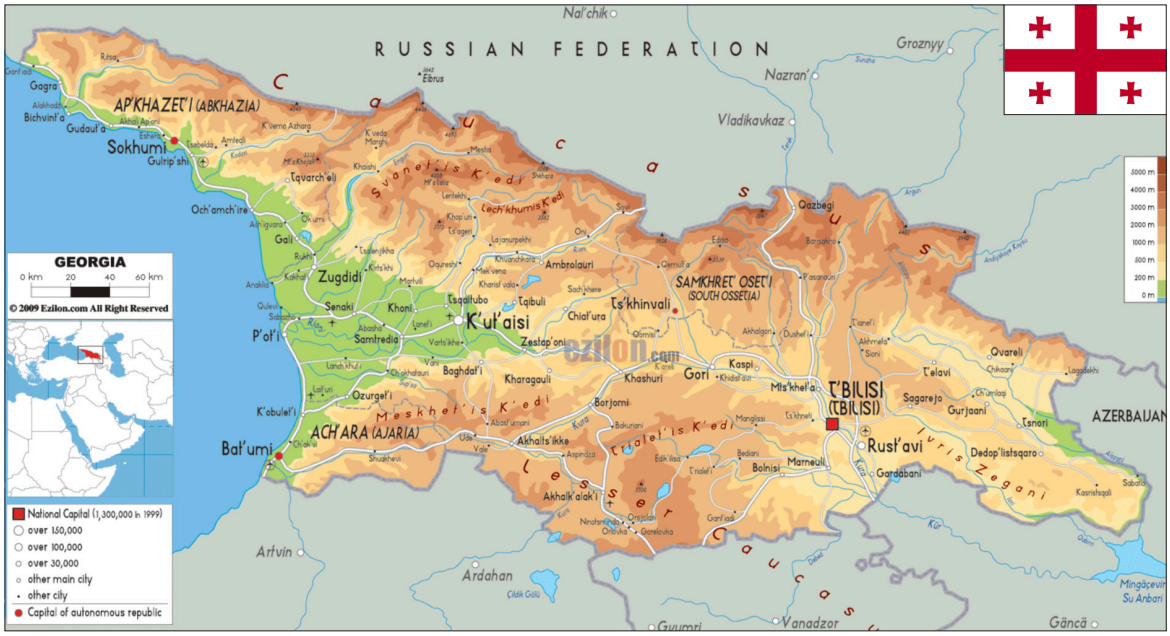
FACTS

Hydro power resources in Georgia

The Ministry of Energy (MOE) and the National Environmental Agency (NEA) of Georgia, and the Norwegian Water Resources and Energy Directorate (NVE) have entered an institutional cooperation in order to develop Georgia's hydro power resources.

Georgia has got a large hydro-power potential, which when developed will cover the need for domestic as well as industrial use of energy. In addition, the surplus energy may be exported to neighboring countries and contribute to the economic development in the country. Therefore, the strategy of the MOE is an optimum, but at the same time sustainable, development of the hydro power resources that Georgia possesses. For this purpose MOE provides potential investors with the data for the construction of new hydro-power plants. Besides, it is essential to identify and explore new opportunities on a national scale.

A thorough knowledge on the water resources is not only vital, but a prerequisite for the hydro-power assessment and development. Unfortunately, most of the hydro-meteorological data exists only on paper and cannot be used directly as input to modern software and analyses tools. In 1989 most of the hydro-meteorological services in Georgia broke down and has only recently partly been re-established (since 2006). Today, other cooperation programs are re-establishing the physical station network including automatic transfer of water and weather data. It is important to ensure operational good routines for collection, control, storage and analysis of hydrological data. An operational hydrological computer system with necessary analyses tools, will in the future benefit all water users and will highly facilitate a future introduction of the EU Water Framework Directive.



The staff of Hyd./met. division at NEA is considered as highly competent, but is suffering from lack of capacity, in particular as the old station network is rehabilitated and new stations are established. There is also a need to carry out training and increase the competence level in some fields. The establishment of run-off map for the whole of Georgia will also necessitate training and increase of competence. Land surface characteristics and terrain elevation from GIS and meteorological and hydrological time series will be used for setting up and running a nationwide hydrological model that will characterize the runoff and other hydrological elements of Georgia. The hydrological model will be set up and run in cooperation with NEA. Model results for runoff will be used as input to a GIS-based expert system for evaluation of hydro power potential and hydro power plant construction costs.

The final part of the project, the computation of the hydro power potential and the prioritization of the various schemes according to costs in a GIS-system, will be done in very close cooperation with MOE staff, including workshops, a study tour to Norway, and on-the-job-training. When this work is successfully completed, the MOE will possess a very valuable tool for development of the hydro power resources of the country.

MOE, NEA and NVE have agreed to digitize all historical hydro-meteorological records in Georgia, which will be done at NEA. NVE will be responsible for the management of the project and acting as experts/ advisers in hydrology and GIS. Energy experts from NVE will be responsible for the assessment of the hydro power potentials of Georgia, incl. costs. NVE will in cooperation with MOE and NEA organize necessary workshops and training.

End results of the Project:

- All existing hydrometeorological data in electronic form
- All hydrological data quality controlled
- A run-off map covering the whole of Georgia
- An operational nationwide hydrological model
- A GIS-based model for assessment of the total hydro power potential of Georgia, including development costs.
- Well trained staff at NEA and MENR

The priority target groups of the project are MOE and NEA, which will receive improved and more efficient tools for monitoring and management of the water resources. Their staff will receive training, and transfer of knowledge will be an important part. Besides these main target groups, all users of hydrometeorological data will benefit. Hydrometeorological data of good quality is necessary for planning of water supply, irrigation, pollution control, flood and drought forecasting, etc.

MOE participates as a coordinator of the project, as well as being the end-users of the results. NEA will participate during the whole project as providers of baseline information, and will as "owner" of the database information system participate in it's development, workshops and training.

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Norwegian Water Resources and Energy Directorate

N V E

Partners

The Ministry of Energy of Georgia is in charge of coordinating the development of the hydropower potential in the country in order to attract investors for construction of new hydropower plants.

The National Environmental Agency (NEA) under the Ministry of Environment and Natural Resources Protection) is responsible for all water resources monitoring and management in Georgia, and prepares and distributes the information concerning hydro-meteorology, water reserves and the Black Sea territorial waters.

NVE (a Directorate under the Ministry of Petroleum and Energy of Norway) is responsible for ensuring an integrated and environmentally sound management of Norway's water resources, as well as promoting efficient energy markets and cost-effective energy systems and contributing to efficient energy use.