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United Nations Development Programme

PROJECT DOCUMENT

Armenia

Project Title: Strengthened Community Resilience through Energy Efficiency and Low Emission Development

Project Number: Project ID: 00140158, Output ID: 00129453

Implementing Partner: UNDP

Start Date: 01.01.2022 **End Date:** 28.02.2025 **PAC Meeting date:** 06.07.2022

Brief Description

The project's objective is to enhance the economic, environmental, and social resilience of Alaverdi consolidated community of Armenia by developing, piloting and scaling a model for energy efficient and low carbon development that can be replicated in other communities of the country.

The project will provide foundations for sustainability and replication for a "green recovery", that in turn will contribute to the reduction of energy poverty reduction through adoption of energy efficiency and renewable energy actions on the level of community. Green investments have the potential to accrue social and environmental dividends while helping to generate financial benefits and contributing to economic recovery. Energy efficient and renewable energy investments in buildings and infrastructure in selected communities can help reduce energy bills and thus free up financial resources for alternative and immediate needs – not least in relation to vulnerable populations. This can be done through raising awareness and ensuring inclusive participation in decision making, establishing community energy management system, creating "green" jobs particularly for youth, creating conditions for market mechanisms absorption. The project will demonstrate holistic approach for involvement of communities in implementation Armenia's commitments under Paris Agreement related to limitation of greenhouse gas emissions in the same time considering social and development priorities of the country.

Expected UNSDCF Outcome 5, corresponds to CPD Outcome 2: Ecosystems are managed sustainably, and people benefit from participatory and resilient development and climate smart solutions

Expected CPD Output(s): Output 2.2: Low-emission measures, renewables and energy efficiency advanced and scaled

SP alignment: SP IRRF Output 5.2 Transition to renewable energy accelerated capitalizing on technological gains, clean energy innovations and new financing mechanisms to support green recovery

SDG alignment: SDG 7, SDG 11, SDG 13, SG 17

Execution modality: DIM

Gender Marker: GEN2

Financing Plan	
Total resources allocated:	USD 2,004,142.67
Sida Total: *(Including: USD 54,000 for Inception Phase)*	USD 1,099,142.67
Co-funding *including*	
UNDP parallel:	USD 145,000
RA Government parallel:	USD 600,000
Local Government parallel:	USD 100,000
In-Kind, UNDP:	USD 60,000

Agreed by (signatures):

UNDP

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Natia Natsvlishvili
UNDP Resident Representative in Armenia

Date:

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I. DEVELOPMENT CHALLENGE

With the general intent to support sustainable development, the project's focus is enhanced community resilience and the replicability of the new behaviors adopted by principal national and local actors and stakeholders. In the initial stage of project approach elaboration, three communities were considered as possible pilot hosts. Their circumstances were identified and juxtaposed with the project's objectives. Finally, Alaverdi community was identified as the preferred location by UNDP. This recommendation was subsequently approved by the Ministry of Territorial Administration and Infrastructure (selection criteria are presented in Annex 3).

Throughout the project formulation process, the research methodology of the donor, Swedish International Development Cooperation Agency (Sida), was applied. This promotes Market System Development (MSD) approach, which integrates a Multidimensional Poverty Assessment (MDPA). Accordingly, the donor agreed to fund the project's Inception phase to allow for this research and to formulate a detailed approach to the project, which takes into consideration the community's peculiarities and to allow a deeper analysis of its market systems. The resulting Inception report i) consolidates the results of the research implemented in accordance with MSD/MPDA methodology, ii) provides the rationale for the proposed interventions, iii) formulates the actions to be taken and iv) reports the expenses incurred etc. The report was submitted to the donor with its findings discussed in detail during the validation workshop held on 06 July 2022, which also served as Local Project Appraisal Committee Meeting (minutes attached).

Key findings of Market System Development

The system is thin and nascent, but the system is changing. The system for insulation, efficient fenestration and hot water systems are more developed, while the system for renewable energy solutions is very thin and nascent. In line with good practice in market systems development, this suggests that our approach should engage very selectively in the core transaction market for a short term (such as through counterpart funding state subvention grants for demonstration effects for hot water and solar systems), while starting to influence the behavior of actors performing functions (especially in skills and finance) and rules across all solutions. Further, in line with environmental programming in market systems development, it is necessary to engage with public actors, alongside civil society and the private sector, to support the effectiveness of regulations.

On the supply side, energy efficiency (EE) and renewable energy (RE) solutions are offered sporadically in a non-systemic manner by occasional donor projects or entities seeking public support in politics. There is not yet the consistent marketing of EE and RE solutions to vulnerable households. Suppliers differ in their selection of technological advantages to emphasize in promotion campaigns, while proposing little to no financing options to cover the sunk costs of introducing the applicable solutions for higher energy performance. Consumers therefore have deficient choice and information.

On the demand side, there is an absence of knowledge of the savings available from investing in EE and RE solutions, particularly those with quicker pay back periods such as insulation and efficient fenestration. An average citizen needs more professionally structured and friendly delivered information on pros and cons of investing into energy efficiency and sustainability in their immediate environment and in their locality. This information must include a detailed guidance on technical assistance and financial support available locally.

Walls of Soviet era buildings – especially the housing stock and the key edifices in public domain – easily transmit noise and heat. Combined with the issues pointed out above, this results in bloated power bills, relative to the thermal comfort achieved. Lower income houses spend a significant share of their income on energy. Subsequently the gains would be highest if EE and RE solutions were made available to them. Their spending lists could expand to more items by repurposing the savings due to higher energy performance in their surroundings. About 20% of Alaverdi's households are considered poor by the standards of the Statistical Committee with energy bills making about a fifth of the monthly expenses.

There is an absence of standards for efficient fenestration. Further, there is insufficient labelling for other products. In addition, households have insufficient knowledge of technologies and of installation practices. Together these lead to information asymmetries, reduced consumer confidence and, subsequently: i) the

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consumption of sub-standard goods and installation services and ii) low levels of consumption. There is insufficient, quality, information of the EE and RE sector for transformational change. Therefore, to address the slow pace of demand side expansion, advantages of EE and RE solutions should be demonstrated in Alaverdi and elsewhere.

On the supply side, central and local governments are playing an increasingly active role in shifting production and consumption towards more socially and economically efficient outcomes by offering a range of incentives and standards. Examples include adaptations to the state subvention fund and Government's recent approval of low interest loans for EE and RE solutions among households. However more can be done, and there is a risk that consumers face challenges in accessing public funds.

With the dissolution of Soviet era's vocational education, there is no uniformity in skill acquisition and application. Among internationally funded projects, it is a common practice to invite technical staff of the supplier companies on site to train the local maintenance staff, especially in case of initiatives with large procurement. Further, as the system is expanding rapidly, there is potential for the quality and quantity of skilled workers to not keep up with demand. This brings to front the capacity of installers and maintenance providers to respond adequately and timely by enhancing their skills and being able to properly market their services and apply the new materials.

The symptoms and causes of inefficiency in the market system for EE and RE solutions, as identified by MSD analysis, results in low levels of their consumption and the consumption of sub-standard solutions.

The relevance of the EE and RE market systems, to vulnerable groups in Alaverdi and Armenia's secondary cities, rests upon the four pillars of MDPA as detailed below.

Resource poverty

According to the latest reports, poverty levels in the 48 secondary cities in Armenia are notably higher than in Yerevan (25% and 19%, respectively) , while rural poverty increased in recent years and reached 33%)[1]. Multidimensional poverty assessment (MPA) shows that poor households have low educational attainment and inferior health outcomes. These disparities in education and health outcomes not only shape an individual's wellbeing, but also determine his/her ability to participate in an inclusive economic growth process and engage in society.

