

# CARICOM Regional Organization for Standards and Quality



## Regional Quality Infrastructure (RQI) in Energy Road Map

2020 to 2030<sup>1</sup>

CEO CROSQ  
January 2020

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<sup>1</sup> First edition was the 2017 to 2030 period. This Strategy is updated every three years to 2030, but Table 1 is updated generally at least every six months.

# **The Importance of Regional Quality Infrastructure (RQI) to the Development and Promotion of: Regional Energy Efficiency, Energy Conservation and Renewable Energy Initiatives**

## **1. Drivers of Transformational Change**

The 15 Member States<sup>2</sup> of the Caribbean Community (CARICOM) are mostly Small Island Developing States (SIDS) which exhibit unique characteristics, including varying topographies, limited or absent natural resources, small populations and fragmented markets with various energy product specifications.

Despite their diversity, CARICOM Member States share many challenges in the energy field:

- High dependency on imported fossil fuels for covering energy demand (with the exception of Trinidad & Tobago).
- High vulnerability to climate change.
- Increasing electricity consumption and a widening demand-supply gap in urban areas.
- Lack of access to modern, reliable and affordable energy services is a challenge in some Caribbean countries (Haiti, Guyana, Suriname, and Belize).
- High unexploited energy efficiency potential. Low energy efficiency in power generation, transmission, distribution, buildings, electrical appliances, and industrial processes which result in power cuts and load shedding in some countries of the region. In some countries, grid losses amount up to 40%.
- Power market structures that are under-regulated and lack diversity. Single vertically integrated utilities, with monopoly control over generation, transmission and distribution of electricity, exist in the majority of countries in the region: Many utilities are government-owned and some are unable to finance the investments that are necessary for in generation upgrade and expansion and grid improvements, which leads to issues in the reliability and stability of power systems within the region.
- Market failures for energy efficiency within the region. Distortions within the markets for energy efficiency pervade within CARICOM countries and, thus far, initiatives have mostly been project-focused. An overall enabling environment that finds the right mix of policies and market promotion incentives that are capable of supporting country level energy efficiency strategies is mostly absent.

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<sup>2</sup> Antigua and Barbuda, Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, Saint Lucia, St Kitts and Nevis, St Vincent and the Grenadines, Suriname, Trinidad and Tobago.

- Lack of independent statutory regulatory authorities for the electricity sector in many countries.
- Relatively high electricity prices that represent a burden for the economy on the whole as well as private households eroding competitiveness in the region.
- Increased awareness of the energy sector in all countries of the region.

Based on the aforementioned overall trends, it becomes apparent that by systematically implementing energy efficiency measures as a demand side resource strategy<sup>3</sup> and renewable energy measures as a supply side resource strategy<sup>4</sup>, CARICOM Member States would have powerful opportunities to reduce their fuel consumption, diversify sources of supply, improve energy security, lessen dependence on imported fuels, cut electricity prices, promote clean economic growth, and mitigate greenhouse gases. In short, improve accessibility, affordability, reliability, efficiency and cleanliness in an environment marked by legal certainties that would encourage innovation and investment.

Development of energy efficiency and renewable energy potential is also interrelated with a broad range of positive social impacts for example increased affordability of energy for low-income groups through the reduction of electricity prices in the long-term, improved financial and therefore sustainability position of utilities, increased competitiveness of firms, reduction of night crimes via improved lighting and other safety modalities and the creation of green jobs.

## 2. CARICOM Energy Policy

Approved by Regional Energy Ministers in 2013, the **CARICOM Energy Policy (CEP)** promotes a shift to sustainable energy through increased use of renewable energy sources and improvements in energy efficiency.

