

Toward a Sustainable Energy Future: A continuing partnership with the Caribbean

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The Current Energy Regime: Key Challenges

- Nearly 100% of the electricity and transportation in the Caribbean is fueled by imported petroleum products (T&T is the exception)
- Electricity and gasoline costs are high and rising; due to international petroleum prices and small scale of handling/generation facilities
- Environmental impacts associated with diesel generators and transportation fleets have negative effects on the environment and tourism economy



Energy Sector Vulnerability in the Caribbean

- Fuel supply disruptions (weather threats to shipping, minimal storage capabilities, etc.)
- Fuel price fluctuations (economic hardships associated with rising costs)
- Climate risk (Hurricanes, sea level rise, increased frequency/strength of extreme weather events, etc.)



Power Generation in the Caribbean

Country	Thermal	Hydro	TOTAL
Antigua and Barbuda	51	0	51
Barbados	210	0	210
Cuba	3,901	57	3959
Dominica	14	8	22
Dominican Republic	4,184	542	4726
Grenada	32	0	32
Haiti	181	63	244
Jamaica*	1,325	24	1349
Saint Lucia	57	0	57
Saint Kitts & Nevis	47		47
St. Vincent and the Grenadines	18	6	24
Trinidad and Tobago	1,416	0	1416

Source: Energy Information Administration (EIA), 2004

*Wind: Jamaica accounts for 20 MW.



Recent Energy Sector Trends in the Eastern Caribbean

- Push to open electricity markets to competition
- Seek alternative arrangements to secure coal, oil, gas, and other fuels
- Establish policies, plans, strategies, laws, etc. that favor sustainable energy
- Promote the development and use of biofuels and bio-electricity
- Promotion of increased energy efficiency



On-Going Sustainable Energy Programs/Initiatives in the Region: OAS Activities

- Global Sustainable Energy Islands Initiative (GSEII)
- Geo-Caraïbes
 - St. Lucia Geothermal Project
 - Dominica Geothermal Project
 - Nevis Geothermal Project
- US-Brazil Biofuels Partnership
 - St. Kitts and Nevis Bio-energy technical assistance
 - Dominican Republic and Haiti Biofuels (and El Salvador)
- European Union Energy Initiative (EUEI)
- -> CREBAP





On-Going Sustainable Energy Programs/Initiatives in the Region: OAS Regional Activities

Global Sustainable Energy Islands Initiative (GSEII)

- Collaboration of Donors, Countries and other Partners
 - OAS, UNIDO, Climate Institute, ESG
 - UNF, RBF, USAID, UK-FCO/REEEP
- Comprehensive Approach
 - Established Sustainable Energy Plan processes: Grenada,
 Dominica, St. Lucia, St. Kitts and Nevis
 - Delivery of technical and policy assistance, human and institutional capacity development, and project identification activities
 - Support market transformation through project development activities



On-Going Sustainable Energy Programs/Initiatives in the Region: OAS Regional Activities

- Eastern Caribbean Geothermal Development Project (Geo-Caraïbes) – GEF+ Funded
 - St. Lucia, St. Kitts and Nevis, Dominica
 - Partners: UNEP, OAS, AfD
 - In response to multiple previous development efforts
 - Resource exploration, Policy preparation, and Subsidized drilling risk finance
 - Catalyze multiple commercial geothermal projects and inter-island electricity transmission

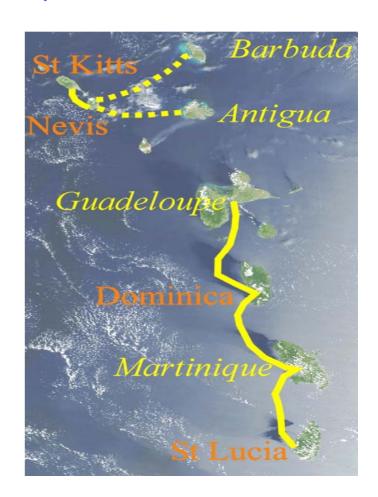




Eastern Caribbean Geothermal Development Project (Geo-Caraïbes)

Key Activities

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



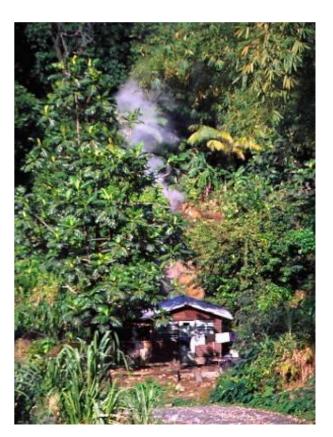




Eastern Caribbean Geothermal Development Project (Geo-Caraïbes)

