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Bienaihe Micro Hydro Project

Voluntary Carbon Standard – China

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1.0
Project Summary

The Bienaihe hydropower station is a 10.5 MW project situated in the Longchuan County, Yunnan Province in China. The project consists of 2 small-scale run of river hydropower stations. The average annual electricity supply to the grid is 44,848 MWh with estimated CO2 reductions totalling 34,907 tonnes of CO2-e/yr.

The power generation of this project will be transmitted to local transformer substations, then to Yunnan Grid and finally to the South China Grid. The project contributes to the development of renewable energy in China and the reduction of GHG emissions. The project will not only supply renewable electricity to the grid, but also contribute to sustainable development in the local area by providing jobs and more secure electricity supply to a particularly poor region of China.

Project Snapshot

Name:	Yunnan Dehong Longchuan Bienaihe 1st and 2nd Level Hydropower Stations
Location:	Longchuan County – Yunnan Province, P.R. China
Coordinates:	24°35'41.00"N/ 98°05'01.00"E 24°35'16.00"N/ 98°06'32.00"E
Type:	Micro Hydro
Standard:	Voluntary Carbon Standard (VCS)
Volume:	8,399 VERs
Vintage:	2008
Status:	Voluntary Carbon Standard Issued
Project Operator:	Longchuan Minhong Hydro power Co. Ltd

2.0
Project Benefits

Environmental - The project activity contributes towards reduction of pollutants such as sulphur dioxide, nitrogen oxides and particles by displacing fossil fuel based electricity generation.

Social – The project has created local employment opportunities during project construction and operation.

Economic – The project improves the local energy generation infrastructure and helps to bridge the gap between power supply and demand on both a regional and national level.

Key Achievements

- ☑ Avoids GHG emissions
- ☑ Reduces reliance on fossil fuels
- ☑ Reduces local pollution of SO2 and NO2
- ☑ Promotes innovative alternative energy sources in China
- ☑ Supports local economic development
- ☑ Secures electricity supply

3.0
Background

The Bienaihe hydropower stations are located in the south-west of China, at the border with Myanmar. The province is rich in wildlife, containing about half of China's birds and mammals.

Yunnan is one of the poorest provinces in China. In 2001, a poverty reduction plan was initiated in the province to implement pro-poor, environmentally sustainable programmes.

Yunnan has high rainfall and many rivers and lakes. It includes the headwaters of three great Asian rivers: the Mekong, the Irrawaddy and the Yangzte. The rich water resources offer abundant hydro-energy which contributes to the economic development of the region.

4.0
Technical Details

The project consists of the construction and operation of two run-of-river diversion type hydropower stations. These small scale projects involve no relocation of any local communities or permanent significant diversion of rivers or tributaries.

The 1st level hydropower station has a total installed capacity of 2.5MW. The project consists of a masonry gravity dam, diversion system, powerhouse, and switching station. The diversion system consists of a water intake, a diversion canal and tunnel, and a pressure pipe. The length of the river that will be impacted (i.e. from dam site to power house) is 7.2km.

The 2nd level hydropower station has an installed capacity of 8MW. The project also consists of a masonry gravity dam, diversion system, pressure forebay, powerhouse, and switching station. The diversion system consists of a water intake, a diversion tunnel and pressure pipe. The length of the river that will be impacted (i.e. from dam site to power house) is 5.1km.

5.0
How the project meets Climate Friendly's principles

Climate Friendly only invests in projects that:

Principles	How Bienaihe meets these criteria
Address the root cause of climate change	✓ Hydropower doesn't emit GHG
Are permanent	✓ Emissions reductions can't be reversed
Are additional	✓ Carbon finance required to overcome financial barriers
Are verifiable	✓ Verified by Det Norske Veritas (independent third party)
Are project based	✓ Not allowance-based under compliance requirements
Contribute to sustainable development	✓ Reduces pollution and creates employment
Are synchronous	✓ Emissions reductions have already occurred
Are exclusive	✓ Robust assurance process ensures no double counting