DtP Facility – G5 Sahel DtP Financing Facility

The Global Center on Adaptation (GCA) is mainstreaming climate adaptation and resilience measures to climate-proof investments under the African Development Bank's (AfDB) Desert to Power Initiative, a key pillar of the Great Green Wall Initiative in the Sahel. The Desert to Power Initiative is transforming the Sahel's desert area to address regional energy needs, as well as helping to mobilize private sector investments in solar projects. In addition, the initiative develops institutional capacity in the Sahel countries while leveraging clean technologies to deliver adaptation benefits, thereby ensuring the long-term sustainability of renewable energy programs.

Adaptation Need

The Sahel region is highly vulnerable to climate change, with infrastructure not designed to withstand increasing climate risks. Key power assets such as critical power generation and distribution assets face climate shocks throughout their lifecycle, threatening reliability and performance. Developing climate resilient, reliable electricity systems is critical to powering economies in the Sahel. Desert to Power (DtP) projects will span the 11 countries in the Sahel, which are highly affected by climate change and have low adaptative capacity. Rising climate hazards—such as droughts, extreme heat, windstorms, and unpredictable rainfall—pose risks to renewable energy systems by reducing asset lifespan, increasing breakdowns and maintenance needs, and lowering energy generation revenues.

GCA’s Added Value

GCA has delivered climate risks analysis and preliminary analysis of possible green and grey adaptation and resilience options tailored per country and typology of risks for all targeted countries of the Desert to Power Initiative: Burkina Faso, Djibouti, Eritrea, Ethiopia, Niger, Nigeria, and Sudan. The climate risks analysis includes grid-connected solar generation plants and decentralized solar solutions. High-resolution climate risks assessment highlights the relevant current and projected climate hazards and hotspots of vulnerability across the countries, and their impact on power generation and transmission systems. Heatwaves as an example is projected to be from severe to very severe on every analyzed country in the RCP 8.5 scenario, leading to revenue reduction up to 10-20% for solar technologies.

Total Investment Value Influenced

$966.70M

Beneficiaries

20.50M

IFI Implementation period

2022 - 2024

Program

Infrastructure and NbS

Partners

African Development Bank

Status

Completed

Countries

SDG contribution

PROJECT GOALS

Mainstreaming Adaptation and Resilience

GCA developed a geospatial tool to assess climate risks in the Sahel. It allows the AfDB and project developers to view risks for solar projects at specific sites and under different climate scenarios. The tool also offers country- and technology-specific guidelines to support more resilient solar energy investments.
Explore the platform: .Climate Map – Global Center on Adaptation

Expected Outcomes

Reinforcement of the Desert to Power Initiative development outcomes by providing actionable strategies to reduce climate-related downtime and ensure energy access.

TIMELINE

GCA Support Status

Technical Assistance Preparation

GCA Support Implementation

February, 2022

GCA Support Completion

Monitoring

FINANCE

Project Investment Value

Total Investment Value

$966.70M

IFI INVESTMENT VALUE

$379.60M

OTHER INVESTMENT VALUE

$587.10M

IFI partners

African Development Bank

CONTACTS

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REQUEST FOR INFORMATION

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RELATED ARTICLES & RESOURCES

AfDB Project Portal