Physikalisch-Technische Bundesanstalt
Braunschweig und Berlin
Nationales Metrologieinstitut

INTERNATIONAL COOPERATION

# EXTERNAL EVALUATION – SHORT REPORT


Key evaluator: Dipl. – Ing. Petra Ruth

Technical evaluator: Dr. rer. nat. Luciana Scarioni


## Promoting Innovation in the Green Economy by including Quality Infrastructure in Latin America and the Caribbean

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| Country \| Region: | Latin America and the Caribbean |
| Project No.: | 2015.2066.7 |
| Period: | 12/2015 – 07/2019 [07/2018] |
| Implementing Partner: | Pan American Standards Commission (COPANT)<br>Inter-American Accreditation Cooperation (IAAC)<br>Inter-American Metrology System (SIM) |
| PTB \| Working Group: | 9.33 – Latin America and the Caribbean |
| PTB \| Project Coordinator: | Regina Pöhlmann |
| Date: | 12/08/2019 |

**List of abbreviations**

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| **BMZ** | *Federal Ministry for Economic Cooperation and Development*<br>Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung |
| **ECLAC** | *Economic Commission for Latin America and the Caribbean*<br>Wirtschaftskommission der Vereinten Nationen für Lateinamerika und die Karibik |
| **COPANT** | *Pan American Standards Commission*<br>Panamerikanische Normenkommission |
| **SDC** DEZA | *Swiss Agency for Development and Cooperation*<br>Schweizerische Direktion für Entwicklung und Zusammenarbeit |
| **CROSQ** | *CARICOM Regional Organisation for Standards and Quality*<br>Regionalorganisation der CARICOM-Länder |
| **DeGEval** | *Evaluation Society*<br>Deutsche Gesellschaft für Evaluation e. V. |
| **GE** | *Green Economy*<br>Wirtschaftsweise, die an ökologischer Nachhaltigkeit, wirtschaftlicher Profitabilität und sozialer Inklusion ausgerichtet und marktbasiert ist |
| **GEMS** | *Global Environment Monitoring System of UNEP*<br>weltweites Umweltmonitoring-System |
| **IAAC** | *Inter-American Accreditation Cooperation*<br>Interamerikanische Akkreditierungskooperation |
| **QI** | *Quality Infrastructure*<br>Qualitätsinfrastruktur |
| **IDB** | *Inter-American Development Bank*<br>Interamerikanische Entwicklungsbank |
| **ISO** | *International Organization for Standardization*<br>Internationale Normungsorganisation |
| **LACOMET** | *Costa-Rican Laboratory of Metrology*<br>Costa-Ricanisches Metrologieinstitut |

| | |
|---|---|
| **OAS** | *Organization of American States*<br>Organisation Amerikanischer Staaten |
| **UN Environment** | *United Nations Environmental Programme* |
| **UNEP** | Umweltprogramm der Vereinten Nationen |
| **OECD-DAC** | *OECD Development Assistance Committee*<br>Entwicklungsausschuss der Organisation für wirtschaftliche Zusammenarbeit und Entwicklung |
| **SDG** | *Sustainable Development Goals* Ziele nachhaltiger Entwicklung |
| **QICA** | *Quality Infrastructure Council of the Americas*<br>Panamerikanischer Qualitätsrat |
| **PAGE** | *Partnership for Action on Green Economy*<br>Partnerschaft zur Unterstützung der Green Economy |
| **PTB** | *German National Metrology Institute*Physikalisch-Technische Bundesanstalt |
| **RICV** | *Ibero-American Network of Life Cycle*<br>Iberoamerikanisches Lebenszyklus-Netzwerk |
| **SECO** | *Swiss State Secretariat for Economic Affairs*<br>Schweizerisches Staatssekretariat für Wirtschaft |
| **SIM** | *Inter-American Metrology System*<br>Interamerikanisches Metrologie System |
| **WRF** | *World Resources Forum*<br>Welt-Ressourcen-Forum |

## 1. Project Description

This short version of the evaluation report summarizes the findings of the assessment of the regional project "Promoting Innovation in the Green Economy by including Quality Infrastructure", which the Physikalisch-Technische Bundesanstalt (PTB) has implemented on behalf of the Federal Ministry of Economic Cooperation and Development (BMZ) within the framework of German Cooperation in Latin America and the Caribbean.