Energy is a key resource for development. Traditional indicators show that energy affordability is a salient issue in Armenia, affecting the poor and vulnerable groups more acutely. For example, energy represents a substantial share of household consumption in Armenia: energy expenditures account for 12.4 % of overall household expenditures and electricity accounts for 6 %. About 11.2 and 52.5 % of the households in Armenia are estimated to be "electricity and energy poor", respectively. Further, energy costs are expected to increase, given the sizeable, expected investments in the power sector and the trajectory of international gas prices.

In Armenia, the inability to provide heating to an apartment is considered a deprivation, considering that heating is an important indicator not only in terms of living standards, but also in terms of human self-esteem. The indicator of being deprived of "healthy heating", which essentially describes the "heating poverty" of households (HH)s, includes the cases of absence of centralized heating or the possibility to heat the apartment with electricity, natural gas or liquefied petroleum gas. Consequently, all the HHs that have limited availability for more sustainable sources of energy and use wood, coal, manure, or other fuels for heating, are considered poor. According to the Statistical Committee of the RA, 31% of the country's population was deprived of "healthy heating" in 2021.[2]

According to a recent report by GIZ, half the population in Armenia cannot afford sufficient warmth in their homes. The heavy heating demand, due to low efficiency of houses and in particular multi-apartment buildings envelops, place a major financial burden on household disposable incomes, leading them to fuel poverty. Many families chose to save by underheating or partially heat their homes.[3]

[1] ARMSTAT, Poverty Snapshot 2021

[2] "Social Snapshot and Poverty in Armenia" 2021, table 2.17

[3] GIZ report on "Energy demand, supply and efficiency in rural Armenia: baseline data collection and analysis", 2019

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According to the Community Poverty Reduction "Know How" project currently in progress in the Caucasus Research Resource Center, in three northern regions of Armenia (Lori, Shirak, and Tavush) in 2021 revealed that among the 24 selected indicators, the poverty level was the highest in terms of "decent life" and "healthy heating". In particular, the share of the poor population in terms of "healthy heating" made 49.1% in Lori region in average, while for rural communities it makes 89.4%. The comparison of national and community indicators of multidimensional poverty shows that Lori region's residents are almost 1.6 times more deprived of "healthy heating".

The survey conducted during the Inception phase of the UNDP-Sida project, covering 150 HH residing in 10 multiapartment buildings (MABs), revealed that 53.3% are heating their apartments with natural gas, 32.7% – with electricity and 17.3% – with wood. Respective average indicators for Armenia (excluding Yerevan) are 75.9%, 23.8% and 14.8%[4]. Is important to mention that most of the female headed HHs, about 70%, heat their homes with electric furnaces (51.2%) or wood stoves (17.1%) and thus are able to provide no more than 14-17°C temperature in the apartment during the winter season due to inefficient devices and "saving mode" of heating. In general, over half of the surveyed HHs are not able to provide a comfortable temperature in their homes. "Energy-saving" behavior of female headed HHs in heating is evident also from the share of natural gas and electricity consumption in their expenditure structure, the 78.2% of surveyed pay no more than 15 thousand AMD for gas consumption during the heating season, while every third men head HH pays 16 to 35 thousand AMD, and almost every fourth – over 36 thousand AMD. At the same time, electricity costs' shares in the average monthly expenditure of are almost equal, making up to 10 thousand drams for 57% to 59% of the HHs.

Opportunity and choice

With limited income, the sunk costs of introducing higher energy performance systems are currently perceived to be barely affordable, both for the population and the municipality. So, the public's choice is limited to the existing modes of operation, even if most citizens opt out of burningwood and placing their forests at risk.

Increasing energy efficiency is the least-cost option for meeting the demand. For example, the cost of saving 1kWh of electricity, is estimated to be 25 to 30 percent of the long-run marginal cost of new supply. A focus on energy efficiency would also address affordability concerns, as well as contributing to increased energy security if its efforts are combined with the development of renewable energy (National Energy Security Concept, 2013). Concurrently, the cost of solar waterheating (SWH) and photovoltaic (PV) systems are falling, and the solar radiation on the territory of Armenia is high.

Enhancing energy resilience at the household level, through well targeted actions on making energy goods and services more affordable, available and accessible, will improve the prospects of households with dependents and a single female earner, as well as households with majority of women. These households are particularly vulnerable to poverty and old-age poverty[5]. The GoA has amended an existing regulation on State Subvention Program (SSP) with a total budget of around USD 20 million for 2020 to include incentives for EE retrofits of MABs and public buildings outside Yerevan.

The SSP is supporting 50% to 70% of investments for communities' investment plans, in accordance with the set criteria. The Government increases the State subvention shares by an additional 5% in case there is a co-financing third party with at least 20% share.

Starting from 2022, new rules have become into force, where subvention programmes in MABs require at least 10% contribution from households/residents, whereas, in order to incentivize and catalyze EE investments, in case of including EE improvement measures in the scope of the project, the households' share recued to 5% of the project costs. In May 2022, the Government also started its programme[6] (RA Government Decision N 520-Լ) for substituting the interest rate of loans taken by households for energy efficient renovation of their apartments and houses. This partially addresses a major constraint of funding

[4] This is also an issue for people working in or using public buildings, not least schools, kindergartens and sports facilities.

[5] Future Armenia: Connect, Compete, Prosper (a systematic country diagnostic), 2017, World Bank Document

[6] https://www.primeminister.am/en/press-release/item/2022/04/15/Cabinet-meeting/

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affordability, however, leaves space for complex institutional solutions, to which this project intends to contribute.

Power and voice

Energy democracy, the notion that communities have to shape their energy future, is currently not a reality in many communities in Armenia. This stems from i) a low level of the population's awareness of their rights, available solutions and the benefits that it can bring, ii) limited options to demand action from the state agencies and local governments in an organized manner and iii) significant financial constraints.[7, 8] Energy insecure households have limited power and voice to influence the situation in communities related energy use which directly and indirectly affected their wellbeing.

The project's concerted interventions will increase the citizens' awareness of better options for the use of local energy resources as solar energy, energy efficiency from retrofitting of buildings, using higher energy performance in lighting systems., and orient them towards the daily use of contemporary technologies – by demonstrating tangible examples in their local environment. Our replication strategy will also increase understanding of pathways for energy insecure community members in other secondary cities, to improve their power and voice to influence community decisions, including budget allocations. Opportunities to empower women and youth to actively participate in this process will be a priority, building on UNDP's participatoryapproaches used in ongoing women leadership projects in Armenia.

Human security

Communities across Armenia have experienced significant stress in their ability to cover energy and other utilities bills in the context of the compound crisis of 2020-2022 related to Covid-19 and hostilities in and around Nagorno Karabakh[9,10] The latter assessment also highlights that people's perception of safety in their communities has been negatively impacted. Building on the well-researched assumption that street lighting can make people feel safer in their communities [11], the proposed activities will add to the safety of walking and driving through prolonged hours of the outdoor lighting systems operation with an additional benefit of improved energy performance.

Moreover, current EE and RE solutions impact on the wellbeing of people, putting health and safetyrisk. Women, who are responsible for most of the household related tasks,[12,13] are particularly exposed to unhealthy indoor temperatures and poor air quality, driven by not clean fuel use, ineffective heating systems and insulation of homes. as well as increasingly common extreme weather conditions. This is also an issue for people working in or using public buildings, not least schools, kindergartens and sports facilities. Thus, applying a gender lens when selecting buildings will be of high importance and will help to identify and address human security issues faced by women, men, girls and boys respectively.

