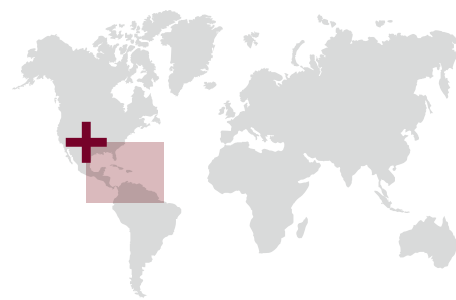


ACRI+

Advancing Climate Risk Insurance for Renewable Energy in Barbados



AT A GLANCE

Name

Applying Integrated Disaster and Climate Risk Management on Renewable Energy in Barbados

Duration

February 2017 – October 2018

Focus area

Barbados

Target group

Decision makers at national government; Officials at local government level; Regulatory Authorities of Barbados – Finance Sector; Regulatory Authorities of Barbados – Energy Sector; Private sector (national energy sector, national and regional insurance industry, global reinsurance); Vulnerable population groups

Funds available

The project Advancing Climate Risk Insurance Plus (ACRI+) is part of the overall programme Promoting Integrated Climate Risk Management and Transfer (ICRM) funded with 5 million Euros through the International Climate Initiative (IKI) of the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB).

The project is jointly implemented by ...

Munich Climate Insurance Initiative e. V. (MCII) and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.

The core objective is ...

To develop a roadmap (adopting an ICRM approach) to ensure that the existing and future energy generation, transmission and distribution infrastructure is climate and disaster resilient.

BACKGROUND

As a small island developing state, Barbados is affected by climate change impacts, particularly severe weather events. Damage was caused in recent years by Hurricane Tomas (2010) and Matthew (2016) and storms that caused wide-spread flooding (2014).

The frequency and severity of extreme weather events is likely to increase. Extreme weather events, such as hurricanes, floods, landslides and storm surges represent a direct risk to the island's population, infrastructure and economy.

Higher temperatures and a reduced frequency of rainfall are projected, limiting freshwater availability. With 97 km of shoreline and as one of the lowest-lying islands of the Caribbean, sea level rise increases the socioeconomic vulnerability.

Climate adaptation and mitigation efforts and a comprehensive climate risk management approach are very important for Barbados. With Barbados beginning its energy system transition by integrating more renewable energy sources, it is important to ensure that the existing and future energy generation and transmission/distribution infrastructure is climate resilient.

APPROACH

The Barbados Disaster Risk Management Strategy, implemented through the Department of Emergency Management, is comprehensive. However, not all risks can be entirely avoided through the phases of prevention, preparedness, response and recovery.

The remaining residual risk, after risk reduction efforts, can be addressed using risk transfer mechanisms, such as insurance. By integrating risk transfer into disaster risk management and climate change adaptation approaches, governments and individuals are able to:

- Soften the financial impact through timely access to finance after a disaster;
 - Increase the effectiveness of the implementation of response measures such as contingency planning; and
 - Address preventive measures that reduce disaster-induced poverty traps and long-term development setbacks.
- Disaster and climate risk insurance schemes can thus form an important part of a comprehensive risk management approach.

While Barbados benefits from coverage for hurricane, excess rainfall and earthquake through the Caribbean Catastrophe Risk Insurance Facility (CCRIF), there is currently no ICRM approach or specific insurance mechanism addressing climate risks for the renewable energy sector.

Given the exposure of the Caribbean Region to natural hazards, an ICRM approach could play an important role in ensuring climate resilient development of a renewables-based energy system. Not only across intervention levels on a national scale from households, small and medium-sized enterprises, up to the utility level, but also across the region.

This project aims to achieve this by supporting public authorities in the development of a ICRM Roadmap for Renewable Energy on Barbados. The roadmap will include:

- Aspects of established disaster risk management practices;
- recommendations for adequate risk reduction measures;
- preparedness and response planning measures in addition to insurance perspectives; and
- the promotion of ICRM global experience exchange.

By developing this ICRM Roadmap we also seek to demonstrate the value added of using risk transfer measures in the renewable energy sector to advance wider climate change adaptation plans and strategies. Concrete examples of the Enhanced Disaster Risk Management Framework for energy systems are displayed below.





