



ÇETİN HYDRO- POWER PROJECT



Picture of the Botan River at the main dam site.

The Çetin Hydropower Project (HPP) is located on the Botan River, a tributary of the Tigris River in the Southeast Antolia Region. The project is under development by Çetin Enerji A.S, a subsidiary of Statkraft Enerji A.Ş., which is owned by the Norwegian company Statkraft AS. Statkraft is the largest electricity generator in Norway and Europe's leader in renewable energy.

Botan River will be developed with a cascade hydropower scheme that will consist of 6 hydropower projects. Çetin HPP is the largest project, located between Alkumru HPP and Pervari HPP. The project area is within the provinces of Siirt and Bitlis. The Generation Licence to build and operate for 49 years was issued by the Energy Market Board Authority (EPDK / EMRA) in June 2009.

PROJECT DESCRIPTION

The Çetin hydropower project has been developed over the past 20 years by the General Directorate of Electrical Power Resources Survey and Development Administration (EİE) and is now developed further by Statkraft. Çetin HPP will comprise of two dams and two power stations named Main Çetin and Lower Çetin. While the power production shall take place in a powerhouse placed at the toe of the dam body of Main Çetin, the powerhouse of the Lower Çetin shall be integrated within the dam body.

To collect water and give sufficient head for power production, a 145 meter high Main Dam shall be built across the main

river just downstream Büyükçay, which is the biggest tributary of Botan. This dam will create a 20 km long reservoir along Botan and a 10 km long reservoir along Büyükçay with the highest water level of 822 meters above the sea level. The reservoir will have a capacity to store approximately 10% of the total annual water flow. During operation of the power station, the water level may be lowered approx. 30-40 meters in wintertime, but the reservoir will normally be kept at a high level most of the year. The reservoir will form an artificial lake and 10 km² land located in the reservoir area will be inundated. Although some of the summerhouses, pathways, bridges and farmlands will be submerged, none of the villages in the valley will be flooded.

Lower Çetin, located 6 km further downstream will utilize the remaining head of approximately 35 meters down to the Alkumru reservoir.

The total production capacity equals almost 1% of the existing electricity production and approximately 3% of

FACTS AND FIGURES

- Estimated Mean Annual Production:
Main Çetin: 1100 GWh¹
Lower Çetin: 300 GWh
- Installed Capacity:
Main Çetin: 401 MW
Lower Çetin: 116 MW
- Gross Head:
Main Çetin: 140 m
Lower Çetin: 35 m
- Maximum Discharge: 333 m³/sec
- Height of Dams:
Main Çetin: 145 m
Lower Çetin: 45 m
- Type of Dams:
Main Çetin: ACRD²
Lower Çetin: Concrete Dam
- Highest Regulated Water Level:
Main Çetin: 822 Masl³
Lower Çetin: 682 Masl
- Inundated Area⁴: 10 km²
- Construction Workers:
1500 people (estimated)

¹ The total production capacity equals approx. 1% of the existing electricity production and approx. 3% of the total hydro power production in Turkey.

