
Training Report #1- Report on Training Programme Conducted October 2013 in Guyana

**“Innovative Fiscal and Regulatory Incentives for Energy Efficiency and
Renewable Energy Initiatives”**

October 31, 2013



Background and Introduction

Sustainable Energy in the Caribbean: Reducing the Carbon Footprint in the Caribbean through the Promotion of Energy Efficiency and the use of Renewable Energy Technologies

This project, ‘Sustainable Energy in the Caribbean’, implemented by the United Nations Economic Commission for Latin America and the Caribbean (UN-ECLAC) will support the following:

- Technical assistance to three countries of the Caribbean in the evaluation of existing fiscal systems and regulations as they relate to energy efficiency and renewable energy technologies so as to identify gaps and barriers to implement these technologies and to provide options for their removal
- Development of national documents on strengthening fiscal and regulatory systems for at six countries – Guyana, Curacao, Belize, Grenada, Saint Lucia and Antigua & Barbuda
- Provision of technical assistance in proposing innovative fiscal and regulatory incentives to promote energy efficiency and renewable energy initiatives in three countries
- Development of a training manual on innovative fiscal and regulatory incentives for energy efficiency and renewable energy initiatives
- Implementation of capacity building workshops on best practices to improve the fiscal and management environment with a view to support the employment of EE and RE initiatives
- Development of three national (Aruba, The Bahamas and Suriname) energy policies that incorporate strategies for energy efficiency and the employment of renewable energy technologies. These may be used as examples for other Caribbean countries

Development of Training Programme

In the development of the training programme ‘Innovative Fiscal and Regulatory Incentives for Energy Efficiency and Renewable Energy Initiatives’, a Team from UN-ECLAC visited both Guyana and Grenada for -day meetings during August and September 2013 to:

- Meet with key stakeholders in the public sector, private sector and civil society organizations to discuss the development the training programme and specifically the course content and curriculum, learning objectives of the course and proposed participants
- Agree on key areas of emphasis for the training manual based on the agreed curriculum
- Agree on timelines as well as location for the delivery of the training programme

About the Course

“Innovative Fiscal and Regulatory Incentives for Energy Efficiency and Renewable Energy Initiatives”

The course **“Innovative Fiscal and Regulatory Incentives for Energy Efficiency and Renewable Energy Initiatives”** was designed as a 3-day, 5 module course covering a range of topics towards:

- enabling participants to understand the importance of energy efficiency and conservation to national development
- equipping participants to be able to develop relevant strategies that could help countries advance their renewable energy agendas
- enabling participants to understand the core elements required to develop energy efficiency and renewable energy policies

This report provides details of the training that was delivered to participants in Guyana October 14 to 16, 2013.

This report on the training held in Guyana is structured as follows:

- Background and Introduction
- The Learning Product
- Course Delivery
- Participants
- Course Evaluation

Learning Product

“Innovative Fiscal and Regulatory Incentives and Energy Efficiency and Renewable Energy Initiatives in the Caribbean”

Course Description:

This course was designed for the officers within government departments who have responsibility for guiding the country’s energy policy and energy management framework. Other stakeholders that the course targets include private sector representatives who have interest in providing energy efficiency equipment and renewable energy solutions to the market towards advancing improvements in both energy efficiency and meeting renewable energy targets.

The course provides insight into all aspects of energy management with specific emphasis on energy efficiency and renewable energy. Emphasis has been placed on highlighting issues and challenges that countries face in pursuing energy efficiency and renewable energy strategies. International and regional best practices were highlighted as a means of showcasing how various countries have overcome the barriers to advancing renewable energy targets and increasing energy efficiencies towards meeting national energy goals.

The curriculum is divided into five modules and is designed to be covered over a 3-day period. The course also was designed to ensure practical application of the learning and to enable the Caribbean to demonstrate leadership in energy efficiency practices and the adoption of renewable energy strategies, serving as a model for other small island developing states.

