

MEMORANDUM OF UNDERSTANDING

Concerning the institutional cooperation between

The Norwegian Water Resources and Energy Directorate (NVE), the Ministry of Economy and Sustainable Development (MOESD), Ministry of Environmental Protection and Agriculture (MOEPA), Georgian State Electrosystem (GSE), Georgian Technical University (GTU) and National Environmental Agency (NEA)

Renewable energy - Hydropower – Hydrology-Climate

January 2018

Preamble

In 2013 the Ministry of Energy of Georgia and NVE signed a cooperation agreement for a technical assistance programme with the aim to improve local competence and capacity to make reliable assessments of the energy resources in Georgia, in particular clean and renewable energy based upon hydro power. NEA, the Ministry of Environment and Natural Resources Protection of Georgia were the key partners on the Georgian side. The programme completed successfully in 2017.

During 2016 the NVE and relevant partners in Georgia started discussions for a new phase of a technical assistance programme. The discussions identified many interesting and relevant cooperation areas within the energy sector. The parties developed and prepared a mutual cooperation program based on their relevant experience and within their respective fields of competence. Key partners are the Ministry of Economy and Sustainable Development (MOESD), Ministry of Environmental Protection and Agriculture (MOEPA), Georgian State Electrosystem (GSE), Georgian Technical University (GTU) and National Environmental Agency (NEA).

An application for Grants from the Norwegian Ministry of Foreign Affairs (hereinafter referred as Application) (Annex 1) for funding of an institutional cooperation was submitted to the Royal Ministry of Foreign Affairs (MFA) of Norway on 9th June 2017 and approved in late October 2017.

Article 1 Background

Georgia has an electricity demand of approximately 10 TWh, with an estimated growth of 3 - 5% annually.

Georgia is a rich country with renewable energy sources. Hydro power is currently the most important source, accounting more than 80% in 2016. Natural gas makes up for the remainder of generation, and most of this fuel is imported. From renewable energy sources, hydro energy has the greatest potential, perspective and priority due to such advantages as sustainability, high flexibility, the reserves of power and energy, which are critically important for such small country as Georgia. However, Georgia has recently started utilization of its wind energy potential. The first wind power plant in Georgia was commissioned in 2016. In the future, the country intends to tap more actively into other sources of renewable energy, such as solar energy.

Georgia plans to develop its renewable energy sources in order to avoid growth in import of natural gas, and to increase generating electricity for export to its neighbouring countries, thus achieving growth of export income. Private investors are foreseen to take part in this. However, realizing these plans requires a number of efforts in improving planning capacity, understanding the likely implications of climate change, and developing the framework for trade of electricity in-country and across the border.

The energy sector grows rapidly both in terms of volume of energy consumption and complexity. The energy sector institutions therefore need to recruit suitably qualified professionals to increase the expertise in the energy sector servants cadre which is essential.

Whereas statistical data on consumption and generation are now available, it is also necessary to establish a fact base for the energy resources. The previous cooperation established a database on hydrometric data, which was used to analyse and establish the hydropower potential and development cost. With the present climate change scenarios it is also important to analyse the climate change impact on future hydropower production. No recent detailed information is available on wind and solar energy resources.

Georgia has a well-functioning power sector. The main challenge for Georgia and its authorities is development of power sector and creation of an open, competitive and liquid electricity market. Proper implementation of electricity acquisition will facilitate development of resilient, secure system. To achieve these purposes, preparation of a road map for arriving at a more transparent situation is necessary.

Article 2 Objectives of Institutional Cooperation

This Memorandum of Understanding (hereinafter referred as MoU) is signed between The Norwegian Water Resources and Energy Directorate (hereinafter referred as NVE), the Ministry of Economy and Sustainable Development (hereinafter referred as MOESD), Ministry of Environmental Protection and Agriculture of Georgia (hereinafter referred as MOEPA), Georgian State Electrosystem (hereinafter referred as GSE), Georgian Technical University (hereinafter referred as GTU) and National Environmental Agency (hereinafter referred as NEA) hereinafter referred as "Parties" to jointly implement a program with the the overall objective to improve the utilization of Georgia's renewable energy resources for economic development of the country.

Article 3 Scope of Activities

In order to reach the overall project goal, which is establishment of relevant data and technical capacity for a rational planning and development of Georgia's renewable energy resources and to draft the Renewable Energy Law of Georgia the following Cooperation Areas are foreseen:

1. MSc program at NTNU for Georgian students;
2. Five short term courses for employees in MOESD, GSE and NEA;
3. Climate change impact on runoff and hydropower production;
4. Hydrological and meteorological data management system (hydro generation forecast, hydro power plant operation in free market conditions);
5. Modelling tools for water resources management;

6. Road map for power market development;
7. Grid integration study Georgia – Turkey (with reserve sharing, market coupling);
8. Draft Renewable Energy Law of Georgia.

The details of the Cooperation Areas shall be determined and foreseen by the Bilateral Institutional Cooperation Agreements to be signed in accordance with Article 4 of this MoU.

Article 4 Institutional Cooperation

Bilateral Institutional Cooperation Agreements have to be signed between the Norwegian Water Resources and Energy Directorate (NVE) and the Ministry of Economy and Sustainable Development (MOESD), Georgian State Electrosystem (GSE), Georgian Technical University (GTU) and National Environmental Agency (NEA).

Article 5 Funding

The Royal Ministry of Foreign Affairs of Norway has granted NOK 30.833.668 for the implementation of the institutional cooperation, which will be administered by NVE. The institutional partners in Georgia will cover their own salary, while direct expenses related to the implementation, including study visits to Norway, will be covered from the Grant.

Article 6 Dispute Settlement

Any dispute between the institutional partners shall be resolved amicably.

Article 7 Duration, Amendments

- 7.1. The MoU is in force from the effective date of signature.
- 7.2. This MoU may be amended only in written form agreed by all Parties.

Article 8
Entry into Force

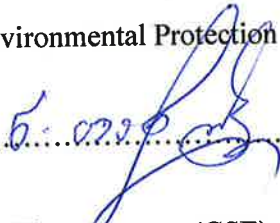
This MoU, which is signed in six originals in the English language, shall enter into force 23 January 2018 and shall be valid for the duration of cooperation if not superseded by any other agreement between the Parties.

Signed in Tbilisi, Georgia, on January 23, 2018.


For the Ministry of Economy and Sustainable Development (MOESD)


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For the Ministry of Environmental Protection and Agriculture (MOEPA)


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For the Georgian State Electrosystem (GSE)


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For the Georgian Technical University (GTU)


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For the National Environmental Agency (NEA)


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For the Norwegian Water Resources and Energy Directorate (NVE)


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