

United Nations Development Programme

Country: Azerbaijan

Project Document

Project Title: Promoting Development of Sustainable Energy in Azerbaijan

UNDAF Outcome(s):

By 2015, non-oil development policies result in better economic status, decent work opportunities and a healthier environment in all regions and across all social groups

Expected CP Outcome(s):

Outcome 1.3: Relevant national strategies, policies, and capacities strengthened to address environmental degradation, promote the green economy, and reduce vulnerability to climate change

Expected Output(s):

- 1) One demonstration small hydropower plant is constructed;
- 2) National capacities to develop wind, solar and biomass energy sources has increased

Executing Entity: State Agency on Alternative and Renewable Energy Sources (SAARES)

Implementing Agency: UNDP

Brief Description

The overall objective of the project is to promote the development of sustainable energy in Azerbaijan. The specific objectives of the project are to: (a) support the building of one small hydro-power plant as a demonstration of its feasibility in Azerbaijan; (b) provide training and education to target groups and beneficiaries on sustainable energy; (c) assess the potential for renewable power, particularly in remote and rural areas, and in the smaller towns and villages throughout Azerbaijan; (d) identify which types of renewable power are economic or economic with minimal subsidy in each economic zone within the country; and (e) identify in a broad sense the geographic areas that offer good potential for placement of sustainable power generation.

Programme Period: January 2011 – June 2013
Key Result Area (Strategic Plan) Strengthened national capacities to mainstream environment and energy concerns into national development plans and implementation systems

Atlas Award ID: 00060711

Start date: January 2011
End Date: June 2013

PAC Meeting Date: 25.11.2010

Total resources required: 1,440,000 USD

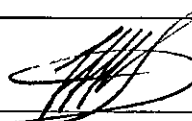
Total allocated resources: 1,440,000 USD

- Regular _____
- Other:
 - Donor: EC: 650,000 USD
 - Donor: Norway 790,000 USD
 - Donor _____
 - Government _____

Unfunded budget: _____

In-kind Contributions: _____

Agreed by (Government)

 Deputy Director J. Malikov

Part 1. Situation Analysis

Energy sector plays a central role in the economy of Azerbaijan contributing to about 45% of GDP in 2009, thus, making it the economy's largest segment. It makes a vital input to support sector-growth in the non-oil services and industry sectors. However, energy production is largely reliant on hydrocarbon reserves which Azerbaijan has been successfully exploiting since signing the Contract of the Century in 1994. The table below presents the dynamics of the energy production from various sources for the past 15 years.

Table 1: Energy Production in Azerbaijan, in thousand tons of oil equivalent

Energy Production	1995	2000	2005	2009
Total	15,303	19,280	27,726	67,259
Oil, Natural Gas and Condensate	15,169	19,148	27,467	67,067
Hydro energy	134	132	259	192
Wind energy	-	-	-	0.1

As evident from the table, while energy production has been steadily increasing, it remained dependent on two main sources – oil and gas. This poses a number of challenges to the country's development: 1) oil reserves are not infinite and are projected to be exhausted in 20-25 years posing a threat to the country's long-term energy security; 2) dependence on oil prices at the international energy market can make the country vulnerable during the global crisis times; 3) high carbon intensity of the national economy contributing to the global climate change impact.

At the same time, a series of studies (by ADB, KfW) demonstrated that Azerbaijan has considerable, yet untapped, potential for development of renewable and clean energy sources such as hydropower, wind, solar and biomass.

Currently only 12.5% of the total electric energy is produced from hydro resources, and this is mainly from six big power stations constructed during the Soviet time. Out of eleven small hydropower stations (SHS) constructed in Azerbaijan between 1929-1964 only four have been privatized, refurbished to some extent and are currently operational. No new SHS small hydropower stations were constructed since Azerbaijan gained independence, while total estimated hydro electric potential equals to 40 bn kWh, out of which 5 TWh are technically viable for small hydropower. Conversion of 5 TWh from old technology with heavy fuel oil to hydropower would roughly save 4 million tons of CO₂ per year.

The other source of alternative power in Azerbaijan is wind energy. According to initial researches, almost the entire Caspian coast line stretching for more than 600 km is suitable for utilizing wind energy. Absheron peninsula, where capital Baku is located and where there is highest demand for electric energy in the country, has speed of wind exceeding 6 m/c for more than 250 days. Total technical and economic potential from wind energy in the country equals to 3000 MW and 500-800 MW respectively. Currently there are already 2 (at Yeni Yashma) wind power stations operational and connected to the grid, 16 are under construction, 3 MW capacity each, and 20 more are planned. Utilizing wind power may save 1 million tons of conditional fuel per year.

The other source of alternative energy in Azerbaijan is solar energy. Azerbaijan has more than 3200 sunny hours per year. Baku area and Nakhchivan, disconnected from the rest of the country geographically and therefore, experiencing problems with electricity and energy supplies, have particularly conducive natural conditions for development of solar energy. If utilized this potential may amount to 1 million ton of saved conditional fuel. However, currently solar energy is not used at all.

Finally, it deserves mentioning biomass. Currently in Azerbaijan there are above 2 million cattle and over 20 million heads of chicken, which yields significant amount of manure estimated at about 30 million tons annually. Substantial amounts of animal manure offer good technical potential for biogas-

based grid-connected power (co)generation. Similarly, crop production, dominated by vegetables (at 2.3 million tons as of 2007), cereals (at 2 million tons), and fruits (at 1 million tons), is estimated to generate an average of 20% in residues, which are mostly left to decay in the field. While environmental impacts from livestock manure and crop wastes disposal are significant, these practices are not regulated in Azerbaijan. Thus, besides being not-utilized, left untreated, these huge amounts of biomass lead to soil, water and air pollution, including emission of methane, a potent greenhouse gas.

Country's leadership demonstrated political will necessary to change the current status-quo. Following the Presidential Decree of 16 July 2009, a State Agency for Alternative and Renewable Energy Sources (SAARES) was established under the Ministry of Industry and Energy. The Agency has the mandate of the principal regulatory institution in the sphere of alternative and renewable energy and is tasked with assessment of sustainable energy potential, shaping relevant policies, including tariff policy, elaboration and enforcement of relevant procedures such as issue of special permissions to the public and private entities to construct power generation facilities.

While development of renewable energy is one of the government's strategic priorities, it is premature for the private sector's full participation and operation in renewable energy sector due to less attractive environment. The institutional, regulatory and tariff environment has not yet provided enough incentive for private sector investment. In absence of a preferential treatment for renewable energy projects, standardized obligations of the buyer and seller it can be envisaged that the private capital will not be forthcoming for investment in renewable energy development. The project will attempt to help the Government overcome these barriers by building the capacity of the still fledging Agency become a fully functional institution able to regulate the industry.

