



TECHNOLOGY
EXPO
& CONFERENCE

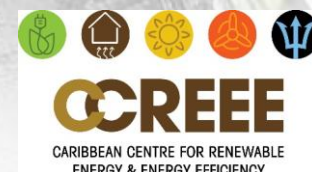
20-23 JANUARY
2016

GRENADA TRADE CENTRE
ST. GEORGES, GRENADA

GEF Project Proposal:

**“Energy Services from Organic Waste:
Integrated waste management solutions
for coastal, marine and freshwater
protection in the Caribbean”
--Building Climate Resilience--**

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Project Background

2016

2017

- Jointly developed by SIDS DOCK, CCREEE/UNIDO and CARICOM/REETA
- Proposal discussed in working groups at WtE Technology Expo and Conference, 20 to 23 January
- Need to identify at least 5 countries ready to use part of their GEF allocation as co-financing
- Principle of “fair share” – major part of the allocations flow back proportionally into the contributing countries
- Smaller part used for regional soft activities beneficial for all (e.g. policy support, information/knowledge exchange, capacity building)
- Need for endorsement letters and finalization of the PIF based on the received inputs
- Launch of the PPG phase and development of the project document



Project Objective(s)

Up-scaling of organic WtE and other waste valorisation solutions with the objective to reduce negative environmental, social and economic externalities of current waste and sanitation practices on coastal and marine livelihoods, as well as freshwater resources

- ☐ Addressing the energy, waste and water/sanitation nexus in an integrated way;
- ☐ In line with the GEF-6 International Water and Climate Strategy;
- ☐ Contributes to implementation of the C-SERMS and LBS Protocol of the Cartagena Convention;
- ☐ Closely coordinated with GIZ-CARICOM REEETA Programme and UNEP-GEF-IWEco project;



The waste-water-energy nexus

- Unsustainable waste and sanitation practices undermine the Caribbean livelihood, economies and societies
- This is particularly true for coastal and marine areas, where 70% of the population is residing
- Coastal areas contaminated with solid waste, sewage, industrial effluents, run-off from agriculture, and wastes from the transportation sector
- 60% of wastewater entering the Caribbean Sea is untreated and 65% or 275,000 tons of solid waste is disposed in open dumps, rivers and the eventually the sea
- 52% of households lack sewer connections and only 17% are connected to acceptable treatment systems
- Negative impacts of solid waste generated by shipping, commercial fisheries and offshore petroleum industry
- Poor waste and sanitation practices are degrading reefs, degrading beaches and fisheries ... Climate Vulnerability



The waste-energy-water- f nexus

- Inadequately treated sewage waste contributes to health problems through contamination of drinking water
- Reports of ear, nose and throat infections from tourists and residents due to decreasing quality of coastal waters
- Countries are facing challenges of energy security, energy affordability and climate change mitigation/adaptation
- High energy consumer tariffs lead to affordability issues and diminish the competitiveness and productivity of the local private sector and industry
- Continued dependence on diesel imports at fluctuating price levels is a major energy security concern
- Some countries spend 15 to 30% of their export earnings on oil products
- Fossil fuel dependency has high opportunity costs, as valuable resources for climate change adaptation, health care, education or economic development are lost



Baseline

- Organic WtE and treatment technologies are considered as feasible and viable options to address the waste, energy and water/sanitation challenges simultaneously
- WtE as a tool to promote economic development, mitigate coastal and marine pollution and reduce petroleum liquid dependency
- Liquid waste from sewerage and effluents (incl. agro-waste) defined as high-priority area of intervention
- Many islands have ambitious targets and policies on renewable energy and energy efficiency, as well as waste management and sanitation (e.g. LBS, C-SERMS)
- However, the technical capacity to support implementation is inadequate and has not turned into real investments in regional market
- Viewed as a RE technology, WtE faces a broad range of key barriers and constraints, WtE is more than another RE



Baseline

- Current WtE markets and industries in the Caribbean remain underdeveloped
- In 2015 there was no major WtE project in operation
- With the exception of some feasibility studies and small-scale biogas projects, WtE investments remain low
- Existence of major gaps in the current regional support framework of CARICOM with Development partners
- Need for a regional support program to upscale investments and markets in the area of organic WtE and other waste valorisation technologies
- Need for action on the ground rather than studies



Proposed project components

- Project aims at creating an enabling environment for organic WtE investments, markets and industries;
- by promoting integrated interventions in the areas:
 - ☐ PC I. Policy and regulatory frameworks and institutional coordination
 - ☐ PC II. Strengthened knowledge base and capacities in organic waste valorisation, WtE and other waste treatment technologies
 - ☐ PC III. Technology demonstration and up-scaling of investments in waste valorisation and WtE technologies and businesses



Scope of Project

Sectoral project focus:

- Liquid effluents (e.g. sewerage, and residues from breweries, distilleries or slaughter houses)
- Organic residues from large farms & food processors, such as sugar cane bagasse
- Liquid organic residues from small scale operators such as pigs and chicken farms, hotels and resorts

Technical project focus:

- Limited to proven and mature organic WtE and waste treatment solutions;
- Incl. all biological treatment such as composting or anaerobic digestion for the production of methane



Component on technology demonstration and up-scaling of investments

- The feasibility and viability of organic WtE and waste treatment technologies is demonstrated in the context of coastal, marine and freshwater protection
- During the PPG phase: Call for proposal for demonstration projects (in an advanced stage) in the participating countries
- Some GEF co-financing used to help selected demonstration projects to “break even” and attract other financing
- Creation of a support and financing facility (SFF) for W2E projects and businesses in partnership with other partners (e.g. SIDS DOCK, CDB, IADB, GIZ, EU, USAID, Japan)
- A long-term partnerships SFF and to offer non-grant financing instruments (revolving fund, loans development/commercial bank(s)).
- Regular call for proposals for and implementation of small to medium scale projects



Component on Knowledge Management and Capacity Development

- Establishment of Regional W2E competence
- Comprehensive data assessment during the PPG phase -> cooperation with REEETA ,others
- Establishment of an information and data system in cooperation with existing institutions in the countries -> resource assessment
- Regional awareness raising campaign
- Capacity needs assessment and formulation of a regional capacity building program
- Establishment of regional capacity building mechanism



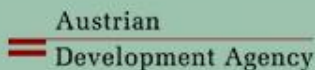
Component on policy and regulatory frameworks

- W2E Strategy and Implementation Plan
- CARICOM WtE Task-Force bringing together waste, water and energy experts
- Fiscal and non-fiscal W2E policy support mechanism
- Various toolkits (e.g. assess economics, resource assessments)
- Handbooks and documentation of lessons learned on demonstration projects



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Many Thanks!!



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