II. STRATEGY AND PREVIOUS EXPERIENCE

The project contributes to the UN Sustainable Development Cooperation Framework (SDCF) Outcome 5 "Ecosystems are managed sustainably and people benefit from participatory and resilient development and climate-smart solutions" and the Country Programme Document (CPD) Output 2.2 "Low-emission measures, renewables and energy efficiency advanced and scaled". The project is also aligned to Sustainable

[7] REACH (2021) Capacity and Vulnerability Assessment (CVA). Yerevan

[8] GIZ (2019). Energy demand, supply and efficiency in rural Armenia: baseline data collection and analysis. Yerevan

[9] BEAM Exchange on working in thin and nascent markets: HYPERLINK "https://beamexchange.org/guidance/intervention-stages/thin-markets/" \h https://beamexchange.org/guida

[10] REACH (2021). Armenia 2021 Multi-Sectoral Needs Assessment (MSNA). Yerevan.

[11] Steve Fotios & Holly Castleton (2016) Specifying Enough Light to Feel Reassured on Pedestrian Footpaths, LEUKOS, 12:4, 235-243, DOI: 10.1080/15502724.2016.1169931

[12] GIZ (2019). Energy demand, supply and efficiency in rural Armenia: baseline data collection and analysis. Yerevan

[13] UNDP (2020). Socio-Economic Impact Assessment of the COVID-19 Outbreak in Armenian Communities. Yerevan

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Development Goal (SDG) 7 (affordable and clean energy), SDG 11 (sustainable cities and communities), SDG 13 (climate action) and SDG 17 (Partnerships for the Goals).

The project is designed in the context of agreed strategic priorities for supporting development outcomes in Armenia. It is also aligned to Swedish international development cooperation priorities, as articulated in Sweden's global development cooperation in the areas of environmental sustainability, sustainable climate and oceans, and sustainable use of natural resources and to thesignature solutions in the United Nations Development Program Strategic Plan for 2022- 2025 [14].

The project aims to contribute to the goals of i) preventing climate change and reducing greenhousegases and air pollutants, ii) reducing the vulnerability for people living in poverty and iii) progressingsustainable energy systems based on renewable energy[15], with a view for the new practicesintroduced to be scaled up in additional communities in Armenia. The project's Theory of Change is presented in Annex 6.

This proposal directly responds to the need to progress to a just transition to low carbon development in Armenia, which will both address and bolster against multi-dimensional poverty. The proposal is aligned to Government of Armenia priorities, as articulated in the new Government Programme and strategies.

Energy is a strategic sector for the country, playing a key role in meeting national development goals, ensuring security, reliability, as well as affordability of energy services for population. The sector predominates in the country's total GHG emissions (with the share of up to 70 per cent) and has the highest mitigation potential as well. These are addressed via "The Republic of Armenia Energy Sector Strategic Program (till 2040) and updated Nationally Determined Contributions of Armenia under the Paris Agreement. The initiative is also aligned to the recent draft of "National Program on Energy Efficiency and Renewable Energy for 2021 to 2030 and Triennial Action Plan for the First Phase of its Implementation". [16]

Under the Comprehensive and Enhanced Partnership Agreement (CEPA)[17] signed by Armenia with the European Union, the energy sector is defined as an important area of cooperation. CEPA highlights changes to energy strategy and policy, enhancement to energy security, including the diversification of energy sources through promotion of renewables. The project will contribute to the requirements of CEPA by promoting the energy efficiency solutions in public and residential buildings and the utilization of solar energy resources, while providing lessons for the development of energy sector strategy and policy, among others on community level.

UNDP's experience

UNDP has a long track-record in assisting communities in Armenia in adopting and applying sustainable development solutions, in particular assessing needs, elaborating suitable solutions,fostering partnership, and promoting new means of implementation. Among others, these include support in promoting green energy solutions.

UNDP has also partnered with communities and local self-governments (LSG) in promoting installation of solar PV and solar water heating systems combined with EE measures in buildings and public facilities, as well as upgrading street lighting systems with LED luminaires.

UNDP has extensive experience also in the field of building retrofits, particularly in scope of the below described UNDP-GCF "De-risking and Scaling-up Investment in Energy Efficient Building Retrofits" Project (implementation period 2017-2023). The project seeks to systematically de-carbonize the existing building stock in Armenia to reduce GHG emissions while achieving sustainable development benefits. To do so, the project focuses on reducing the overall investment risk profile of EE retrofits in the building sector. The project is financed through a GCF grant of USD20 million and USD420 thousand in cash co-financing to addresses market barriers to EE building renovation. A combination of policy and financial de-risking instruments are employed to strengthen financial incentives to key market players.

[14] https://www.undp.org/publications/undp-strategic-plan-2022-2025

[15] https://www.government.se/49ae5f/contentassets/8d99ab613d4d476794495d6e4859c3aa/strategy-for-swedens-global-development-cooperation-in-the-areas-of-environmental-sustainability-sustainable-climate-and-oceans- and-sustainable-use-of-natural-resources-20182022.pdf

[16] https://bit.ly/3N0kSCZ

[17] https://ec.europa.eu/commission/presscorner/detail/en/IP_21_782

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Within the framework of the project, UNDP cooperates with the State Subvention Program (SSP) coordinated by the Ministry of Territorial Administration and Infrastructure of Armenia. UNDP long-term efforts, both on national and marz level, contributed to the perception of energy efficiency in residential sector issues as structurally necessary and societally beneficial. Notably, UNDP's advocacy resulted in the GoA adopting the eligibility of regional (marz) MABs to access the SSP funds. Within this cooperation, the project provides technical assistance to communities in understanding the benefits for EE retrofitting in buildings, preparing applications for relevant buildings, with the objective to co-finance the EE retrofits (up to 25% for full and up to 20% for partial retrofit works) from the UNDP-GCF grant component. By the end of December 2021, EE retrofits in 70 multi-apartment buildings in ten communities, co-financed by UNDP (with derived CO2 emission savings of around 4,200 tons/year), have been completed.

Due to national budget limitation for 2022 the State Subvention co-financing for MABs will be reduced and thus all other sources have to be leveraged for scaling this positive move in EEpromotion in the building sector. Synergies between the current UNDP-GCF Project, the SSP and the initiative through Sida funding can be that opportunity, where UNDP will proceed with co-funding schemes adopted for residential and public buildings EE retrofits. Hence, for residential building retrofits co-funding opportunities exists of up to 25% of the capital investment costs. Other Project related risks and mitigation measures are presented in Annex 7.

Other UNDP key achievements to date include:

- Within the broader NK crisis response, UNDP was the first agency to address the energy-related issues through **deployment of green "emergency" energy solutions** (PV, solar thermal, biofuel briquettes) and energy-efficiency measures (building insulation, street lighting upgrades) in communities severely affected by the compound crisis. So far PV solar thermal stations with 360kW total capacity have been installed in five communities hosting arrivals from NK, ensuring about USD 43,000 of annual saving.
- In 2020, the **National SDG Innovation Lab's Green Energy Project** with grant funding from the Russian Trust Fund was successfully finalized. UNDP implementingpartner the Armenia's R2E2 fund supported the installation of 418 solar water heaters and nine small PV rooftop systems with the total capacity of 33kW in the remote communities not connected to the gas network, ensuring about USD10,000 of annual saving.
- Through the **GEF-funded Green Urban Lighting Project**, UNDP audited communities municipal lighting systems in 21 urban settlements. In 16 cities demonstration projects were implemented with replacement of more than 1,200 streetlights in small cities and 4,400 in Yerevan and establishment of robust monitoringsystem for tracking savings and using funds for scaling similar projects in the community applying a revolving mechanism. To downscale the prototype of Yerevan revolving fund, a rural climate revolving fund model is being piloted in 6 communitiesby the UNDP-GEF Small Grants Programme, which proved to ensure sustainability through investing of savings from the implemented RES use and EE measures into low-carbon technologies (PV, solar thermal systems, street lighting, solar-powered irrigation, etc.).