UNDP mandate: Development of renewable and clean energy sources to provide direct benefits to the rural poor is among UNDP's global priorities. During the consultations with the Government of Azerbaijan on the UNDAF 2011-2015, energy was identified as one of the priority areas for assistance. Supporting Government's initiative to promote renewable and alternative energy with the broader goal to reduce the regional imbalances in economic development is a strategic focus of UNDAF and UNDP Country Programme. The project is consistent with the UNDP Country Programme Outcome 1.3 "Relevant national strategies, policies, and capacities strengthened to address environmental degradation, promote a green economy, and reduce vulnerability to climate change".

I. STRATEGY

The overall objective of the project is to promote the development of sustainable energy in Azerbaijan. The specific objectives of the project are to: (a) support the building of one small hydro-power plant as a demonstration of its feasibility in Azerbaijan; (b) provide training and education to target groups and beneficiaries on sustainable energy; (c) assess the potential for renewable power, particularly in remote and rural areas, and in the smaller towns and villages throughout Azerbaijan; (d) identify which types of renewable power are economic or economic with minimal subsidy in each economic zone within the country; and (e) identify in a broad sense the geographic areas that offer good potential for placement of sustainable power generation.

This overall strategy will be achieved by addressing the identified awareness, knowledge and capacity barriers that relate to: i) general public awareness on the costs, potential economic benefits and other characteristics of different renewable energy sources; ii) lack of local experience on the development and implementation of concrete renewable energy investment projects and structuring financing for them; iii) lack of concrete “show-cases” demonstrating the economic, social and environmental feasibility of different renewable energy technologies and their potential to facilitate local development, among others, in rural areas; and iv) the overall, technically and economically feasible renewable energy potential in Azerbaijan by different types of renewable energy.

The initial “knowledge enhancement” activities addressing the barriers above will provide a basis for developing stronger policy level actions to leverage increasing financing for further development and utilization of different renewable energy sources in Azerbaijan, including new financial and/or fiscal measures and support mechanisms for attracting private investors. In parallel, these knowledge enhancement activities will provide information for and build the capacity of the local private sector stakeholders to develop and implement concrete renewable energy investment projects.

The outputs of the proposed action have been structured under six components, which are discussed in further detail below.

1) Support the building of one small hydro-power plant as a demonstration of its feasibility in Azerbaijan.

This work will build on the activities of the ongoing UNDP “Technical Assistance for Promoting Development of Small Hydropower in Azerbaijan” project supported by the Government of Norway, as well as on other previous activities that have supported the identification and preparation of technically and economically feasible small hydro power projects.

Rather than demonstrating the technical feasibility of small hydro power projects, the focus will be on demonstrating the financial feasibility of local, private sector driven small hydro power development as well as on identifying the remaining institutional, regulatory and other barriers and challenges that may still be faced in Azerbaijan when moving from the identification of these projects to their actual implementation. The findings and lessons learnt during this process will be carefully documented and analyzed, which will provide a basis for further recommendations on the required institutional strengthening and regulatory improvement needs.

The final deliverables and measurable success indicators for this component will be the produced energy from the small hydro power project in operation, the level of cost-recovery to ensure its financial sustainability and the final monitoring report of the demonstration project¹ summarizing the results, challenges, recommendations and lessons learnt. These findings will also serve the further policy work under component 4 (see below) by identifying concrete regulatory and/or institutional barriers eventually faced during this process.

2) Acceptance of sustainable energy as a feasible energy option by energy managers, municipal authorities and general public

¹ All the foreseen publications of the proposed action have been underlined

This component will address the awareness and knowledge barrier #1 discussed at the beginning of this section, namely the lack of “general public awareness on the costs, potential economic benefits and other characteristics of different renewable energy sources” and the specific objective b) to provide training and education to target groups and beneficiaries on sustainable energy.

By building on the previous studies conducted on renewable energy in Azerbaijan as well as on international experiences and lessons learnt, the activities under this component will prepare materials and organize specific training seminars and programs for educating the local energy managers, public authorities and general public on the opportunities offered by sustainable energy. This will provide a basis for further development of local renewable energy projects and for increasing the public interest and acceptance of them in general.

The specific activities under this component will include: i) a five day seminar on sustainable energy to local energy managers; ii) a one day seminar at five (5) locations to regional authorities; and iii) an educational program on sustainable energy for public and schoolchildren with related presentation and other support materials. The expected result of this component is an enhanced and widespread understanding of the potential for sustainable energy.

The final deliverables of this component will be the organized seminars and educational programs. The materials prepared for this purpose will also be uploaded and published in the website of the action for further use.

3) Evaluation of the economics of wind, solar and biomass sources of energy in Azerbaijan

This component will build on the previous assessments of the potential and costs of renewable energy development in Azerbaijan, which will be complemented and updated on the basis of the most recent international and local market development. It will address the specific objective d) by identifying which types of renewable power are economically feasible without any subsidy or with minimal subsidy in each economic zone of the country.

The targeted beneficiaries will include local energy managers, project developers and public authorities. The studies conducted under this project component will support further evaluation of the economic and financial feasibility of different renewable energy options in Azerbaijan, their prioritisation and further elaboration of the supporting policies (see component 4) to facilitate Azerbaijan’s sustainable energy development. The results will also serve directly the work of the national Tariff Council of the Government of Azerbaijan to set feed-in tariffs for renewable energy that can be justified by the costs, macroeconomic value added and the environmental impacts of each available energy source of the country.

The main activities under this component include: i) reviewing and compiling international information on the different sustainable energy plant costs and factors affecting them; ii) estimating and compiling the cost of implementing these technologies in Azerbaijan; iii) estimating and compiling environmental, socio-economic, and training costs; and iv) compiling final matrix of sustainable energy options by their type and economic costs. These activities are expected to result in identification of areas where sustainable energy is technically and economically feasible.

The final deliverable will be a report addressing the points above together with related presentation materials for sharing the results with the targeted beneficiaries. The final report and presentational materials prepared for this purpose will also be uploaded and published in the website of the action for further use.

4) Enactment of a set of coherent regulatory and institutional documents for wind, solar and biomass sources of energy

By building on the outputs and conclusions of activities implemented under components 1-3, the activities under this component will support the identification and further elaboration of the required regulatory and institutional changes to effectively facilitate and support the sustainable energy development in Azerbaijan, including the elaboration of specific financial and/or fiscal incentives required for that.

The targeted direct beneficiaries will be the public authorities responsible for formulating and implementing specific renewable energy policies in line with the general objective of the state energy policy to support sustainable energy development, the national Tariff Council, renewable energy project developers and investors as well as local communities with interest in increasingly harnessing local renewable energy sources for their local development.

