

SENA HYDROELECTRIC POWER PLANT

Kagizman, Kars - Eastern Turkey

The Sena Hydro Electric Power Plant (SENA HEPP) in the Aras River basin consists of two run-of-river hydroelectric generators, each with a capacity of 10.72 MWe.

SENA HEPP is expected to generate approximately 68 GWh per year of renewable energy, utilising the significant hydropower potential in eastern Turkey. The electricity generated is delivered to the national electricity grid, thereby avoiding electricity generation from fossil fuel sources, such as coal. The annual emission reductions to be realised by the SENa HEPP have been estimated at 38,000 tonnes of CO₂ (tCO₂).

The project is located in a very poor region of Turkey and provides financial and other support to local communities.

TYPE

Renewable energy - small hydro run-of-river power (methodology: ACM0002)

ANNUAL EMISSION REDUCTIONS

38,179 tCO₂.
20,783 tCO₂ has been verified (2013 and 2014 vintages) and is available for immediate sale

OPERATION START DATE

19 August 2013

STATUS

Project is operational

VCS PROJECT ID

1091

CARBON STANDARD

Verified Carbon Standard

PROJECT LOCATION



Kagizman, Kars - Eastern Turkey

OWNER

The owner of SENa HEPP is Hoşdere Enerji A.S., a specialist company that designs, builds and operates hydroelectric power plants. Hoşdere Enerji is majority-owned by Rönesans Holding (active in construction, renewable energy, real estate and healthcare).

FINANCE

The construction of SENa HEPP is financed by Garanti Bank under the Turkish Mid-size Sustainable Energy Financing Facility (MidSEFF). This facility is developed by the European Bank for Reconstruction and Development and is supported by the European Investment Bank and the European Union.



www.v-c-s.org

DEVELOPMENT GOALS



PROJECT OWNER

Hoşdere Enerji A.S.

Saygın Deniz

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In addition to the reduction of greenhouse gas (GHG) emissions, SENA HEPP also contributes to social and economic development, especially in the following areas:

✓ EDUCATION

Scholarships have been awarded to 14 local students.

✓ DRINKING WATER SUPPLY

A water supply system has been built delivering drinking water to households in Yukarıkaragüney and Donandı.

✓ JOB CREATION

The workforce for the construction of SENA HEPP and the operation of the plant has been sourced locally, such as plant operators, service and maintenance staff, and security personnel.

✓ INCREASED VALUE TO LOCAL BUSINESS

Construction equipment and service vehicles have been hired from local businesses.

✓ IMPROVED SOIL FOR AGRICULTURAL PRODUCTION

Degraded soil on nearby farmland (Yukarıkaragüney and Donandı) has been enriched with new soil and an irrigation system has been developed, leading to increased agricultural production.

✓ SUSTAINABLE ENERGY

The project generates clean energy with real, measurable and long-term GHG emission reductions.

✓ NATURE

The project does not harm the biodiversity and does not result in the degradation of natural resources and health standards. Furthermore, the project is not in the vicinity of any national park, cultural site or wildlife protection area.



MIDSEFF

MidSEFF provides up to €1.5 billion in credit lines to Turkish partner banks for on-lending to private sector borrowers for financing mid-size investments in renewable energy, waste-to-energy and industrial energy efficiency (www.midseff.com). MidSEFF includes support for the development of the Turkish carbon market, which can leverage sustainable energy investments in Turkey (www.turkishcarbonmarket.com).

