firstclimate
Green Energy, Climate Neutral, Water

Dedicated, Naturally.

Uganda: Utilizing Hydropower

6.6 MW Ishasha Power Station generates clean electricity

Certification:

VCS VERIFIED CARBON STANDARD
A Global Benchmark for Carbon

Key Facts

TÜV NORD
TÜV NORD CERT GmbH
Verified Certificate Management
Certification acc. to TÜV NORD Standard CN1/2

Location:
Kanungu District, Uganda

Project type:
Renewable Energy – Hydropower

Total emission reductions:
» 20,000t CO_2 e p.a. «

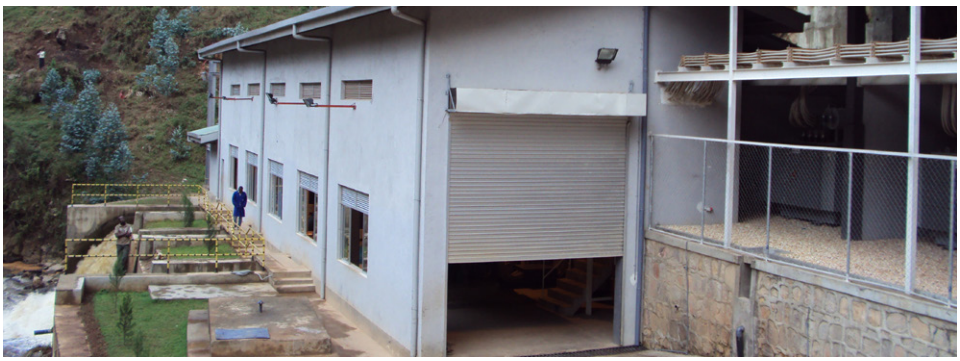
Project standard:
Verified Carbon Standard (VCS)

Project start date:
March 2011

The Project

After decades of war and political volatility, Uganda has experienced a period of sustained economic growth and poverty reduction up to the year 2010. However, in recent years economic development has slowed down. Not least, this slowdown was driven by adverse weather events, like heavy rainfalls, which have occurred frequently. Despite its fertile soils and substantial natural resources, Uganda remains one of the poorest countries in the world, struggling to achieve a decent standard of living for many of its citizens. Particularly in rural areas, much of the population is unable to meet basic needs. Only about a quarter of the population has access to electricity, especially in rural areas up to 90% of the energy consumed comes from burning biomass. This not only leads to indoor air pollution and adverse health effects but also puts pressure on the country's natural resources.

Investments in renewable energy are essential to improve supply. They can also help to stabilize Uganda's economic development while mitigating the dangers of climate change. Uganda is rich in hydropower resources. While most projects in this sector have focused on exploiting the waters of the Nile River, small-scale projects have great potential for meeting the needs of people living in rural parts of the country.

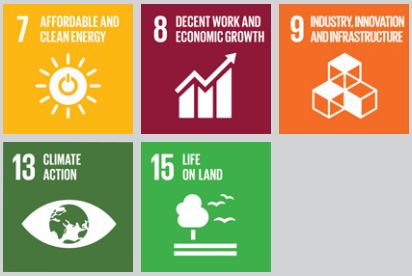


The Project

The Ishasha Power Station is a run-of-river hydropower plant on the river of the same name in southwest Uganda. It is located in the Kanungu District of Uganda, just outside of the Bwindi Forest National Park. It utilizes a steel penstock and two Francis turbines to drive a generator of 6.6 MW capacity, producing about 30 GWh of clean electricity per year. The water is returned to the Ishasha downstream from the power station. This project improves the reliability of electricity supply for 41,000 households in Kanungu District and a wide range of non-residential facilities.

Sustainable Development

By supporting this project you'll contribute to the following Sustainable Development Goals:



