

Paravani HPP

Study on the impacts of EU controversial investments



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1. Background

Energy sector overview

The energy security concept has emerged in recent years as one of the cornerstones of the EU's foreign policy, primarily in order to diversify the bloc's energy supply sources. It includes support for numerous oil and gas pipelines and supply routes in the Caspian sea region to ensure diversification of supplies whilst avoiding Russia. As a result, and via the support of the IFIs as well as special EU programs such as INOGATE, over the last decade European companies have ensured the development of a number of oil and gas fields and pipelines in the Caspian region.

In addition, the EU is promoting and backing the export of electricity from the neighbourhood countries through already existing transmission lines, as well as by promoting the construction of new ones, despite the evident "lower environmental and social standards of the generating facilities"¹. Programs such as the Trans-European Networks are allowing and even encouraging electricity exporters to benefit from loopholes and differences in environmental standards and to increase electricity export from the neighborhood countries into the EU. It is recognised that "Although there are some clear advantages in producing electricity locally there will always be regions in Europe, which could be net exporters of electricity due to a concentration of renewable-energy resources, such as hydro²." While there is also ongoing rhetoric that "To facilitate such exports, transmission systems need to be maintained and built, however this must only be done when environmental and social standards comply or are in line with those in the EU". In practice, however, investment in the sector is instead increasing problems within the given countries while also supporting the development of unsustainable energy.

Georgia aspires to integrate with the EU and to finally become a member of the bloc, and it serves as a red line in all political negotiations. Georgia is part of the EU's European Neighbourhood Policy, and there are ongoing negotiations between Georgia and the EU regarding the Associated Partnership Agreement, including DCFTA (Deep and Enhanced Trade Agreement).

Georgia, as a country with predominantly mountain landscape, rich water resources and strategic geographical position, strives to get maximum use of it for its own development and become a regional energy hub³. After the Rose Revolution, many of the old projects in power and energy have been put back on the agenda. The government of Georgia (GoG) is promoting the construction of new large and medium-size hydro power plants (HPPs) with a total installed capacity of up to 3,000 MW. The plans foresee highly controversial large dam cascades mainly in mountainous areas of Georgia, including the Khudoni HPP (702 MW installed capacity, annual output 1.5 TWh) on the Enguri river, the Namakvani cascade (450 MW, annual output 1.6 TWh), Nenskra Cascade (438 MW, 1.2 TWh). The plans also include diversion type projects such as Paravani (87 MW), Dariali HPP (109 MW) etc.

As the first step to become a regional hub based on so-called renewable energy is to ensure the harmonization of Georgia's energy system with that of Turkey, and to subsequently gain access to the South-East European market by 2015-2017.⁴ For that purpose, the Construction of the Black Sea Energy Transmission System started in 2009. The project is co-financed by KfW with EUR 100 million (a EUR 75 million loan plus a EUR 25 million grant), while the European Bank for Reconstruction and Development (EBRD) and the European Investment Bank (EIB) have earmarked EUR 160 million (EUR 80 million loans each) and the Neighbourhood Investment Facility (NIF) has provided an EUR 8 million grant for project preparation⁵.

The aim of the project is the rehabilitation and construction of a "315 km high voltage grid connecting the Georgian and Turkish power networks, to connect the power grids of the Southern Caucasus

¹ <http://www.eu-energy.com/fs-import-final.pdf>

² *ibid*

³ According to the Ministry of Energy and Natural Resources, the first-stage task is to ensure the harmonization of Georgia's energy system with that of Turkey, and to gain subsequently access to the South-East European market by 2015-2017 <http://csrdg.ge/upload/editor/file/ENPI/dokumentebi/ENP%20Report%202010%20-Geo.doc>

⁴ <http://csrdg.ge/upload/editor/file/ENPI/dokumentebi/ENP%20Report%202010%20-Geo.doc>

⁵ South Caucasus united by common electricity grid <http://www.enpiinfo.eu/files/features/FT28%20east%20Georgia%20EN.pdf>

countries and increase electricity exports to Turkey and Europe, while bolstering energy security in the region”⁶. It is expected that by 2018 around 8 large HPPS will be built, alongside a number of medium HPPS, and this transmission line will be used at its full capacity. One of the first greenfield project supported by IFIs, namely by the EBRD, was the Paravani HPP.