The main activities under this component include: i) review and evaluation of regulatory requirements for sustainable energy projects; ii) review and evaluation of institutional requirements for sustainable energy development; and iii) development of recommendations for addressing the identified regulatory and/or institutional development needs and submitting the recommendations for formal Government consideration. The expected result is identification/integration of regulatory and institutional requirements to obtain better convergence.

The concrete deliverables of this component will be: i) a report describing the suggested financial and fiscal incentives, analysing their impact and estimating the required financial resources to meet the stated targets for sustainable energy development in Azerbaijan; ii) consolidated recommendations for other required regulatory and/or institutional changes to facilitate sustainable energy development and leveraging of increasing private sector financing for that; and iii) draft texts of the suggested regulatory changes or required new regulations to be presented to the respective authorities and state agencies.

5) Prepare a pilot project plan for wind, solar and biomass sources of energy

By building on the findings of the components 1 and 3 described above, the target of this component is to finalize the assessment of the potential for renewable energy, particularly in remote and rural areas and in the smaller towns and villages throughout Azerbaijan, identify which types of renewable energy are economic or economic with minimal subsidy in each economic zone within the country; and identify in a broad sense the geographic areas that offer good potential for placement of sustainable power generation thereby addressing the specific objectives c, d and e.

The targeted beneficiaries will be the public authorities responsible for formulating and implementing specific renewable energy policies in line with the general objective of the state energy policy to support sustainable energy development, private renewable energy project developers and investors as well as local communities with interest in increasingly harnessing local renewable energy sources for their local development.

The specific activities under this component will include: i) review of previous and current information and data on sustainable energy in Azerbaijan; ii) desktop screening of Azerbaijan for potential site areas for sustainable energy; iii) field visits to at least 2 potential sites for each sustainable energy option; iv) compilation of information on the sites visited for evaluation as pilot project candidates; v) developing an estimate of average generation capacity of each sustainable option; vi) identifying at least 3 pilot projects for demonstration of sustainable energy; and vii) developing outline plans for implementation of future actions. The expected result of the activities is identification of one or more locations for pilot projects.

The activities will support the prioritisation of the development of different renewable energy sources at the regional and local community level and facilitate the further progress with concrete investment projects to exploit the available and most cost-efficient renewable energy options at different locations. The experiences from the demonstration project of component 1 and the adoption of the eventual financial and fiscal incentives and other regulatory and institutional amendments to be proposed under component 4 are foreseen to further promote this goal.

The development of local, small-scale complementary renewable energy sources such as solar, biomass and small/micro-hydro power can improve the reliability of energy supply in remote rural areas, which especially in the winter time can suffer from serious power cuts. As such, the proposed action would directly contribute to the social and economic development of these areas and reduce the burden of the rural population, especially those poor and most vulnerable that can not afford, for instance, a diesel based reserve system of their own. Direct beneficiaries would also be the women as traditional household caretakers.

The studies will be conducted and activities implemented primarily by local experts in consultation with the local municipal and other public authorities, including the staff of the recently established State Agency for Alternative and Renewable Energy. Complementary international expertise and advice is provided on as needed basis with simultaneous capacity building and knowledge transfer. The engaged international expert is also expected to review and provide recommendations on the final conclusions of the studies.

The concrete deliverable of this component will be a report addressing the: i) specific information needs discussed at the beginning of this component description; ii) the results and conclusions of the site visits; and iii) a concrete action plan with a pipeline of evaluated small hydro, wind, solar and biomass projects for further action (for solar and biomass not including potential applications only for power, but also for heat generation by solar water heating or different biomass/biogas based applications).

6) Project Management

The purpose of this component is to guarantee appropriate management of the entire project. In addition to the usual managerial responsibilities for similar projects, the project's management team will be responsible for i) preparing the report on all activities by consolidating the component specific reports produced by activities under components 1-5; and ii) preparing a presentation package outlining sustainable energy component for the consideration of potential investors as a part of that.

The report will be prepared in co-operation by the local project team and the lead international project advisor.

A workshop will be organized at the end of the action to present and discuss the results with a broader audience.

II. RESULTS AND RESOURCES FRAMEWORK

Intended Outcome as stated in the Country Programme Results and Resource Framework: The Ministry of Industry and Energy and Azerenerji have the capacities to remove barriers to the development of alternative and renewable energy .

Outcome indicators as stated in the Country Programme Results and Resources Framework, including baseline and targets:

Indicator:

- a. Amount of energy generated from alternative energy sources, disaggregated by source of power – hydropower, wind, solar.
- b. Volume of investments into alternative energy, state and private

Baselines:

- a. 2.4 Million MW, or 11.4% of total electric energy production (solely from hydro power) (2003-04)
- b. US\$ 5 million (estimate, 2009)

Targets:

- a. Total renewable energy production represents at least 12.5% of total electric energy production by 2015
- b. US\$ 25 million

Applicable Key Result Area (from 2008-11 Strategic Plan): Strengthened national capacities to mainstream environment and energy concerns into national development plans and implementation systems

Partnership Strategy:

The project will build partnerships with the following state agencies:

State Agency for Alternative and Renewable Energy (SAARES) is the state institution under the Ministry of Industry and Energy mandated by the Cabinet of Ministers to set the state policy in the sphere of Alternative and Renewable energy sources will be acting as the main executing entity for the project.

Ministry of Industry and Energy (MIE): MIE is the main state body in Azerbaijan responsible for overall energy policy in the country and will be consulted during the implementation of the project activities.

Ministry of Ecology and Natural Resources (MENR) is a state institution responsible, among other tasks, for environmental expertise and water resources protection. The Ministry will be involved in the project component on the construction of the small hydropower project as well as in other components for data exchange, consultations on legal requirements and others.

Tariff Council is responsible for setting energy tariffs and will be particularly involved in the components 3 "Evaluation of the economics of wind, solar and biomass sources of energy in Azerbaijan" and 4 "Enactment of a set of coherent regulatory and institutional documents for wind, solar and biomass sources of energy"

Ministry of Economic Development is chairing the Tariff Council and is mandated with setting up economic development policy of the country. The Ministry will be involved in activities related to the development of alternative energy sources as one of the ways to diversify non-oil sector.

State JSC on Amelioration and Water Reserves is in charge of water canals management in the country. Water canals have a big potential as sources of electric energy from small hydropower stations. Therefore, the State JSC on Amelioration and Water Reserves is one of the project's natural partners.