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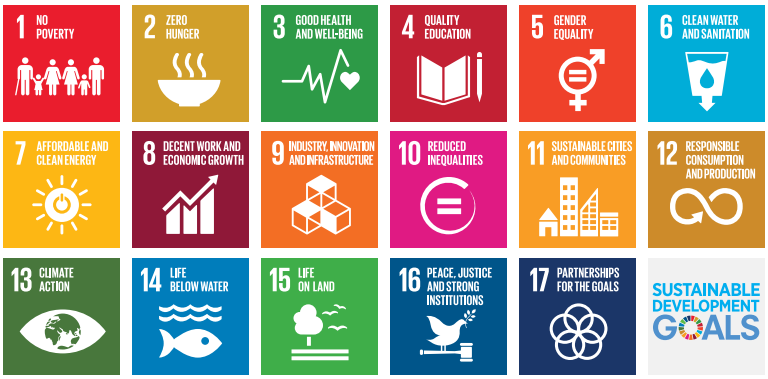
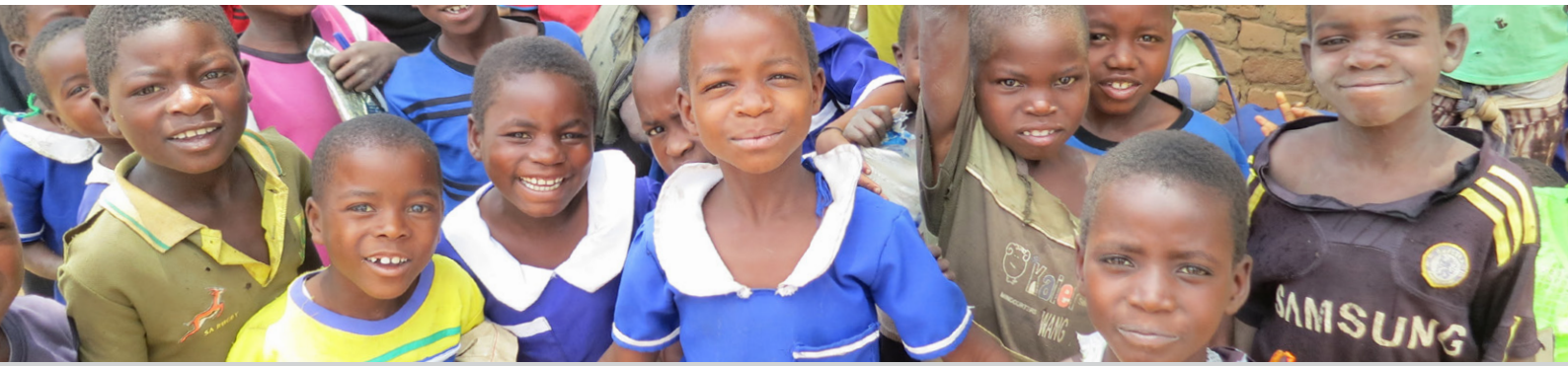
SUSTAINABLE DEVELOPMENT GOALS

While focusing on reducing greenhouse gas emissions, all our projects also generate multiple co-benefits. These are supportive of the United Nations Sustainable Development Goals.





Affordable and clean energy

This project uses clean hydropower for energy generation and contributes to an improved local energy supply. Before the project, local households were either running inefficient and polluting diesel generators or did not have access to electricity at all.

Decent work and economic growth

The project generates employment opportunities for skilled and unskilled personnel during construction, operation and maintenance of the plant. Construction materials are sourced locally wherever possible.

Industry, innovation and infrastructure

The project demonstrates the viability of small scale grid connected hydropower projects in Uganda. It will help to stimulate and commercialize the use of grid connected renewable energy technologies in the country.

Climate action

The project contributes to climate change mitigation by avoiding carbon emissions. The emission reductions of this project amount to 20,000t CO_2e per annum.

Life on land

By displacing electricity from fossil fuel-based power plants, the project improves local air quality by reducing air pollutants associated with the combustion of fossil fuels, such as sulphur dioxide, soot, nitrous oxides and particulates. Furthermore, the project helps to slow down deforestation as it provides an alternative for biomass as energy source.

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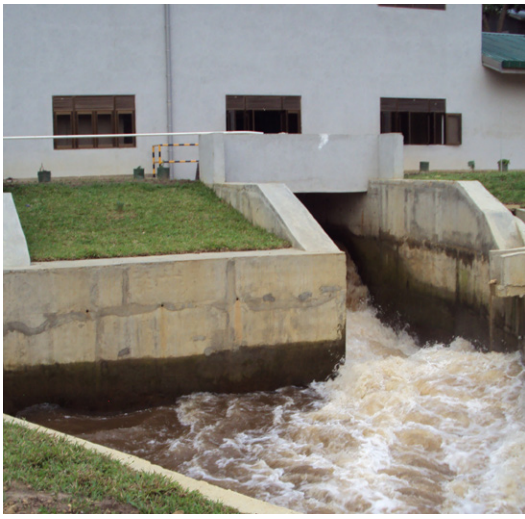
Technology brief – How it works

Hydropower is one of the oldest means of producing energy. The principle is simple: the technology relies on vast quantities of water and a difference in vertical height. The kinetic energy of the water flow drives a turbine connected to a generator and is transformed into electricity. This project is of the run-of-river type. The plants are using the natural flow of the river and divert only part of the stream to drive the turbines.

Since it does not utilize a water reservoir impounded by a dam to artificially create a vertical height difference, there are no significant effects on the river discharge or the river banks. The project explicitly does not lead to flooding or the resettlement of people. Run-of-river hydro power plants illustrate a great balance between utilizing a natural potential and low environmental and social impact.



Project Standard

VCS VERIFIED CARBON STANDARD
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The Verified Carbon Standard (VCS) is a global standard for the validation and verification of voluntary carbon emission reductions. Emissions reductions from VCS projects have to be real, measurable, permanent, additional, unique, transparent, and third-party verified. Assessed against the background of the total volume of emission reductions, VCS is the globally leading standard for voluntary carbon offsets.

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For more information on other projects in our portfolio please visit our website:

www.firstclimate.com