

## IMPACTS OF HYDROPOWER ON BIODIVERSITY AND CLIMATE CHANGE

In the energy system of Armenia, about 40% of electricity generation comes from hydroelectric power plants. Among them are 2 cascades of large power plants (402 + 565 MW of total installed capacity) and about 190 small hydroelectric power plants with a total capacity of about 400 MW.

All hydroelectric power plants use terrain that provides high water pressure in the penstock. As a rule, a dam is constructed at the place where water is taken from a river or its tributary, which completely blocks the riverbed and is directed by a diversion channel either to a diversion system or directly to a pressure pipeline.

A stepped fish passage is placed in the body of the dam of small hydroelectric power stations, which, as a rule, does not ensure the migration of fish up and down the river and is imitation in nature.

At large hydroelectric power plants there are no fish passages at all and river water is completely enclosed in pipes and diversion channels.

Often, a cascade of small hydropower plants is built on the same natural watercourse.

Special studies show that the state of the aquatic ecosystem of rivers is catastrophic both in terms of fauna species and their population. The fact that before the construction of large and small hydropower plants, the ichthyofauna was of commercial importance is forgotten.

Naturally, the generation of electricity at HPPs is not accompanied by CO<sub>2</sub> emissions into the atmosphere, however, studies on the full cycle (full cycle) have not been carried out and are not being carried out, and the real (full) impact on the climate system during the construction and operation of HPPs has not been assessed.

An interesting scheme has also been introduced in the thermal power industry: Armenia imports natural gas from Iran and, under a barter scheme, pays for this gas with clean electricity exported to Iran. That is, according to this scheme, greenhouse gas emissions from gas transportation (fugitive methane emissions) and electricity generation (CO<sub>2</sub>) are included in the emissions inventory of Armenia...

Returning to hydropower, it should be noted that in addition to shortcomings in the legislation that do not contribute to the conservation of biodiversity in the hydropower sector, there is widespread violation of this legislation, as well as regulations. From the point of view of the applicability of the provisions of the Aarhus Convention, it should be noted that in terms of providing information, the state of affairs is, to a first approximation, satisfactory. In terms of public participation, it is of a formal, imitative nature: public hearings are held, but they do not have any legal consequences and create the illusion of participation.

As for the accessibility of justice, it is completely absent for many reasons. Among them: 1. imperfection of the legislation, 2. Lack of awareness of the beneficiaries (the population) about their rights and confidence in justice, 3. An established oligopoly, in which government bodies lobby the private sector, 4. Corruption schemes, often supported by the state (clear examples are “Dzora HPP, SHPP Argichi, SHPP Jradzor).

It seems to us that it is necessary to actively use the provisions and mechanisms of influence of the Aarhus Convention and, as an urgent task, begin to create a special arbitration institution that can facilitate the civilian population's access to justice.

We hope to receive useful information in Geneva and start a process of further cooperation with interested colleagues and the Task Force on Access to Justice.

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