

## Small hydro power project, Turkey

Hydro power is a form of energy that is generated by the conversion of free-falling water into electricity, generating no emissions or waste at all. Often hydropower generation is used in connection with controlling irrigation and water distribution as well.

### Location

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The project is located in Muğla Province, in Egean mountainous region, Turkey. The small village situated nearby the project is still under developed due to its remote location: the village is surrounded by mountains and the lack of infrastructures has prevented villagers from regular access to larger towns, hospitals and schools. The locals earn their living from mining and horticulture. The agricultural products are mainly wheat, sunflower, clover, cotton and corn. In addition to those, pomegranate, fig and alligator pear are also produced in small amounts.

The poor conditions of the rural area, its location in a remote region, and the lack of job opportunities make it difficult for local communities to conduct their lives in the villages. As a result, local inhabitants of Eage mountainous region often tend to abandon their native village and migrate to larger cities or touristic locations on the coast.

### Project

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The project is single a run-of-the-river hydro-electric power plant with an installed capacity of 8.9 MW, producing 35,000MWh electricity annually. In addition, the project reduces CO<sub>2</sub> emissions by 21,000 tCO<sub>2</sub>e per annum.

GHG emission reductions are achieved by replacing fossil fuels with sustainable energy, thereby avoiding the release of CO<sub>2</sub> into the atmosphere.



### Benefits

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Apart from global warming mitigation this project has brought the following benefits to local communities:

- The project generates power that is fed into the national grid. The existing electricity grid system mostly relies on imported natural gas, which represents a financial burden for the country, struggling with fossil fuels imports.
- The common buildings which require restoration have been improved by the project owner



- The primary school has been renewed and a basketball field has been built through financial aid of the Project Owner
- Bridges and new roads have been constructed and existing roads are modernized for the village residents, facilitating their access to other towns, hospitals, advanced schools, and markets.
- The PO has contributed to the renovation of the local mosque through the provision of construction materials.
- The wooden electricity poles of the local grid that were susceptible to fire have been substituted by concrete ones.
- The construction materials have been purchased from the local market, providing an extra income for the community.
- For the forestry management, the PO built a storage field so that the seeds are kept properly. This has had a positive effect on to the people since they can manage their plantation activities better.
- Reconstruction of irrigation channels for the farmers
- The project has created direct and indirect employment opportunities in the region, as jobs have been created for the local people living from the villages close to the project site. 100 workers have been hired during the construction phase and 8 employees are working permanently in the power plant.
- The project displaces CO<sub>2</sub> emissions which would have been caused by fossil fired power plants.
- The project contributes to better local air quality with less NO<sub>x</sub> and SO<sub>x</sub> since less fossil fuels need to be burned for electricity generation, lighting, and cooking.
- The project also contributes to the sustainable development of the country by increasing generating electricity from renewable resources, improving the energy mix and reducing dependence on fossil fuels.

## Details

KEY DATA  
Project No. 300276  
Average Emission Reductions per year: 21' 000 tCO<sub>2</sub>e  
DOE: Bureau Veritas  
Standard: VCS 2007



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