Project Summary

Project Background
A new program for the “Energy Efficient Rehabilitation of Schools” is planned via a Financial Cooperation Development Loan by KfW on a concessional basis. According to the Ministry of Urban Development (MoUD) approx. 300 schools in the country are dilapidated and require major rehabilitation works. As a result of severe rehabilitation backlogs and/or earthquake damages dating from the 1980s, these schools are only partially functional at the moment. MoUD plans to rehabilitate about 15-20 buildings per year in the coming years.

Project Objectives
The objective is to rehabilitate schools and improve the efficient use of energy in public buildings. By achieving this objective, the overall efficiency of energy consumption of Armenia shall be improved, energy imports shall be reduced and positive contributions to the energy security of Armenia and to the protection of global climate change shall be provided.

It is further expected that the Program will significantly increase the learning environment for students in the rehabilitated schools and have positive impacts on employment as well as income generation in Armenia.

Project Results
The result of this fact finding mission was to provide an overview of the present general rehabilitation and structural situation of the public buildings, and to describe the demand of increase of comfort and EE measures required to rehabilitate these schools. This was achieved by conducting energy audits of sample schools. The Consultant proposed standard EE measures, including the rehabilitation of the building envelope or the heating/cooling/ventilation, hot water and illumination systems as well as replacement of the old windows and implementation of shading. The specific energy consumption and CO2-emissions after rehabilitation shall be in line with Armenian/EU standards. As criteria, energy savings of at least 20% and emission reductions of at least 25% percent for each individual building shall be reached. Savings were calculated on the basis of the present energy consumption of the schools as well as the assumed energy consumption after a regular rehabilitation (without any EE measures). Another criterion was that the total final energy consumption of the building shall not exceed 125 kWh/m2 per year.

Services Provided
- Analysis and review of market environment and framework conditions;
- Screening of schools;
- Conducting of six detailed structural and energy audits and two short reports;
- Definition of standard structural, comfort and EE measures;
- Proposal of possible TA measures;
- Estimation of costs;
- Assessment of overall project feasibility;
- Proposal of implementation and monitoring structure.