Learnings from past programming, including the project's Inception phase

The lessons learned from each, relevant, completed project, includes the Global Climate Fund (GCF) De-risking and scaling up investment in the energy efficient building retrofit projects, have been taken into account, and the respective insights contributed to the rationale of this proposal. The following specific lessons arise from our GCF project:

- Before the intervention, conduct a survey among the intended beneficiaries to introduce precision into the estimated outcomes of the effort. For instance, a household vulnerabilityassessment survey was conducted in Yerevan in 2019 to underpin selection of the buildingsfor retrofit activities[18].
- Female-headed HHs (FHHs) demonstrate "energy-saving" behavior in heating, which is more of energy depriving attitude, a variant of negative coping strategy. This is evident from the share of

[18] This is also an issue for people working in or using public buildings, not least schools, kindergartens and sports facilities.

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natural gas and electricity consumption in their expenditure structure. Thus, 78.2% of FHHs pay no more than 15 thousand AMD for gas consumption during the heating season, while every third MHH pays 16 to 35 thousand AMD, and almost every fourth MHH – over 36 thousand AMD. At the same time, electricity costs' shares in the average monthly expenditure of FHHs and MHHs are almost equal, making up to 10 thousand drams for 57% to 59% of the HHs. About 71% of the 150 surveyed HHs installed euro-windows (metal-plastic window frames) and 63% use light-emitting diode (LED) lamps. These figures are relatively high in male headed households: 74% and 66%, respectively, which is due to their relatively stronger financial standing.

- To operationalize the intervention, the major issue is the necessity to strengthen coordination between the key actors, such as State Subvention Programme, partner Communities, Project Implementation Unit of the line Ministries, contributing Foundations and others. Importantly, this includes timely amendment of the underpinning documentation, such as local procurement plans and budgets;
- During Inception period UNDP expert team worked closely with the Alaverdi municipal personnel, visiting all potential buildings which can undergo EE retrofits (in accordance with set eligibility criteria, such as technical condition of the building and degradation level, poor thermal characteristics of the building shell components, occupancy pattern and number of de facto residing households, residents' co-financing will and commitment), selecting relevant buildings with the community representatives, preparing and adjusting 2022 State Subvention Programme applications, estimating costs and support with procurement of technical design packages for 7 partial and 3 full retrofit buildings.

  In-person technical assistance has been provided by UNDP expert team for provision of profound technical solutions in regard to EE components of the planned retrofit works. All the necessary information, including set of drawings for a typical building project with same architectural solutions and cost estimate templates have been shared accordingly and follow up consultations have been conducted. It should be noted that respective meetings have been held with focal points of the Homeowner's Association and the occupancy patterns of all 10 buildings have been verified accordingly in each nominated building. Moreover, in terms of transparency, households' financial contribution portions (in monetary volumes per apartment unit and per surface area) have also been cleared and outlined.

- Cross-project cooperation must be strengthened with similar initiatives within UNDP for experience exchange and synergy.
- The exchange of information must be ongoing with the projects working with local governments, such as Mayors for Economic Growth (M4EG) Facility and EC Covenant of Mayors-East project.

A World Bank evaluation[19], of a pilot of energy efficient solutions in public buildings in Armenia, found that it is necessary to facilitate the commitment of the private sector, to develop prospects for scale up and energy efficiency market transformation. The same evaluation found that demonstration effects, of the viability of solutions, can only influence positive systemic change in the policy/regulatory framework, if there is government commitment to the approach, and long- term funding. Finally, the evaluation found that the design of a pilot project needs to go beyond demonstration effects, to lay the groundwork for sustainable operations.

Having considered these lessons, and conducted analyses during the inception phase, the project has to consider that:

- Adaptive management is vital when seeking transformation in market systems, including conducting sufficient analysis of the core transaction market, the identification of functions and rules, constraints, stakeholders, the dissemination of information, the timing of demonstration projects and ensuring the iterative nature of key activities;
- In thin and nascent market systems, careful engagement in the core transaction market (buying and

[19] Performance Report of Energy Efficiency Project, produced by IEG for WB, IFC and MIGA in March 2019, https://ieg.worldbankgroup.org/sites/default/files/Data/reports/ppar_armeniaenergy.pdf

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selling of relevant and scalable energy efficiency and renewable energy solutions) may be required, to stimulate change in the behavior of public and private market system actors and the performance of functions and rules;

- It is important, that improved energy consuming systems undergo a technical audit, an evaluation and an assessment via public perception surveys, which take into account the inevitable lag between their installation and the generation of private and social benefits;
- It is crucial that skills development, relevant to improved packages and maintenance, be included in the package of interventions, so that the necessary monitoring and maintenancecan be undertaken; and,

Procurement documentation must include detailed requirements for the requested equipment and services, that reference enhanced norms and standards, while requesting suitable and scalable energy efficient and renewable energy solutions from the bidders as opposed to supply of equipment without linkage to the site of its further operation.

Given the nascent and thin nature of the market system in secondary cities, the project proposes an umbrella of interconnected interventions in public and residential sectors in one selected community, that can ensure net social and private benefits for the community and households. This approach is aligned to the principles of applying market development approaches in given market conditions[20]. Further, Sida funds will be employed to leverage public and private investment and improve development impact. Each of the interventions will be carefully considered and will rely on evidence and the long-term experience of UNDP in implementing similar initiatives.

Transparent operational and financial mechanisms, and a reliance on UNDP's proven procurement procedures for necessary tenders, will be applied. At the same time, public co-financing will be channeled through established procedures of the state subvention program.

Due to the reforms made by the Government of Armenia and by the Public Services Regulatory Commission, currently there is a separate procedure for licensing solar power generation for communities. The initiation of a community owned solar plant, will enable the opportunity for Alaverdi to use clean, green and free solar energy to its advantage, thus providing additional income to the community budget.

Through generation of electrical energy and sales to the grid/operator, which has a guaranteed 20-year purchase term, set by Public Services Regulatory Commission (PSRC), the cash inflows are to be accumulated in a dedicated fund, which can be used for supporting and mainstreaming further EE or RE interventions and measures, catalyzing solutions for addressing the upfront costs.

Such successful example has been the EU-funded "EU4ASEP" Project, which has promoted renewable energy investments in the Artik town, and a 600 kW plant was commissioned in May 2022 and supplies electricity to the national grid (Electric Networks of Armenia).

Projects related to EE and RE are continuously implemented by an array of international donors, such as GIZ, EIB, WB, GCF, ADB and others (grants and loans). While specifics of their experience counteracting with local authorities and companies may differ from that of UNDP, the key lessonsare still conditioned by the country's context.

III. RESULTS AND PARTNERSHIPS

The project activities take into consideration the community's needs, partnership opportunities and financing commitments as identified in the course of Inception phase as well as recommendations of the project Local Project Appraisal Committee (LPAC). As a whole, the project will continue to ensure appropriate level of communities' engagement and contribution to the country's efforts in moving towards a low emission and climate resilient growth path.

