

Dam Big Impact - The energy sector development in Georgia

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CEE Bankwatch Network's Mission is to prevent environmentally and socially harmful impacts of international development finance, and to promote alternative solutions and public participation.

Summary

The energy policy of the Georgian government supported by a number of IFIs, aims at utilising the hydroenergy potential in the country in order to overcome the existing energy crisis. But effectively, this policy has the potential to cause significant negative impact on the environment, to drastically change the social and demographic situation in Georgia's mountain areas and to devastate the existing cultural heritage.

In order to ensure that former mistakes of the energy sector planning are taken into account and that the process of Georgia's power sector development is sustainable, it is essential that the international financial institutions enforce a moratorium on the funding of any large dam construction in Georgia and to ensure public participation in the development of the power sector's strategic planning process in Georgia.

Background Information

Following the August conflict between Georgia and Russia, external support for Georgia's reconstruction has been pledged by a number of the international financial institutions (the IFIs, namely the World Bank, the Asian Development Bank, the European Investment Bank, the European Bank for Reconstruction and Development and the International Monetary Fund) as well as the EU and the USA. The funds were allocated not only for emergency budgetary support and humanitarian aid, but also largely addressed the infrastructural and energy sectors.

In recent years the Government of Georgia has been promoting the construction of a number of large greenfield hydro generation projects, in conjunction with the promotion of 78 small and medium size hydro-power plants (HPPs), with a total installed capacity of around 3000 MW. A number of governmental papers, including "The Main Directions of Georgian State Energy Policy" and other strategic documents, point to Georgia's potential to become an energy-exporting country and the stated aim of constructing large HPPs directly connected to export possibilities; these export aims take precedence over the satisfaction of local energy needs.

The policy's goal to achieve a gradual replacement of natural gas with hydroelectric power is a step in the right direction. Yet, the idea of building large-scale hydroelectric power stations, with four currently being planned (detailed below), does not conform with the principles of sustainable development. Nor, in our view, do such plans solve the range of problems affecting the Georgian energy sector, including

the reliability of infrastructure, access to energy for local consumers and enterprises, energy security, energy inefficiency, problems with competitiveness and the monopolisation of the sector.

One recent proposed investment in the Georgian energy sector, to receive the support of the EBRD, kfW and the EIB, involves the construction of a 500 kV transmission line, from Azerbaijan through Georgia to Turkey, that would increase the stability of Georgia's energy system, as well as ensure the export of existing extra electricity to Turkey. However, the project documentation specifies that the Black Sea Transmission line is closely connected with the construction of a number of greenfield dams in Georgia, in order to export the high volumes of electricity to Turkey and to ensure tax income generation for the Georgian government.

As things stand currently, however, the EBRD and the World Bank are lining up behind the most economically and environmentally destructive hydrocascades that have the potential to cause significant negative impacts on the environment, drastically change the social and demographic situation in the mountainous areas of Georgia and devastate the existing cultural heritage.

The Oni HPP Cascade

The proposed Oni Cascade is a 3-stage cascade to be constructed on the River Rioni in the Oni district, Racha, Georgia. The total costs of Oni are estimated at USD 664 million and the project has been prioritised by the Joint Needs Assessment Document. It will involve the construction of a 115m X 739m rock dam.¹

In March 2009, the Georgian government announced the tender for the project design, and the construction and operation of the Oni Cascade. According to the tender information, the EBRD and the EIB both support the development of the Oni Cascade and may provide debt finance if a credible sponsor emerges. According to the document, production from the cascade will likely generate not only sales from revenues but also carbon credits (0.3839 t of CO₂).

According to the project promoter², in the case of the Oni region, a terms of reference for a full environmental and social impacts assessment for the Oni cascade has been developed and is already approved by the EBRD's Environmental Department.

The Khudoni HPP

The proposed 201 metre Khudoni Hydro Power Plant construction is planned for the high mountains of west Georgia (2010 metres above sea level) on the River Enguri. According to government calculations, construction of the Khudoni HPP will cost USD 500 million and will last four to five years. The plan is for Khudoni NPP to have an installed capacity of 700 MW with a 1.7 billion kw output. The length of the dam would make a reservoir with a volume of 230 million cubic metres. The Georgian government plans that the Khudoni dam will be complemented by a number of other upstream hydropower plants also on the River Enguri (Tobari Hydropower, installed capacity 600 MW, projected generation 2.2 billion kWh; Cascade of Nenskra hydros – 87 MW).

¹ Hwww.onicascade.comH

² Econ Poyry letter to Mrs. N.Ckhobadze

According to a “World Experience for Georgia” (WEG)³ analysis, “the purpose of the Khudoni construction was to provide peaking power for southern Russia and the republics of Transcaucasus. Thus Khudoni is only an attractive project in the environment of open energy trade and cooperation in the region, if there is a reliable market for its peaking power in the neighbouring countries”. Since the summer of 2005 the World Bank has been involved in negotiations with the Georgian government regarding the Khudoni HPP. The World Bank approved a technical assistance grant of USD 5 million for the Georgian government, of which around USD 1.75-2.35 million would be needed for preparatory works (preliminary and feasibility studies), technical studies, and an environmental impact assessment (EIA) and Resettlement Action Plan (RAP).

It is expected that the EIA study and the RAP would be open for public consultations by the end of summer 2009.

