on
- Five to Ten Years
  - ◆ Turn the power up
- An investment in the Future... A vision for generations

**Thank you** Geo-Caraïbes  
UNEP AID

- Project Contacts:
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UNEP Project Manager  
[Bernard.jamet@unep.fr](mailto:Bernard.jamet@unep.fr)





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## UNIDO and the Global Sustainable Energy Island Initiative



**Marco Matteini**  
Associate Expert



Port Louis, Mauritius  
10-14 January 2003



UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION  
economy environment employment



## UNITED NATION INDUSTRIAL DEVELOPMENT ORGANIZATION

Our VISION is to improve the living conditions of people and promote global prosperity through offering tailor-made



solutions for the sustainable industrial development of developing countries and countries with economies in transition.



UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION  
economy environment employment



## UNIDO SERVICES

- > Industrial Governance and Statistics
- > Investment and Technology Promotion
- > Industrial Competitiveness and Trade
- > Private Sector Development
- > Agro-Industries
- > Sustainable Energy and Climate Change
- > Montreal Protocol
- > Environmental Management



UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION  
economy environment employment



## The UNIDO and GSEII Partnership

- May 2003 Sustainable Energy Project Development in the Caribbean - UNF Planning Grant
- May 2004 Global Sustainable Energy Island Initiative project document submitted to UNF
- Oct 2004 Beginning of Implementation of the UNIDO GSEII project with contributions from UNF, USAID, REEEP and the Government of Italy



UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION  
economy environment employment



## The Significance of the Energy Sector

- > Energy is required for all social and economic activities. It is vital for development and achievement of MDGs
- > Energy generation and use based on fossil fuels has negative impacts on environment and climate
- > Dependence on imported fossil fuels poses an energy supply security issue
- > Efficiency of energy supply and demand sides is critical for the economy and competitiveness of a Country



UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION  
economy environment employment



## Services offered by UNIDO Energy Programme

- > Industrial Energy Efficiency:
  - a) Energy efficiency improvements in existing plants and systems
  - b) Production of qualitative better products with lower energy intensity in production and use
- > Promotion of renewable energy technologies with particular emphasis on rural energy development (UNIDO initiative on Rural Energy for Productive Use)
- > Energy Policies and Kyoto Protocol



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economy environment employment



### Key Challenges in SIDS Energy Sector

- Heavy dependence on imported petroleum products for energy and transportation needs
  - a) Risk of fuel supply disruption
  - b) Vulnerability to fuel price fluctuations
- Access to Energy
- Affordability of Energy - High electricity costs
- Low Energy Efficiency
- Development and exploitation of domestic renewable energy resources



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economy environment employment



### GSEII UNIDO Responses

- Development of National Sustainable Energy Plans centred on the promotion and use of renewable energy and energy efficient technologies
- Development of a portfolio of clean energy projects (RE/EE) commercially viable
- Designing of project-specific financing mechanism
- Capacity building
- International Outreach



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### Prioritized Clean Energy Projects in the Caribbean

#### ST. LUCIA

- 1) Caribbean Solar Financing Program (CSFP)

#### GRENADA

- 1) Nutmeg Shells to Energy Project

#### DOMINICA

- 1) Reduction of Power and Energy Losses in Electricity Transmission and Distribution (T&D) Networks



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### St. LUCIA: Caribbean Solar Finance Program

#### Objectives:

- i) Measurably reduce the constraints on, and increase the capacity for financing of Solar Hot Water Systems (SHWS)
- ii) Build awareness among the target income segments of the population on the benefits of SHWS
- iii) Develop a sustainable and growing market for SHWS

#### Activities:

- a) Training lending personnel of Credit Unions
- b) Provision of long-term credit
- c) Consumer awareness campaign



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### GRENADA: Nutmeg Shells to Energy Project

#### Objectives:

- i) Development of 50-75 kW electricity generating plant using nutmeg shells
- ii) Transfer of technology

#### Activities:

- a) Conduction of a detailed techno-economic feasibility study
- b) Project financing and financial brokering
- c) Training and capacity building

**Project postponed indefinitely due to Hurricane Ivan damages**



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### DOMINICA: Reduction of Power and Energy Losses in Electricity T&D Networks

#### Objectives:

- i) Improvement of efficiency and reliability in the provision of energy
- ii) Reduced GHG emissions per unit of electricity delivered
- iii) Reduced missed production due to outages and poor performance of the grid
- iv) Reduced electricity bills



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## DOMINICA: Reduction of Power and Energy Losses in Electricity T&D Networks

### Activities:

- Work with Dominica power utility (DOMLEC) to the conduction of an in-depth study of the Dominica T&D system operating performance
- Development of a pipeline of interventions targeted to measurably reduce DOMLEC's energy and power losses
- Support implementation of prioritized interventions
- Results dissemination, training and capacity building



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## Schedule of Clean Energy Projects' Execution

### DOMINICA

The conduction of an in-depth study of the operating performance of the Dominica Electricity T&D Networks is due to start in February 2005

### St. LUCIA

The conduction of the training for personnel of St. Lucia credit unions is due to start in May 2005

The Caribbean Solar Financing Program is envisaged to be implemented also in Grenada (Fall 2005) and Dominica (Spring 2006)



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## ATTACHMENT K

### Attachments

- A. Side Event Proposal, as submitted to UN CSD, and UN's conference schedule.
- B. Flyer of the UNIDO-GSEII Event, distributed by email and at the Conference site.
- C. Press Release issued at the event and distributed at the event and electronically.
- D. UNIDO-GSEII Brochure for the event.
- E. GSEII Newsletter – January 2005.
- F. GSEII Presentation by Hon. Tom Roper, Board Member, Climate Institute.
- G. Speech by St. Lucian Minister, Hon. Theophilus Ferguson John.
- H. ADMIRE – Presentation by the Marshall Islands Minister, Hon. John Silk.
- I. Presentation and speech notes of Dominica's Minister, Hon. Ambrose George.
- J. UNIDO's presentation – presented by Marco Matteini
- K. List of Participants.**
- L. 2 Tapes with recording of the proceedings, (only one copy attached).

List of Participants – Special Event, Mauritius International Meeting, January 12, 2005

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