



Brazil

Strengthening Quality Infrastructure for Renewable Energies and Energy Efficiency III

Objective	Supporting the successful implementation of national policies for the energy transition and strengthening the capacities of the central actor of the Brazilian quality infrastructure, INMETRO, to deliver demand-oriented quality assurance services.	
Approach	<p>Coordinated by Brazil's National Institute of Metrology, Quality and Technology (INMETRO) and PTB, this project aims to support the sustainable use of renewable energy, ensure the quality and safety of energy supply, and promote energy efficiency based on reliable measurements. The project promotes the development of new and improved quality infrastructure services for which demand is increasing as a result of the energy transition. These services include calibration and measurement technologies in the fields of wind and solar energy, biogas, green hydrogen, and grid monitoring. The project also aims to strengthen INMETRO's ability to develop these services in line with the needs of the public and private sectors, supporting stronger customer orientation within INMETRO, including through digital solutions, and improved cooperation and communication with stakeholders from industry and society.</p> <p>The project includes training for INMETRO's technical and managerial staff, as well as for other stakeholders in Brazil's quality infrastructure. It also provides technical expert consultancy, seminars, workshops, conferences, study visits, and interlaboratory comparisons.</p>	
Impact	<p>Brazil is expanding its use of renewable energy as part of its energy transition. The country already has a high share of renewables, mainly from large hydropower plants. However, periods of drought have made hydro-power generation less reliable. As a result, Brazil is diversifying its energy mix by expanding other renewable sources, particularly wind and solar power, as well as biogas.</p> <p>The safe and efficient use of these technologies requires reliable measurement and testing, for example of solar radiation, wind speed, and gas composition. Ensuring the nationwide availability of reliable measurement services facilitates the expansion of these technologies and guarantees the safety, performance, and durability of renewable energy installations.</p> <p>Brazil's abundant renewable energy resources provide a strong basis for the production of green hydrogen, which is gaining importance as a future energy carrier for industry and energy systems. Its production, transport, and use require reliable measurements, for example of gas quality, flow rates, and safety parameters. Developing certified measurement and testing services for hydrogen from renewable sources is essential to ensure its safe use domestically and to support the development of export markets.</p> <p>With the increasing share of variable renewable energy sources such as wind and solar power in Brazil, maintaining electricity grid stability is becoming ever more critical. Reliable measurement and monitoring of grid parameters are essential to ensure a stable and secure energy supply. Strengthening measurement capabilities in this area supports grid operators and regulators in managing fluctuations and safely integrating renewable energy sources into the system.</p>	
Cooperation	The project is part of the Cooperation for Sustainable Development between Brazil and Germany, within the priority area of a just and sustainable energy transition. It is implemented in close coordination with the other components of this programme, which are carried out by GIZ and KfW.	
Financing	Federal Ministry for Economic Cooperation and Development (BMZ), Germany	
Term	2026–2029	
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