Project background

The Paravani HPP project consists of the construction, operation and maintenance of an 87 MW run of river HPP on River Paravani, near the town of Akhalkalaki, Georgia, close to the Turkish border. In addition to power generation facilities, it includes a 13.77 km conveyance tunnel and a 32 km long 220 kV transmission line to the Akhalskhe substation which connects to the 400/500 kV high voltage Black Sea Transmission Line that connects Georgia to Turkey.

The Paravani HPP project is the first greenfield power facility connected to the converter station that makes use of the new export transmission line to Turkey. The total project cost is estimated at USD 156.5 million. The project sponsor is Georgia Urban Energy, the Georgian subsidiary of the Turkish conglomerate Anadolu Group. The EBRD is providing USD 52 million in funding, and has also taken a USD 5 million equity stake in Georgia Urban Energy. The IFC is providing an additional USD 40.5 million and a further USD 23 million has been syndicated via commercial banks.

The memorandum between the Georgian Government and Georgian Urban Energy regarding the construction of the Paravani HPP was signed in May 2007.

This HPP project aims to supply electricity to the Georgian market during three winter months (December-February) and to export power to the Turkish market in the remaining nine months of the year. The deal with the Georgian government is based on the build, operate and own model (BOO), in keeping with the memorandum of understanding signed in 2007 (changed in 2009).⁷ Construction of the HPP started in 2010 and it was supposed to be completed in 2014.

However, in November 2012, the construction of the HPP was stopped, as the Turkish construction company ILGI contracted by Georgian Urban Energy, left the project. The explanation was that the company had undergone financial and material losses. The materials that needed to be excavated were much harder than it was defined by the Environmental and Social Impact Assessment, and because of it machinery broke down, while the project sponsor did not cover the subcontractor’s additional expenses.

The project proponents claim that the project’s ESIA adheres to EBRD and IFC standards. Thus, the preparation and implementation of the project are in compliance with the best international standards. However, despite the type of HPP and its moderate size, the project is likely to have drastic impacts on the River Paravani. Moreover, the HPP’s development impacts are highly questionable.

⁶ <http://www.enpi-info.eu/files/features/FT28%20east%20Georgia%20EN.pdf>

⁷ The memorandum of understanding was changed in 2009. This is the major agreement between the Georgian government and project sponsors, for HPPs with installed capacity under 100 MW.

2. Problematic areas of the project design and implementation

2.1 Environmental impacts

The project involves the construction of a 14 km derivation tunnel in order to divert water from the River Paravani to the River Mtkvari, upstream of the village of Khertvisi, and the construction of a 220 kV transmission line to connect the project to the grid.

The project will have drastic negative impacts on the biodiversity of River Paravani, as the project plans to divert 90 percent of the annual average flow (AAF) of River Paravani to River Mtkvari. According to the ESIA, ten percent of the AAF of the river, as a minimum sanitary flow, will be left to preserve the ecosystem of River Paravani. According to the document, the ten percent figure is based on “western standards” (without referring to any guidelines), and the impact of this on the ecosystem of the River Paravani is assessed as minimal.⁸

According to the project sponsors, “the minimum (sanitary) flow released will represent at least 10 percent of annual average flow in the Paravani River at the weir location (calculated as 16.5 m³/sec)... It would guarantee release at least 1.65 m³/sec at all times ... In the wet spring and summer months, considerably more water will be released. Detailed monthly flow data is available in the ESIA. It is important to note that, due to the flow characteristics of the River Paravani, the planned releases represent 15-25 percent of natural flow for around 80 percent of the year.”⁹

It should be underlined that 15-25 percent is a massive drop in the water level, but even this is not guaranteed for the whole year and that at certain times only ten percent of the water will be left in the river. This is even more serious considering that the hydrological data is outdated (1937-1986), and that the real amount of water is likely to be less given the increasingly frequent dry spells in recent years. If there is competition between securing enough water for power generation and ensuring sufficient residual flow, the Georgian authorities are probably not able or willing to enforce any minimum residual flow.