[20] BEAM Exchange on working in thin and nascent markets: https://beamexchange.org/guidance/intervention-stages/thin-markets/

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In inception phase of the project conducted negotiations with Ministry of Territorial Administration and Infrastructure and with Alaverdi community in justification of benefits and co-financing of the energy efficiency retrofit projects in residential and public sector as well as importance in promotion of PV systems. The Alaverdi community has committed to co-invest about 100,000 USD (see Annex 4) vis-a-vis SSP 10 million SEK. The Ministry of Territorial Administration and Infrastructure as coordinating authority for state subvention programme has approved funding for 10 MABs energy efficient retrofitting in-2022 programme with amount of 340,000 USD, Alaverdi community commitment, including the residents' contributions, makes 130,000 USD, UNDP-GCF project inputs 95,000 USD and approximately the same amount is expected to be covered by Sida project. The household's participation in accordance with SSP rules has to be 5 per cent of the EE project cost and Alaverdi community has coordinating that work. The UNDP expert worked closely with design company for the appropriate consideration of energy efficiency measures in the documentation for announcement of the construction tender.

In the course of implementation of the full pledged project, Alaverdi community can apply for 2023 SSP support for 2 infrastructure projects: reconstruction of the kindergarten #6 and 500kW utility scale photovoltaic (PV) plant, with indicative amount of total financing of 675,000 and 400,000 USD correspondingly. The co-financing shares will be negotiated further in line with corresponding conditions set by Government Decree for SSP.

The interventions will be implemented in i) building skills and processes, ii) the provision of EE and RE solutions and iii) information. The monitoring of energy use outputs will demonstrate the value in the new practices. The most appropriate facilitative tools for each task will be defined, acknowledging the thin and nascent nature of the market system. Adaptive management will be applied to incorporate steps and documentation that allows to consider the opportunities and challenges in the course of implementation process. This will include the use of intervention concept notes, partnership justifications and agreements (where necessary), semi-annual reviews. UNDP will utilize its established procurement mechanisms, for all direct support to partners.

The project activities to be implemented during the 30-months and will be organized in the frames of 3 project outputs as detailed below (please refer to the Theory of Change in Annex 6), while Resources Required to Achieve the Expected Results are summarized in the multi-year work plan in Section VII and Risks and Assumptions are detailed in Annex 7.

OUTPUT 1: Inception Phase: Undertaking the stocktaking and full-size project detailed workplan development

1.1. Energy efficiency and renewable energy sites selected and initial cost of installations assessed.

The activities were implemented in cooperation and close consultation with the Ministry of Territorial Administration and Infrastructure and Alaverdi community, based on energy consumption levels and technical condition of public and residential buildings from the viewpoint of the Project's objectives and the donor's (Sida) requirements.

1.2. Multi-Dimensional Poverty analysis.

This activity built on the multi-dimensional poverty analysis. It focused on identifying feasible energy efficient and renewable energy solutions for the target group in the core transaction market. This activity was implemented through interviews with a diverse range of MAB dwellers, and relevant authorities. Concurrently, the lessons from previous efforts were identified to introduce energy efficient and renewable energy solutions, in secondary cities.

The outcomes of market systems development analysis were tested with local stakeholders through two meetings, as well as with the Project Advisory Board. The intervention documentation was designed so as to demonstrate relevance to higher level results (the Theory of Change). Importantly, the intervention design process sits within the intervention management process, it was followed up during the inception period and referred to in the Inception Report.

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1.3. Market System Development analysis.

This activity mapped the functions and rules required for the development of sustainable market systems. It engaged with possible providers of these functions and rules, to identify what new practices may be most relevant, and what may constrain their development and provision. A targeted survey was conducted among the three tiers of direct beneficiaries (the target group, municipalities and companies) to reveal their perception of the progress inhibiting factors in the municipal energy sector. Findings on each of the below indicated roles with their interconnections served to tailor the proposed interventions to the local needs and to properly take into account the local mode of action.

1.4. Public perception survey on functions and rules (outsourced to a Company).

The Local NGOs were hired to conduct perception surveys and focus-group discussions on-site in Alaverdi community. The household survey in 10 residential buildings initially identified as beneficiaries was surveyed to identify the attitudes towards the EE and RE solutions and level of their understanding, reveal situation with female-headed households and perception of the community residents' engagement in the project.

1.5. Environmental impact assessment.

An environmental impact assessment (EIA) was mobilized to provide an external assessment of the proposed approach and the interventions. The environmental impact of the planned EE and RES activities on the CO2 emissions was assessed. The assessment methodology was used the results from the walk-through energy audits and the Standardised emission factor for Armenia's grid.

1.6. Inception phase management.

The Inception Report was developed following the Initiation Plan document planned for January-June, presented on 06 July 2022 to the Advisory board and approved accordingly.

OUTPUT 2: Enhanced capacity and awareness on low carbon development practices for green recovery

2.1: Provision of technical support for establishment of energy management system (EMS)

The energy audit of public facilities of the community will be done using the national standards andexperience of pilot work done by UNDP in Stepanavan community of Armenia, and using initial walkthrough assessment done public facilities. The project will ensure involvement of local admiration specialists and local specialists, also ensuring equal participation of women in evaluation of the baseline situation and prioritization of EE and RE measures and cost-effective actions.

An energy management system (EMS) is required to monitor the results of the project, as well as to encourage sustainability and replication of the new practices introduced within and outside Alaverdi. The EMS will be designed so as to be able to be sustained in Alaverdi. It will also be necessary for the EMS to be designed in a way that it can be easily replicated in other municipalities.

The documentation and procedures for establishing EMS in community will be developed in close consultation with administration, with the early involvement of corresponding staff members based on commitments of the head of community for ensuring sustainability of corresponding functions in the administration staffing. The monitoring and evaluation of the proposed actions, as well as protocols of the EE and RE actions planned under project's Outputs 2 and 3 will be developed and formally approved by the Elderly Council of the community. The measuring and reporting system will be established in all public facilities for tracking energy consumption, The practical results of community EMS development and lessons learned will be shared with other communities through cooperation with the 3rd phase of EC financed Covenant of Mayors project.

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2.2: Advocacy, information sharing and communication support on benefits of low carbon development for communities and vulnerable groups

There is a need to improve advocacy and information availability in the community to stimulate uptake of EE and RE solutions. Awareness and advocacy measures for full and inclusive participation of community residents in planning, prioritization and implementation of low-carbon measures, and assessment of co-benefitswill be ensured through a detailed communication strategy. Technical support to the counterparts will be provided to develop and disseminate quality information on investing in EE and RE solutions and to replicate new practices elsewhere. The local TV channel will be used for information sharing on improved resilience, increased savings and improved health conditions. In time, the Municipal government will sustain the approach to communication to support the key criteria for sustainability: skills, incentives and relationships. The project will also benefit from the forum of the Covenant of Mayors to communicate the lessons learned to inform future interventions. The socially vulnerable groups identified in the course of inception phase and further expanded in close cooperation with social workers of the community administration to be targeted through the energy poverty reduction measures planned under Outputs 3 and 4 thus to maximizing benefits for socially vulnerable groups.

2.3: Involvement of community-based and women-lead organizations in decision making process and advocacy for low carbon development

There is a need to bolster the voice of community based and women-lead organizations in decisions making processes to progress a just transition to a green economy. Capacities of local NGOs will be enhanced to protect and promote the rights of women and socially vulnerable people on equal access to and equitable benefits from low carbon practices.