Project title and ID (ATLAS Award ID): Promoting Development of Sustainable Energy in Azerbaijan

INTENDED OUTPUTS	OUTPUT TARGETS FOR (YEARS)	INDICATIVE ACTIVITIES	RESPONSIBLE PARTIES	INPUTS
<p>Output 1: One demonstration small hydropower plant is constructed;</p>	<p>Targets (year 1) Potential investor is identified, its needs are assessed, contracts with the potential suppliers are signed</p>	<p>Activity Result 1.1 The preparatory stage for small hydropower construction is finalized</p> <ul style="list-style-type: none"> ▪ Actions - Assessing Client/Investor's needs; - Selecting a suitable site for the demo project; - Conducting feasibility study, determining technical design and financial structuring of 	<p>State Agency for Alternative and Renewable Energy Sources (SAARES) UNDP</p>	<p>\$ 790,000 71400 Contractual Services-Individuals 72100 Contractual Services - Companies</p>

	<p>(year 2) The construction of major elements of the small hydro power stations are finalized</p> <p>(year 3) The small hydropower station is constructed and is fully functional</p> <p>Baseline: No new small hydropower constructed during last decades</p> <p>Indicators:</p> <ul style="list-style-type: none"> - Number of small hydropower stations constructed; - Amount of energy produced by small hydropower; - The level of cost-recovery of new station; - Final Monitoring Report of the demo project 	<p>demo project</p> <ul style="list-style-type: none"> - Preparing tender documents for the procurement of equipment - Organizing tenders and signing contracts with the suppliers. <p>Activity Result 1. 2 The small hydropower station is constructed and commissioned;</p> <p>Actions</p> <ul style="list-style-type: none"> - Starting construction of a power station - Continue supplying the construction materials and elements - Monitoring construction - Recording experience and lessons learned during the small hydropower construction - Finalize construction of small hydropower station - Organize commissioning of the power station - Finalize the Monitoring report 		<p>72100 Contractual Services - Companies 72500 Supplies 71600 Travel 74500 Miscellaneous Expenses 71300 Local Consultants 74200 Audio Visual and Printing Production Costs 71200 International Consultants 72800 Information Technology Equipment 72300 Materials and Goods</p>
<p>Output 2: National capacities to develop wind, solar and biomass energy sources has increased</p>	<p>(year 1) Sustainable energy is accepted as a feasible energy option by policy makers and by general public</p> <p>Baseline: Low level of awareness on the sustainable</p>	<p>Activity Result 2.1 The awareness and knowledge about sustainable energy is increased</p> <p>Actions</p> <ul style="list-style-type: none"> - Develop and organise a five day seminar on sustainable energy to local energy managers - Develop and organise a one day seminar on 	<p>State Agency for Alternative and Renewable Energy Sources (SAARES) UNDP</p>	<p>\$ 85,670 72400 Communication & Audio Visual Equipment 72500 Supplies 71600 Travel 74500 Miscellaneous Expenses</p>

<p>energy</p> <p>Indicators: Numbers of seminars organized on sustainable energy; Awareness level increased (Y/N) as measured through pre and post evaluations.</p>	<p>sustainable energy at five regional municipalities</p> <ul style="list-style-type: none"> - Develop an educational program on sustainable energy for public and schoolchildren 	<p>71300 Local Consultants 74200 Audio Visual and Printing Production Costs 71200 International Consultants 72800 Information Technology Equipment</p>
<p>(year 1) Matrix on sustainable energy types and costs is compiled Baseline: - No systematically organized information is available on the costs of sustainable energy Indicators: - Matrix on sustainable energy types and costs is available</p>	<p>Activity Result 2.2 Economics of wind, solar and biomass sources of energy in Azerbaijan are determined</p> <ul style="list-style-type: none"> - Actions <ul style="list-style-type: none"> - Review and compile international information on sustainable energy plant costs - Estimate and compile Azerbaijan costing modifiers <ul style="list-style-type: none"> - Estimate and compile environmental socioeconomic and training costs - Compile final matrix of sustainable energy option types and economic costs 	<p>\$ 72,189 72100 Contractual Services - Companies 72500 Supplies 71600 Travel 74500 Miscellaneous Expenses 71300 Local Consultants 74200 Audio Visual and Printing Production Costs 71200 International Consultants 72800 Information Technology Equipment</p>
	<p>State Agency for Alternative and Renewable Energy Sources (SAARES) UNDP</p>	

	<p>(year 1) Recommendations for addressing the identified regulatory and institutional development needs are prepared</p> <p>(year 2) Recommendations for addressing the identified regulatory and institutional development needs are finalized and submitted to the Government for formal consideration</p> <p>Baseline:</p> <ul style="list-style-type: none"> - Regulatory framework on renewable energy is inconsistent/has gaps <p>Indicators:</p> <ul style="list-style-type: none"> - Coherent regulatory and institutional documents prepared and submitted to the Government 	<p>Activity Result 2.3 Regulatory requirements for sustainable energy are developed and submitted to the Government for formal considerations</p> <ul style="list-style-type: none"> - Actions <ul style="list-style-type: none"> - Desktop screening, reviewing and evaluating regulatory requirements for sustainable energy projects - Reviewing and evaluating institutional requirements for sustainable energy projects - Preparing coherent regulatory and institutional documents - Developing recommendations for addressing the identified regulatory and institutional development needs and submit the recommendations for formal Government consideration - Finalizing the recommendations - Submitting the recommendations to the Government for formal approval 	<p>State Agency for Alternative and Renewable Energy Sources (SAARES) UNDP</p>	<p>\$ 140,225 72100 Contractual Services - Companies 72500 Supplies 71600 Travel 74500 Miscellaneous Expenses 71300 Local Consultants 74200 Audio Visual and Printing Production Costs 71200 International Consultants</p>
	<p>(year 1) At least one pilot project on each type of sustainable energy such as wind, solar and biomass is prepared</p> <p>(year 2) Outline plans are prepared for implementation of future actions</p> <p>Baseline: There are no plans for wind, solar and biomass sources of energy</p>	<p>Activity Result 2.4 Locations of one or more sites for pilot projects for each type of sustainable energy are identified</p> <ul style="list-style-type: none"> - Actions <ul style="list-style-type: none"> - Desktop screening of Azerbaijan for potential sites - Field visits to at least two potential sites for each type of sustainable energy - Compile information for each site for further analysis - Develop estimates of average generation 	<p>State Agency for Alternative and Renewable Energy Sources (SAARES) UNDP</p>	<p>\$218,888 72100 Contractual Services - Companies 72400 Communication & Audio Visual Equipment 72500 Supplies 71600 Travel 74500 Miscellaneous Expenses 71300 Local Consultants 74200 Audio Visual and Printing Production Costs 71200 International</p>