Impacts on birds

The construction of the 220 kV transmission line infrastructure will have an impact on birds, as it is located directly in the African-Eurasian migratory waterbird flyway¹⁰ used by 255 bird species¹¹ that cross the territory of Georgia from their nesting sites to wintering areas and back. These species are sensitive to accidents on linear obstacles (eg, wires) and to electrocution while perching.

Concerns about this impact have been raised with the project promotor and funders. A response from the EBRD’s management states that “IFC and EBRD will request Georgian Urban Energy to re-evaluate the transmission tower design, conductor separation and possible use of bird diverters in order to minimize the risk of bird mortality.”

However, no re-evaluation report has ever been disclosed to the public, while construction works have started. This is a clear violation of the EBRD’s Environmental and Social Policy: “Through the

⁸ On May 16 2011, the project sponsors and consultants arranged a roundtable on the Paravani HPP and clarified that they calculated the sanitary flow based on the Tennant (Montana) method, widely used in 16 states in the USA. Subsequently, the EBRD confirmed the statement by the Project consultants “according to the flow method actually applied (Tennant Method) is one of the most widely accepted globally, having been adopted by 25+ countries including the USA (in 16 States), Canada, Australia, Italy, and Turkey.” However it is notable that, according to the Tennant method, the minimum level of residual water flow chosen in the project (10%) is ‘fair or degrading’ for fish species in the river, which is likely to be insufficient to guarantee that the biodiversity of the river is maintained. According to a range of scientific opinions, the Tennant method is a simple “rule-of-thumb” method setting the correlation between minimum water discharge and fish habitats, wildlife and recreation. Thus it is highly recommended that the “Tennant method be used only for initial planning flow recommendations without serious validation within the region of use” (CEE Bankwatch Project brief).

⁹ EBRD letter to Green Alternative

¹⁰ http://www.cms.int/species/aewa/aew_bkrd.htm

¹¹ http://www.birdlife.org/flyways/africa_eurasia/index.html Over 40 percent of long-distance migrants in the African-Eurasian flyway have shown signs of decline over the last three decades. Of these, 10 percent are classified by BirdLife as Globally Threatened or Near Threatened on the IUCN Red List. Many of these birds are continuing to disappear.

environmental and appraisal process, the client will identify and characterize the potential impacts on biodiversity likely to be caused by the project. The extent of due diligence should be sufficient to fully characterize the risks and impacts, consistent with a precautionary approach and reflecting the concerns of relevant stakeholders.”¹²

2.2. Social Issues

Flooding Khertvisi village.

One of the major potential social impacts of the project is the risk of flooding the village of Khertvisi located downstream of the powerhouse of the project. According to the project description, 90 percent of the average river flow in Paravani will be diverted to the River Mtkvari, which will increase water flow in Mtkvari significantly (i.e. increasing the flow by 17 cubic metres/second on average, and by 35 cubic metres/second in spring).

According to the project sponsors, “the maximum volume of water diverted from the Paravani River into the Mtkvari River would raise the high water level around 10 cm in an average year, which should not result in flooding.”¹³ However, this cannot be considered as a reliable argument because increasing the river level on average by 10 cm per year does not exclude the possibility of flooding the village during the spring months when the river flow reaches its maximum level.

According to locals, almost every spring River Mtkvari floods the village, especially those land plots and houses located along the river, because of the lack of bank protection on the river. People fear that if riverbank protection measures are not implemented it will be impossible to live in the village after project implementation.

According to the EBRD, “given the level of community concern, Georgian Urban Energy has agreed to commission an additional evaluation of flooding risks and this evaluation is currently underway. The outcome of this study – including the technical details of any mitigation requirement(s) – will be discussed with the potentially affected community as soon as it becomes available.”

These additional evaluation studies of flooding risks have been disclosed neither to locals nor to civil society before the start of construction works nor during project implementation, which represents a violation of the EBRD’s environmental and social policy.

Access to pastures, dead trees and flooded gardens

Apart from flooding, the ESIA also fails to describe problems regarding access to pastures and subsequent mitigation measures. According to the local population, since the start of construction works they have not been allowed to graze their cattle on their pastures (“Kvarsa”) as the path to the pastures has been closed by the project sponsor, while instead of pasture there is a gravel quarry. As a result, villagers have been forced to take cattle kilometers away from the village, which negatively impacts their productivity.