Section five (5) of the Policy and other areas directs attention to the role and importance of the **RQI** (standards, technical regulations, metrology, accreditation, conformity assessment, information and awareness) - as shown by the quoted areas below, with special attention on the italics:

- *Promote energy conservation, energy efficiency, reductions in energy intensity and establish appropriate measurement and monitoring standards and guidelines adopted at a regional level*
- *Promote energy saving measures through introduction of fiscal and other incentives*
- *Implement intensive energy saving and energy efficiency programmes, to include:*
  - *(i) energy audits of residential, commercial, public and industrial properties;*
  - *(ii) energy management guidelines;*
  - *and (iii) retrofitting*
- *Develop regional public sector energy efficiency programmes*

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<sup>3</sup> Energy efficiency, energy conservation, demand response management (load shifting, smart metering etc), customer sited distributed generation etc

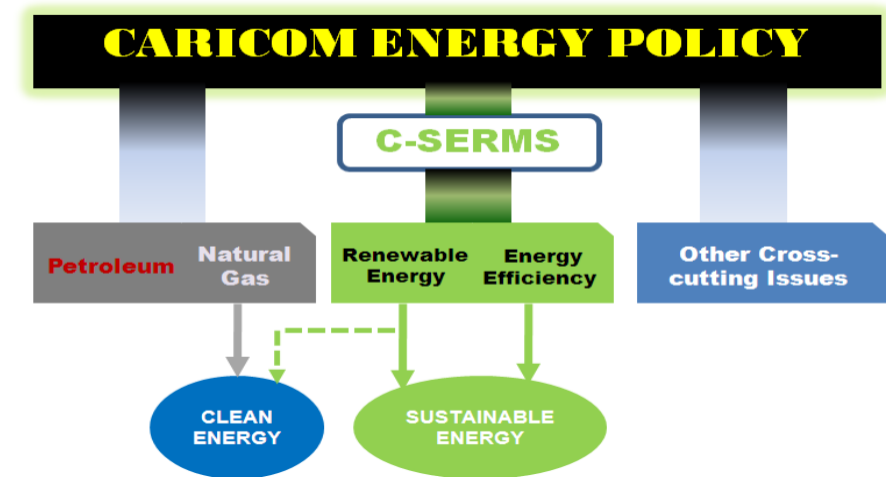
<sup>4</sup> Utility scaled power generation as alternates to fossil fuel e.g. thermal, hydro, wind, sun, ocean (waves, pressure, temperature), bio, hybrids

- *Promote energy efficiency, renewable energy and sustainable “green” design features in the design, construction, refurbishment and upgrade of public, commercial and residential buildings through building codes*
- *Establish regional energy efficiency institutional networks and energy efficiency testing facilities*
- *Set minimum efficiency standards that require electric utility and electricity producers to decommission inefficient generating equipment and conduct Demand Side Management programmes*
- *Establish national and regional training programmes in energy auditing, energy efficiency and conservation, and other relevant disciplines*
- *Establish a regional collaboration mechanism with CROSQ for the creation and implementation of standards and labelling for energy consuming equipment, electrical appliances and vehicles and adopt and enforce such strategies at a national level, to include active encouragement for the use of energy efficient appliances and lighting*
- Enact energy efficiency legislation [ including WTO compliant Technical Regulations]
- Introduce regulations and fiscal incentives to encourage the use of SWH
- Support the development and implementation of a Regional Strategy on Energy Efficiency
- Identify those specifications for petroleum products that can be standardized;
- Adopt such standards that include product quality, performance, health and safety and environmental protection;
- Develop and implement regulations to give legal force to standards;
- Require that producers and retail suppliers of petroleum derivatives, including gasoline, comply with standards regarding grade and rating and that retailers post the grade and rating to ensure that consumers are informed;
- Regulate the sulphur content in diesel produced or imported to bring it in line with international best practice;
- Phase out the use of MTBE as an oxygenate for gasoline; and
- Strengthen the capacity of the regulatory authority to monitor and enforce standards and regulations for petroleum specifications.
- Promote the use of fuel efficient vehicles through public awareness campaigns and/or labelling schemes on fuel efficiency and correlate vehicle import taxes to fuel consumption;

### 3. CARICOM Energy Roadmap and Strategy

The **Caribbean Sustainable Energy Roadmap and Strategy (C-SERMS)**, also approved in 2013, provides the basis for a more targeted approach to advancing sustainable energy development under the regional policy and in so doing, acts as a framework for articulating, monitoring and adjusting regional-level strategies, and for securing commitments from Member States towards achievement of the targets that are established.