The objective of the project was defined as follows: "The conditions for the development of the Green Economy in Latin America and the Caribbean are improved by including new and enhanced Quality Infrastructure services."

The project's indicators were:
(1) Relevant Quality Infrastructure organizations offer six new or improved services.
(2) The Green Economy actors involved in the project state that they are better informed than before and that the use of Quality Infrastructure services has increased.

The implementing partners were the Pan American Standards Commission (COPANT), the Inter-American Accreditation Cooperation (IAAC) and the Inter-American Metrology System (SIM), whose member organizations were directly involved in the implementation of the project. Representatives of the organizations Organization of American States (OAS), COPANT, IAAC, SIM, the United Nations Environmental Programme (UN Environment) and the Economic Commission for Latin America and the Caribbean (ECLAC) participated in the advisory committee of the project.

The duration of the project was three years and eight months (12/2015 to 07/2019), with an external evaluation in May and June 2019. The amount invested by the German government was 800.000 EUR, the counterparts and their member organizations contributed with the facilitation of its experts plus the technical facilities.

The target group of the regional project were Green Economy (GE) actors who require Quality Infrastructure (QI) services to ensure the quality of their products and services. These include groups and associations of small and medium-sized private enterprises, technology research institutes, non-governmental organisations and national ministries.

The national QI institutions of 24 countries presented 36 proposals within the framework of the priority themes identified by a baseline study carried out in 2016 and presented to the project's advisory committee. The advisory committee approved six pilots where project partners from 19 countries of the region participated. The project was structured in three thematic axes with two pilot projects each:

1. Hazardous Waste Management
a. Hazardous Waste Management in Laboratories
b. Quality in the E-Waste Value Chain

2. Life Cycle Assessment
a. Product Category Rules
b. Water Footprint

3. Air Quality Monitoring
a. Proficiency Test for Air Monitoring Networks on Carbon Monoxide
b. Inter-laboratory Comparison of Air Quality

The external evaluation was carried out in Argentina, Trinidad & Tobago and Costa Rica by Dipl. - Ing. Petra Ruth as the key evaluator, Dr. rer. nat. Luciana Scarioni as the technical evaluator and was partially accompanied by the project coordinator of PTB, Mrs. Regina Pöhlmann.

The evaluation had a preparation phase in May 2019 and a phase of visits to Argentina, Trinidad & Tobago and Costa Rica on May 27 to June 6 of the same year. Additionally, a quantitative online survey was conducted. During the site visits, face-to-face and skype interviews were conducted with participants of the different pilot projects and representatives of the QI institutions. The field phase of the evaluation ended with a final workshop in Costa Rica where the preliminary results of the final evaluation were presented and discussed with the advisory committee.

## 2. Assessment of the project

The hypothesis of the project was that the development of internationally recognized QI services supports the transition from national economies to GE. The implementation of the regional project facilitated the identification of the links between the GE and the QI and its services. The project applied different methods of capacity building, dialog and training in Latin America and the Caribbean to achieve the objective.

Before summarizing the results of the regional project following the five OECD-DAC evaluation criteria and the Capacity WORKS success factors, it is worth mentioning that the evaluation team highly appreciates the favourable conditions of the evaluation, the culture of cooperation and transparency.

Although weaknesses were found in the impact matrix in its second indicator and in the management of the project, the prioritization of the pilots and their implementation were realized in a participatory manner with the counterparts. The issue of GE was new for the institutions of the QI in Latin America and the Caribbean, and the regional project therefore had an explorative character. It was difficult to reflect all possible impacts of the project beforehand in indicators. Some of the results of the regional project came up as unintended effects but will also strengthen the nexus between GE and QI and the development in the region.

The evaluation team got a positive impression of the regional project, especially for its participatory nature, the level of trainings and capacity building and its impacts on the empowerment of the actors involved in the region that promises a high degree of sustainability of the investments made.

The results of this evaluation will be briefly presented in the following part of the short report.

## 2.1 Status of the change process

### Relevance

The project had high relevance for the counterparts, the executing institutions of the QI, as they showed great interest in strengthening their capacities regarding the development of new services for the GE. The offers of the project in capacity building and training allowed a first approach to the actors of the GE as well as the identification of the demand and the development of better or new services for the GE. The project helped to introduce the GE and the concept of sustainable development in the institutions of the QI.