Target Group:

The course is a regional course for the Caribbean. The target group for the training is:

- Officers of Government ministries, departments and agencies (MDAs) and local authorities who are responsible for energy management and who have direct responsibilities for countries’ national energy policy, energy efficiency strategies as well as for advancing the introduction and use of renewable energy into their countries’ energy mix
- Key private sector entities who have a stake in energy efficiency or renewable energy and who are suppliers of these technologies or who have a role to play in the design, construction and maintenance of these technologies
- Non-governmental organizations who may focus on energy management projects and who play a role in educating communities or key sections of society on the importance of energy conservation and efficiency and renewable energy

Learning Objectives:

Upon completion of this course, participants will be able to:

Knowledge:

- Understand the importance of energy efficiency and conservation to national development
- Understand the importance of renewable energy technologies to advancing national development agendas
- Understand the core elements required to develop energy efficiency and renewable energy policies

Performance:

- Develop relevant strategies that could help countries advance their energy efficiency and renewable energy agendas
- Know how to develop national energy efficiency and renewable energy policies
- Be able to develop relevant and dynamic national strategies to overcome the barriers and challenges associated with energy efficiency and renewable energy

Attitude:

- Appreciate the importance of pursuing energy efficiency and renewable energy options to support national development

Course Modules

- Module 1: Rationale for Advancing Energy Efficiency and Renewable Energy Policies
Module 2: Issues and Challenges Facing the Region in the Effective Introduction of Energy Efficiency and Renewable Energy Technologies
- Module 3: Removing the Barriers to Advance the Introduction of Energy Efficiency and Renewable Energy Strategies and Technologies
- Module 4: Developing Energy Efficiency and Renewable Energy Policies and Action Plans – Advancing the EE and RE Agenda of Countries
- Module 5: Train the Trainer

Curriculum

The curriculum for the course is presented below:

Module 1: Rationale for Advancing Energy Efficiency and Renewable Energy Policies

- Energy Basics
- Overview of the energy sector in the Caribbean
- Overview of the CARICOM Energy Policy and some select country national policies (with emphasis on energy efficiency and renewable energy)
- Global trends in energy efficiency
- Global trends in renewable energy – including new and emerging technologies
- Drivers for increasing energy efficiency (economic, social and environmental)

- Drivers for advancing renewable energy (economic, social and environmental)
- Benefits of promoting energy efficiency
- Benefits of establishing renewable energy sectors within countries
- Measuring Energy Usage
- Conducting an Energy Audit

Module 2: Issues and Challenges Facing the Region in the Effective Introduction of Energy Efficiency and Renewable Energy Technologies

- Renewable Energy Use in the Caribbean
- Overview of fiscal and regulatory barriers to implementing energy efficiency measures and renewable energy technologies
- Requirements for Deploying RE Technologies in the Region
- Guidelines towards improving energy conservation and efficiency
- Presentation by countries based on country studies – Belize, Curaçao, Jamaica, Guyana
- Case Studies

Module 3 – Removing the Barriers to Advance the Introduction of Energy Efficiency and Renewable Energy Strategies and Technologies

- Removing the Barriers – Towards Advancing the Renewable Energy Sector – Policies and Strategies to Promote Renewable Energy Development and Deployment
- Power Sector Restructuring Policies that can Influence Renewable Energy Development
- Distributed Generation Policies that can Influence Renewable Energy Development

Module 4: Developing Energy Efficiency and Renewable Energy Policies and Action Plans – Advancing the EE and RE Agenda of Countries

- Key elements of national renewable energy policies
- Key elements of national energy efficiency policies
- Renewable energy indicators and targets
- Energy efficiency indicators and targets
- Developing individual country policies
- Developing individual country action plans

Module 5: Train the Trainer

- Tips to Implement the Course as a Train-the-Trainer Model
- Facilitation Skills
- Training Methods and Materials

Course Delivery

The course was delivered over the period October 14 to 16, 2013.

Total number of who successfully completed the training was 17.