Local people resistant

It should be mentioned that in both cases local people are strongly against the construction of the large HPPs in their region, even though they would not require the resettlement of a significant amount of people. In both regions, zemo Svaneti and Racha people have already experienced the negative impacts of large dams (the Enguri Dam in Svaneti and the Shaori Dam in Racha) on their regions, that include changes in the microclimate and impacts on health, as well as negative impacts on cultural heritage. People are also concerned about the seismic and geological stability of the two proposed dams. While Georgia itself is located in a highly seismic zone, the Racha-Dzjava earthquake (Ms=7) that occurred on 29 April, 1991 was the biggest event ever recorded in the region, stronger than the Spitak earthquake (Ms=6.9) in 1998.⁴

Problems with planning in the sustainable energy sector

Last year, the World Bank presented a so called Strategic Environmental Impact Assessment (SEA) for the Georgian power sector. This document actually aims to examine the “merit order” of potential investments and measures in a long-term generation expansion plan with respect to economic, environmental, social and strategic aspects.

A key issue in this process was the examination of the merit order of the proposed Khudoni hydropower project” and to “provide necessary insight to support, or otherwise, a decision to implement the proposed Khudoni investment project”. The major shortcomings of the SEA are created by the terms of reference that do not require the formulation of the best alternative scenario from the environmental, social and economic points of view, but rather prioritize the planned projects based on financial merits. In addition, the SEA is based on limited information on the planned developments in the energy sector and, for example, does not include the Oni cascade that has been vigorously promoted by the Georgian government since 2007.

The deficiencies of the SEA have led to a number of uncertainties, like how many large HPPs need to be developed and stressing the problems of the power sector that have been under scrutiny for almost

³ www.weg.ge

⁴ Seismic source study of the Racha-Dzhava (Georgia) Earthquake from aftershocks and broad-band teleseismic body-wave-records: an example of active nappe tectonics, H.Fuenzalida et al. 1997, RAS, GJI, 130, 29-46

a decade: the need to assess the transmission system and interconnections with neighbours; assessment of projected trade; the problems of excess water in summer time and so on.

It is important that the IFIs and the Georgian government seriously assess the quality of the existing document and continue working to create a document that would include all existing renewable scenarios, energy efficiency and assess trade potential with neighbouring countries, as well as consider the clear environmental implications on nature as well as its mitigation.

The Ministry of Energy easily agreed to undertaking an SEA on River Rioni to justify the Oni HPP construction.⁵ The ministry is agreeing to an SEA on the river basin to find out the merit of HPPs, and also to merely tick some boxes rather than to find out the most sustainable scenario for Georgia's energy development.

Meanwhile, during a public hearing on the Khudoni SEA, a representative of the ministry stated that: "The document was prepared at the request of the World Bank and does not represent the interests of the Georgian government". This was said because the above-mentioned SEA, with all the deficiencies above, was stating that Khudoni is not the best option for Georgian energy security, and thus the government tries to diminish SEA value. This is the clear illustration that the government does not consider the SEA as essential tool for informed decision-making.

While the importance of the SEA study on the river basin approach is out of the question, the planning needs to be started from the bottom, not from the middle. Decisions on when and where greenfield HPPs are to be constructed should be based on the most favourable sustainable energy scenario proposed by an SEA and, on that basis, the preparation of the "least cost development plan" for the Georgia Power sector.⁶

The information laid out above stresses that Georgia's power sector development is still dependent on the interests of different parties, rather than being based on a coherent approach to ensure wider national-level access to electricity, Georgia's energy security and environmental sustainable energy development.

In order to ensure that the mistakes of the energy sector planning are taken into account and that the process of Georgia's power sector development is sustainable, it is essential that the international financial institutions:

1. Enforce a moratorium on the funding of any large dam construction in Georgia while the strategic development plans of Georgia's power sector are not developed in a participatory manner.
2. Carry out a Strategic Environmental Impact Assessment that would address the ways how to satisfy existing electricity demand in Georgia with existing potentials and alternatives, address

⁵ Interview with Mariam Valishvili, Magazine LIBERALI, N5 15-28 July, 2009, www.liberali.ge

⁶ The "Georgia Least Cost Development Plan" financed by USAID in 1998 aimed to assist the Government of Georgia to define a capital investment plan for the power sector through the year 2010. The results of the planning model were quoted for two scenarios of economic development: Slow Growth (base case) scenario and the modified Strong Growth scenario. The study clarifies that the most immediate needs of the Georgian power system involve the restoration of its large and medium hydro electric power stations, and the repair and strengthening of the high voltage transmission system. USAID, Implemented by Burns & Roe Enterprises Inc.

the existing dams issues⁷, as well as develop the most sustainable solutions for the development of the sector, present a cost-benefit analysis of these alternatives, along with a cumulative impact assessment of the planned projects on local populations and Georgian society as a whole. The SEA should present the best scenarios not only for the development of new generation capacities or the rehabilitation of infrastructure, but include also the development of new renewable technologies, as well as energy efficiency.

3. Ensure wide and fair public participation for the revision of the findings of the SEA and the follow up decision-making process.
4. Assist in the developing of a strategic development plan for Georgia's power sector based on participative processes.

For more information

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⁷ While Georgia has approximately 1600 MW of hydropower capacity that actually generates electricity at the moment, the installed capacity is around 2700 MW. The rehabilitation of these sites could bring around 2.2-2.5 TWh of additional hydro electricity. According to expert estimates, energy efficiency measures would decrease Georgia's dependence on gas by 10-20%.