

Renewable Energy Project



Erbaqu Hydro Power Project

This project generates renewable energy from six run-of-river hydro power plants in China.

Standard



Project start date

15 December 2005

Country

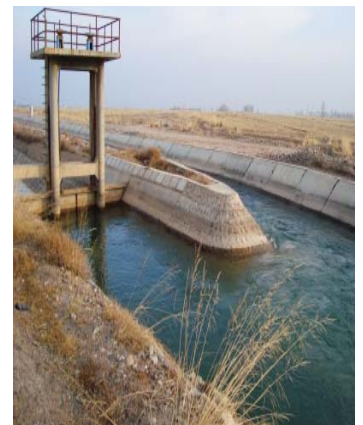
China

About your project

Located along the Erba Channel of the Dongda River in the Northwestern province of Gansu, this project consists of six run-of-river hydro power stations. The project generates 9.6 MW of clean energy which is delivered to the local grid, displacing electricity which would otherwise have been derived primarily from fossil fuel fired power plants.

The development of renewable energy projects in China brings local as well as global benefits. The project avoids the atmospheric pollution and fly ash disposal issues associated with coal which is the predominant source of energy in China. Alongside these environmental benefits, 300 jobs have been created as a result of the project. This includes 48 permanent, operational roles and the remaining positions were temporary during the planning, commissioning and construction phases. Employees have access to a labour union and are paid above the minimum wage for Yongchang County. The local community has also benefited from road upgrades as a consequence of the project's development.

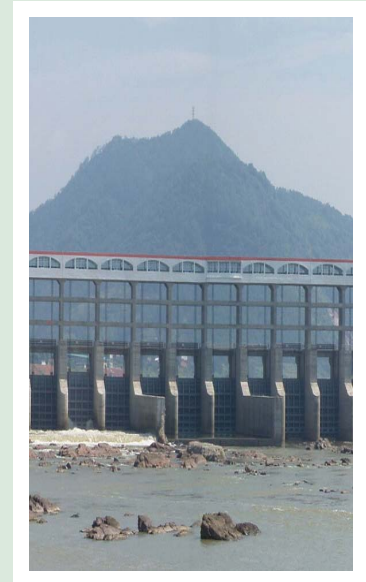
Before construction began, a detailed environmental impact assessment and stakeholder consultation were conducted. The local community responded positively to the project's development and a number of initiatives were introduced to increase safety and minimise landscape disturbances, including waste-water management during construction, post-construction tree planting and roadside improvements.



These images have been provided by individuals working with the project operators

About hydro power

Hydroelectric power, or hydro power, is electricity generated from the energy of moving water. There are several types of hydroelectric facility including impoundments, run-of-river and pumped storage. Impoundments and run-of-river projects are both powered by the kinetic energy of flowing water, however impoundments use large reservoirs to restrict the flow of water while run-of-river projects use the natural flow of waterways. A pumped storage hydro facility produces electricity by moving water between reservoirs at different elevations during peak times. In all three cases, water is usually fed either from a reservoir or the natural flow of a river into a turbine which is installed at the bottom of the dam. When water is released from a height onto the turbines, pressure causes the turbine blades to rotate. This in turn moves a shaft which is connected to an electrical generator which converts the kinetic energy of water into electrical energy. The amount of energy produced primarily depends on the volume of water and the height difference between the water source and the turbines.

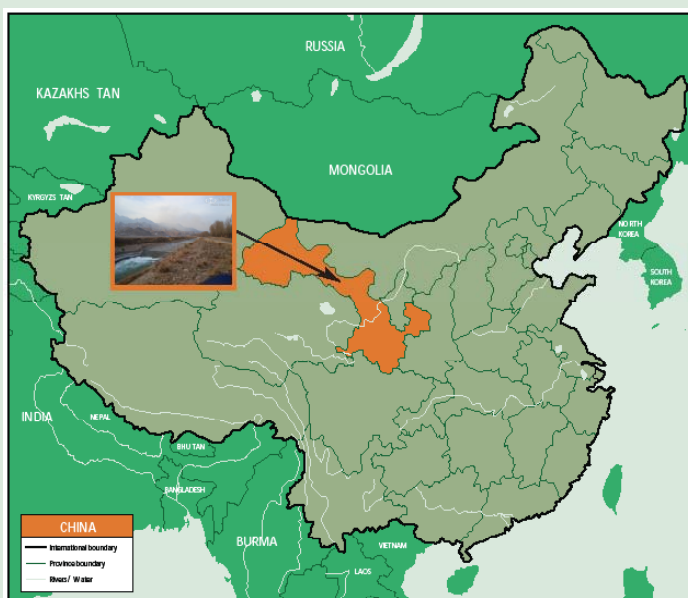


How carbon offsetting helps the project

It is expensive to develop and operate renewable technologies and that is where carbon finance can play an important role. Hydro power projects like this one are not required by law and often have to overcome financial and technological barriers to realise implementation. Carbon finance provides an additional revenue stream, helping to make these projects an attractive and viable option. In this case, the incentives from carbon finance are enabling the development of a hydro power project to generate clean energy. The reductions in CO₂ emissions achieved by this project are incremental to business-as-usual and measured by an independent verifier to internationally recognised standards. These are bought as carbon credits by clients of The CarbonNeutral Company to neutralise their own emissions.

Verification:

This project is verified to the Voluntary Carbon Standard (VCS) and is used to supply The CarbonNeutral Company's Green-e Climate certified offset, The CarbonNeutral Company Offset (China) Product.



Project area co-ordinates:

The bundled project is located on Erba Channel within the territory of Yongchang County of Jinchang City in Gansu Province. The geographical co-ordinates of the six stations are as follows:

- Station 1: Latitude 38°08'48"N, longitude 102°00'40"E
- Station 2: Latitude 38°10'08"N, longitude 102°00'02"E
- Station 3: Latitude 38°10'57"N, longitude 101°59'39"E
- Station 4: Latitude 38°11'43"N, longitude 101°59'32"E
- Station 5: Latitude 38°12'48"N, longitude 101°59'27"E
- Station 6: Latitude 38°13'17"N, longitude 101°59'16"E