Through the CEP and the C-SERMS, *the region has already begun to address* the planning and innovation needs of the entire energy system. The planning and management required to support the C-SERMS is being undertaken through a **C-SERMS Platform**, which constitutes a wide cross-section of regional energy sector stakeholders:



#### CARICOM Energy Roadmap and Strategy Implementation

Throughout this C-SERMS Platform, quality infrastructure in all its forms underpin many of the initiatives currently being implemented, a sampling of which was highlighted in the aforementioned *italics*.

In implementing this C-SERMS platform, four Working Groups have been established:

- i. Policy and Regulations [and Standards]
- ii. Capacity Building and Research
- iii. Information and Knowledge Management
- iv. Finance

CROSQ will be participating in the following Working Groups:

- Policy and Regulations [and Standards] Group - two priority areas to be focused on are Transportation and Quality Infrastructure. It is anticipated that CROSQ will play a key role in the latter priority.
- Capacity Building and Research Group – leading a subgroup which is tasked with the responsibility of incorporating quality in the curriculum of the Caribbean Vocational Qualification (CVQ ) Training for Technicians in installing SWH and PV panels.

The critical factors for success in regards the implementation of the C-SERMS are the following, and once again, Quality Infrastructure is named as a key enabler of performance:

- Policy, strategy, integrated resource planning and action at both the national and regional levels
- Understanding the following key sector needs and energy efficiency and renewable energy solutions : buildings, appliances, transport and industry
- Information and knowledge management : especially statistics that are reliable, traceable, accessible and affordable to access at both the national and regional level
- National and regional investments : innovative financial instruments, public-private partnerships, market incentives, Energy Service Company (ESCO) modelling, Independent Power Producers / Grid Integration etc
- National and regional quality infrastructure support in respect of quality and measurement standards and quality assurance schemes : fit-for-purpose, design, procurement, building capacity, energy trading, research and development, interoperability, health and safety, interchangeability etc
- Advocacy for cause at both the national and regional level; and especially the former
- Human Resource capacity development

The **CARICOM Secretariat - CARICOM Energy Programme Unit (CS-CEPU) established in 2013/14** in the CARICOM Secretariat (CS) in Guyana and the **2016/17 establishment of the Centre for Renewable Energy and Energy Efficiency (CCREEE)** based in Barbados are the primary institutional drivers for the CEP and C-SERMS; with the CS focusing on Policy, Programme and Project Design, international and regional Networking, and Resource Mobilization; and the CCREEE focusing on Programme, Project and Regulatory / Market Incentive implementation. CROSQ is considered as one of the official Implementation Partners / Hubs for CCREEE and is recognized as the Quality Infrastructure in Energy Efficiency and Renewable Energy arm of CCREEE with an MOU to be effected later in 2020.

While there are targets and strategies for **renewable energy generation** at a regional level (2017 (20%)<sup>5</sup>, 2022 (33%) and 2027 (47%)), there is now approved targets for **energy efficiency** and strategies as per a recently completed consultancy by the CARICOM energy Programme.

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<sup>5</sup> Actual renewable portfolio to 2017 is 10%

## 4. CARICOM Energy Programme and CROSQ Joint Initiatives

CROSQ's Energy Programme is guided by the CARICOM Energy Unit in alignment with the CARICOM Energy Policy and the CSERMS. To achieve its objectives in this regard CROSQ has developed strategic alliances with GIZ<sup>6</sup> (a partner of the CARICOM Energy Unit) and reinforced its collaboration with PTB<sup>7</sup>, a long-time collaborator of CROSQ. CROSQ has also actively seeking to build a relationship with the Caribbean Centre for Renewable Energy and Energy Efficiency which is a new agency created to serve as the implementation arm of the CARICOM Energy Unit. Through collaboration with these agencies CROSQ has successfully completed the following Projects:

### a) Development of Regional Energy Efficiency Building Code (REEBC)

CROSQ completed the development of a regional energy efficiency building code; and submitted to the COTED's<sup>8</sup> for approval in April 2018. This exercise commenced in late 2015 where two consultancies were initiated to inform the development of the code:

- i. Minimum Energy Performance Standards for Various Categories of Buildings
- ii. The Development of an Energy Efficiency Building Code: Way Forward

The Regional Project Team (RPT) tasked with the responsibility of developing this regional energy efficiency building codes was established and launched in Jamaica at the end of March 2017. A consultant was recruited to make recommendations for the development of the code. The RPT worked alongside the Consultant towards the development of the code by the November 2017. The project was directly supported with resources of the CS-CEPU and GIZ.