Delivery Methodologies

All participants were provided with a Training Manual. A variety of learning delivery and assessment methodologies were employed, in an attempt to enable the course to be participatory and interactive and to allow participants to effectively assimilate the new ideas and learning. Importantly, emphasis was placed on adult learning methodologies and over the duration of the course there were a combination of:

- Lectures
- Analysis of Case studies and class discussions of illustrative case studies
- Group Discussions
- Individual and group work/assignments
- Oral and written presentations
- Individual readings outside of the classroom (in preparation for upcoming modules)

Assessment Methodologies

Participants were required to undertake pre - and post-tests (note that the questions of the pre and post test were the same and this method is usually used to assess how much the participant knew before the training and how the training built their capacity).

Participants



A total of 19 persons benefitted from the training. Participants were from 6 Caribbean countries, namely: Guyana, Saint Lucia, Grenada, Trinidad & Tobago, Curacao and Saint Vincent & the Grenadines. It should be noted that due to a religious In Guyana on the last day, some participants were unable to attend that day.

Using the UN Gender Marker of 1 this translates into:

	Total Males	Total Females
Course	11	8

Both males and females were given equal opportunity to attend the training and countries were able to nominate either male or female participants to attend the training. The selection of participants by countries would have been based on the proposed target groups for the training as indicated in the course curriculum. The venue for the delivery of training was the Cara Hotel in Guyana.

The participants and the organizations they represent are presented in the tables below. Note that many of the participants were from Guyana and this is due to the fact the workshop was held in Guyana.

Name	Position	Country
Thyrone Magloire	Senior Policy Advisor, Ministry of Economic Development	Curaçao
John Anthony Auguste	Senior Energy Officer, Ministry of Finance and Energy	Grenada
Onika Baptiste	Engineer, Ministry of Agriculture	Guyana
Brian Constantine	Energy Engineer, Guyana Energy Agency	Guyana
Leon DeSouza	Energy Engineer, Guyana Energy Agency	Guyana
Kamal Haricharan	Director - Facilities Management, Georgetown Public Hospital Corporation	Guyana
Gavin Gibson	Solar Manager, Gafson's Industries	Guyana
Deonarine Jagdeo	Deputy Director - Technology, Institute of Applied Science and Technology	Guyana
Dolwin Khan	Hydropower Support Engineer, Guyana Energy Agency	Guyana
Kiran Mattai	Legal Officer, Guyana Energy Agency	Guyana
Shevion Sears	Public Relations Officer, Guyana Power and Light	Guyana
Winston Setal	Hydropower Support Engineer, Guyana Energy Agency	Guyana
Horace Williams	Chief Executive Officer, Hinterland Electrification Unit,	Guyana
Latoya Williams	Public Communications Officer, Guyana Energy Agency	Guyana
Shevon Wood	Economist, Guyana Energy Agency	Guyana
Shereeda Yusuf	Technical Officer, Office of Climate Change	Guyana
Ken Aldonza	Energy Officer III, Ministry of Sustainable Development Energy Science and Technology	Saint Lucia
Ellsworth St Clair Dacon	Director of Energy, Energy Unit, Ministry of National Security, Air and Sea Port Development	St. Vincent and the Grenadines
Anita Margaret Hankey	Senior Planning Officer, Ministry of Energy and Energy Affairs	Trinidad and Tobago

Course Evaluation

The course evaluation form is presented in Appendix 1. At the end of the course, participants were provided with a course evaluation form to complete. Twelve participants completed the evaluation form. The results of the evaluation are presented below. Participants were asked to respond to ten questions.

Course Rating

Overall 83% of the participants who participated in the evaluation rated the course as very good, with 17% rating it as excellent. Some comments expressed by the group with respect to the training are presented below:

- The programme was very informative and educational. I would recommend a follow-up session for continuity.
- Use of computers for input and analysis of data would have been useful

Pre-Training Communication, Registration, Meals and Training Facilities Rating

The table below shows how the participants rated pre-training communication (invitation letters etc), registration meals and the training facilities. 83% of participants rated the pre-training communication as either excellent or very good, 58% of participants rating the facilities where the training was as either excellent or very good.

