

Chapter 1: Alternative energy sources sub-sector

1.1. Brief summary of project ideas

Current initiatives are being taken in the alternative energy sources sub-sector, by different stakeholders, during the preparation of project proposals related to prioritized technologies. After the stakeholder consultation, two project ideas under the alternative energy sources sub-sector were proposed:

- 1) Pilot project promoting use of solar energy for hot water at municipal and community level at floodplain and lowland areas of Azerbaijan
- 2) Pilot project promoting application of biogas technology in remote rural communities of Azerbaijan

1.2. Specific project ideas

1) Pilot project promoting use of solar energy for hot water at municipal and community level at floodplain and lowland areas of Azerbaijan

Background

There is enough potential solar energy in Azerbaijan (the number of annual sunshine hours is 2400-3000), however due to lack of knowledge and capacity, local authorities, private sector, NGOs and local communities do not appropriate funds or resources for this renewable energy. Passive solar energy for hot water has been identified as one of the priority mitigation technologies by the TNA/TAP process, as it is in line with development priorities and technological advancement needs of the country.

The main barriers to deployment and dissemination of the technology are lack of awareness and adequate skills/capacity of local authorities, private sector and communities on advantages and use of the technology. Another barrier is weak access to acceptable financial means to purchase the technology.

The proposed pilot project envisages the measures to effectively address the information, technical knowledge and capacity building barriers, and create linkages with financial institutions providing loans at suitable terms acceptable for local users.

The project has great value as it addresses capacity/building, technical and financial barriers of technology deployment. Implementation of project activities will result in increase of awareness of local communities on economic and environmental advantages of technology deployment.

The project has a great potential for being replicated in other regions of the country, as its effective practice will be demonstrated by organizing study tours to the project area.

Project goal: The main project goal is to promote deployment of solar energy for hot water in local communities by increasing level of awareness, improving knowledge and skills of community residents, local authorities, private sectors, NGOs and other relevant stakeholders, in order to overcome capacity building/information barriers. Another goal is to create access to information on financial opportunities at current market and improve linkages of local communities with financial institutions, such as credit unions, banks, other relevant state and international funds.

Project objectives:

- Increase awareness level of local communities, local authorities, private sector and other relevant stakeholders on advantages of solar energy;
- Increase technical capacity of relevant stakeholders involved in technology application;

- Promote application of solar energy at community level through practical demonstration of its advantages;
- Increase access to financing (credits, loans, grants) at acceptable terms for technology deployment.

Project activities:

- Launch workshops for presentation of project goals and objectives;
- Organize round-table discussions with relevant stakeholders;
- Information campaigns and outreach activities (including websites and other internet sources) to increase awareness level;
- Capacity building trainings for representatives of local authorities, private sector, NGOs, other relevant stakeholders and community residents;
- Specific trainings to increase technical capacity of relevant stakeholders (technical service providers) to improve quality of provided services;
- Implement pilot projects at community level, including installation of passive solar energy equipment at individual households, local authority buildings, private business buildings and so on;
- Organize study tours with participation of representatives of surrounding communities in order to demonstrate effective project results and enable replication of project activities;
- Improve market linkages of target communities with relevant market players, including financial institutions, in order to create enabling framework for further application of passive solar energy by local communities;
- Organize national conference in order to present project achievements to wider group of stakeholders.

Project outputs:

- Installation of solar panels at 500 households in two local communities;
- Reduction of approximately 189 thousand tons of GHG emission;
- Six round-table discussions with participation of representatives of relevant ministries, agencies, institutions;
- At least 1000 participants, including representatives of local authorities, private sector, local community residents, NGOs, with improved knowledge and capacity of economic and environmental advantages of technology deployment;
- Four study tours with at least 100 participants in order to share effective practices;
- At least 20 local residents to receive affordable loans from financial institutions to deploy technology;
- At least five financial institutions and four solar panel producers/importers involved in project;
- Two national conferences organized to disseminate project achievements at national level.

Project beneficiaries: Project beneficiaries are local communities situated in floodplain and lowland areas of Azerbaijan, as well as local authorities, private sector, NGOs and other relevant stakeholders. The current project will cover two pilot communities (totaling 500 households) and will have 500 direct project beneficiaries. It is intended to enhance replication of applied best practices in territories of the country with solar energy potential.

As a result of the project, total reduction in GHG emission will be 189 thousand tons per year, taking into account that each household will use 2 kW/hour less energy from general electric power per day-- on average 300 days per year.

Relevant stakeholders:

- State Company on Alternative and Renewable Energy Sources will coordinate project activities as the main institution in the field of alternative and renewable energy in the country;
- Ministry of Economic Development will support implementation of the financial component by creating access to long-term and low-interest loans through different state funds;
- Local authorities will play the role of facilitator during implementation of project activities in target local communities and support practical actions;
- Private sector (financial institutions, producers/importers of solar panels) will be involved as market players actively participating in project implementation;
- NGOs will be involved in the project implementation cycle and will be responsible for capacity building/awareness-raising activities and dissemination of best practices to other surrounding communities.

Project duration: 3.5 years

Project budget: 3,250,000 USD

Project sustainability: Information campaigns, capacity building activities and study tours for demonstration of effective practices are designed to achieve project sustainability. Practical demonstration of advantages of applied technology will lead to replication of technology use by other communities. The project will contribute to the country's sustainable development priorities (economic, environmental and social), as it will result in sustainable energy supply to local communities, improved living conditions, creation of new jobs and improved ecological conditions (reduction in GHG emissions).

Project deliverables: At the community level, the pilot project will lead to significant results and will enable the demonstration of best practices to other local communities.

Project scope and possible implementation: The project will cover two local communities (totaling 500 households) situated in arid regions with high solar energy potential. All relevant stakeholders (state institutions, agencies, private sector, local authorities, NGOs, local communities) are interested in project implementation. In the past there were similar project initiatives, however they were at the individual level and lacked capacity building or financial components.

Risks: The main risk of project implementation is low interest of local communities in technology deployment. This risk will be mitigated through effective awareness-raising activities to be organized during the project implementation period.

Project monitoring and evaluation: The project will be monitored by a Project Steering Committee to be formed under the current project. Representatives of different state institutions, agencies, NGOs, private sector and local authorities will be included in the Project Steering Committee. Project results will be assessed by external evaluators, as well as by relevant state institutions (Ministry of Economic Development, State Company on Alternative and Renewable Energy Sources) responsible for project coordination.