The plans will also include a focus on public awareness and behavioral change towards sustainablegreen solutions. The support will be provided to community-based organizations for participation in the community budget planning and prioritization of proposals for enquiring support from State Subvention Programme. These organizations will be able to continue to participate in budget planning and the formulation of proposals after the lifetime of the programme. These new practices will be able to be replicated in other communities through enriched agenda of local NGOs, as well as accumulated experience of businesses and financial entities, especially relying on the local population's exceptional trust into their own institutions, also by providing services to additional community-based and women-lead organizations.

2.4: Supporting the professional training for green jobs creation

There is a need to enhance the quality and quantity of suitably qualified installers, to enhance the quality and quantity of transactions for EE and RE solutions. Suitable experience and skills in technical services for EE and RE solutions are a key element in ensuring the self-sufficiency of the system. Currently, each company and artisan solve this problem on their own, and there is little regulation. However, a more systemic approach could provide training and professional development opportunities for the sector actors and facilitate the equitable transition to cleaner energy.

Within the Inception phase of this project, discussions were held with Alaverdi State Vocational College and opportunities for establishing a technical vocational training program on EE and RE technologies. This institution of technical and vocational education and training (TVET) can serve as a ground for knowledge sharing and skills transfer to enable providing community-level solutions and address sustainable energy schemes. TVET can also contribute to other occupations in the solar energy sector that, despite not being core installation and maintenance jobs, are due to play a role in the future uptake of this technology.

Importantly, the College agreed to host a laboratory and/or workshop on its premises with the necessary equipment that the project will set up. This could be an invaluable ground for iterative upgrade in the technical skills and knowledge of the sector in its application in the town. The College has also agreed to develop and run training and refresher courses on the installation and maintenance of EE and RE solutions. The College will be able to continue to market EE and RE solution installation and maintenance courses to installers. The demonstration effects of this new practice will allow for other Colleges to copy this new

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practice, thereby leading to further opportunities for skills upgrading. Meanwhile, UNDP will also continue to advocate for the formulation of a skills framework for EE and RE solutions at the national level.

Expected results: The activities delivered under this output will progress systemic change through building the technical capability of stakeholders in the community. Because of the EMS, the local administration of the community will be more aware of energy performance and other characteristics of the corresponding municipal structures and is capable to identify, develop, implement and monitor EE and RE interventions through the operational data. Households of target MABs and beneficiaries from public buildings, as well as general public being affected by the measures implemented, will gain knowledge on the EE and RE technologies introduced in the community, capacities of the local population will be enhanced through various outreach and awareness raising campaigns. Local NGOs and community-based organizations are knowledgeable to represent and protect rights of women and socially vulnerable people on equal access to and equitable benefits from EE and LED interventions. The vocational training institutions in the community has included curricula on low carbon technologies and programme for plumbers ensured training of 15 young specialists.

The experience and practical recommendation derived from the project will be widely shared with national partners and communities including the Community Association and cooperation with EC funded Covenant of Mayors project.

OUTPUT 3: Energy savings improved in public facilities and residential buildings

3.1: Implementation of energy efficiency measures in public and residential buildings

The implementation of complex or partial retrofit of MAB envelopes will improve energy efficiency characteristics of buildings. This will be achieved through establishing cooperation arrangements and co-financing with community and state support programme, and UNDP's on-going projects. The energy efficiency retrofits will be based on the respective energy audits with their recommendations discussed and agreed with the community administration. Based on that, co-financing agreements will be signed to underpin the identified and assessed reconstruction measures. The target buildings in public sector will be identified through transparent and participatory processes, having as main criteria cost efficiency and number of beneficiaries. In residential buildings, priority will be given to panel MABs with poor thermal characteristics and to vulnerable families in dispatched houses for solar-water heating installations. In residential sector this will be based on participatory arrangements of HHs. The key transformational feature here is monetary investment of the residents, albeit with a 5% share for both full and partial refurbishment, leading to cultural shifts in technology application.

3.2: Energy efficient upgrade of indoor and outdoor lighting

There is a need to upgrade street lighting to bolster security and improve energy efficiency. The street lighting systems and indoor lighting in public facilities will be upgraded relying on baseline assessment. The direct energy savings will be monitored and recorded. If applicable, municipal revolving fund will be established to accumulate the resulting savings and pour them into consequent energy efficiency projects. Within similar initiatives, UNDP provided technical expertise for optometric assessment of the lighting systems in question, while Municipality ensured manpower for pole renovation, luminaire installation, operation and maintenance.

3.3: Counterpart funding to State Subvention Programme

The SSP routinely invites project proposals from communities to address the territorial development challenges emphasized on sites so that the strategic coverage is closer to comprehensive. As communities' technical prowess is rarely sufficient, they need expert support to formulate their proposals clearly and substantively, to be able to access the SSP's funds when applying to the Ministry of Territorial Administration and Infrastructure. This provides on-hands experience to share with other communities so that they learn

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the benefits of pooling resources and writing proposals to access public funds. The Project will support the coalescing and coordination among involved parties to formulate proposals to access state subvention funds for public spaces in MABs and for public building. This will be complemented through counterpart funding for retrofit of MAB public space and of public buildings to enhance ownership of these projects by various relevant actors and contribute to further development of similar practices.

Expected results: To reiterate, the sustainable new practices include: involvement of MABs residents in funding energy efficient initiatives, of however small share in the beginning, thus enhancing their ownership and decreasing reliance on the authorities; upgrade of energy performance of local lighting systems, maybe leading to establishment of a municipal revolving fund; continuous technical support for SSP proposals elaboration and submission to access the state fund to address the local challenges of territorial development.

In total, it is estimated that 10 MABs and 2 public buildings will be energy retrofitted, because of which around 2,300 MWh/year of energy will be saved, with around 580 tons of CO2 reductions per annum. Total number of beneficiaries from Activity 2.1 is expected to be around 2,000 community members. This will drastically improve the energy resilience of the community, setting pathways to meet commitments made under the community's draft sustainable energy plan. Additionally, the residents and community will have budget savings of around USD 100,000 per annum.

Street lighting systems of around 2 km community routes is foreseen to be upgraded through installation of LED luminaires, which would result in about 30 MWh/year energy savings, with derived CO2 emissions reduction of 12 tons per annum.

OUTPUT 4: Enhanced access to green and affordable energy sources

4.1: Deployment of solar PV and solar thermal systems in public facilities

The installation of community owned utility scale PV system will follow the currently adopted regulatory framework and the quota of 15 MW for PV systems solely allocated for communities. The main criteria will be community commitment to establish a community-owned company, a saving fund and co-financing of that activity. In the inception phase, the potential site has been identified; the community land allocation decision and its category change will be initiated on early stage of the project. This activity's intermediary results will inform the iterative process under Activity 2.3 with the aim to produce an innovative RE model to enhance affordability of financial products for MABs.

Through initial assessments it is expected that a 500 kW_{DC} solar plant is the most cost-efficient and justified solution with around 650 MWh electricity generation per annum and USD 32,000 income. The environmental impact is around 270 tones/annum CO2 emissions reduction.

It should also be noted that although "community-owned" solar plants are eligible to be enlisted for SSP financing, the co-financing shares among municipality and state budget have yet to be negotiated. The technical documentation and institutional and logistic arrangements include obtaining the licenses, accessing co-financing, elaborating technical terms of reference for procurement of goods and services, design of the saving fund and its charter. Relying on its vast experience, UNDP will contribute to rendering these components ready for the selected consolidated community of Alaverdi, to be further shared with other interested communities, thus enabling to smoothen the replication mechanism later on.

