QUALITY 4 Energy

THE R3E PROJECT

Introduction

Since the energy crisis of the last decade, energy costs, usage, and efficiency have become watch words in the Caribbean Region. Several projects have been undertaken examining this thing called energy and how to use it more effectively, and moreover, how to utilise the renewables in the energy sector that have not been previously tapped into and exploited to their fullest.

The Quality in Renewable Energy and Energy Efficiency (R3E) Project is now looking at "Expanding the available quality infrastructure services in the Caribbean for the use of energy-efficient electrical devices and renewable energies". In short, how do we infuse quality procedures into ensuring the Caribbean Region sources and utilises its energy effectively, thereby contributing to a reduction of greenhouse gases and the prevention of climate change?

What is the R3E Project?

R3E, which focuses on Renewable Energy (RE) and Energy Efficiency (EE) in the Caribbean from a quality standpoint, is primarily based on the premise that the introduction of standards, testing and other quality-related services into the RE and EE subsectors, could result in significant changes to the way energy efficiency is viewed and the focus paid by policy makers, retailers, general public and other vital stakeholders in these areas.

Studies have found that *"the use of energy-efficient devices, and the application of technologies for using renewable energies in the Caribbean, are impeded by the lack of important QI tools and services such as standards, testing, inspection, certification and labelling. Consumer protection is insufficient, as is the information on these instruments."* It is a core issue the R3E Project seeks to address. It is funded to the tune of 1 million Euros by the Government of the Federal Republic of Germany.

The R3E Project On Renewable Energy

One of the easiest-to-harness Renewable Energy resources in the Caribbean is solar power, be it as solar-thermal for water heating or photovoltaic for electricity generation. Over a number of years there has been concerted efforts by Caribbean Governments, as well as through various donor-funded projects, to push the use of solar power as a legitimate alternative or at least, complementary source to fossil fuel based energy sources.

The R3E Project's RE component acknowledges that more and more countries are using solar water heaters (solar collectors) on roofs to provide for hot water, as well as photovoltaic panels to turn sunlight into electricity. However, there is a lack of standards governing the Caribbean markets, relating to what is considered acceptable, for example in terms of technical installation, working safety, yield, operation and maintenance.

The project is therefore undertaking to establish standards for this segment of the market, as well as labelling schemes, in response to demand from producers of solar systems to reduce the numbers of quality-inefficient devices available at present to consumers.

This will include solar water heaters as well as photovoltaic-based systems in general. In addition to the improvement or development of standards development, the project will also attempt to provide the kind of support services needed to ensure that these systems meet the guidelines established in the standard and are met by local manufacturers, importers and retailers. As such, the required testing and measurement infrastructure within the Region will be strengthened as well, to better serve the increasing demand for solar power components on the Caribbean market.

The project will work through the National Standards Body (NSB) and or Conformity Assessment Bodies (CAB) in participating Member States in an attempt to increase the present capacity and bring them up to the mark.

The R3E Project On Energy Efficiency

It has been recognised that renewable energy is a hot important topic for Governments as well as for electric utilities. However, the efficient use of energy operation of equipment, as it pertains to energy, in the domestic, public, commercial and industrial sectors is also an increasingly important consideration. With an intention to stabilize or even reduce the electricity bills in the above mentioned sector and save households and businesses money and energy, the R3E Project is aiming to support the development of regional energy performance standards for refrigerators, air conditioners and lighting as well as to establish an energy efficiency labelling standard for same.

For average Caribbean households, **refrigerators, freezers, fans and light bulbs** are mainly the appliances that determine the electricity consumption and ultimately, the monthly electricity bill. In the public, commercial and industrial sectors, additional to the above mentioned appliances, A/C units and electric hot water systems (latter often still used in Hotels and Hospitals) are next on the hit-list for high electricity consumption.

Reducing electricity bills in all these sectors will not only benefit the Caribbean households but also Government budgets for public buildings like offices, schools, hospitals as well as the tourism and the manufacturing industries. Ultimately, efficient use of energy will also serve the environment and reduce the carbon foot print of Caribbean countries.

These three appliances, it has been recognised are present in most households and/or businesses. They are also high consumers of energy because of their widespread use. The focus here will be on providing savings for consumers through energy efficient choices, which can also have less negative environmental impacts.

As standards are developed, the R3E Project will also embark on creating energy labels and educating the public on how to read these labels to ensure they not only comply with regional standards, but that the retailer purchases what is required and the consumers get what they pay for.

Because of the development of these two areas of standards, it will then be necessary to create the kind of supportive environment in the Caribbean Region, that can adequately measure and test that these appliances are in fact capable of providing the kind of energy reliance and efficiency they suggest. So the capacity of selected National Standards Bodies and or Conformity Assessment Bodies, the upgrading of their resources and capabilities, will be targeted to make this happen.

What are the aims of R3E?

1. Support of regional standardisation activities for this sector, and use of these activities for the creation of binding directives and technical regulations.

The standards development component of the R3E Project will undertake a number of tasks:

- Development of standards for RE appliances – namely solar water heaters.
- Development of standards for photovoltaic systems.
- Development of regional energy performance standards for EE appliances – namely refrigerators, air conditioners and lighting.
- Development of an energy efficiency labelling scheme for the stated appliances.
- The piloting of the labelling scheme in select countries.

