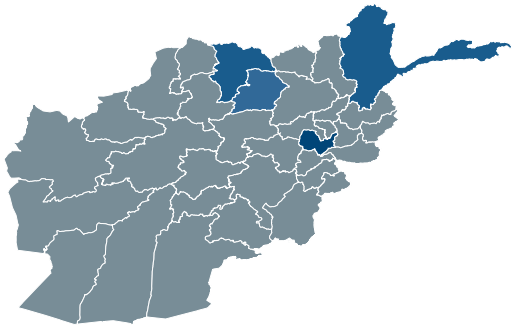
همکاری آلمان
DEUTSCHE ZUSAMMENARBEIT

German Cooperation with Afghanistan

Electrical Power – The Key to Development



Context

Energy is one of the key factors for economic growth, medical care, education, etc. A country simply cannot develop sustainably without it. However, energy supply is very limited in Afghanistan. It is expensive, unstable and often associated with a high cost to the environment. The poor energy supply is inhibiting economic development and job creation in the country, as companies cannot produce without electricity. Companies and households often produce electricity using diesel generators, a costly and environmentally damaging practice.

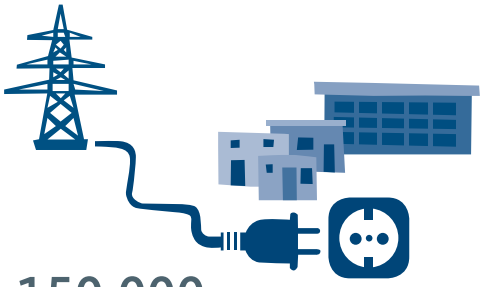
Just 20% of households in Afghanistan's rural areas have access to electric power, yet this is where three quarters of the nation's population lives. 70% of households in large metropolitan areas are connected to the electricity grid, yet frequent power outages are an everyday occurrence for these dwellings too.

Overview	
Programmes	Rehabilitation of two Hydropower Plants in Kabul Regional Electricity Transmission Northern Afghanistan Renewable Energy Program
Commissioned by	German Federal Ministry for Economic Cooperation and Development (BMZ)
Partners	Afghan Ministry of Energy and Water Da Afghanistan Breshna Sherkat (DABS - Afghanistan's national power utility)
Implementing organisation	KfW
Provinces	Kabul, Badakhshan, Balkh, Samangan
Programme objective	The energy supply to private households, companies and institutions in Kabul and Northern Afghanistan has been improved.

There is a lack of power plants, transmission and distribution grids, substations, control engineering technology, and household connections. Due to insufficient infrastructure for generating energy, Afghanistan has to import around 70% of its energy from neighbouring countries.

Objective

The two rehabilitated hydropower plants in Kabul supply the capital with electricity. In the north of the country, the expanded electricity transmission infrastructure, the improved grid connections for households and electrical generation from renewable sources provide more people with access to electricity.



150,000 households, companies and public institutions in Northern Afghanistan have been provided with access to electricity

Measures & Results

In order to improve energy supply in Afghanistan, the German Federal Ministry for Economic Cooperation and Development (BMZ) has been financing numerous KfW-implemented construction projects since 2002. These include the repair of hydropower plants and construction of new ones, new electricity transmission lines, household connections, and the expansion of power generation from renewable energy sources.

Hydropower for Kabul

Decades of violent conflict left the two hydropower plants Mahipar and Sarobi badly damaged. KfW carried out repairs on the turbines and generator units and further restoration work on the two plants. As a result, both facilities have significantly increased their capacity since 2009. The staff from the Mahipar and Sarobi installations and Breshna Kot substation took part in technical training to enable them to operate the plants to a professional level. The Afghanistan Reconstruction Trust Fund (ARTF) covered 15% of the rehabilitation costs.

The two rehabilitated hydropower plants now generate 302 gigawatt hours of energy, three times as much as in the past. This is providing power to 13,000 companies and 312,000 households, that is, just under two million people. In this way, the plants are improving the energy supply to the capital and its surrounding region.

A new turbine in a hydro power plant utilises hydropower | © KfW

Regional electricity transmission in the north

KfW advises the Afghan partners on choosing locations and on planning, expanding and repairing the electricity transmission infrastructure. New high voltage transmission lines will enable the future expansion of regional grids. New and expanded substations and distribution grids are set to supply the population with electricity. Control engineering technology will help to integrate electricity grids, minimise loss of electricity and increase grid stability.

The new transmission and distribution infrastructure will allow more households to be connected to electricity grids in future. The new transmission infrastructure will ensure that more cities, towns and villages in the north can be supplied with electricity. To date, very few people, and in some cases, none at all, are connected to the grid in this region.

Electricity from renewable energy

Decentralised plants for generating electricity from renewable energy sources are expected to supply green electricity to 60,000 people in Afghanistan's Northern provinces. A new

A **70,000** tonne reduction in annual carbon emissions has been achieved through the use of renewable energies

hydropower plant is being built in Feyzabad to ensure that residents no longer have to rely on expensive and environmentally harmful diesel generators. The city grid is also being expanded and connected to the new power plant. The secure electricity supply will enable enterprises to increase their productivity and create new jobs.

Connecting northern cities and municipalities to the electricity grid

In order to connect households, companies and institutions in Northern Afghanistan to the electricity grid, KfW is building and modernising transmission and distribution grids. New substations, electricity distribution lines and electricity connections are being put in place. Specialists from the national power utility DABS are also receiving training on using and maintaining the new technologies.

The modernised and expanded electricity grid is reducing the number of power outages, thus increasing the stability and reliability of the energy supply and improving energy efficiency. New distribution grids in Khulm, Mazar-e Sharif (Balkh province) and other locations along the grid connection line are providing some 70,500 households (around 400,000 people) with an electricity connection. DABS specialists are now able to operate the new infrastructure in a sustainable and energy efficient manner.

As a result of all these activities, more people can now count on a secure energy supply. This makes it feasible for companies to use electric machinery and small shops to run refrigerators, providing a good foundation for economic growth and better living conditions.

Implemented by:
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