During the Inception phase the appropriate locations in Alaverdi community were assessed, according to the technical criteria, such as community land, no diversion or resettlement, proximity to HV transmission lines, and one site was pre-selected.

The SWHs selection sites in public sector will be based on appropriate justification and characteristics of the infrastructure (e.g., roofs condition). The local specialists will be involved in installation activities and will be trained for proper O&M of the installed facilities.

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4.2: Solar thermal systems in residential sector.

There is a need to formulate a scheme to support ensuring access of vulnerable families to credits/loans for installation of SWH in their houses. The intermediate results of Activity 3.1 will inform the scheme designers (project, financing and specialized entities, municipality and community actors). Currently, there are only very limited assistance schemes that target rural communities and socially disadvantaged households in support to the energy efficiency and renewable energy related activities. The project will cooperate with commercial banks and service providers active in Lori region, as well as SWH hardware installment and maintenance businesses.

There is a need to bolster knowledge among financial institutions of the needs and capacities of residents RE solutions, so that appropriate financial products can be designed and to lower the costs to banks in reaching this market segment. An option to explore is financing the interest rates for credits/loans from partner banks aimed at procurement and installation of solar water heaters for 50 families having 3 or more children, or disabled members. In order for the financial products to be custom-tailored, the Project will facilitate their design with all the involved parties to ensure their extended accessibility. The local financial institutions (because they enjoy trust of the local population) and NGOs will be partnered to facilitate research of residential dwellings and the needs and capacities of residents. The findings will be widely disseminated and discussed within the community (residents and municipality) for successful application and further effective replication. The research will be designed so as to be easily replicated by banks in other municipalities.

4.3: Establish Innovative RE model for further lower costs of finance to households

There is a need to establish an innovative renewable energy model to further lower the costs of private finance to households, and improve the accessibility of finance to low-income households. As renewable energy practices keep scaling up through the country, they are still not widely accessible for most households. This can be facilitated through i) formulating a business case for the community to generate renewable energy under through grid connected PV station under Activity 3.1, the profits of which will lower interest costs for the households; ii) coordination among communities and CSOs to engage with the model and then apply for loan products from financial institutions. The initial investment planned under Activity 3.2 and mentor implementation will help reaching out to the bottom of the pyramid. To achieve this, UNDP will proactively reach the relevant local entities and financial institutions to initiate the respective communication and come to a common understanding of the issue. The information inflow will necessarily include the success and lessons learned from the installation of PVs under Output 4.1, highlighting pitfalls for the business and pros and cons for the HHs. With a steady pace of the project's implementation, the innovative RE model is expected to be elaborated in several iterations as MAB envelope retrofits, lighting energy performance upgrades and PV installations progress.

The project will enhance HHs capacity to access banking services to implement EE and RE measures, with a focus on Lori and in cooperation with EU Covenant of Mayors-East project. The financial products or compensatory schemes with participation of the GoA or revolving municipal funds must rely on evidence-based data on HHs needs and capacities to ensure sustainability The complexity of this undertaking dictates its iterative nature and necessitates exploration into the specifics on the new practices, elaboration of criteria for sustainability and scale. Once a marketable product emerges, support in launching a mentorship programme in the implementation of new loans will be facilitated. This activity will build the processes and technical capability required of banks, to involve them into expanding the marketing of new financial products to other municipalities.

Expected results: This initiative might become one of the major impacts generating and visibility ensuring activity with potential for market intact and private sector involvement. The community owned utility scale PV installation will be main savings generating activities which will be accumulated in the municipal special fund to be used for scaling socially oriented green solutions in the community on continuous basis. The funds accumulated can be further used to scale the SWH systems support scheme for vulnerable households.

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Partnerships

There are a number of projects and other initiatives currently active in Armenia that could provide synergies with the project. The most relevant ones are listed below:

Projects funded by Sida:

- "Reconomy" programme of Helvetas-Eastern Europe (among the foci: education and vocational skills)
- Contribution to with E5P fund for energy sector
- A new project for improved waste management underway

Other donor-supported projects:

- De-risking and Scaling-up Investment in Energy Efficient Building Retrofits, UNDP-GCF
- EC Covenant of Mayors-East project
- Mayors for Economic Growth (M4EG) Facility, UNDP

Government initiatives:

- State Subvention Programme for communities
- Support for EE on HH level
- National Programme on Renewable Energy and Energy Efficiency

Stakeholder Engagement

The innovative model for energy efficient and low carbon development, through which the project is set to achieve its goals, will be elaborated via the stakeholders' engagement. Meaningful, effective, and informed stakeholder engagement and participation allowing for increased ownership and thus sustainability is critical, so the key partners were identified and involved into the project within its Inception phase. The project will ensure that key stakeholder representatives are involved early and throughout project implementation as partners for development. This includes their participation in the project's Advisory Board for guidance and review of project outputs, as well as participation in monitoring activities. In addition, close cooperation with all key actors in the country will contribute to the increased national knowledge, concerns and awareness of the different stakeholders on climate change issues.

Key Stakeholders	**Responsibility/Expertise**
Ministry of Territorial Administration and Infrastructure	Approved selection of Alaverdi as the pilot community. Administers the State Subvention Programme.
Alaverdi Municipality	Hosts the pilot: • covers 10% of total expenses, • provides sites for renewable energy stations, • cooperates with the NGOs to engage the community into new practices promoted by the project, • supports educational initiatives to build relevant skills.
Target groups	Vulnerable HHs, female-headed households, skills for youth etc. (see the subsection below).
Ministry of Environment	Authorized national entity for coordination of climate change activities and focal point of the UNFCCC.
Non-governmental organizations (NGOs)	Implement surveys within the community. Cooperate with the Municipality to engage the community into new practices promoted by the project. Agents of public awareness raising.
Alaverdi State Vocational College	Establishes a technical vocational training program on EE and RE technologies. Set up a laboratory/workshop with necessary equipment to reliably support the effort.

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Key Stakeholders	Responsibility/Expertise
Private sector actors	Cooperate with local authorities and financial entities to benefit indirectly from the community's increased finances and directly – from better skills of their possible employees.
Financial entities	Cooperate with local authorities and private sector to expand their clientele via increasing affordability of financing for the community.

Target groups

In adopting the market systems development approach, we identify our target group as the most vulnerable individuals in Armenia's secondary cities. These include the old, the young, the disabledand poor and female headed households. These groups are most vulnerable to income and energy insecurity, and often lack power, voice and choice to influence and actively partake in the green transition.

We aim to reach this target group through stimulating the core transaction market, and the functions and rules, associated with suitable and scalable renewable energy and energy efficient solutions. This target group will benefit from solutions implemented in their places of residence and use, such as identified public buildings, including kindergartens, schools and sports halls. Ourapproach also focusses on deriving benefits for public and private employers and employees by supplying solutions, and in performing functions and rules.

Reaching this target group is not without its challenges, which is why we include a multi- dimensional poverty analysis and a market systems development analysis component in our approach. Importantly, our analytical approach allows us to identify the socio-economic situation of vulnerable groups and identify the number of vulnerable households (female headed households, families with disabled kids) that will be impacted by our interventions. We will keep a focus on this target group throughout the implementation of activities.

South-South and Triangular Cooperation (SSC/TrC)

The project features South-South cooperation in facilitating sharing of the activities in beneficiary community with communities' signatures of the Covenant of Mayors. In that context project will closely cooperate with the EU Regional project which involves 4 neighboring countries. The project contributes to the ongoing processes through cooperation with EU Covenant of Mayors-East project. Besides that, there is cooperation with French communities coordinated by Ministry of Territorial Administration and Infrastructure. The UNDP-Sida project will propose to use that framework for sharing the outputs and experience gained and explore cooperation opportunities.