2 Establishment of technical expertise for testing and measurement services in individual countries.

The testing and measurement capabilities of NSBs, will depend largely on the strengthening of the quality systems. This component will involve:

- Development of testing and inspection, and measurement-related capabilities to support RE systems.
- Development of testing and inspection, and measurement-related capabilities to support EE systems.
- Establishment of Centres of Excellence in testing, inspection and measurement in selected countries.

3 Awareness-raising, informational and public relations activities, as well as dialogue with persons in decision-making and other key positions.

With any project, the awareness, sensitisation and education of all involved stakeholders must be key. In the R3E Project, this component will involve a number of activities targeting all stakeholders. These may range from:

- Stakeholder engagements.
- Event management.
- Advertising and PR for the developed standards and labelling schemes and Centres of Excellence
- Case studies and research publications.

Why should this matter to you?

The R3E Project will matter to policy makers; regulators; National Standards Bodies; providers, manufactures and importers of RE systems and services, and EE appliances such as refrigerators, AC units and LEDs; retailers; national and regional energy-related bodies and associations; consumers (i.e. the general public) and media partners.

Policymakers, regulators and **National Standards Bodies** will be crucial to seeing the implementation of standards come to fruition in national jurisdictions. They will provide the direction for how these standards should be applied; how the labelling schemes will function, as well as upgrading facilities for the measuring and testing of the related appliances and systems.

Providers, manufacturers and **importers** as well will be included in this process and are in fact, amongst the key contributors to determining the steps needed to improve quality in the energy sector. As the development of standards is demand-driven, this process was in fact kick-started by this subsector and their need for guidelines to level the playing field. Their concern about the ability of all producers to be able to adhere to the same rules across the board will see this group being involved in the development process, and they are free to enquire about getting involved. In fact, it is encouraged that they do so.

In addition to being involved in the stakeholder discussions process leading to the development of the standards, **retailers** will also be a central target for the development and introduction of the labelling schemes. The retailers will need to be informed of what the labels mean and to be involved in the education of customers as to the implications of purchasing energy efficient appliances. The labels developed through the R3E Project, will then be vital for inclusion in retail outlets

The labels developed through the R3E Project, will then be vital for inclusion in retail outlets as they seek to supply the market with products that meet standards, and adhere to the requirements of the labels to be affixed to each and every product.

Any process such as this requires involvement of civil society organisations that agitate in the interest of consumers – that is the associations, bodies and groups that look out for fairness in the marketplace. This group will be important to represent the consumers in discussions, and to act as guardians thereafter, working alongside

those at the policy and enforcement levels and with national standards bodies to help to educate on the benefits that can be had for a country that smartly applies the standards, testing and measurement requirements.

And finally, the consumers will have to be informed and educated on the benefits of choosing products and services that meet standards. Often the consumer purchases with an intention to get the best deal at the least cost. The R3E Project will seek to inform this section of society how they can in fact save in the long-run by demanding better of the appliances, services and systems available to them in their respective countries.

Who will be involved?

The Member States The 15 Member States of CARICOM, namely Antigua and Barbuda, the Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat* (as observers), St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname and Trinidad and Tobago; as well as the Dominican Republic. Each country's contact will be through its National Standards Body (NSB).

The Partners Funding for the R3E Project is being donated by the German Government and its Federal Ministry for Economic Cooperation and Development, through the German National Metrology Institute (PTB). PTB, alongside the CARICOM Regional Organisation for Standards and Quality (CROSQ) and the Dominican Institute for Quality (INDOCAL), will serve as implementers.

About PTB The Physikalisch Technische Bundesanstalt (PTB) or the German National Metrology Institute is a scientific and technical federal authority falling under the ambit of the Federal Ministry for Economic Affairs and Energy. PTB measures with the highest accuracy and reliability – metrology (science of measurement) as the core competence. It stands for progress and reliability in metrology for the benefit of society, trade and industry, and science. The German institution has a long-standing experience in development cooperation with partners in the Caribbean and throughout the World.

About CROSQ The CARICOM Regional Organisation for Standards and Quality (CROSQ) is the network of the 15 National Standards Bodies of the Member States of the Caribbean Community (CARICOM). It is operationally based on three levels: the CROSQ Council of Directors; the CROSQ Secretariat, headquartered in Barbados, and the Special Committees, which report to Council and carry out the mandate of the organisation, based on technical assistance, the allocation of financial resources, and mutual cooperation.

About INDOCAL The Instituto Dominicano para la Calidad (INDOCAL) or the Dominican Institute for Quality, is the national authority responsible for standardization and Legal, Industrial and Scientific Metrology in the Dominican Republic. Headquartered in Santo Domingo, INDOCAL is responsible for the organisation of development activities; the adoption, harmonization, approval, formalization, publication and dissemination of technical standards, with a view to facilitating trade and industrial development and serving as a basis for technical regulations.

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CARICOM REGIONAL ORGANISATION FOR STANDARDS & QUALITY
CROSQ

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