Status of Project Developments:

- St. Lucia
- Dominica
- St. Kitts and Nevis





On-Going Sustainable Energy Programs/Initiatives in the Region: OAS Regional Activities: USA-Brazil Biofuels Partnership

- Bush-Lula agreement to cooperate and support Biofuels development in several "third-party countries"
 - Dominican Republic, Haiti, El Salvador, St. Kitts and Nevis
- OAS providing technical assistance
 - Policy/Market Reform
 - Economic analysis
 - Feasibility Studies
 - Capacity Building



St. Kitts & Nevis Bio-Energy Feasibility and Development Program

- SKN sugar industry closed in 2005
- OAS/GSEII team assessed biomass to energy alternatives (sugar and municipal waste) (2006)
- Options could include ethanol, electricity, other byproducts







Sugarcane Quantities and Characteristics for St. Kitts & Nevis

Parameter	Typical	Value range	Unit
Available cultivable area	6,000	5,500 – 6,500	acres
Sugarcane yield	24.5	20.5 – 32.3	tons/acre
Average distance of fields to mill	12.4	10–15	Miles
Sugarcane production	147,000	112,750 – 209,950	tons/yr
Sugarcane production	1,225	805 – 2,100	tons/day
Sugarcane fiber content (d.m.)	18.5	-	% d.m.
Projected bagasse production	27,930	21,423 – 39,891	dry tons/yr
Average length of grow cycle	303	303 – 365	days/yr
Duration of crushing/harvesting season	120	100 – 150	days/yr
Amount of reaping per ratoon planted	5	5 – 6	reaping/ratoon
Estimated cost of sugarcane as delivered to the processing plant	32.7	32.7-49.5	US\$/ton
Amount of reaping per ratoon planted	5	5 – 6	reaping/ratoon



St. Kitts and Nevis

- Current developments
 - On-going technical assistance to Ministry (Dr. Albert Binger)
 - Reduction of available land figures (4,500 acres)
 - Preparation of land use map (Brazil/FGV)
 - Articulation/commitment to bioenergy development strategy
 - St. Kitts commitment to developer for fuel cane to energy (electricity and bio-diesel)
- Also, non-biofuels and non-geothermal developments:
 - St. Kitts MOU for 10 MW wind
 - Nevis MOU and Pending PPA for 1 MW wind





On-Going Sustainable Energy Programs/Initiatives in the Region: OAS Regional Activities

EUEI Program: Increasing the Sustainability of the Energy Sector in the Caribbean through Improved Governance and Management

- Three year program to support sustainable energy development in the Caribbean
- Services: Technical assistance, capacity building, policy and planning, project identification and assessment
- Countries: Antigua & Barbuda, St. Vincent & Grenadines, Grenada, Bahamas, Dominica, St. Lucia, St. Kitts & Nevis
- Project Partners: OAS, CARICOM, CARILEC, and REEEP





EUEI Program: Increasing the Sustainability of the Energy Sector in the Caribbean through Improved Governance and Management

Key Objectives:

- 1. Establish sustainable energy goals/targets through the adoption of national Sustainable Energy Plans (SEPs) in all project countries
- 2. Support the implementation of activities as outlined in each national SEP that addresses specific challenges or barriers.



EUEI Program: Increasing the Sustainability of the Energy Sector in the Caribbean through Improved Governance and Management

Key Project Components:

- Establishment of a Regional Coordination Unit (RCU) in CARILEC offices, St. Lucia
- Establishment of national offices/focal points
- Development of key sustainable energy policies
- Organization of national and regional training events (including electric utility staff training, banker training and study tour to Europe)
- Project identification, assessment and preparation activities
- Transition project to CDB, IADB, others for project development
- Link to CREBAP





Other On-Going Sustainable Energy Programs/Initiatives in the Region

- Caribbean Renewable Energy
 Development Project (CREDP) @
 CARICOM and GTZ
- CARICOM Regional Energy Policy
- OECS Sustainable Energy Policy
- Other Bilateral and multilateral energy assistance programs (Iceland, CIDA, UK, UNDP, CCCCC...)
- Link to the Caribbean Renewable Energy, Energy Efficiency, and Biomass Assistance Program (CREBAP)







Thank you!

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