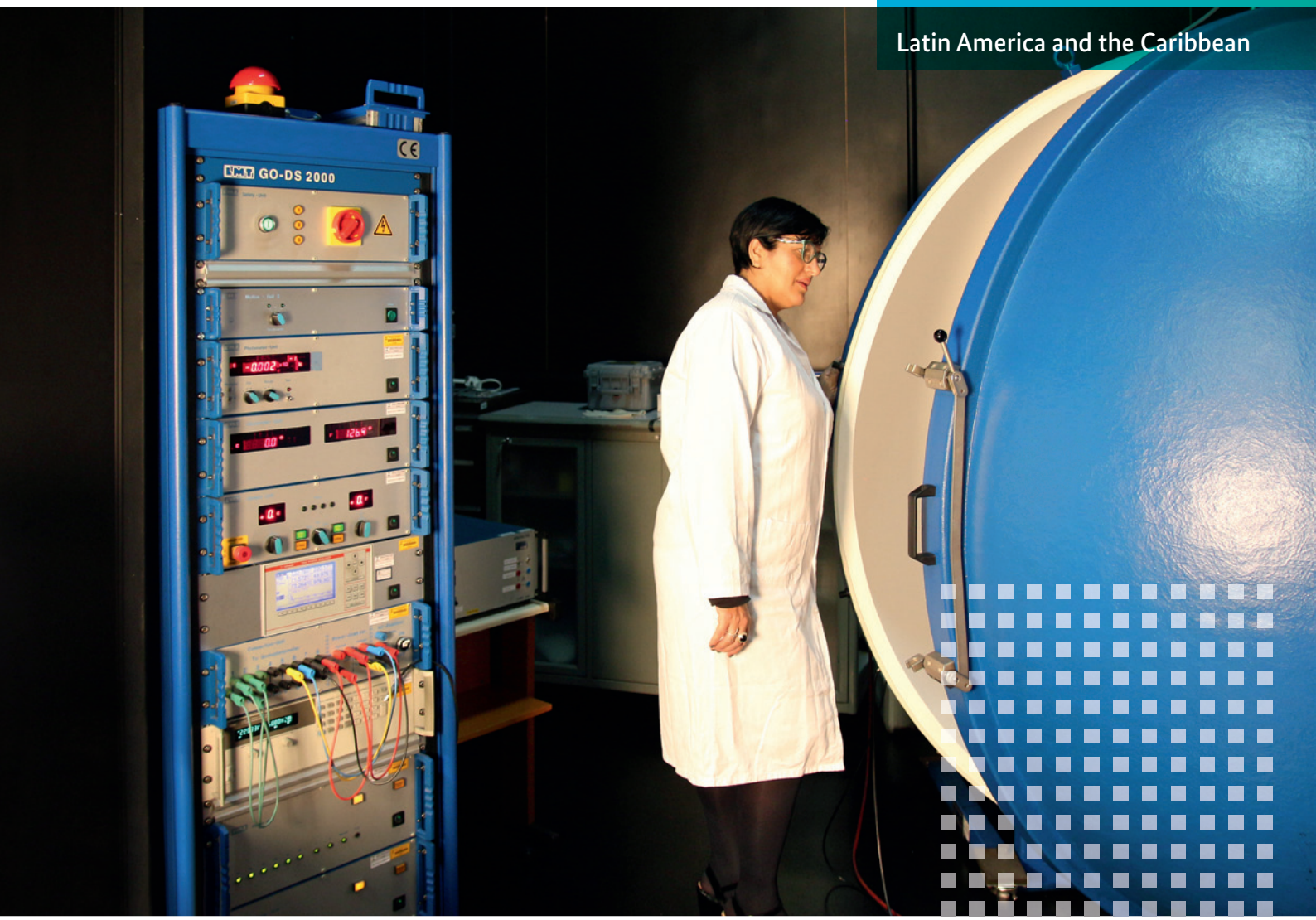
Physikalisch-Technische Bundesanstalt
Braunschweig und Berlin
Nationales Metrologieinstitut

INTERNATIONAL COOPERATION

Latin America and the Caribbean



Brazil

Strengthening Quality Infrastructure for Renewable Energies and Energy Efficiency

cooperação alemã
DEUTSCHE ZUSAMMENARBEIT

Objective

To strengthen the national Quality Infrastructure for the development of renewable energies and the improvement of energy efficiency in Brazil. The project will aid in the sustainable establishment of renewables, ensure the security and quality of the energy supply and implement energy-efficiency measures that are based on reliable measurements.

Approach

The project is coordinated by the Instituto Nacional de Metrologia, Qualidade e Tecnologia (INMETRO), the national metrology institute of Brazil and provides demand-oriented support for the national Quality Infrastructure in order to develop competence and enhance cooperation, thus contributing to the successful implementation of national energy-sector policies. The activities offered comprise training measures at PTB and at other leading Quality Infrastructure institutions around the world for technical and managerial staff from INMETRO, as well as for other relevant stakeholders such as laboratories and certification bodies; technical consultancy by short-term experts; and organization of seminars, workshops, conferences, study trips and intercomparisons. The project is structured in three technical components that correspond to the processes of energy generation, transmission and consumption, with one cross-cutting component aimed at cooperation. Component 1 focusses on Quality Infrastructure for renewable energy sources. The main issue in this component is the establishment of traceability for wind measurements and references for the photovoltaic sector. Component 2 is centred on the topic of grid stability and power quality. In Component 3, selected municipalities are supported in the process of modernizing their public lighting systems to include light emitting diodes (LEDs). Finally, Component 4 seeks to promote cooperation and stakeholder engagement throughout the project's activities.

Impact

Brazil's energy sector is one of the least carbon-intensive in the world. However, the country's hydropower sector is facing an increasing lack of stability due to droughts, thus limiting the supply of power during the dry season. The Brazilian government is determined to increase the use of alternative energy sources, with wind power chief among them, followed by photovoltaics. For the expansion and maintenance of wind power plants, wind measurements are a crucial capacity that will be fostered by establishing metrological reliability. Another important issue is the transmission of electricity, especially when it is generated by means of diverse sources. Grid stability is monitored with new instruments to measure power quality and control the line loads. They are part of a so-called "smart grid", a technological leap forward that Brazil is striving to achieve. The project seeks to establish metrological controls for these instruments.
Finally, there is considerable potential for electricity to be conserved in public lighting. Brazilian municipalities are increasingly interested in modernizing their lighting systems in order to increase public safety and reduce energy expenses. The project plans to help selected municipalities acquire and qualify LED technology as a contribution to a more efficient consumption of energy. A technical guide will ensure that investments are made in suitable and reliable products.

Cooperation

The project forms one module within the scope of the Brazilian-German programme titled "Renewable Energy and Energy Efficiency". It complements the modules that are already being executed by GIZ and KfW and is coordinated closely with them.

Financing

Federal Ministry of Economic Cooperation and Development (BMZ), Germany

Term

2016 – 2019

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