Elements	Rating (%)				
	Excellent	Very Good	Good	Average	Poor
Pre-training communication	25	58	17		
Registration	50	42	8		
Meals	8	50	42		
Workshop Facilities (including layout and room temperature)	8	50	42		

Rating of Content of the Training Programme and Methodology Used

100% of participants rated the course content as either excellent or very good, while 92% rated the manual as either excellent or very good. 92% of participants rated the discussion as either excellent or very good. while 67% rated the lectorettes as either excellent or very good.

Elements	Rating (%)				
	Excellent	Very Good	Good	Average	Poor
Course Content	42	58			
Training Manual	34	58	8		
PowerPoint Presentations	17	42	41		
Lecturettes	25	42	33		

Elements	Rating (%)				
	Excellent	Very Good	Good	Average	Poor
Group Exercises and Activities	34	58	8		
Discussions	42	58			
Video on Energy from GEA	17	33	42	(non response 2)	

Lessons Learned

Some of the lessons learned listed by participants included:

- How to draft an energy policy
- Lessons and experiences from other countries
- Experiences with Caribbean countries with respect to RE technologies
- Better understanding of policy and its importance
- Issues that need to be taken into account in policy development
- Key strategies to overcome barriers to renewable energy
- Tools for developing policy and strategic framework
- Unbundling of generation, transmission and distribution
- Concepts on RE and EE

Most Relevant Session

Participants listed the most relevant session/s as:

- Barriers to implementation of RE and EE
- The use of RE
- Key strategies that can be pursued to advance renewable energy and EE strategies
- Other country energy policies and action plans
- Development of renewable energy policy
- Methodology for developing an energy policy

Rating of Facilitator

This course was largely facilitated by Elizabeth Emanuel, and her presentation and discussions were supported by Mr. Willard Phillips of ECLAC. Mr. Phillips also played a key role in probing issues presented by participants and oftentimes presented a range of economic perspectives on issues being discussed. The rating of the lead facilitator is presented in the table below. 100% of participants rated the lead facilitator, Elizabeth Emanuel as either excellent or very good.

Elements	Rating (%)				
	Excellent	Very Good	Good	Average	Poor
Elizabeth Emanuel	33	67			

Additional Information or Follow-up Training

Participants indicated that they would like additional information or follow-up training in the following areas:

- Policy development
- Conducting energy audits
- Renewable energy policies in agriculture
- RE legislation around the Caribbean

Overall Results of Pre and Posts Tests

Pre and post tests were provided to participants. The pre-test consisted of twenty questions and tested participants' knowledge of renewable energy technologies, energy efficiency as well as innovative tools and techniques necessary for deploying RE and EE technologies in countries. Note that the pre-test and post-test is the same. The post-test is designed to determine how much participants actually learnt during the course. Appendix 2 contains the pre- and post- tests. The results of the pre and post tests are presented below.

The results of the pre and post tests are as follows:

- The average score on the pre-test – 65%
- The average score of post-test – 90%
- The highest score on the pre-test was 85%
- Highest score on the post test was 100%
- On average most persons increased their score by about 30%

Appendix 1:

Workshop Evaluation

Innovative Fiscal and Regulatory Incentives for Energy Efficiency and Renewable Energy Initiatives

1. Overall I would rate this training programme as:

- a. Excellent
- b. Very Good
- c. Good
- d. Average
- e. Poor

Any other comments?

2. How would you rate the following: (Place a tick in the appropriate box)

Elements	Rating				
	Excellent	Very Good	Good	Average	Poor
Pre-workshop communication					
Registration					
Meals					
Workshop Facilities (including layout and room temperature)					
Accommodation					

Any other comments?

