COUNTRY CASE STUDY

COUNTRY	POPULATION	NATIONAL EMISSIONS IN 2020	MITIGATION GOALS
MALI	20,250,834	5,99 MTCO$_2$e	-31% OF ENERGY-RELATED EMISSIONS BETWEEN 2025 AND 2030

Mali • Access to "clean" energy thanks to decentralised solar mini-grids

In Africa, close to 600 million people have no access to electricity. In Mali, 83% of the population is faced with this problem, while the energy potential of the country is enormous. To remedy this, the Malian government has implemented a rural electrification strategy based on decentralised mini-grids. Thanks to this strategy, which was broken down into multiple projects such as those funded by the IRENA/ADFD Project Facility, the solar energy production capacity in Mali increased from 16 MW in 2013 to 100 MW in 2022. This project to install solar mini-grids is expected to benefit 123,000 people.

Easy access to drinking water and "clean" energy

In Africa, rural populations have difficulty accessing water and electricity. In Mali, water sources can be far from villages, which hampers daily life and the development of economic activities.

For the deployment of a decentralised solar mini-grid system with a capacity of 4 MW, the government of Mali has received a loan of nine million dollars via the IRENA/ADFD Project Facility scheme. Supported since 2013 by the International Renewable Energy Agency (IRENA) and the Abu Dhabi Fund for Development (ADFD), this scheme aims to finance renewable energy projects in developing countries via low-interest loans (with interest rates ranging from 1% to 2% over a period of 15 to 20 years).

A decentralised solar mini-grid is a small-scale electrical grid that is separate from the national grid, is powered by solar energy using photovoltaic panels, and meets local needs. In Mali, mini-grids produce electricity, which is then stored in batteries by the population. In particular, the electricity powers water pumps that help people to meet their daily water needs. The project, supported by IRENA/ADFD, converts the diesel mini-grids planned by the Malian Rural Electrification Strategy into hybrid solar systems, making it possible to avoid the emission of 5,000 tCO$_2$/year, while ensuring better access to energy for 123,000 people and providing access to water and electricity for the rural populations of 32 villages in six regions of Mali.

A lever for local development and the achievement of six Sustainable Development Goals (SDGs)

The solar mini-grids are also at the heart of the socio-economic development of these regions. Using electricity from the solar mini-grid, a pharmacist from Bancoumana, for example, can now sell medicines that require cold storage. Previously, the range of products sold in his pharmacy was limited, thus preventing some of his clients from meeting their medical needs. By powering water pumps, farm processing machinery, and other industrial equipment, this system provides households and companies with opportunities for economic growth and decent work, as set out in SDG 8. The project generated more than 2,000 direct or indirect job opportunities.

In addition, solar-powered water pumps reduce the time women in rural Mali spend fetching water. Thanks to better access to water requiring far less manual labour, those who make a living from farming and gardening increase the yield of their crops and generate better income. This makes it possible for people to improve their quality of life and to reduce inequalities (SDG 10) while fighting poverty (SDG 1). Finally, through access to drinking water and clean energy, SDGs 6 and 7 are addressed.

SDGs COVERED BY THE PROJECT

Source: IRENA ADFD, 2020