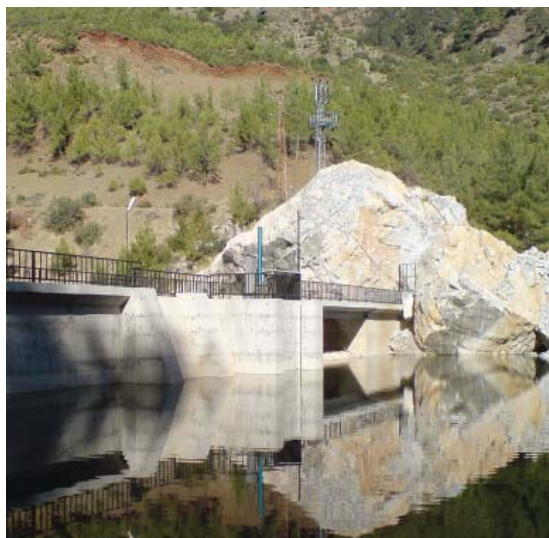


Renewable Energy Project



Dalaman Run-of-River Hydro Project

This project generates renewable energy at a small-scale hydro power plant in Turkey.

Standard



Project start date

4 April 2008

Country

Turkey

About your project

Located along the Cal Creek of the Dalaman stream in the township of Dalaman, Mugla Province, this project consists of an 8.9MW run-of-river hydroelectric power plant. The Cal Creek has an average annual water flow of 1.35 metres³ per second and supplies water to the small village of Gürleyik. The project generates 35,000 MWh of renewable electricity which is delivered to the grid, displacing energy that would otherwise have been primarily supplied by fossil fuel power stations.

Over the last 15 years, Turkey's economic growth has risen sharply, creating a dramatic increase in the demand for energy. Current energy supplies – primarily foreign natural gas and coal - struggle to meet this demand and daily power outages are a regular occurrence. However, Turkey has the potential to source energy from its abundant renewable reserves. While significant progress has been made in accessing large-scale hydro power, these projects involve building dams which can cause damage to the surrounding environment. By comparison, run-of-river hydro projects preserve natural habitats, but they currently only contribute 3.35% of Turkey's energy.

Alongside the environmental benefits, the project has created over 100 temporary, construction jobs and eight permanent, operational roles. Additionally, the project owner has supported the local community by:

- Constructing a wall, road and basketball court for the primary school in the village of Gürleyik
- Installing air conditioning equipment at the local mosque
- Constructing six new bridges and modernising existing roads which the village residents now use.



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 (Turkey - Renewable Energy) Product.



Project area co-ordinates:

The project is located between latitudes 36°54'30" and 36°56'12" North and longitudes 29°15'00" and 29°03'20" East.