The countries involved in the project have signed the Agenda 2030 with the Sustainable Development Goals (SDGs). GE topics help meet these goals. The regional project was developed in accordance with the 2015 BMZ regional strategy for Latin America and the Caribbean and contributed to the implementation of the strategy through regional integration, sustainable development as well as environmental, resource and climate protection of the BMZ. This means an investment in the global improvement of the framework conditions for sustainable economic growth.

At institutional level, the regional project has established a new link between the QI and national policy agendas although GE was not a priority topic before for the institutions of the QI. The QI explored how to extend its services to GE related topics through the regional project. The relevance of the project at target group level was difficult to measure for the evaluation team as there was no opportunity to get directly in touch and interview GE stakeholders who need QI to ensure the quality of their products and services. According to statements of other stakeholders, the project has raised awareness and approximation with GE stakeholders.

**Rating: 1**

### Effectiveness

The objective can be considered as realistic but ambitious as it only focuses on the development of new and improved services of the institutions of the QI and not on outputs of the pilots and the regional project in general. The project had a lot of positive impacts although these did not become visible by merely measuring the fulfilment of indicators . The project was confronted with several challenges like the relatively short time of implementation after the participatory process of prioritisation of the pilots, the exploratory nature of the project in a new thematic area and the different levels of development of the participating countries in the topics of GE. However, the results matrix was constructed in a suitable way so that the outputs contribute directly to the indicators of the project outcome and the outputs are directly related to their indicators.

The degree of compliance of indicator 1 of the outcome is 83%. Some of the results that contributed to project indicator 1 (Relevant Quality Infrastructure organizations offer six new or improved services.) were the introduction of a Hazardous Waste Management System in Trinidad and Tobago, Barbados, Grenada, Jamaica, Suriname, Ecuador, Honduras and Peru.

In a training of trainers on the topic of Hazardous Waste Management in Trinidad and Tobago, Grenada, Suriname, Peru, Ecuador and Jamaica. Furthermore, as contributions can be counted the adoption of the ISO guideline ISO IWA 19: 2017 in Ecuador (Guiding Principles for the Sustainable Management of Secondary Metals), the development of Product Category Rules for coffee in Costa Rica, the development of a scheme for assessing the Water Footprint in Colombia and ensuring the validity of the test results offered by the air quality monitoring stations.
The project indicator 2 (The Green Economy actors involved in the project state that they are better informed than before and that the use of Quality Infrastructure services has increased.) aimed at measuring the level of awareness about the benefits of QI services and information received by the GE stakeholders and the use of the new developed QI services, which is complicated after a short period of implementation, because the development of new QI services requires some time. The formulation of this indicator is seen as a weakness in the formulation of the results matrix (outcome, outputs and indicators). The evaluation team considers that it was not possible to quantitatively evaluate the degree of compliance of indicator 2 of the outcome with the information available in the project documentation. Nevertheless, the implementation of the pilots made it possible to sensitize the actors of the GE and to identify the intersection of the strategic interests of the counterpart institutions and the demand of the GE for QI services.

**Rating: 2**

### Efficiency

The PTB project management model of combining short-term visits of the project coordinator from Braunschweig with visits of intermittent experts of the region is very reasonable and efficient because with this management of financial resources the project takes advantage of the existing structures of the QI and strengthens the responsibility and ownership of the counterparts. The cost/benefit ratio of the regional project was efficient with respect to the means used in relation to the results achieved. The quality of the trainings on Hazardous Waste Management and Product Category Rules was evaluated highly by the participants.

The institutional and political frequent personal changes resulted in weaknesses in the project management and delays in the achievement of the project objectives. Additionally, resources were relatively few for some pilots and some of them lacked focus. However, the evaluation team considers that the project sowed the seed in a very short time.

**Rating: 2**

### Impact

The regional project already shows short-term impacts and is likely to have even more medium and long-term impacts. In each of the six pilots, knowledge about the role and services of the QI for the development of GE was disseminated. The gap between the QI and government institutions has been reduced through the implementation of the pilots. The result is a closer relationship between the stakeholders and a thematic extension of QI to green topics. UN Environment was sensitized about the importance of QI for GE and the regional project achieved a positioning of QI with new cooperation partners such as UN Environment.

With the project, the importance of the transformation of the economy towards a less resource-intensive and more sustainable GE was visualized to expand the scope of the services of the

QI institutions. The exploratory nature of the project made it possible to sensitize both GE and QI actors. The development of GE in Latin America and the Caribbean has been promoted.