During project implementation a number of new problems has been created by the project sponsor, including flooded gardens and dead trees. The 18 hectares fruit gardens of village Chunchkha, near the project tunnel, has been negatively impacted by the project. This includes the flooding of the gardens from time to time by water which collects in the tunnel. In addition, the water is polluted by concrete and other chemical substances being used to build the tunnel, which caused fruit trees death and harvest reductions.

¹² Performance Review 6, EBRD Environmental and Social policy (2009)

¹³ Response letter from EBRD management team.

Problems of private property protection

The problem of land registration in Georgia is widespread¹⁴. During the development of infrastructure projects, the local population, as a result of improper land registration, often see their land being seized, including lands clearly recorded in the public registry. The Ministry of Economy sells or allocates land required by the projects without proper investigations.

For example, the villager Aleko Tsikhelashvili has been struggling since construction works started at the Paravani HPP to regain his land. This land plot was registered by the Ministry of Economy to paravani HPP company Urban Energy already in 2007, and since 2009, when the construction works started, he has made use of different complaint mechanisms and court cases to get compensation or have his land returned.

The company seized residential land in Zveli, a village of 28 families, however, the company hasn't paid full compensations until now. In addition, the villagers of Zveli claim that the project sponsor destroyed the fruit gardens near the Kura river bank, but they could not get any response from the company and they were forced to go to court.

Employment

One of the major concerns for local communities is the lack of local employment during project implementation. According to the ESIA, during the construction period, the project would employ around 200 people, of whom 100 would be local people, while during HPP operation at least 40 would be employed.

However, local people claim that it was only possible to get employed at the Paravani HPP construction through nepotism practices. After ILGI, the subcontractor, left the construction works, there were a number of strikes organized by workers to get their four months due salaries, as well as by local communities who supply construction camps with food.

2.3 Legal deficiencies of the project

The memorandum of understanding between the Georgian government and Georgian Urban Energy (signed 29.05.2007) raises questions on what the Georgian state will actually receive as a result of the implementation of the Paravani HPP project. According to the memorandum, the project sponsor will provide electricity to the Georgian electricity system in winter, upon request.

According to the ESIA, that project will generate USD 36.6 million per year for Georgia¹⁵ and it will improve Georgia's balance of payments. Taking into account the fact that the project will be implemented using the BOO (Build - Operate - Own) scheme the state budget would not benefit also. The purpose of the Paravani HPP is to export electricity to Turkey. Exports in Georgia are not taxed. Investors do not pay for water resources. The only expected income for the state would consist of 20 percent income tax paid by workers plus 0.1 percent tax on property for local communities. According to Green Alternative estimations, the overall benefit from the HPP would be only y USD 2.5 million.

Moreover, taking into account the fact that Paravani river freezes in winter, it may turn out that the Georgian Energy System will not receive any electricity from it¹⁶. Thus decreasing electricity imports is not a valid justification for the project.

Meanwhile the contract contains the additional support measures for the project from the state side for the project. According to the memorandum of understanding, "that land required for construction and exploitation of HPP is transferred under company ownership and in case of implementation of obligations by the company, it will remain the under company ownership despite the terms of

¹⁴ http://www.greenalt.org/webmill/data/file/publications/Stripped_Property_Rights_April2012_Eng.pdf

¹⁵ Chapter 11 of the ESIA;

¹⁶ The Georgian Energy system has a deficit of around 5%, with imports taking place during winter.

present the memorandum stipulated in article 3 [(15 year)]. In addition, the company can use water resources of the river Paravani and the lake Paravani unrestricted period according to the legislation". In addition, "the government under its own competence and in compliance with Georgian legislation would support company in 1) construction of roads, 2) construction of communication lines, 3) installment of water pumps, 4) and any other equipment and machinery".

In September 2011, the Georgian Urban Energy informed the government of Georgia regarding the steps the company undertakes to implement the MoU. The steps undertaken include: 1) "the main conditions agreement between company, EBRD and IFC"; 2) lending agreement between EBRD and Company; 3) lending agreement between IFC and company. According to financial agreements, the company undertakes the obligation to guarantee the loans with real estate mortgage (the land plots transferred to the company for HPP construction, a total area of the 60,317 sq.m). The land plots were conditionally purchased by the company in 2007 from the Ministry of Economy. The company required and received from the Georgian government the written agreement to ensure the mortgage of the above-mentioned real estate.