	<p>Indicator:</p> <ul style="list-style-type: none"> - Number of plans for each type of sustainable energy, such as wind, solar and biomass. 	<p>capacity for each site</p> <ul style="list-style-type: none"> - Identify at least three pilot project for sustainable energy - Finalize information collected for each potential site - Preparing outline plans for implementation of future actions 		Consultants
<p>(year 1,2,3)</p> <p>Project is managed in compliance with the Results Management Guide and implemented according to the work plan.</p> <p>(year 3)</p> <p>Reports and presentations on all activities is prepared, including EU compliant final report</p> <p>Baseline: No Project team is in place</p> <p>Indicator:</p> <ul style="list-style-type: none"> - Project team is in place - All monitoring logs and reports, including EU compliant final report, are prepared - Presentation package is prepared - Workshop is held - Evaluation is conducted 	<p>Activity Result 2.5</p> <p>Project Management Team is established</p> <p>Actions</p> <ul style="list-style-type: none"> - ToRs for the Project Manager and Project Admin/Finance Assistant are prepared - Positions are advertised and selection panel created - Project Manager and Admin/Finance Assistant are selected and contracts are signed with them - Prepare EU compliant final report on all activities by consolidating the component specific reports produced by activities under components 1-5; - Preparing the presentation package outlining sustainable energy component for the consideration of potential investors - Organizing a workshop to present the results to a broader audience 	<p>Project Team</p> <p>State Agency for Alternative and Renewable Energy Sources</p> <p>UNDP</p>		<p>\$ 133,028</p> <p>72400 Communication & Audio Visual Equipment</p> <p>72500 Supplies</p> <p>71600 Travel</p> <p>74500 Miscellaneous Expenses</p> <p>71300 Local Consultants</p> <p>74200 Audio Visual and Printing Production Costs</p> <p>71200 International Consultants</p> <p>72800 Information Technology Equipment</p> <p>75100 Facilities and Administration</p>

III. ANNUAL WORK PLANS

Year: 2011

EXPECTED OUTPUTS <i>And baseline, indicators including annual targets</i>	PLANNED ACTIVITIES <i>List activity results and associated actions</i>	TIMEFRAME				RESPONSIBLE PARTY	PLANNED BUDGET	
		Q1	Q2	Q3	Q4		Budget Description	Amount
<p>Output 1</p> <p>One demonstration small hydropower plant is constructed;</p> <p>Baseline: No new small hydropower constructed during last decade</p> <p>Indicators:</p> <ul style="list-style-type: none"> - Number of small hydropower stations constructed - Amount of energy produced by small hydropower - The level of cost-recovery of new station - Final monitoring report of the demo project <p>Targets: Potential investor is identified, its needs are assessed, contracts with the potential suppliers are signed</p> <p>Related CP outcome:</p> <p>Outcome 1.3.1. The Ministry of Industry and Energy and Azetenerji have the capacities to remove barriers to the development of alternative and renewable energy</p>	<p>1.1 Activity Result The preparatory stage for small hydropower construction finalized</p> <p>Actions -Assessing Client/Investor's needs; -Selecting a suitable site for the demo project; -Conducting feasibility study, determining technical design and financial structuring of demo project -Preparing tender documents for the procurement of equipment -Organizing tenders and signing contracts with the suppliers.</p>	X	X	X	X	<p>UNDP, State Agency for Alternative Energy Sources (SAARES)</p>	<p>71400 Contractual Services- Individuals 72100 Contractual Services - Companies 72500 Supplies 71600 Travel 74500 Miscellaneous Expenses 71300 Local Consultants 74200 Audio Visual and Printing Production Costs 71200 International Consultants 72800 Information Technology Equipment 72300 Materials and Goods</p>	\$ 96,506

<p>Output 2 National capacities to develop wind, solar and biomass energy sources has increased</p> <p>Baseline: Low level of awareness on the sustainable energy</p> <p>Indicators: -Numbers of seminars organized on sustainable energy; -Awareness level increased (Y/N) as measured through pre and post evaluations.</p> <p>Targets:2.1, Sustainable energy is accepted as a feasible energy option by policy makers and by general public</p>	<p>2.1. Activity Result The awareness and knowledge about sustainable energy is increased</p> <p>Actions - Develop and organise a five day seminar on sustainable energy to local energy managers - Develop and organise a one day seminar on sustainable energy at five locations for regional municipalities - Develop an educational program on sustainable energy for public and schoolchildren</p>				<p>X</p>	<p>X</p>	<p>SAARES</p>	<p>EC</p>	<p>71400 Contractual Services- Individuals 72100 Contractual Services - Companies 72500 Supplies 71600 Travel 74500 Miscellaneous Expenses 71300 Local Consultants 74200 Audio Visual and Printing Production Costs 71200 International Consultants 72800 Information Technology Equipment</p>	<p>\$ 85,670</p>
<p>2.2. Matrix on sustainable energy types and costs is compiled</p> <p>2.3. Recommendations for addressing the identified regulatory and institutional development needs are prepared</p> <p>2.4 At least one pilot project on each type of sustainable energy such as wind, solar and biomass is prepared</p> <p>2.5. Project is managed in</p>	<p>2.2. Activity Result Economics of wind, solar and biomass sources of energy in Azerbaijan are determined</p> <p>Actions - Review and compile international information on sustainable energy plant costs - Estimate and compile Azerbaijan costing modifiers - Estimate and compile environmental socioeconomic and training costs - Compile final matrix of sustainable energy option types and economic costs</p> <p>2.3. Activity Result</p>				<p>X</p>	<p>X</p>	<p>SAARES</p>	<p>EC</p>	<p>71400 Contractual Services- Individuals 72100 Contractual Services - Companies 72500 Supplies 71600 Travel 74500 Miscellaneous Expenses 71300 Local Consultants 74200 Audio Visual and Printing Production Costs 71200 International Consultants 72800 Information Technology Equipment</p>	<p>\$ 72,189</p>
					<p>X</p>	<p>X</p>	<p>SAARES</p>	<p>EC</p>	<p>71400 Contractual Services-</p>	<p>\$ 49,725</p>

<p>compliance with the Results Management Guide and implemented according to the work plan.</p> <p>Related CP outcome: Outcome 1.3.1. The Ministry of Industry and Energy and Azerenerji have the capacities to remove barriers to the development of alternative and renewable energy</p>	<p>Regulatory requirements for sustainable energy are developed and submitted to the Government for formal considerations</p> <ul style="list-style-type: none"> ▪ Actions <ul style="list-style-type: none"> -Desktop screening, reviewing and evaluating regulatory requirements for sustainable energy projects - Reviewing and evaluating institutional requirements for sustainable energy projects -Preparing coherent regulatory and institutional documents -Developing recommendations for addressing the identified regulatory and institutional development needs and submit recommendations for formal Government consideration 										<p>Individuals 72100 Contractual Services - Companies 72500 Supplies 71600 Travel 74500 Miscellaneous Expenses 71300 Local Consultants 74200 Audio Visual and Printing Production Costs 71200 International Consultants 72800 Information Technology Equipment</p>	
---	--	--	--	--	--	--	--	--	--	--	--	--

