

Khudoni Hydropower Project

Energy in Georgia

In the past, Georgia relied heavily on its neighboring countries to meet its energy needs. In 2004, Georgia imported 17 percent of the power used in the country. This situation has been turned around, and in 2007 Georgia became a small net exporter of electricity.

Multimedia



Upper Enguri reservoir near proposed Khudoni hydropower dam location

- ▶ [Slideshow: Khudoni Hydropower Project](#)

Resources

- ▶ [Q&A: Khudoni Hydropower Project Questions and Answers](#)
- ▶ [Environmental and Social Impact Assessment of Khudoni Hydropower Plant](#)
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The Enguri reservoir downstream of the proposed Khudoni reservoir



The Khaishi village that would be inundated should the proposed Khudoni dam be built

Unlike the situation just a few years ago, power is now supplied to paying consumers 24 hours a day. Faults in the system are quite rare, and the utilities are getting better at handling the system to avoid or minimize blackouts. The system currently has sufficient capacity to meet domestic demand at peak hours when households cook dinner, run washing machines, or make breakfast.

However, Georgia still relies on gas imports for thermal power stations – essential to meeting the winter's power demand. The reservoirs at the existing hydropower stations are not large enough to supply Georgia with enough winter power. Georgia needs to import power during the winter and exports power during the spring and summer. Such power exchanges are sound utilization of the capacities of countries in the region, and more regional trade is encouraged.

Economic Impacts

In the past, power shortages negatively affected economic growth and was considered one of the major impediments to business development in Georgia, notably outside Tbilisi where the power system was more broken than in the capital. Businesses suffered from the cost associated with unreliable power supply, and the population suffered much from lack of this vital utility. Looking forward, it is important for Georgia's economic development that an increasing demand for electricity can be met by increased and affordable power generation, while the rise in demand is kept low by using the energy efficiently in society.

Khudoni Hydropower Plant

The construction of the Khudoni Hydropower Plant (Khudoni HPP) began in 1979, but was terminated in 1989 as a result of the national political situation, and also as a result of environmental and seismic concerns about the Khudoni HPP. At the time, the designs for the Khudoni HPP comprised of an arch dam with spillway, diversion tunnel, coffer dams, water intake and penstocks, underground power house, tailrace tunnels, low level water outlets, and a 500 kV switchyard and line. Construction of some of the facilities were well advanced, including kilometres of tunnels, an excavated turbine room inside the mountain, access roads, and some foundation work on the left dam abutment. Environmental and social reviews, including a resettlement action plan, had been prepared in accordance with the then existing Soviet standards. But the dam itself was not built.

Interest in resuming the project began in the early 1990s, including design modifications in 1992, but the national situation and the lack of financing put developments on hold. Today, a new feasibility study is underway, for which international consultants knowledgeable of the latest technological advances have been engaged. Dam safety is top priority. Impacts on the local population and the environment are being carefully studied, and plans are being developed to safeguard the social and environmental interests.

The owner of the feasibility studies for a possible Khudoni HPP is the Government of Georgia. On behalf of the Government, the Ministry of Energy (MoE) of Georgia is the responsible agency for, among others, the conduct of the Environmental Impact Analysis (EIA) and social assessment for the Khudoni HPP. But the assessment process is being carried out in collaboration with the Ministry of Refugees and Accommodation and the Ministry of Environmental Protection and Natural Resources and in accordance with Georgian ecological review principles. The MoE is assisted in these tasks by consultants contracted in an open bidding process.

The approach that is being used is to pair the technical studies of the possible investment project with assessments of environmental and social impacts following a phased process. The preliminary ("pre-feasibility") studies were completed in 2008. In the first half of 2009, environmental and social specialists are expected to submit a proposed Environmental Impact Assessment and a Resettlement Action Plan based on their consultations with affected people and other stakeholders while the technical specialists will prepare the economic/technical feasibility study of the project.

Once a complete feasibility study and the proposed Environmental Impact Assessment and Resettlement Action Plan are received, and after consulting with affected people and stakeholders, the Government will make a decision about whether or not to proceed with the Khudoni HPP. The decision is estimated to be taken in mid 2009 or the early fall. If the decision is to proceed, the detailed specifications and designs will be developed under a subsequent engineering phase.

The World Bank's Role

The World Bank is currently helping the Georgian Government by financing consultants to prepare a feasibility study for Khudoni. One team of consultants is undertaking the technical studies, while another team is addressing environmental and social impacts and assessing how best to help and compensate people who would have to relocate or otherwise be impacted should the dam be built. The work of these teams of consultants will then be reviewed by a Panel of Experts on dam safety and a Panel of Experts on environmental and social aspects. Both panels are staffed with highly experienced international specialists.

If the Government decides to build the Khudoni dam and power plant, it is expected that the Government would prefer that Khudoni is financed by resources from the private sector, if such capital is available in sufficient amounts. It is possible that the Government may ask the World Bank Group and other international financial institution to assist in the financing of the project, but no decision has yet been made in this regard.