### b) Strengthening of Regional Quality Infrastructure in the Areas of Renewable Energy and Energy Efficiency for Electrical Appliances (R3E Project)

The R3E Project was approved in March 2016 and was implemented over a period of three years ending in July 2019. The Project was funded by the federal government of Germany through the International Cooperation Department of the German Metrology Institute (PTB) for an amount of €1,000,000. The Project was jointly implemented by the Quality Institute of the Dominican Republic (INDOCAL) and CROSQ. This initiative complements the Regional Energy Efficiency Building Code (REEBC) Initiative.

The objectives of the R3EProject were to increase regionally available services of quality infrastructure in the Caribbean for the use of energy efficient electrical appliances and renewable energy technologies. The flagship of the Project was the Piloting of a Regional Harmonised Energy Efficiency Labelling Scheme to include Belize, Saint Lucia, Jamaica and Trinidad and Tobago.

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<sup>6</sup> The Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH or GIZ in short, is a German development agency that provides services in the field of international development cooperation

<sup>7</sup> The Physikalisch-Technische Bundesanstalt (PTB) is the national metrology institute of the Federal Republic of Germany

<sup>8</sup> CARICOM Council for Trade and Economic Development

This scheme was launched in July 2019. The Project acknowledge the following highlighted output as contributors which facilitated towards the successful launch of the Scheme.

- i. Development and approval by COTED of regional energy efficiency standards with minimum energy performance standards for lighting, air conditioners and refrigerators
- ii. Development of a conformity assessment framework for energy efficiency to support the standards developed above to include provision of training in energy efficiency testing in refrigerators and air conditioners for Jamaica and energy efficiency testing in lighting equipment for Trinidad. These two countries have agreed to become Centres of Excellences in providing these services to the region.
- iii. Increased consciousness of consumers / entrepreneurs / decision-makers/regulators for the importance of quality infrastructure for energy efficiency and renewable energies
- iv. Design and consensus of a harmonised energy label for the highlighted appliances.

CROSQ has been successful in 2019 in securing new three new energy initiatives to support advancing the progress made in the previously highlighted Labelling Scheme and the Regional Energy Efficiency Building Code:

**a) Quality for Sustainable Energy in the Caribbean (QSEC)**

This project is the successor project to the R3E Project. The Project is funded by the Federal Republic of Germany through the International Cooperation Department of the German Metrology Institute (PTB). The QSEC will be implemented over a period of three years and is funded for one million euro. The Project seeks to build on the success of the R3E Project by developing a functional model of an energy efficiency labelling scheme. Some expected deliverables of the Project include:

- Accreditation of laboratories for energy efficiency in select member states where centres of excellence will be established
- Development of a database which will serve to provide testing information to stakeholders
- Provision of equipment. The Project has a small budget for equipment which is anticipated may not be adequate to provide the necessary equipment to conduct testing.
- Development of procedures manual at the regional and national level with formalised and standardised procedures which will guide member states in the implementation of the scheme

**b) Technical Assistance Programme for Sustainable Energy in the Caribbean (TAPSEC)**

This Programme is funded by the European Union under the 11 EDF Project. The Programme is administered by GIZ under guidance of the CARICOM Energy Unit.