	<p>2.4. Activity Result Locations of one or more sites for pilot projects for each type of sustainable energy are identified</p> <ul style="list-style-type: none"> ▪ Actions <ul style="list-style-type: none"> - Desktop screening of Azerbaijan for potential sites - Field visits to at least two potential sites for each type of sustainable energy - Compile information for each site for further analysis - Develop estimates of average generation capacity for each site - Identify at least three pilot project for sustainable energy 	X	X	X	X	SAARES	EC	<ul style="list-style-type: none"> 71400 Contractual Services- Individuals 72100 Contractual Services - Companies 72500 Supplies 71600 Travel 74500 Miscellaneous Expenses 71300 Local Consultants 74200 Audio Visual and Printing Production Costs 71200 International Consultants 72800 Information Technology Equipment 	\$71,110
	<p>2.5. Activity Result Project Management Team is established</p> <p>Actions</p> <ul style="list-style-type: none"> -ToRs for the Project Manager and Project Admin/Finance Assistant are prepared - Positions are advertised and selection panel created - Project Manager and Admin/Finance Assistant are selected and contracts are signed with them 	X	X	X	X	SAARES	EC	<ul style="list-style-type: none"> 71400 Contractual Services- Individuals 72100 Contractual Services - Companies 72500 Supplies 71600 Travel 74500 Miscellaneous Expenses 71300 Local Consultants 74200 Audio Visual and Printing Production Costs 71200 International Consultants 72800 Information Technology Equipment 75100 Facilities and Administration 	\$ 46,514
TOTAL									421,714

Year: 2012

EXPECTED OUTPUTS And baseline, indicators including annual targets	PLANNED ACTIVITIES List activity results and associated actions	TIMEFRAME				RESPONSIBLE PARTY	PLANNED BUDGET	
		Q1	Q2	Q3	Q4		Funding Source	Budget Description
<p>Output 1 One demonstration small hydropower plant is constructed; Baseline: No new small hydropower constructed during last decade Indicators: - Number of small hydropower stations constructed - Amount of energy produced by small hydropower - The level of cost-recovery of new station - Final monitoring report of the demo project</p> <p>Target: The construction of major elements of the small hydro power stations are finalized</p> <p>Related CP outcome: Outcome 1.3.1. The Ministry of Industry and Energy and Azerenerji have the capacities to remove barriers to the development of alternative and renewable energy</p>	<p>Activity Result 1.2 The small hydropower station is constructed and commissioned; Actions - Starting construction of a power station - Continue supplying the construction materials and elements - Monitoring construction - Recording experience and lessons learned during the small hydropower construction</p>						71400 Contractual Services- Individuals 72100 Contractual Services - Companies 72500 Supplies 71600 Travel 74500 Miscellaneous Expenses 71300 Local Consultants 74200 Audio Visual and Printing Production Costs 71200 International Consultants 72800 Information Technology Equipment 72300 Materials and Goods	\$643,494
						UNDP		

<p>Output 2 National capacities to develop wind, solar and biomass energy sources has increased</p> <p>Baseline: Low level of awareness on the sustainable energy</p> <p>Indicators: -Numbers of seminars organized on sustainable energy; -Awareness level increased (Y/N) as measured through pre and post evaluations.</p> <p>Targets: 2.3. Recommendations for addressing the identified regulatory and institutional development needs are finalized and submitted to the Government for formal consideration</p>	<p>2.3. Activity Result Regulatory requirements for sustainable energy are developed and submitted to the Government for formal considerations</p> <ul style="list-style-type: none"> ▪ Actions <ul style="list-style-type: none"> -Finalizing the recommendations -Submitting the recommendations to the Government for formal approval 	<p>X</p>	<p>X</p>			<p>SAARES</p>	<p>EC</p>	<p>71400 Contractual Services- Individuals 72100 Contractual Services - Companies 72500 Supplies 71600 Travel 74500 Miscellaneous Expenses 71300 Local Consultants 74200 Audio Visual and Printing Production Costs 71200 International Consultants 72800 Information Technology Equipment</p>	<p>\$ 90,500</p>
--	--	----------	----------	--	--	---------------	-----------	--	------------------

<p>2.4 Outline plans are prepared for implementation of future actions</p> <p>2.5. Project is managed in compliance with the Results Management Guide and implemented according to the work plan.</p> <p>Related CP outcome: Outcome 1.3.1. The Ministry of Industry and Energy and Azerenerji have the capacities to remove barriers to the development of alternative and renewable energy</p>	<p>2.4. Activity Result Locations of one or more sites for pilot projects for each type of sustainable energy are identified</p> <ul style="list-style-type: none"> ▪ Actions <ul style="list-style-type: none"> - Finalize information collected for each potential site - Preparing outline plans for implementation of future actions 	<p>X</p> <p>X</p> <p>X</p> <p>X</p> <p>X</p>	<p>SAARES</p>	<p>EC</p>	<p>71400 Contractual Services- Individuals 72100 Contractual Services - Companies 72500 Supplies 71600 Travel 74500 Miscellaneous Expenses 71300 Local Consultants 74200 Audio Visual and Printing Production Costs 71200 International Consultants 72800 Information Technology Equipment</p>	<p>\$147,778</p>
<p>Activity Result 2.5 Project Management Team is established</p> <p>Actions</p> <ul style="list-style-type: none"> - Project Manager and Admin/Finance Assistant are continue managing the project - Prepare EU compliant final report on all activities by consolidating the component specific reports produced by activities under activities 2.1-2.5 	<p>X</p> <p>X</p> <p>X</p> <p>X</p>	<p>SAARES</p>	<p>EC</p>	<p>71400 Contractual Services- Individuals 72100 Contractual Services - Companies 72500 Supplies 71600 Travel 74500 Miscellaneous Expenses 71300 Local Consultants 74200 Audio Visual and Printing Production Costs 71200 International Consultants 72800 Information Technology Equipment 75100 Facilities and Administration</p>	<p>\$ 46,514</p>	
<p>TOTAL</p>						<p>\$928,286</p>

Year: 2013

EXPECTED OUTPUTS <i>And baseline, indicators including annual targets</i>	PLANNED ACTIVITIES <i>List activity results and associated actions</i>	TIMEFRAME				RESPONSIBLE PARTY	PLANNED BUDGET	
		Q1	Q2	Q3	Q4		Funding Source	Amount
<p>Output 1</p> <p>One demonstration small hydropower plant is constructed;</p> <p>Baseline: No new small hydropower constructed during last decade</p> <p>Indicators:</p> <ul style="list-style-type: none"> - Number of small hydropower stations constructed - Amount of energy produced by small hydropower - The level of cost-recovery of new station - Final monitoring report of the demo project <p>Targets: The small hydropower station is constructed and is fully functional</p> <p>Related CP outcome:</p> <p>Outcome 1.3.1. The Ministry of Industry and Energy and Azerenerji have the capacities to remove barriers to the development of alternative and renewable energy</p>	<p>Activity Result 1.2</p> <p>The small hydropower station is constructed and commissioned;</p> <p>Actions</p> <ul style="list-style-type: none"> - Continue supplying the construction materials and elements - Monitoring construction - Recording experience and lessons learned during the small hydropower construction - Finalize construction of small hydropower station - Organize commissioning of the power station - Finalize the Monitoring report 	X	X			SAARES	UNDP	\$50,000
							71400 Contractual Services-Individuals 72100 Contractual Services - Companies 72500 Supplies 71600 Travel 74500 Miscellaneous Expenses 71300 Local Consultants 74200 Audio Visual and Printing Production Costs 71200 International Consultants 72800 Information Technology Equipment 72300 Materials and Goods	

