

1.4. Action plan for small hydro-powers on mountain rivers technology

There are no specific governmental programmes related to the development of hydro energy sources in Azerbaijan. The government has identified initial targets for application of alternative energy sources within the State Program on Utilization of Alternative Energy Sources (2005 – 2013), including small hydro-power stations at mountain rivers.

In 2010, the Azerenergy Company, which is responsible for energy production and supply in Azerbaijan, conducted a feasibility study on construction of small hydro-power stations at mountain rivers. Based on the results of the assessments there is a potential for construction of 280 small hydro-power stations at mountain rivers and various water sources. Total power of those stations is estimated to be 700 MW. Construction of 25 small hydro-power stations is planned for 2013, 3 of which are already under construction. Groundbreaking ceremonies have been organized for the construction of the 3 small hydro-power stations in Goychay, Balaken and Gusar districts of Azerbaijan. Revised feasibility studies for construction of 7 more small hydro-power stations have been finalized and construction work will begin soon.

Application of small hydro-powers on mountain rivers technology lines with the country's social, economic and environmental development priorities.

With regard to the country's social development priorities, application of the above-mentioned technology will create new employment opportunities and will have a positive influence on public opinion, which would realize the necessity to protect the environment and reduce consumption of energy resources.

Regarding the country's economic development priorities, the technology will reduce energy production costs.

With regard to the country's environmental development priorities, the application of an environmentally sound technology that has zero emission will create a better environment.

According to rough estimates, for the year 2030, total GHG emission reduction will be 3.24 million tons of CO₂.

Regarding the mechanisms and institutional arrangements for deployment of small hydro-power technology, it should be mentioned that the key institution involved in the implementation of measures will be the Azerenergy Company under State Oil Company of Azerbaijan Republic. The State Company on Alternative and Renewable Energy Sources of Azerbaijan Republic and the Ministry of Industry and Energy will also be responsible for the coordination of measures indicated in TAP. The Ministry of Ecology and Natural Resources will be responsible for providing environmental impact assessments for small hydro-power stations and the Ministry of Emergency Cases will be responsible for disaster risk assessments of proposed constructions.

During the preparation of TAP for small hydro-powers technology, measures have been assessed taking into account their priorities, time scale, related stakeholders, key indicators for measuring implementation and funding resources.

TAP for the technology is provided in table 4.

Table 4: TAP for small hydro-powers on mountain rivers technology

#	Measures	Priority	Why it is important	Time scale	Related stakeholders, implementers	Key indicators	Risks	Funding sources	Costs
Policy/regulatory									
1	Develop specific regulations for simplifying permission mechanism	High	- Simplify permission mechanism in order to promote private sector initiatives	0-5 years	Azerenergy, SOCAR, MENR, Cabinet of Ministers	- Easy permission mechanism	- Lengthy state procedures and bureaucracy leading to slow endorsements of proposed recommendations	State	\$ 100,000
Economic/financial									
2	Develop mechanism for provision of long-term and low-interest loans, as well as grants through state, private and international funds	High	- Create easy access to affordable loans for private sector	0-5 years	MED	- Easy access to funds created	- Low interest of financial institutions - Insufficient state funds	State, International	\$ 100,000
Information/capacity building									
3	Enhance research/observation activities in order to identify the potential of mountain rivers and prepare electronic atlas	High	- Weak R & D activities	0-5 years	National Academy of Sciences, Azerenergy, SCARES	- Enhanced research/observation activities	- Weak capacity of R & D institutions	State, International	\$ 200,000
4	Capacity building trainings for respective governmental bodies responsible for research/observation activities in the field of small hydro-power	Medium	- Weak skills and capacity of R & D institutions	0-5 years	National Academy of Sciences, Azerenergy, SCARES, NGOs	- Increased capacity and skills	- No major risk	State, International	\$ 350,000
Other measures									

#	Measures	Priority	Why it is important	Time scale	Related stakeholders, implementers	Key indicators	Risks	Funding sources	Costs
5	Conduct detailed environmental impact assessments at potential construction areas	Medium	- Reduce negative impact to environment and environmental risks	0-10 years	MENR, NGO	- Detailed environmental impact assessments conducted	- Poor coordination between respective state bodies during assessment process	State, International	\$ 500,000
6	Donor coordination in order to enhance support to pilot project initiatives in the field of small hydro-powers technology	Medium	- Coordinate various donor initiatives - Demonstrate practical application of the technology	0-10 years	MED, SCARES	- Donor coordination meetings organized at least once a year	- Weak collaboration of related organizations	State, International	\$ 1,250,000