OPPORTUNITIES

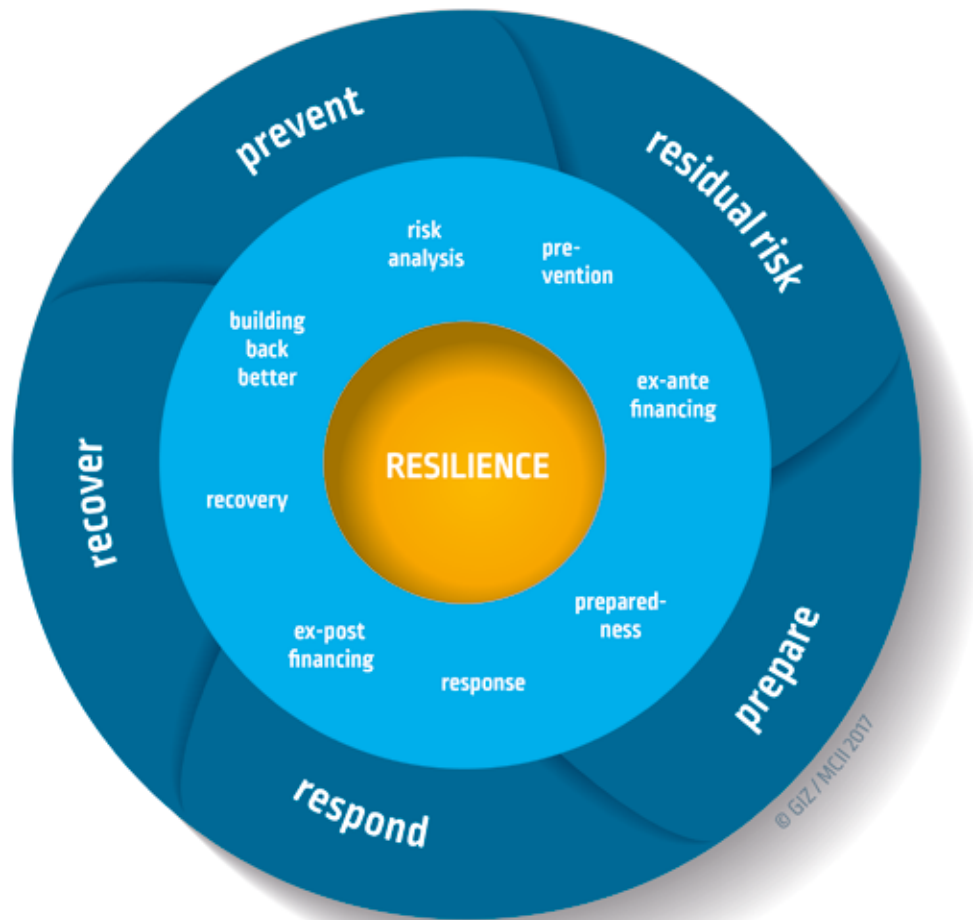
Barbados is currently at a turning point for renewable energy deployment, and experiencing widespread support for the need of increased renewables and demonstrated success (solar thermal water heating). The Government of Barbados has demonstrated a commitment to increasing the current levels of renewable energy, by setting renewable energy targets compared to business as usual, at:

- 29% of electricity from renewable sources by 2029;
- 65% of peak electrical demand by 2030; and
- 22% reduction in energy consumption by 2029.

This provides opportunities to support a step change in Barbados' approach to renewable energy. Given that Barbados' peak demand was around 170 MW in 2012, but only had 19 MW of installed solar PV in 2016, there is still a large gap to bridge to achieve Barbados' 2029 target. The relatively small economy provides an additional barrier to larger scale investment. In order

to ensure that investments into the grid and renewable energy generation are as effective as possible, it is essential to consider the changing climatic risk in planning how and where renewable energy systems are constructed. Developing a risk-transfer based concept to enable deployment of climate resilient renewable energy systems also has the potential to incentivise further investment, not the least due to a medium- to long-term potential to scale-up implementation across the Caribbean region.

ACRI+, as part of the Promoting Integrated Climate Risk Management and Transfer programme, is currently developing similar concepts for several themes and sectors in other countries, such as urban resilience, transport, industrial zones and agriculture. We are seeking to use this simultaneous development to ensure knowledge transfer of lessons learned across projects and identify synergies that could be incorporated into the concept development on Barbados.





SERVICES OFFERED BY ACRI+

The project currently expects the following outcomes and outputs, based on the approach and the concrete examples of the Enhanced Disaster Risk Management Framework for energy systems previously described:

- Provide recommendations on adaptation measures and an action plan along the enhanced disaster risk management framework across suggested intervention levels for renewable energy.
- Identify risk reduction options as part of an ICRM approach to systematically reduce the impact of climate risk on energy systems to enhance resilience.
- Enhance the capacity for implementing climate risk management action plans and foster cooperation on climate risk prevention and transfer between existing stakeholders.



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Registered Offices

Bonn and Eschborn
P.O. Box 5180
T +49 61 96 79 – 0
F +49 61 96 79 – 11 15

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CONTACT

E Eike Behre (eike.behre@giz.de)
Advancing Climate Risk Insurance (acri@giz.de)
I www.giz.de