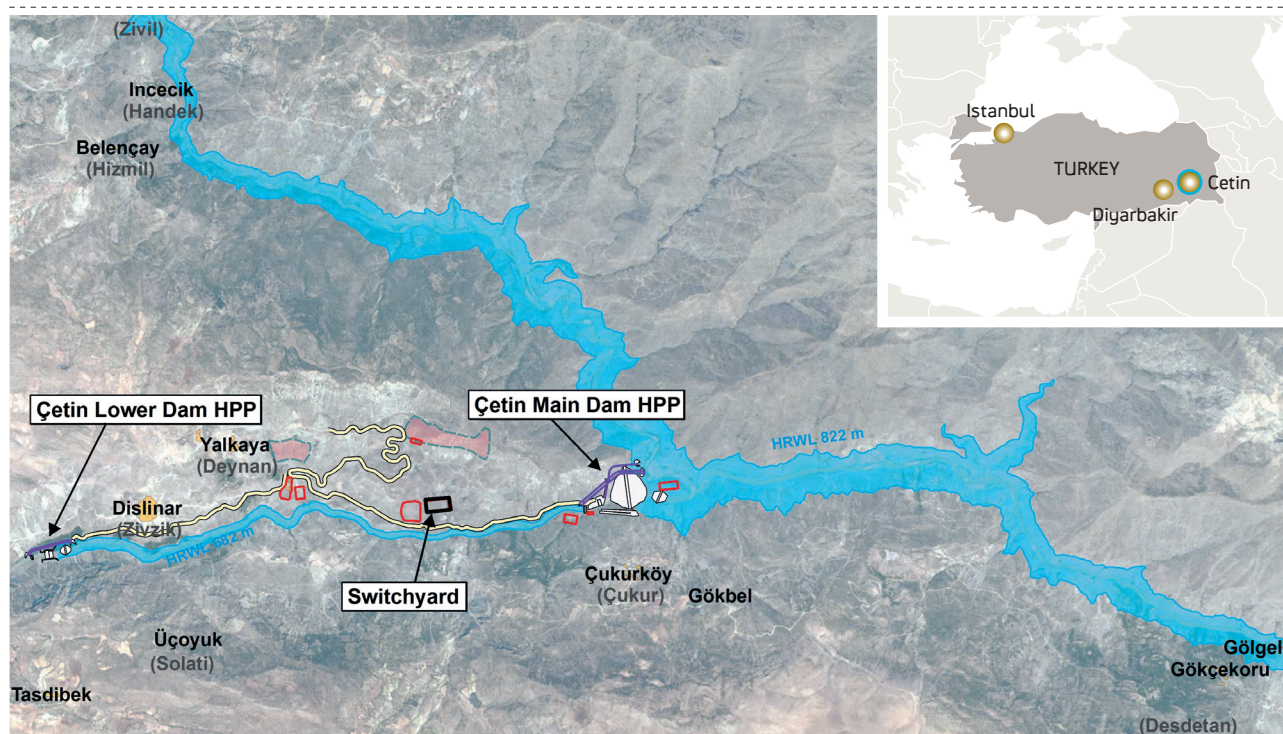
² Asphalt-Concrete Core Rock-Fill Dam.

³ Meters Above Sea Level.

⁴ None of the villages in the valley will be flooded.



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the total hydropower capacity in Turkey. Access to the construction site is planned from the north-western side of the river where a new road will be built. (See the map where quarry areas for dam body materials are also plotted). Rigging facilities with offices, workshops and living quarters will be placed near the construction site.

During the construction period the estimated number of workers to be employed may be up to 1500 people. After construction, the number of workers will be reduced to an adequate number for operation period. During both construction and operation periods, the project-owner shall prioritise the local people for employment; with the exception of skilled workers and specialists possessing special qualifications and experiences.

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) STUDIES

The project-owner is responsible of implementing project activities in compliance with the Turkish Environmental Impact Assessment Regulations and International Finance Corporation (IFC) Performance Standards.

In this scope; during 2010 and early 2011, the field surveys were conducted by EN-ÇEV, a Turkish consulting company and Norconsult, a Norwegian consulting company. During the ESIA studies, teams have carried out consultation meetings with stakeholders, including project affected people in the project area. In cooperation with the related specialists and consultants, the environmental and social profile of the project area, possible risk factors and appropriate mitigation measures have also been identified.

GOVERNMENTAL APPROVALS AND ONGOING ACTIVITIES

The revised feasibility study is approved by DSI / EIE, and the final design is now being prepared by DOLSAR, the engineering consulting company. Additional mapping and ground investigations (drilling works, etc.) started in 2010.

The Turkish EIA Report was approved by the Ministry of Environment in August 2011 and the Generation License is being amended in 1. quarter 2012.

The construction of Çetin hydropower plant started in December 2011, and the power plant is expected to be finished in 2015.

CONTACTS

In order to obtain further details or submit any comments and/or questions about the project, any interested members of the public or organisations are welcome to contact with the authorized people listed here:

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