Main Conclusions

Small hydroelectricity potential is usually assessed from the point of view of whether the use of watercourses is efficient. Small hydroelectric power plants (HPPs), as other power generating facilities, have their advantages and disadvantages.

The economic, environmental and social advantages of small hydropower are the saving of fossil fuels and construction materials, minimal environmental impacts and relatively short payback periods. Small HPPs are effective for small and medium-sized businesses, the services and tourism sectors, agriculture and industrial production.

The disadvantages of small hydropower that can affect its efficiency include unstable power generation because of the hydrological conditions of small rivers, the possibility of accidents during high water periods, and the quick silting of reservoirs near plants’ dams. Common problems surrounding small hydropower in the CIS are the lack of knowledge about hydrological and flow conditions of small watercourses; the lack of mass production of equipment and maintenance services for it; and relatively high unit costs (in some instances). Regulations and specifications governing design, construction and installation are not sufficient.

For these reasons, better economic conditions are needed to launch high-tech production and maintenance facilities for small hydroelectricity generating equipment. The legislation on renewable energy sources needs to be further improved and standardised. New technical regulations are needed to provide small hydropower plants and other renewable energy facilities with access to power systems, and these should be based on best international practice. Special guaranteed tariffs on electricity produced by small HPPs are deemed expedient, as is an obligation for power grids to buy this energy or its surplus not consumed by the plant owner. Research and engineering work needs to be financed and private investment should be attracted in the sector. In addition, professional training needs to be arranged.