The TAPSEC CROSQ component will be implemented over a period of eighteen months and seeks to give director support to the Labelling Scheme and Regional Energy Efficiency Building Codes through:

- Development of roadmap in member states to facilitate member states in preparation for implementation of the Labelling Scheme and the Codes. This activity will include the assessment and determination of member states to implement the initiatives and recommendation to take member states to the point of readiness.
- Provision of training on the Regional Energy Efficiency Building Codes – this training will be executed in two areas. The first area will be a train the trainer directed at industry professional. This training will be conducted over a period of three days. This training will focus on Code Essentials – Residential and Commercial Requirements and Ashrae Compliance. The second training will be held over two days and will take the form of certification course for inspectors. This activity will be implemented in under the advisement of the Caribbean Centre for Renewable Energy and Energy Efficiency.
- Design and production of promotional material – the design of promotional material will be guided by the CROSQ Energy Promotional Plan as developed under the Energy for Sustainable Development Project.

#### **c) Energy for Sustainable Development (ESD) Project**

The CARICOM Community Centre for Climate Change (CCCCC) is implementing a Project funded by the United Nations Environment Programme Global Environment Fund. The Project is entitled Energy for Sustainable Development in Caribbean Building (ESD) Project. The Project works with five countries regionally which are Saint Lucia, Antigua and Barbuda, Belize, Grenada and Saint Vincent in achieving its objectives. The CCCCC and CROSQ in December 2017 signed a Memorandum of Agreement in the amount of \$180,250 United States dollars for the *Development of and Support for the adoption and application of the Regional Energy Efficiency Building Code (REEBC), and Minimum Energy Performance Standards (MEPS) and Energy Standards and Labelling (ES&L) for Electrical Appliances, in Antigua & Barbuda, Belize, Grenada, St. Lucia and St. Vincent and the Grenadines, as the Participating Member States in the Energy for Sustainable Development (ESD) in Caribbean Buildings Project*. Under the terms of the Agreement CROSQ received a first tranche of funds in the amount of \$90,125 United States Dollars which was utilised for development of the CROSQ Energy Promotions Plan; and Licensing Agreement between CROSQ and the International Code Council for the publishing of the Regional Energy Efficiency Code. The balance of funds under Part 2 of the memorandum of agreement will be utilised in November 2019 to conduct training to mirror the TAPSEC Project training highlighted above as well as training in the Labelling Standards.

These projects and other prospective initiative, with the support of the CS - CEPU and its 11<sup>th</sup> EDF Programme, GIZ and PTB are shown on the attached table 1 within three time frames. This table will be updated every six months from 2020 in collaboration with project partners.

**Table 1 : CROSQ ENERGY PORTFOLIO 2020 - 2030 : updated January 2020 (contains historical information for development traceability purposes at this time)**

Initiative	Objective	Start Date	Estimated End Date	Source of Funds	Collaborating/Implementing Agency	Amount of Initiative \$	Additional Resources Needed	Comments
<b>Completed</b>								
Development of Regional Energy Efficiency Building Code	To develop minimum energy efficiency codes for buildings regionally	Mar-17	Nov-18	German Ministry for Economic Cooperation and Development (BMZ)GIZ REETA Project	CARICOM Energy Unit/GIZ REETA Project	USD 150,000.00		The REEBC were developed and approved by COTED in April 2018
Development of a Marketing and Promotions Implementation Plan	To provide information on environmental benefits; targeted communication for the political directorate; general communication (awareness) and the provision of cost benefit analysis	Jan-18	Apr-18	GEF -UNEP ESD Project	Caribbean Community Climate Change Centre	USD 9,825.00	USD 90,000.00	GEF-UNEP ESD This activity was completed utilising the 1 <sup>st</sup> tranche of the GEF-UNEP ESD Funds
Strengthening of Regional QI for Renewable Energy and Energy Efficiency Project (R3E Project)	To increase regionally available services of quality infrastructure in the Caribbean for the use of energy efficient electrical appliances and renewable energy technologies	Feb-16	Jul-2019	German Ministry for Economic Cooperation and Development (BMZ)	PTB, INDOCAL,	USD 1,177,800.00		This Project amount is Euro 1,000,000. This Project will finance a special TMC meeting on Energy Standards
<b>Total</b>								
<b>Short term (Current - June 2022)</b>								
Attendance at conferences and key global activities	To provide an avenue of exposure to innovative methods and practices in energy efficiency code for buildings; insights into the technical, legal and administrative resources that	Oct -19	Oct-22	Resources needed		USD 10,000.00		

