

## GSEII BACKGROUND

Small Island Developing States (SIDS) produce only a tiny fraction of global greenhouse gas emissions. However, their location makes them extremely vulnerable to the effects of climate change, such as sea level rise and extreme weather conditions.

SIDS also face unique challenges associated with the generation and use of energy since they depend almost exclusively on imported fossil fuels for their energy needs. This leaves these countries vulnerable to the volatility of international oil prices and results in tremendous strain on capital for imports and high costs for businesses and consumers.

The goal of the Global Sustainable Energy Island Initiative (GSEII) is to promote and support the efforts of SIDS to move toward more sustainable energy development based on environmentally sound renewable energy technologies and greater energy efficiency. The size of the islands makes them a viable starting point for the implementation of such policies and technologies that can then be reproduced elsewhere on a larger scale as demonstrations of sustainable development.

GSEII is a consortium of international NGOs and multi-lateral institutions coordinated by the Climate Institute (CI) to meet the above goals. Besides CI, the major partners are the Organization of American States (OAS) and the Energy and Security Group (ESG). The impetus for GSEII came from a 1998 request from the Chairman of the Alliance of Small Island States (AOSIS) to CI for assistance in implementing the provisions of the 1994 Barbados Conference on the Sustainable Development of SIDS.

Initial funding for GSEII was received from the Rockefeller Brothers Fund and from the UN Foundation (as administered by the U.N. Industrial Development Organization (UNIDO)). From 2001 to July 2009, approximately \$1 million have been spent in nine island nations for the preparation of national and sustainable energy plans, bio-fuel feasibility studies, energy-efficient lighting and training courses and renewable energy projects (wind, geothermal).

GSEII partners also work independently on projects that extend beyond the scope and scale of GSEII initiatives. They often coordinate their activities with other programs and regional organizations and carry out further activities to achieve goals of strong social, economic, and environmental improvements on SIDS.

## GSEII OBJECTIVES

*Toward energy independence, reduced greenhouse gas emissions, and socio-economic development*

- Assist SIDS to develop and implement national Sustainable Energy Plans.
- Build local capacity for, and reduce obstacles to, clean energy and energy efficiency projects.
- Increase international awareness of SIDS to influence global climate change mitigation.

## GSEII Consortium Members:

**C**limate Institute  
www.climate.org

**U**nited Nations Industrial Development Organization (UNIDO)  
www.unido.org

**A**lliance of Small Island States (AOSIS)  
www.aosis.org

**C**limate Care  
www.jpmorganclimatecare.com

**E**nergy and Security Group (ESG)  
www.energyandsecuritygroup.org

**C**ounterpart International  
www.counterpart.org

**O**rganization of American States (OAS)  
www.oas.org

## GSEII Donors:

**U**nited Nations Foundation

**R**ockefeller Brothers Fund

**G**overnment of Italy

**U**S Agency for International Development

**G**overnment of Austria

**U**S Department of Energy

**R**enewable Energy and Energy Efficiency Partnership

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CLIMATE INSTITUTE



Energy and Security Group



Organization of American States



# Global Sustainable Energy Islands Initiative

Power =  $0.01328D^3V^3$

17m

1.5 MW

10.1 - 20.4 rpm

85m

*A Global Consortium working toward Energy Sustainability in Small Island Developing States*

# GSEII ACTIVITIES

**Caribbean:** Antigua & Barbuda, Bahamas, Dominica, Grenada, St. Kitts & Nevis, St. Lucia, St. Vincent & the Grenadines

**Pacific:** Fiji, Marshall Islands

## SUSTAINABLE ENERGY PLANS & NATIONAL ENERGY POLICIES

In conjunction with the Organization of American States, GSEII has been working with governments from all seven GSEII Caribbean nations, the Marshall Islands, and others not associated with GSEII to formulate both national energy policies (NEP) and sustainable energy plans (SEP). In 2008, the OAS renewed this commitment by launching the Caribbean Sustainable Energy Project (CSEP). Specifically, the objective of CSEP and NEP/SEP projects is to address market conditions for the development and use of renewable energy and energy efficiency systems by mitigating the barriers to their use. In February 2009, St. Vincent and the Grenadines became the first target nation to adopt their NEP.



## WIND ENERGY PROJECTS

- **St. Kitts & Nevis:** OAS worked with supporting organizations to consider the potential for wind projects on Nevis. OAS then verified a wind resource assessment for the proposed site. Negotiations are underway for a 1.1 MW wind farm to be commissioned within the year.
- **St. Lucia:** While a LUCELEC wind farm at Point de Caille was abandoned after the proposed spot was purchased by the hospitality industry, GSEII continues to study future potential for wind farms on St. Lucia.
- **Dominica:** The potential for a 4.4 MW wind farm is being studied.
- **Grenada:** GSEII is examining the potential for a wind turbine on Carriacou Island.

## GEOTHERMAL ENERGY PROJECTS

### • St. Kitts & Nevis:

A Geo-Caraibes Project feasibility study and West Indies Power, Ltd. exploratory drilling found potential for geothermal sites to power the islands. GSEII drafted a 25-year Power Purchase Agreement between the Nevis Island Authority and a private developer for a 10 MW electric power station. Drilling is expected to commence in 2010.



- **Dominica:** After an OAS feasibility study determined potential for geothermal energy on Dominica, GSEII helped the nation obtain EU funding for geothermal related renewable energy building. A three year 5 million Euro geothermal resource development program is underway.
- **St. Lucia:** OAS conducted a feasibility study on the development of an 100 MW electric power station and is currently working to eliminate barriers towards such a station's construction.



## BIOMASS

- **Fiji:** GSEII investigated potential for coconuts to serve as an energy source on Fiji and the Marshall Islands. Tests are being conducted on a coconut methyl ester fuel additive.
- **St. Kitts & Nevis:** OAS and ESG conducted a study to examine the possibility of using sugarcane to produce electricity and/or ethanol.

## ENERGY EFFICIENT LIGHTING PROJECTS

- **St. Lucia:** The Climate Institute, Climate Care of UK, and the St. Lucian government have distributed over 6000 compact fluorescent bulbs.
- **Dominica:** The Climate Institute, Climate Care of UK, and the University of Vermont have installed over 5200 energy efficient lights in rural areas.
- **Marshall Islands:** Ten thousand energy efficient light bulbs donated by Climate Care (UK) were installed in May 2008 to mitigate use of energy and decrease energy bill costs.

## OTHER PROJECTS

- **Marshall Islands:** In 2006, the Outer Island Electrification Project was launched, giving access to solar homes to Namorik Island and Mejit Island. Solar electrification was completed with assistance from EU, the Republic of China and the US.
- **Grenada:** GSEII is currently building model sustainable homes using Earth Home technologies. Local builders are being trained in sustainable construction techniques and will be encouraged to adopt new practices.



## TRAINING & OUTREACH

A major part of GSEII's work to build local capacity for renewable energy and energy efficiency and to increase international awareness, GSEII has hosted around 20 training and outreach events in the Pacific, Indian, and Caribbean regions.

- Pacific Power Authority (PPA) with the e8: creating, operating and maintaining renewable energy. Also, demand side management and energy efficiency trainings.
- CARILEC annual engineers conference: CDM trainings and renewable energy and efficiency education sessions.
- Side events at multiple UNFCCC COP meetings.
- Side events at the international meeting in Mauritius on SIDS as examples of sustainable development.