Strangely, the MoU does not provide the terms of the returning of the lands, the restoration of the environment to its initial state prior to the return of land plot including provisions in case the company would not be able to meet conditions. This makes environmental risks somewhat unbalanced. ***Besides, this contradicts the Restitution Principle, which implies that environment degraded as a result of certain activities must be restored as close to its original state, as possible.*** The Restitution Principle is one of the basic principles of environmental protection in Georgia, as provided in paragraph (j) of article 5 of the Law on Environmental Protection and disregarding this principle may be harmful not only to the environment, but also to the State budget (since ultimately the measures to avoid and/or correct adverse impact or environmental damage will be financed from the budget).

2.4 Role of financial institutions in tackling problematic areas

As far as the energy sector is concerned, the major efforts of IFIs were directed to the development of energy infrastructure. The development of energy infrastructure is important for further development of the country and the construction of the Black Sea Transmission Line is a good example of long-term profitable projects. However, neither the government, nor international financial institutions financed and supported any large-scale energy efficiency projects (at both legislative and practical levels), the implementation and rate of return of which require comparatively short time and which are economically effective, since they are oriented to resource saving.

The Georgian Government and international financial institutions support the construction of new large hydro power plants (HPPs). Besides the fact that these projects deepen social and environmental problems, giving due consideration to the current tax environment of Georgia, the effectiveness of their implementation for the state budget is extremely doubtful. In addition, the EBRD and IFC do not adequately address problematic areas during the Environmental Impact Assessment process, which leads to the above-mentioned social and environmental problems.

The Paravani ESIA has multiple deficiencies and while CSOs have raised points on those deficiencies, the concerns were never properly addressed. The project ESIA document was not available in English. That was worrying for two reasons: First it was unclear how the EBRD and IFC made quality assessment of the Georgian ESIA of the project. The second a basic principle of the Public Information Policy of the EBRD is the willingness to listen to third parties (including international NGOs) so as to benefit from their contributions to its work. The EBRD's PR 10 directly commits "to identify people or communities that are or could be affected by the project, as well as other interested parties." It is unclear how international experts can give their input if the ESIA is only available in Georgian language.

As a result, the EBRD and IFC fully depend on a consulting company contracted by the project sponsor, without any actually independent review of the project documentation.

In addition, the project ESIA lacked a proper analysis of solar, wind, hydrothermal and bio energy alternatives to the project. It gives background descriptions of these renewable alternatives but no detailed comparative analysis to the hydro option. It does not include financial calculations either, on how much would be needed to implement such projects.

According an EBRD letter, “A project-specific ESIA is not considered the appropriate forum to evaluate the national policy-level question of whether Georgia should develop medium-large hydropower projects versus other forms of renewable energy (for example, mini-hydro, wind, biomass).” While this may be correct to some extent – a thorough choice would include a strategic environmental assessment of Georgia’s energy strategy - this does not mean that the analysis of alternatives in an EIA can be accepted in the form of a box-ticking exercise.¹⁷

In addition, it is noteworthy that the European Parliament has been very sharply criticizing the World Bank: “Regrets that the World Bank mainly promotes a large-scale and export-oriented energy model rather than supporting small-scale decentralised energy projects that are often more appropriate and effective in meeting basic needs in rural areas; urges the World Bank to support alternative, small-scale decentralized energy projects which take account of the needs of local communities and the economic realities of different countries, and to set specific targets and monitoring guidelines to ensure that energy lending will benefit the poor”¹⁸. Therefore it looks very strange that a part of European Aid through EBRD and IFC will be delivered directly for the action highly criticized by the parliament.

2.5 Project coherence with EU regulations and policies

The project ESIA and design contradict not only the EBRD’s environmental and social policy but also the EU’s Water Framework Directive (WFD),¹⁹ and the Convention on Biological Diversity.

The EU’s WFD also requires EU member states to achieve at least Good Ecological Status (GES) in all water bodies by 2015 and also to prevent deterioration in the status of any water body with High Ecological Status (HES) as a target for pristine sites. Exceptions are permitted only for water bodies designated as Heavily Modified (HMWB), where the target is Good Ecological Potential (GEP).

