**Study of solid sediment in Zhinvali reservoir and its extraction possibilities for the purpose of extending the operation period of the reservoir.**

**General**

According to the annual bathymetric studies 1.7 ml. M2 solid sediment is accumulated in the Zhinvali reservoir. Accordingly, the volume of the reservoir reduces every year by the same amount. Most of the sediment accumulates in shallow parts of the reservoir, near river mouths. At the same time, a fine fraction of the material moves into the deeper part of the reservoir near the dam.

**Study Goal**

The goal of the study is to assess the possibility of removing the accumulated sediment within the reservoir and to model several possible options, because of which it will be possible to:

* Reduce the intensity of filling the reservoir with solid sediment
* Maintenance of the useful volume of the reservoir
* Gradually restore the design volume of the reservoir

**Work to be performed within the framework of the study**

Stage I

1. Assessment of the volume of solid sediment accumulated in the reservoir and determination of their spatial distribution
2. Quantitative assessment of the solid sediment of the rivers feeding the reservoir, taking into account the climate change trends
3. Evaluation of the dynamics of the water level in the reservoir
4. Prioritization of the areas of accumulated solid sediment distribution in the reservoir and identification of the critical area, showing the volumes of accumulated solid sediment
5. Elaboration of solid sediment removal methods for the designated critical areas, in line with best international practice considering the protection of the water quality of the reservoir
6. Development of solid sediment capture methods within the 3 main tributaries feeding the reservoir in line with best international practice, considering the protection of the water quality of the reservoir

Stage II

Assessment of the possibility of using the recovered solid sediment for further management, namely:

* Determination of the volume and composition/fraction of solid sediment minerals, for example: clay, sand, sludge and loose mass, etc.
* Assessment of the possibilities of further management of the removed solid sediment, considering its mineral composition
* Development of requirements for disposal sites for recovered solid sediments with consideration of several alternatives for disposal sites

**Additional Terms**

* Research should be conducted by qualified specialists in the field;
* For the research perfection purposes, the "Company" will consider the additional opinions and suggestions of the applicant.