

PROJECT DOCUMENT

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

**Energy efficiency policies in the Caribbean:
a manual to guide the discussion**

Sergio Guerra



Energy efficiency policies in the Caribbean: a manual to guide the discussion

Sergio Guerra



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.

Contents

Abstract.....	5
Introduction.....	7
I. Energy matrix in Latin American countries.....	9
II. Facts about the energy matrix in Caribbean countries.....	11
A. Most Caribbean countries are net energy importers.....	13
B. Most energy imports come from oil products.....	14
C. There are inefficiencies in the electricity generation process.....	14
D. Energy losses in the Caribbean are greater than in Latin America.....	15
E. Other sources of information.....	16
F. Closing remarks.....	17
III. Energy efficiency policies in the Caribbean.....	19
A. Typology of energy efficiency policies.....	21
1. Cross sectoral (or transversal policies).....	21
2. Appliances and equipment policies.....	22
3. Lighting policies.....	22
4. Building policies.....	22
5. Transport policies.....	23
6. Industry policies.....	23
B. Behavioral nudges to enhance energy efficiency policies.....	24
IV. What might be hindering the adoption of energy efficiency policies in the Caribbean?.....	27
A. The case of competing needs.....	27
1. Provision of primary infrastructure over time.....	27
2. Primary infrastructure relative to Latin America.....	29
B. Debt overhang hypothesis.....	33
1. Debt levels over time.....	34
2. Debt levels and international standards.....	35
3. Debt level relative to Latin America.....	37
4. Debt level and debt sustainability.....	38
V. Conclusions.....	39

Bibliography	41	
Annexes	43	
Annex 1 Renewable energies in the Caribbean Region	44	
Annex 2 Extensive representation of the energy matrix for some Caribbean countries (based on Espinasa (2015))	45	
Annex 3 Caribbean countries: relevant data	49	
Annex 4 Energy insights for Caribbean countries	58	
Tables		
Table 1	Energy composition of Caribbean countries, 2011	16
Table 2	Energy efficiency programs and policies in the Caribbean countries	20
Table 3	Selected debt variables in the Caribbean compared with Latin American region	37
Table 4	Debt sustainability in Caribbean countries	38
Figures		
Figure 1	Latin America energy matrix, 2012	9
Figure 2	Primary supply of energy in Latin America, by source	10
Figure 3	Primary supply of energy in the Caribbean, by source	12
Figure 4	Primary energy supply in terms of local consumption, circa 2012	13
Figure 5	Net imports of oil products relative to total energy consumption, circa 2012	14
Figure 6	Energy used in the production of electricity relative to total energy consumption, circa 2012	15
Figure 7	Energy losses during the production of electricity, circa 2012	16
Figure 8	Provision of primary infrastructure over time. Selected indicators	28
Figure 9	GDP per capita and access to sanitation facilities	30
Figure 10	GDP per capita and access to drinking water	31
Figure 11	GDP per capita and access to electricity	32
Figure 12	Selected health and education variables in the Caribbean compared with Latin American region	33
Figure 13	Debt-to-GDP ratio in the Caribbean (1990-2012)	34
Figure 14	General government gross debt (% of GDP)	35
Figure 15	Total reserves in months of imports, circa 2013	36
Figure 16	Debt services over total exports, 2013	37
Figure A.1	Index of renewable energy (IR) for the Caribbean countries, 2011	44
Figure A.2	Bahamas energy matrix in 2008	45
Figure A.3	Barbados energy matrix in 2010	45
Figure A.4	Belize energy matrix in 2010	46
Figure A.5	Guyana energy matrix in 2010	46
Figure A.6	Jamaica energy matrix in 2013	47
Figure A.7	Suriname energy matrix in 2010	47
Figure A.8	Trinidad and Tobago energy matrix in 2013	48
Boxes		
Box 1	Does better information lead to better choices? Evidence from energy efficiency labels	24
Box 2	The persistence of moral suasion and economic incentives: field experimental evidence from energy demand	25
Box 3	Opower: evaluating the impact of home energy reports on energy conservation in the United States	26

Abstract

This paper was prepared to guide the first session of the training workshop Introduction to Financial Feasibility Assessment of EE and RE Projects in the Caribbean. We explore two potential reasons that might be hindering the adoption of energy efficiency policies in the Caribbean. The first reason is related to the availability of primary infrastructure. Countries with deficits on their primary infrastructure might not consider energy efficiency policies as a priority for a national discussion. The second reason is debt overhang. In this type of scenario, countries might be dissuaded to conduct new investments since earnings/savings from projects would go directly to debt holders. Having a clear understanding of a country's macro environment and its competing needs is an important preliminary step before promoting energy efficiency projects. Evidence suggests that debt overhang is the most likely reason to explain the lack of adoption of energy efficiency policies. Given this result the Caribbean region could take advantage of international initiatives that mobilize funds to promote climate-sensitive investments.

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_807