According to the Guidance on Environmental Flow Releases from Impoundments to implement the WFD, “Setting and implementing environmental flow releases from impoundments involves many different aspects of management, including policy level objective setting, technical definition of flow needs for ecosystem support and financial considerations of the costs of mitigation measures.”²⁰

In 2001 the Convention on Biological Diversity’s Subsidiary Body on Scientific, Technical and Technological Advice recommended that environmental flow assessments should be conducted for dams to ensure downstream releases for maintaining ecosystem integrity and community livelihoods.²¹

¹⁷ Green Alternative submitted the compliance to EBRD Project Compliance mechanism, the complaint has been accepted and decision would be adopted by EBRD Directors board in October 2013.

¹⁸ <http://www.europarl.europa.eu/sides/getDoc.do?type=TA&reference=P7-TA-2011-0067&language=EN&ring=B7-2011-0128>

¹⁹ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2000:327:0001:0072:EN:PDF>

²⁰ Sniffer (Scotland and Northern Ireland Forum For Environmental Research): Guidance on Environmental Flow Releases from Impoundments to Implement the Water Framework Directive; Final report, May 2007.

²¹ International Rivers: “Protecting Rivers and Rights”, The World Commission on Dams Recommendations in Action; Page 15; July, 2010.

3. Conclusions

The majority of planned HPP projects in Georgia are of the diversion type and the determination of the residual water flow in these projects is the key issue for downstream river ecosystems. After the ten percent residual flow was published in the ESIA for the EBRD-financed Paravani project, it became widely considered as the best practice in all other diversion HPPs (including small HPPs) in Georgia (Dariali, Nenskra, Bakhvi etc.). EIAs were prepared for the Dariali and Nenskra rivers argue that the given projects are in compliance with the EBRD's environmental and social policy. The development of these projects will destroy the ecosystems of the rivers in Georgia and create problems with access to water for downstream communities.

The Environmental and Social Policy of the EBRD states that "in planning and implementing impact assessments where biodiversity issues are a key focus, clients should refer to best-practice guidelines on integrating biodiversity into impact assessment." Approval and funding of the Paravani project by the EBRD sets a precedent for other project developers to use the standards and methods used by the EBRD and the IFC, and that automatically means the application of best-practice standards. It should be noted that the respective project developers for Dariali, Nenskra, Bakhvi, Lukhuni etc already claim that their projects have been prepared in line with EBRD requirements – but what they actually refer to is the 10 percent residual flow figure, as an international best standard. The EBRD should now accept its responsibility for spreading the so-called "EBRD standard" in all other derivative HPP projects in Georgia and take measures to mitigate its impact.

The Lisbon Treaty, TEU Article 3, sets out the Union's overarching principles and aims. Article 3(5) includes the following among the objectives that the Union should contribute to in its relations with the wider world: "...the sustainable development of the Earth, solidarity and mutual respect among peoples, free and fair trade, eradication of poverty and the protection of human rights". Therefore, the EU's external actions should aim at "...fostering the sustainable economic, social and environmental development of developing countries with the aim of eradicating poverty."

There are significant contradictions between the policies and investments promoted by the EU. As it promotes respect for human rights, sustainability and environmental protection, at the same time its energy security policy promotes access to unlimited energy, at any cost. The same could be said about its investments and financial instruments. While the promotion of small scale, sustainable renewable energy represents one of the major headlines for EU financial instruments, simultaneously it works to secure and invest hundreds of millions in unsustainable large-scale energy projects, without sufficient safeguards.

4. Recommendations

- Strategic Environmental Impact Assessment should apply to any EU investment that could have the potential to serve as a catalysis for sector development (as is the case with the Black Sea Transmission line).
- World Commission on Dams recommendations on the development of a strategic assessment of the energy sector prior to any large hydro investments into a given country should be adopted as a methodological guidance at the EU level and be similarly required from the given partner country in the case of any large-scale power sector project.
- Given the fact that the construction of any large HPP is connected with irreversible changes and risks for the environment and society, the decision-making process should accordingly be undertaken based on full consensus among members of the society in question.



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