**Rating: 2**

**Sustainability**

The positive results that were achieved during the implementation of the regional project have a high probability of remaining when the project ends. There are several beneficial factors like the empowerment of the personal and QI institutions that will help to manage the knowledge achieved. The continuity of the staff in the QI institutions is another factor that influences the sustainability of the impact of the regional project. The sustainability depends on the prioritization of the topic within the institutions and how they will be incorporating them into their strategies and operational plans. The demand from international markets for quality products and services and the national environmental legislation in Latin America and the Caribbean are other factors that influence the sustainability of the impacts of the regional project.

The probability of a thematic follow-up without external support is considered to be high since an openness and awareness of the staff was noticed. Exchanges between peer institutions can be formalized in order for their interactions to become more structured and sustainable. The cooperation between QI institutions in the region promotes the sustainability of the positive impacts reached. The positive effects will be maintained if a demand for the new services is developed. The project facilitated a first approximation between GE and QI for mutual benefit.

**Rating: 2**

**2.2 Success factors for the observed results and change processes**

**Strategy**

The PTB project team together with the advisory committee and the intermittent experts designed a coherent and logical strategy. The project had an exploratory character to promote the development of GE in Latin America and the Caribbean, supporting the development of QI services and establishing links between the QI stakeholders and those of the GE. Six regionally adapted pilots were implemented with operational plans and activities. Most of the project activities were carried out in the pilots at the level of the institutions of the QI. This involvement in regional structures made it possible to incorporate knowledge of regional potentials and challenges into the project strategy. The involvement of regional organizations as well as OAS, CEPAL and UN Environment in the advisory committee was part of the strategy. The strategy of the project provided for a constant exchange of information between the pilots in order to reach a common understanding. This meant a big challenge for the management of the regional project.

Rating: 85 %

**Cooperation**

The process of project planning and the prioritization of the pilots has been very participatory. The cooperation with the regional organizations as counterpart institutions is characterized by continued cooperation of great confidence. In addition, relevant GE stakeholders were identified. During the implementation of the regional project, initial cooperation with relevant GE actors in the region was established. After this first approach of the communities of the QI and the GE it is worth deepening the new ties and formalizing cooperation with them.

Rating: 80 %

**Steering structure**

The project management structure consisted of the PTB project management team and an advisory committee, that was integrated into the decision-making processes like prioritizing the pilots. The advisory committee that reached transparent agreements among those involved. Joint decisions were taken and respected. The advisory committee prioritized the issues for the pilots. During the implementation of the regional project they did not play an active role and it was difficult to keep the advisory committee representatives informed about the progress of the pilots. In the closing of the regional project the advisory committee was involved in the discussion of the results of the final evaluation. The project management structure has not provided the appropriate impetus for the achievement of the objectives planned in the project. During the implementation of the project there were many changes of personal at all levels which generated difficulties in the project management, update of operation plans, continuity in implementation, monitoring and evaluation of the feedback. It was a complex regional project in a new topic of GE for the QI which would have needed a permanent monitoring, management and impulses for the achievement of the goals which was difficult due to changes in the persons responsible for the project management.

Rating: 75 %

**Processes**

The key processes of the regional project were defined to achieve the objective of the project. They were adapted to the realities in the region analysing the existing capacities, framework conditions, potentials and the demand in each of the countries. The processes were based on the existing counterpart structures. The PTB relies on solid processes established with QI partner institutions and intermittent experts. The most important strategic processes within the regional project were the integration of the QI into sustainable development policies, the integration of the GE into the strategic approaches of the QI bodies and the management of mutual learning of the two communities: QI and GE. The regional project was strategically oriented on the process of gradual integration of QI into sustainable development policies.

Rating: 75 %

**Learning and innovation**

The project strengthened the competence of project planning among the counterparts. In the initial phase there was an active learning management system and the regional project was very active in training and capacity building. The transfer of knowledge worked well in the pilots

through the related professional trainings. The regional approach of the project decreased during implementation. In the last phase of the project, case studies were prepared for each pilot to document lessons learned. Structured analysis and systematization of learning processes would mean a good use of experiences in an exploratory regional project on a new topic. Knowledge management is a key factor for learning and innovation. Due to the decline in communication and regional cohesion during the project implementation, the lessons learned in the pilots were not systematically spread in the region. Case studies of the pilot projects to document the findings will help to make use of the capacities which were built during the implementation of the regional project.