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Initiative	Objective	Start Date	Estimated End Date	Source of Funds	Collaborating/Implementing Agency	Amount of Initiative \$	Additional Resources Needed	Comments
	might be required for successful energy code implementation; strategic networking opportunities that could prove crucial as CROSQ secures membership on the International Code Council							
Quality for Sustainable Energy in the Caribbean (QSEC)	To support the efficient use of energy in the CARICOM and the Dominican Republic through demand-oriented services of a regionally coordinated Quality Infrastructure (QI)	Oct-19	Oct- 2020	German Ministry for Economic Cooperation and Development (BMZ)	PTB, INDOCAL,	USD 1,177,800.00		The Project is the successor to the R3E and will seek to build on the foundation established by the R3E. To make the Pilot Scheme fully functional
Strategic planning focusing on implementation	To develop an implementation plan for participating NSBs	Oct-19	Oct-19	German Ministry for Economic Cooperation and Development (BMZ)				This activity is scheduled to be completed as part of the QSEC
Accreditation of regional laboratories in EE	To develop capacity in labs and build confidence in testing capabilities in labs	Oct-20	Apr-21	German Ministry for Economic Cooperation and Development (BMZ)				This activity is scheduled to be completed as part of the QSEC. Centres of Excellence for EE testing will be taken to the point of readiness for accreditation
Develop a data base listing of energy efficiency devices	To inform stakeholders of test results to inform decision making and purchasing decisions	Sep-18	Sep-20	German Ministry for Economic Cooperation and Development (BMZ)				This activity is scheduled to be completed as part of the QSEC. Test results

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Initiative	Objective	Start Date	Estimated End Date	Source of Funds	Collaborating/Implementing Agency	Amount of Initiative \$	Additional Resources Needed	Comments
								for EE appliances will be uploaded to the data base to be accessed by other regional entities
<b>Technical Assistant Project for Sustainable Energy in the Caribbean (TAPSEC)</b>	The Programme objective is to contribute to the establishment of an enabling framework to support national implementation (relating to QI) of CREEBC and regional harmonised energy efficiency labelling scheme for domestic appliances (R3E)	<b>Oct- 19</b>	<b>Apr-21</b>	<b>European Union</b>	<b>GIZ</b>	<b>€400,00</b>		The Project will support the Labelling Scheme and the CREEBC through training, promotion
Education Information and Awareness of Labels	To promote the scheme and design labels	Mar-20	Sep-20	<b>European Union</b>	<b>GIZ</b>	<i>USD 27,000</i>		<i>This activity will be implemented as part of the TAPSEC and will include the design and production of promotional material as included in the Promotions plan developed as part of the ESD</i>
Training in REEBC	To train trainers in Residential and Commercial Code Requirements and Ashrae Compliance; and to conduct certification training for inspectors	Nov-19	Jan-19	European Union	GIZ	<i>210,000</i>		<i>This will be done as part of the TAPSEC Project. Curricular will be developed by the International Code Council and will be</i>

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Initiative	Objective	Start Date	Estimated End Date	Source of Funds	Collaborating/Implementing Agency	Amount of Initiative \$	Additional Resources Needed	Comments
								<i>done. Training will be conducted in 10 member states</i>
Development Of Roadmaps For Implementation Of Energy Initiatives	To develop a tool to inform policy makers on the requirements for preparing nationally to implement the Codes and the Scheme	Nov-2019		European Union	GIZ	130,000		<i>This will be done at part of the TAPSEC</i>
<b>Centre for Climate Change Energy for Sustainable Development</b>	<b>Support for the adoption and application of the Regional Energy Efficiency Building Code (REEBC), and Minimum Energy Performance Standards (MEPS) and Energy Standards and Labelling (ES&amp;L) for Electrical Appliances, in ESD Countries</b>	<b>Nov-19</b>	<b>May-20</b>	<b>GEF -UNEP ESD Project</b>	<b>Caribbean Community Climate Change Centre</b>	<b>USD96,000</b>		<b>Antigua &amp; Barbuda, Belize, Grenada, St. Lucia and St. Vincent and the Grenadines,</b>
Training in REEBC and Labelling Standards	To develop the competence of suitably qualified personnel to serve as code officials and to use their services to further train others.	Oct-18	Dec-18	<b>GEF -UNEP ESD Project</b>	<b>Caribbean Community Climate Change Centre</b>	<b>USD 60,000</b>		<b><i>This will be done in the 5 ESD Countries to include Code Compliance, Code Requirements and Certification training for Inspectors</i></b>
Quality promotions	<b>To supplement the other promotional efforts which are being implemented under the TAPSEC and QSEC</b>	<b>Jan -20</b>	<b>May-20</b>	<b>GEF -UNEP ESD Project</b>	<b>Caribbean Community Climate Change Centre</b>	<b>USD 60,000</b>		

