

An assessment of fiscal and regulatory barriers to deployment of energy efficiency and renewable energy technologies in Guyana

Devon O. Niel Gardner
Dillon Alleyne
Charmaine Gomes



UNITED NATIONS

E C L A C



**german
cooperation**

DEUTSCHE ZUSAMMENARBEIT

An assessment of fiscal and regulatory barriers to deployment of energy efficiency and renewable energy technologies in Guyana

Devon O. Niel Gardner
Dillon Alleyne
Charmaine Gomes



The views expressed in this document, which has been reproduced without formal editing, are those of the authors and do not necessarily reflect the views of the Organization.

United Nations Publication
ISSN 1727-9917
LC/L.3755
LC/CAR/L.406
Copyright © United Nations, February 2014. All rights reserved
Printed in United Nations, Santiago, Chile

Member States and their governmental institutions may reproduce this work without prior authorization, but are requested to mention the source and inform the United Nations of such reproduction.

Contents

Abstract	7
I. Introduction	9
A. Context	9
B. Background	10
1. Oil imports	12
2. Electricity	14
3. Transport	15
4. Renewable energy	15
5. The business economy	16
II. Methodology	17
1. Desk assessment.....	17
2. Analyses	18
3. Stakeholder consultations and dialogues.....	18
III. Identification of barriers to implementation of renewable energy technologies	21
A. Preamble.....	21
B. Overview of main findings.....	21
C. Electricity	23
1. Barriers impacting on the use of renewable energy technologies	23
2. Barriers specific to large renewable energy systems.....	24
3. Barriers specific to micro and small renewable energy systems	25
4. Barriers specific to avoided generation systems	25
D. Transport	26
1. Barriers affecting energy efficient vehicle technology	26
2. Barriers specific to efficient energy use in domestic transport	26
3. Barriers specific to efficient energy use in public transport and freight services	27
4. Barriers specific to efficient energy use in maritime transport	27
IV. Identification of barriers to implementation of energy efficient measures	29
A. Preamble.....	29

B.	Overview of main findings.....	29
C.	Electricity	30
1.	Barriers affecting implementation of energy efficiency measures	31
2.	Barriers specific to energy efficiency in generation, transmission and distribution.....	32
3.	Barriers specific to energy efficiency in industrial and large commercial applications.....	32
4.	Barriers specific to energy efficiency in small commercial and domestic applications	32
D.	Transport	33
1.	Barriers affecting energy efficient vehicle technology	33
2.	Barriers specific to energy efficient use in domestic transport	33
3.	Barriers specific to efficient energy use in public transport and freight services	34
4.	Barriers specific to efficient energy use in maritime transport	34
V.	Benchmarking and quantitative aspects	35
VI.	Recommendations	37
A.	Renewable energy	37
1.	Revise and update the National Energy Policy (NEP) for Guyana	37
2.	Establish a standing committee of inter-agency operatives for coordinating energy planning issues among government ministries and agencies	38
3.	Strengthen the capacity and mandate of the Guyana Energy Agency	38
B.	Energy efficiency	40
1.	Integration of energy efficiency into public procurement regulations	41
2.	Introduction of minimum energy performance (MEP) standards for buildings, equipment, appliances and vehicles.....	41
3.	Energy service companies (ESCO) financing for energy efficiency.....	42
C.	Progress and next steps	43
VII.	Conclusions	45
Annexes		49
Annex 1	PetroCaribe Agreement.....	50
Annex 2	Guyana primary energy consumption by type	51
Annex 3	Model for inundation of north coast from sea level rise, Guyana	52
Annex 4	Ease of doing business - Guyana.....	53
Annex 5	The Guyana Energy Agency (GEA)	54
Annex 6	Stakeholder consultations.....	56
Studies and Perspectives series - The Caribbean: issues published		58
Tables		
TABLE 1	GUYANA OIL IMPORT TRENDS	14
TABLE 2	PROJECTED GLOBAL LEVELIZED AVERAGE COST OF POWER PLANTS ENTERING SERVICE IN 2017	46
TABLE A.1	GUYANA PRIMARY ENERGY CONSUMPTION BY TYPE	51
TABLE A.2	EASE OF DOING BUSINESS - GUYANA.....	53

Figures

FIGURE 1	ENERGY INTENSITY FOR CARICOM STATES	12
FIGURE 2	CRUDE OIL PRICES (IN DOLLARS AND EUROS) DECEMBER 1998-DECEMBER 2012	13
FIGURE 3	DEMAND REDUCTION THROUGH ENERGY EFFICIENCY	41
FIGURE 4	VARIOUS PATHS OF ENERGY FROM SOURCE TO SERVICE; LINES INDICATE POSSIBLE ENERGY PATHWAYS	47

Diagrams

DIAGRAM 1	METHODOLOGY PATHWAY	19
DIAGRAM 2	GEB GRADING TOOL FOR PUBLIC PROCUREMENT BENCHMARKING	36

Maps

MAP 1	SOLAR INSOLATION MAP: CENTRAL AMERICA AND THE CARIBBEAN	11
MAP A.1	PROJECTION SHOWING INUNDATION OF COASTLAND AT MINIMUM AND MAXIMUM STORM SURGE IN 2031	52

Abstract

Guyana, like many CARICOM countries continues to depend on imported oil that fuels the electricity and transport sectors. Simultaneously, the high level of expenditure on oil reduces the financial resources available to invest in social development, environmental protection, adaptation to climate change and improving food security. The electricity sector in Guyana, in particular, offers significant opportunities for achieving reductions in fossil imports. However, fiscal and regulatory barriers to energy efficiency and renewable energy use are apparent in Guyana.

This document seeks to identify these barriers and propose strategies that may be utilised to remove them. Consultations were held with experts from the energy agency as well as the ministries of finance and utilities in order to obtain data and information that will inform the analysis. It was found that an increasing demand for reliable, cost effective, accurately priced energy supplies is a major challenge to sustainable economic development in Guyana and the country experiences difficulties in accessing capital especially for smaller firms and lower to middle income households. The limited knowledge of the technical risks associated with renewable energy and energy efficiency projects limit local investments and opportunities for foreign capital and are affected by high

预览已结束，完整报告链接和二维码如下：

https://www.yunbaogao.cn/report/index/report?reportId=5_1026