Rating: 70 %

### 3. Learning processes and learning experience

At the end of the learning process all professionals involved in the regional project were convinced that ithe approach was ambitious considering that GE is a new theme for the QI and the short time for project implementation. The implementation of the project through the six pilots was a learning process full of experiences since each pilot had its own objective and contributed at the same time to the objective and indicators of the regional project.

The regional project supported the consolidation of several learning processes. The majority of the learning processes consolidated during the implementation of the six pilots. The trainings and workshops helped to spread the technical knowledge in the institutions. Different project activities strengthened the exchange of experiences and learning between homologous institutions. Another process of learning during the project has been the distribution of responsibilities among the counterparts, the development of ownership and the strengthening of counterparts that improved their capacities during the implementation of the project. The decentralized structure of the regional project and the high responsibility of the actors in the pilots led to an empowerment of the QI institutions.

Many experiences were generated through the changes of personnel that the project faced on all levels. The structure in a regional project required a lot of management to integrate the participants of different realities and interests. For the PTB project management team, the management of an exploratory regional project generated several learning processes. The new topic of the GE facilitated new professional contacts. The design of the regional project with its strategy, the methods applied, the new allies and the tools implemented involved a mutual learning process with the counterparts and the intermittent experts involved.

### 4. Recommendations

a) The partners are recommended to follow the international debate in principle and in particular with regard to a possible follow-up project, to derive interesting topics for their institution and to integrate them into institutional agendas and budgets. In this way, new topics of German Cooperation could then be interlinked with a qualified demand from the counterparts. The formulation of common interests, the different expectations, objectives and indicators of a future project should be less ambitious and adapted to the priorities of the partners.

b) For future projects, it is proposed that the counterparts and the project team analyse the potential and interests of the QI in the topics to be developed, consider the demand, ensure

from the beginning of the project a common understanding of the objective and of the possible impacts, define the possible scope of the project and clarify the roles and responsibilities.

c) It is suggested that the partners and the project team maintain a fluid communication, that they monitor the progress and possible challenges and constraints in the implementation of the project to be able to take immediately actions and corrections when necessary.

d) It is recommended that the partners and the project team calculate the estimated amounts for each pilot focusing resources according to the priorities. It is suggested to set aside a significant amount of project resources for the identification and structured dissemination of lessons learned and knowledge management.

e) Counterpart QI institutions and the PTB project team are recommended to deepen and formalise the inter-institutional exchange and the nexus between the institutions of the QI and the stakeholders of the GE. It is proposed to stimulate the south-south cooperation and introduce a shared knowledge management system. In order to take advantage of the results of the exploratory project, the systematization of the lessons learned is recommended.

f) It is recommended that the project team facilitate the clarification of roles and responsibilities at the beginning of the project in a workshop. It is advisable to establish a steering committee and not just an advisory committee, to ensure feedback and shared responsibility with the counterparts. In addition, the role of a sub-coordinator facilitates the implementation of the project. To ensure the quality of technical reports, it is appropriate to define and communicate guidelines for the preparation of the documentation. It is recommended to monitor the key processes and ensure compliance with the action plan. It is suggested to deepen the relationship between the QI and the GE in Latin America and the Caribbean through in-depth cooperation in topics of interest to both.

g) It is suggested to the PTB project team to apply more Capacity WORKS tools during project planning and implementation. It is questionable to use Capacity WORKS only at the beginning of the project and then again at the end during the evaluation without using it during project implementation.

h) It is proposed to the “International Cooperation Department” of the PTB to analyse the relevance of issues of the Environmental Conventions and the Agenda 2030 for the QI to define possible cooperation and the adequate modes of delivery (bilateral project or regional project) according to the theme. It is suggested to allow flexibility in exploratory projects in the approach and structure of the project, in the formulation of the objective, of the indicators and of the results and carefully define the intervention framework according to the challenges in the implementation of the theme. It is recommended to select a project management structure according to the complexity of the theme and the challenges of a regional project.

i) It is suggested to the PTB internal evaluation team responsible for evaluations to review the templates of the evaluation reports in German, English and Spanish, to unify the order of OECD-DAC criteria in the three versions and to adjust the abbreviations according to the language to better take advantage of the synergies.

# Imprint

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