Output 2 National capacities to develop wind, solar and biomass energy sources has increased	Activity Result 2.5 Project Management Team is established Actions - Prepare EU compliant final report on all activities by consolidating the component specific reports produced by activities under activity results 2.1-2.5 - Preparing the presentation package outlining sustainable energy component for the consideration of potential investors - Organizing a workshop to present the results to a broader audience	X 	X	Project Team, UNDP, SAARES EC	71400 Contractual Services-Individuals 72100 Contractual Services - Companies 72100 Contractual Services - Companies 72500 Supplies 71600 Travel 74500 Miscellaneous Expenses 71300 Local Consultants 74200 Audio Visual and Printing Production Costs 71200 International Consultants 72800 Information Technology Equipment 72300 Materials and Goods	\$40,000
TOTAL						
\$90,000						

IV. MANAGEMENT ARRANGEMENTS

A. National Execution (NEX). The project will be nationally executed by the State Agency for Alternative and Renewable Energy Sources (SAARES) that will act both as the Implementing Partner and the Beneficiary of the project. Implementation support will be provided by the UNDP Country Office (see Project Governance Arrangements below). In its capacity of Executing Entity the State Agency for Alternative and Sustainable Energy will be responsible for overall project management. Besides, the Agency will be responsible for the facilitation of all project activities such as international consultant missions, trainings for respective staff, ensuring appropriate access to project sites, relevant data, records, agencies and authorities. UNDP will provide support services including procurement and contracting, human resources management, financial services in accordance with the relevant UNDP Rules and Procedures and Results-Based Management guidelines.

B. Project Governance Arrangements. The project will have a governance structure, aligned with UNDP's new rules for Results Based Management (see Figure: Project Governance Arrangements below).

I. Project Executive Group. The Project Executive Group will be the executive decision making body for the project, providing guidance to the Project Manager, and approving project revisions, annual workplans and budgets. It will be responsible for reviewing project progress reports, risk log, issue log and monitoring and communication plan. The Project Executive Group will consist of four members: The Deputy head of SAARES, UNDP DRR a Representative of the Norwegian Embassy in Azerbaijan and a representative from the EU Delegation. The functions of the members of the Project Executive Group will be distributed as follows:

- The State Agency for Alternative and Renewable Energy Sources (SAARES) will be acting as an Executive Partner, will convene the Project Executive Group's meetings. This position will be held by the Deputy-head of SAARES;
- The Senior Supplier. This position will be held by the UNDP DRR, or a designated UNDP Development Advisor, by the representative of the Norwegian Embassy in Azerbaijan and by the EU Delegation representative.

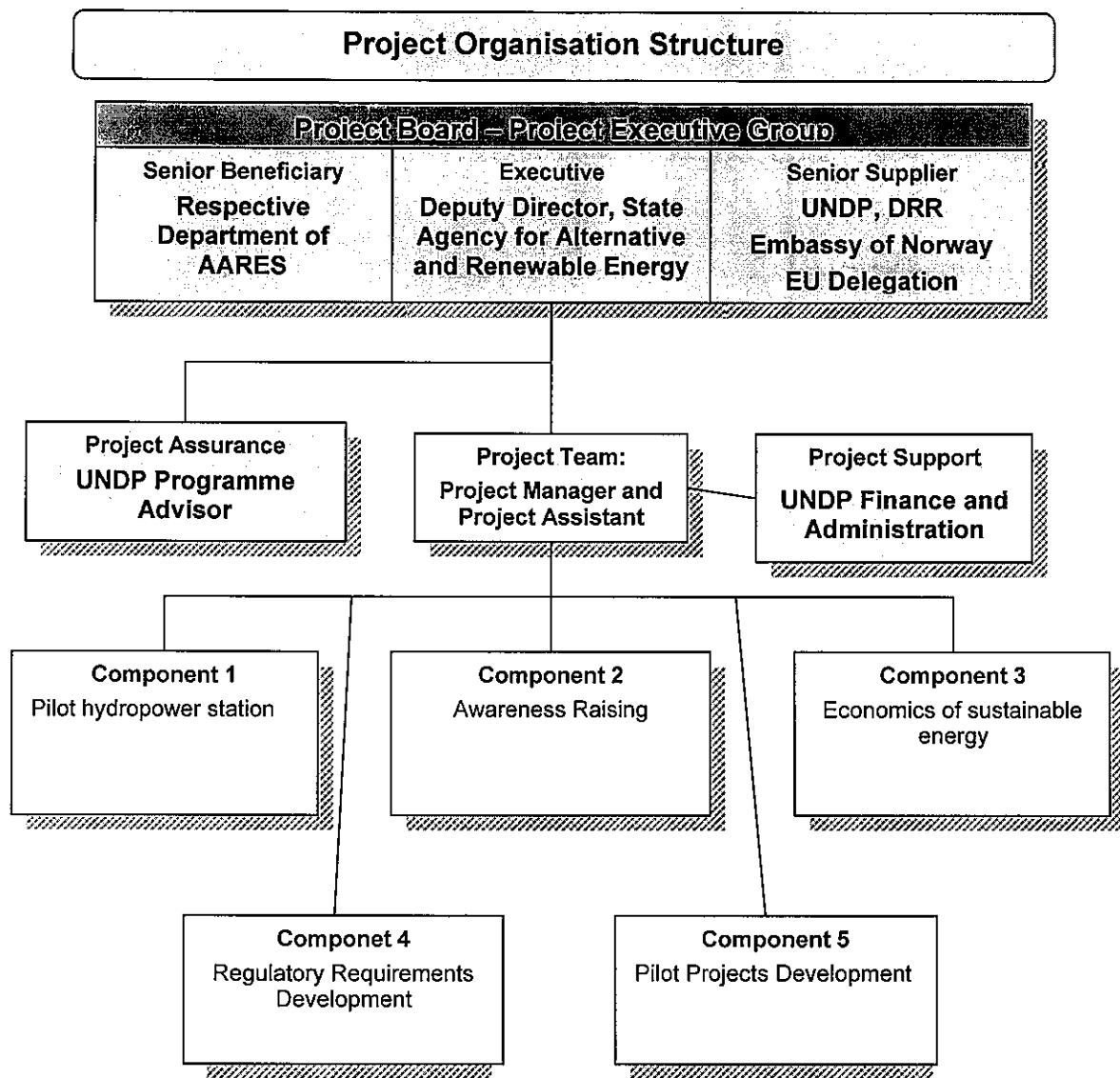
- Senior Beneficiary – This function will be performed by the relevant department of the SAARES that directly benefits from the project.

