THE CARBON NEUTRAL COMPANY

Protecting our climate

Renewable Energy Project

Callahuanca Hydro Power Project

This project improves the capacity of a hydro power plant in the Huarochirí Province of Western Peru. The project will generate emissions reductions of 20,000 tCO_2 equivalent, verified to the Voluntary Carbon Standard (VCS).

Technology partner

Endesa Generación S.A

Country

Peru

About your project

This run-of-river hydro power plant is located alongside the Santa Eulalia River in the Western foothills of the Peruvian Andes. To maximise the plant's productivity, new turbines and generators have been installed, which will increase the electrical capacity to 7.5 MW. This additional clean electricity is delivered to Peru's National Grid, displacing energy that would otherwise have been supplied by fossil fuel fired power stations.

In addition to the emissions reductions, the project will improve the reliability of the regional electricity supply which benefits the operation of key public services, such as health clinics and schools. The installation of the new equipment and ongoing operation of the plant will also provide jobs in this relatively undeveloped district of Peru.

The subsequent registration of the project with the Clean Development Mechanism (CDM) has enabled the development of a tree and shrub planting scheme, which will transform uncultivated land and generate income for local communities.

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

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About hydro power

Hydroelectric power, or hydro power, is electricity generated from the energy of moving water. There are several types of hydroelectric facilities 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 whilst 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.

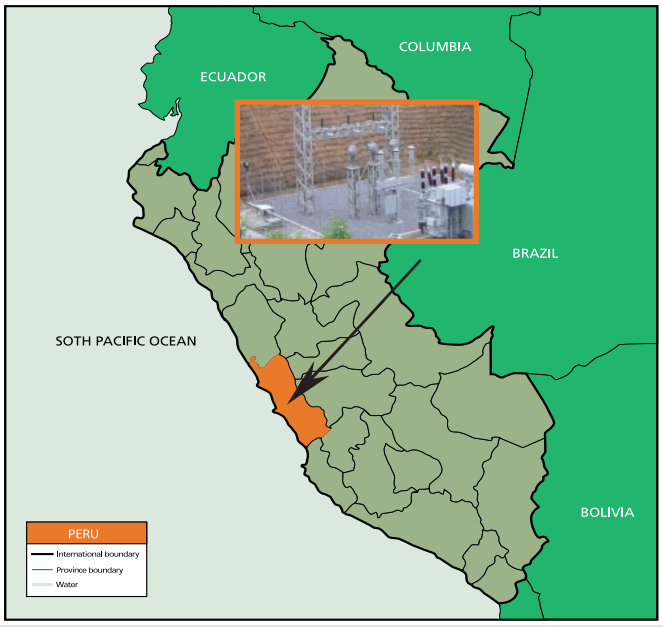
How carbon offsetting helps the project

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 CO_2 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 being verified to the Voluntary Carbon Standard (VCS). A copy of the documents relating to this project can be found within the project registry of CarbonNeutral.com.



Project co-ordinates:

The geographical co-ordinates of this project are latitude 18º 90' 75" East and longitude 901°26' 50" North.