3. How would you rate the content of the training programme and the methodology used?
(Place a tick in the appropriate box)

Elements	Rating				
	Excellent	Very Good	Good	Average	Poor
Course Content					
Training Manual					
PowerPoint Presentations					
Lecturettes					
Group Exercises and Activities					
Discussions					
Videos					

Any other comments?

4. Overall, I would rate the facilitators:

Elements	Rating				
	Excellent	Very Good	Good	Average	Poor
Elizabeth Emanuel					

Any other comments?

5. What are some lessons that you learned here that are of practical use as take-away from this workshop? (Actual tools, ideas, techniques and concepts)

6. What was the most relevant aspect/session to you?

7. What was the least relevant aspect/session to you?

8. Is there a particular area/subject you would like to know more about?

9. I would suggest the following improvements to the training programme:

10. I would like follow-up training in the following topic/areas:

Appendix 2:

Pre-Test

1. CARICOM has a regional energy policy.
 - Yes
 - No
 - Not sure

2. Renewable energy sources include all of the following except: (Select one)
 - Solar
 - Wind
 - LNG
 - Biomass

3. The terms energy conservation and energy efficiency have same meaning.
 - True
 - False

4. In 1998 to 2007, renewable energy sources contributed to ----- of the total primary energy consumed by CARICOM countries.
 - 5%
 - 9%
 - 15%

5. Energy use and consumption can result in all of the following direct impacts except:
 - Air pollution
 - Global warming
 - Human health effects
 - Loss of beaches

6. Renewable energy has no negative environmental impacts.
 - True
 - False

7. The electricity market in the Caribbean comprises:
 - All state-owned utilities
 - All private or partially private utilities
 - A mixture of state-owned and private utilities

- A mixture of state-owned and private or partially private utilities
8. Energy use is measured in kWh. What is the correct formula to calculate the amount of energy used by an appliance in one year?
- watts x hours used per day x days used per year
 - watts x hours used per day x days used per year / 1000
 - watts x hours used per day / 1000
9. Is an energy audit the same as an energy management programme?
- Yes
 - No
10. Visual pollution is sometimes noted as a barrier to which of the following?
- Renewable energy solutions
 - Energy efficiency solutions
11. Policies and strategies whose specific goal is to promote renewable energy fall into three main categories. Which one of the following is **not** one of these categories?
- Price-setting and quantity-forcing policies
 - Awareness-raising policies
 - Investment cost reduction policies
 - Public investments and market facilitation activities
12. An example of an economic barrier for renewable energy (RE) is:
- Lack of access to some of the new and emerging RE technologies
 - Lack of skilled manpower and training facilities
 - Energy policies that do not effectively take into account fiscal and regulatory barriers
 - Unfavourable costs, taxes, subsidies and energy prices
13. Electricity Feed-in Laws are an example of a regulatory incentive.
- True
 - False
14. Net metering allows:
- Entities that generate electricity to sell electricity to the national grid only
 - Entities that generate electricity to buy electricity from the national grid only

- Entities that generate electricity to buy electricity from and sell electricity to the national grid
15. If personal income tax incentives are in place to promote renewable energy (RE), taxpayers can deduct the interest paid on loans for RE equipment.
- True
 - False
16. Efforts to integrate biodiesel use into the fuel mix of a country could be a strategy for which of the following?
- A renewable energy policy
 - An energy efficiency policy
17. Which statement is true regarding a SWOT analysis?
- Strengths and Opportunities address internal factors, Weaknesses and Threats address external factors
 - Strengths and Weaknesses address internal factors, Opportunities and Threats address external factors
18. Energy intensity is usually used as an indicator for which of the following?
- Renewable energy policies
 - Energy efficiency policies
19. Developing an energy action plan should include identification of all of the following except: (Select one)
- Strategies
 - Indicators
 - Costs
 - Targets
20. A good facilitator does all of the following except: (Select one)
- Allows silence during a session
 - Provides all the information to participants
 - Encourages participation by each individual present
 - Enables the group to enjoy being together