II. Project Management. The National Project Manager will be tasked with the **day-to-day management** of project activities, as well as with financial and administrative reporting. The Project Manager will be responsible for project implementation and will be guided by Annual Work Plans and follow the RBM standards. The Project Manager will prepare Annual Work plans in advance of each successive year and submit them to the Project Executive Group for approval. The National Project Manager will be supported by the Admin/Finance Assistant. The National Project Manager will have the authority to run the project on a **daily basis** on behalf of the Project Executive Group (PEG) within the constraints laid down by the Group. PM's prime responsibility is to ensure that the project produces the planned outputs by undertaking necessary activities specified in the project document to the required standard of quality and within the specified constraints of time and cost.

III. Project Assurance. UNDP will designate a Development Advisor to provide independent project oversight and monitoring functions, to ensure that project activities are managed and milestones accomplished. The UNDP Development Advisor will be responsible for reviewing Risk, Issues and Lessons Learned logs, and ensuring compliance with the Monitoring and Communications Plan.

IV. Project Support. UNDP will provide financial and administrative support to the project including procurement, contracting, travel and payments.

Its structure will be as follows:



C. Inputs to the project. To ensure successful implementation of the project the European Commission and the Government of Norway will make the following contributions to the project:

Government of Norway:

- Financial resources in amount of 790,000 USD to the budget of the project to support implementation of output 1 of the project

European Commission:

- Financial resources in amount of 650,000 USD to the project's budget to support implementation of components 2 – 5 of the project;

UNDP

- Support services in selecting international/local consultants and staff to be recruited under the project;
- Support services in procurement;
- Briefing for selected international and local consultants;
- Participation in the organization of training activities, selection of equipment suppliers and organization of trainings and seminars;

- Access to UNDP-managed global information systems, the network of UNDP country offices and specialized systems containing operations information, including rosters of consultants.
- Support in preparing publication materials
- In close collaboration with the senior management of the Project, the quality control over the project outputs.

Government inputs:

- A National Project Director will be assigned by the Government whose expenses will be covered by the Government;
- Free office premises for the project team consisting of the Project Manager and Project Manager's Admin/Finance Assistant;
- Overall support in implementation of the project, including necessary communication with the other state agencies;
- Participation in consultation with UNDP in the selection of local and international consultants

D. Audit Arrangements. The project will be subject to internal audit as per UNDP rules and procedures.

N	Description of Risk	Category	Impact & Probability	Management Response	Owner	Author
1	The project may not be able to identify a private investor for the construction of the pilot hydropower station	Organisational	I = 4 P = 2	SAARES and UNDP cooperate on this issue. One potential investor with the strong interest in investing in small hydropower has been identified. The work continues through advertising the project among the potential investors by organization project presentation and through individual meetings.	SAARES, UNDP	Project Developer
2	Lack of statistical data necessary to make assessments and prepare plans and outlines	Other	I = 4 P = 3	In case of data gaps the project will commission additional researches to obtain missing information	SAARES, UNDP	Project Developer
3	There is a risk that relevant legal framework related to issuing of special permissions to the investors in sustainable energy projects is not in place	Operational	I = 4 P = 3	Upon request from SAARES, UNDP is ready to provide technical support for the development of the legal framework for issuing the special permits. The issue is also under consideration of the country's leadership	SAARES, UNDP	Project Developer

4	There is a risk of financial deficit due to the exchange rate fluctuations between Euro and US dollars	Financial	I = 4 P = 3	The project will establish a system of close and regular financial monitoring of project expenditure; if necessary, the project activities will be adjusted accordingly	SAARES, UNDP	Project Developer
5	Environmental impact of the small hydropower construction	Environmental	I=3 P=2	The selected project site will be carefully examined, necessary analysis will be conducted with the participation of the Ministry of Ecology and Natural Resources	SAARES, UNDP	Project Developer

V. MONITORING FRAMEWORK AND EVALUATION

Project monitoring will be performed through three primary mechanisms:

1. Project Work Plan and Project Progress Reports. Achievement of project outputs will be tracked through adherence to the output, activity and financial indicators embedded in the Annual Work Plan. Project Progress Reports will be prepared to capture the progress or lack thereof, or any deviation from the original project plan

2. Project Assurance through the validation of activities and outputs. A designated UNDP Programme Advisor will independently verify project milestone and validate the completion of and review requested changes to the Annual Work Plan. Changes to the project Annual Work Plan will be reviewed and approved by the Project Executive Group. In the result of monitoring a final report will be prepared and presented for discussion.

3. Monitoring and Communications Plan. In accordance with the UNDP's Results Based Management approach, the project will establish, maintain and update a Monitoring and Communication Plan as well as Risk, Issues and Lessons Learned logs. These logs will be established concurrently with the preparation of the inception of the project. They will be maintained by the Project Manager, and reviewed as part of Project Assurance. The Project Executive Group will consider recommendations arising from the quality assurance reviews and introduce such changes to the project as are deemed necessary for effectiveness, performance and risk mitigation.

In accordance with the programming policies and procedures outlined in the UNDP User Guide, the project will be monitored through the following mechanisms:

Within the annual cycle

- An Issue Log shall be activated in Atlas and updated by the Project Manager to facilitate tracking and resolution of potential problems or requests for change; necessary changes in Atlas will be made quarterly
- Based on the initial risk analysis submitted (see annex 1), a risk log shall be activated in Atlas and regularly updated by reviewing the external environment that may affect the project implementation.
- Based on the above information recorded in Atlas, a Project Progress Reports (PPR) shall be submitted by the Project Manager to the Project Executive Group using the standard report format available in the Executive Snapshot.
- A Communication and Monitoring Plan shall be activated in Atlas and updated to track key management actions/events

Annually

- **Annual Progress Report.** An Annual Progress Report shall be prepared by the Project Manager and presented to the Executive Group prior to its annual meeting. As minimum requirement, the Annual Progress Report shall consist of the Atlas standard format covering the whole year with updated information for each respective component of the project as well as a summary of results achieved against pre-defined annual targets at the output level.
- **Annual Project Review.** Based on the above report, an annual project review shall be conducted during the fourth quarter of the year or soon after, to assess the performance of the project and appraise the Annual Work Plan (AWP) for the following year. In the last year, this review will be a final assessment. This review is driven by the Project Executive Group and may involve other stakeholders as required. It shall focus on the extent to which progress is being made towards outputs, and that these remain aligned to appropriate outcomes.

VI. ANNEXES