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Initiative	Objective	Start Date	Estimated End Date	Source of Funds	Collaborating/Implementing Agency	Amount of Initiative \$	Additional Resources Needed	Comments
Training workshop on labelling standards		Nov-19	Nov-19	GEF -UNEP ESD Project	Caribbean Community Climate Change Centre	USD 21,000.00		GEF-UNEP ESD Project's funds have been allocated to implement specific activities in five countries
Consultancy MEPS in buildings including simulation of cost benefit analysis	To develop building simulations to determine classification profiles & to develop MEPS for various classifications of buildings	Jan-18	Jun-18			USD 19,650.00	USD 30,000.00	
Adoption and promotion of energy management standard ISO50, 001	To standards energy audits were are executed in member states					USD 30,000.00		
Training in ISO 50001 conducted by dedicated GIZ staff at CROSQ								
Energy Efficiency Project for light industrial appliances	To increase regionally available services of quality infrastructure in the Caribbean for the use of energy efficient light industrial equipment such as pumps, fans and motors	Oct- 21	Oct-24			USD 1,500,000.00		
<b>Total</b>								
<b>Medium Term (July 2022 -June 2027)</b>								
Develop and implement regulations to give legal force to standards	To give legal force to standards and ensure that there is adherence to standards					USD 40,000.00		

**Table 1 : CROSQ ENERGY PORTFOLIO 2020 - 2030 : updated January 2020 (contains historical information for development traceability purposes at this time)**

Initiative	Objective	Start Date	Estimated End Date	Source of Funds	Collaborating/Implementing Agency	Amount of Initiative \$	Additional Resources Needed	Comments
Development and Adoption of standards for diesel, fuel, oil, LPG and lubricant	To improve product quality, performance, health and safety and protect the environment					USD 30,000.00		
Adoption and promotion of environmental management standards (ISO 14001)	To protect of the environment					USD 30,000.00		
Strengthen the capacity of regulatory authorities to monitor and enforce standards and regulations for petroleum specifications	To build capacity in conformity assessment bodies to monitor and enforce standards and regulations for petroleum specifications					USD 500,000.00		
<b>Total</b>								
<b>Long Term Post July 2027</b>								
Regulate sulphur content of diesel	To ensure quality and bring up to par with international best practices					USD 30,000.00		
Develop performance standards for grid connection and other generating equipment	To phase out inefficient generating equipment					USD 30,000.00		
Identification and development of specification for petroleum products (which can be standardised)	To improve the quality of petroleum products and protect the environment					USD 30,000.00		

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<b>Initiative</b>	<b>Objective</b>	<b>Start Date</b>	<b>Estimated End Date</b>	<b>Source of Funds</b>	<b>Collaborating/Implementing Agency</b>	<b>Amount of Initiative \$</b>	<b>Additional Resources Needed</b>	<b>Comments</b>
Ensure compliance of standards related to grades and rating of petroleum derivatives	To ensure adherence to standards					USD 210,000.00		
Develop Standards for imported electric vehicles	To ensure that the vehicles which are imported into the region are up to par and not substandard					USD 30,000.00		
Develop standards for RE sources such as solar farms and geothermal	To ensure that these sources are established in a manner to guarantee public safety and based on highest quality					USD 50,000.00		
<b>Total Long term</b>								
<b>Total Initiatives</b>								