Digital Solutions [21]

Digital solutions are incorporated into the project implementation routine by each of the key contributors and stakeholders: the Ministry is increasingly using digital tools to collect information and ensure its operations, the Municipality is a user of the Ministry's system and is also familiarized with the digital component of the businesses operating in the community, the energy stations to be installed and energy efficiency solutions to be implemented also contain such components. An operating energy management system to be built in the community will also necessarily use digital solutions. The last in line are the residents and the project's activities are designed to address this deficiency at least indirectly, as a result of people's involvement into the Market System Development process.

Knowledge

The project is by and large a knowledge orientated initiative, which underpins its chances for attaining sustainability and achieving scale. In case of success, the project's key produced knowledge is replication roadmap of the proposed compound energy solution for other communities of Armenia. Within its implementation, the project will stimulate new energy efficient practices and use of renewable energy sources, through sharing information on incentives and building technical capability. Continuous sustained

[21] *Please see the Guideline "Embedding Digital in Project Design".*

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information exchange and skill building are intended, so that a transformational change is induced in the pilot community and further replicated.

More specialized information generated by the project refers to the details of energy stations installation and utilization, establishing an operating energy management system in the community, bottlenecks and impediment working with the residents, revealed opportunities and constrains for financial institutions expanding their activities into smaller settlements, and more iterative knowledge-building as the project unfolds.

Sustainability and Scaling Up

Following the steps of other energy performance centered initiatives, the project covers (partially) the sunk costs of starting a new approach to achieve higher energy performance or utilizing a recurrent funding scheme. Key systems on national and local level are engaged into the project's implementation: the Ministry – as the implementing partner, and the Municipality – as the key beneficiary and routine supporter on the ground. While the former ensures its ownership by monitoring the results of the State Subvention Program already committed to participate in this project, the latter is the main recipient of the new community-educating ideas, their underpinning equipment and funding opportunities, and the major reference point for further replication. The means of achieving sustainability and replication are necessarily the new practices as implemented in the pilot community within the activities described above. Each output's expected results are summarized in this Section III, and the gradual nature of knowledge-building and ownership enhancement allows their enrichment and upgrade with each iteration of project outputs.

IV. PROJECT MANAGEMENT

Cost Efficiency and Effectiveness

The overall approach to cost efficiency and effectiveness is through utilization of Climate Change Program's vast resources and application of cross-project synergy within UNDP.

Within the engineering segment of the project, cost effectiveness of the envisaged expenses is achieved through the targeted use of the available resources towards installations determined during the Inception phase of the project (establishment of energy stations, defining and procuring the equipment to ensure higher energy performance of municipal lighting systems and similar efforts). Cost effectiveness of Output 1 is less straightforward to point out, it depends on continuous engagement with the key local stakeholders and facilitation of information exchange between various actors of the process (residents, businesses, NGOs, municipality, financing institutions, and others).

On the expertise side, cost efficiency of the project's planned expenses is achieved via involvement of UNDP's experienced team and invited specialists as well as on synergy approach among the ongoing projects to share lessons learned and applicable approaches. On the procurement side, UNDP processes proved to be valued by the partners and quite reliable per the actual outcomes.

Project Management

The core project activities will be implemented in Alaverdi town of Lori marz with operationalization of the partnerships on national and local levels as well as with reliance on relevant sector actors and other partners. Based on the Inception phase results and donor requirements, the project arranges managerial routine in accordance with the UNDP procedures and with involvement of all the relevant actors and stakeholders. This includes making key decision in the framework of Advisory Board and utilizing the procedural setups for reporting, monitoring, evaluation, etc. The project focuses on providing community resilience model relying on energy efficiency and renewable energy and capable of replication.

The details of relevant functionalities and applied vision for replication are presented in Section VIII.

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V. RESULTS FRAMEWORK[22]

Intended Outcome as stated in the UNSDCF/Country Programme Results and Resource Framework: UNSDCF Outcome 5, corresponds to CPD Outcome 2: Ecosystems are managed sustainably, and people benefit from participatory and resilient development and climate smart solutions
Outcome indicators as stated in the Country Programme Results and Resources Framework, including baseline and targets: Output 2.2: Low-emission and climate-resilient objectives addressed in development plans/policies on economic diversification and green growth.
Applicable Output(s) from the UNDP Strategic Plan: Output 5.2 Transition to renewable energy accelerated capitalizing on technological gains, clean energy innovations and new financing mechanisms to support green recovery.
Project title and Atlas Project Number: Project ID: 00140158, Output ID: 00129453

EXPECTED OUTPUTS	OUTPUT INDICATORS[23]	DATA SOURCE	BASELINE as of year 2022	TARGETS (by frequency of data collection)					DATA COLLECTION METHODS & RISKS
			Value	2022	2023	2024	2025 Jan-Feb	FINAL	
Output 1. Inception Phase: Undertaking the stocktaking and full-size project detailed workplan development									
Stocktaking and development full size project document		Inception Report developed and approved		**Done**				Full-size project developed and approved by the Advisory Board	
Output 2. Enhanced capacity and awareness on low carbon development practices for green recovery									
2.1: Provision of technical support for establishment of energy manage-ment system (EMS)	Number of energy audits of relevant objects and infrastructures conducted in target sectors for having baseline emissions data	Completed audit reports and documents, project reporting.	0	2	4	6		Baseline data on energy consumption for at least **2** municipal buildings and street lighting systems, and at least **10** residential buildings collected.	The actual number of energy audits will depend on the selected community and the number and type of target objects and infrastructures eligible for implementation of the proposed project activities.
	Availability of an approved municipal	A decision of the community's	Neither municipal EMS	0	Energ y			Functional EMS is formally established in	Achievement of this target depends on commitment and

[22] UNDP publishes its project information (indicators, baselines, targets and results) to meet the International Aid Transparency Initiative (IATI) standards. Make sure that indicators are S.M.A.R.T. (Specific, Measurable, Attainable, Relevant and Time-bound), provide accurate baselines and targets underpinned by reliable evidence and data, and avoid acronyms so that external audience clearly understand the results of the project.

[23] It is recommended that projects use output indicators from the Strategic Plan IRRF, as relevant, in addition to project-specific results indicators. Indicators should be disaggregated by sex or for other targeted groups where relevant.

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EXPECTED OUTPUTS	OUTPUT INDICATORS[23]	DATA SOURCE	BASELINE as of year 2022	TARGETS (by frequency of data collection)					DATA COLLECTION METHODS & RISKS
			Value	2022	2023	2024	2025 Jan-Feb	FINAL	
	EMS, operated by a designated municipal energy manager as well as verified results of monitoring of the outcomes of the Project interventions	Council of Elders on introduction of EMS and designation of energy manager; a concept of EMS, monitoring and verification reports, project reporting.	nor a system for monitoring and verification system for EE&RE interventions exists in the selected community		mana gemen t syste m establ ished			the municipality and managed by a designated skillful staff (female) trained by the Project. The impact of EE&RE interventions is monitored and verified via EMS.	political will of the selected community to establish EMS and appoint functions of energy manager, as well as availability of municipal resources to set a decent salary to attract a qualified specialist for the position of energy manager
2.2: Advocacy, information sharing and communication support on benefits of low carbon development for communities and vulnerable groups	Number of awareness raising events organized for the residents of the selected community	Report on the awareness raising events. Results of surveys	0		2	2		**4** awareness raising events are organized by the Project and 2 TV programmes transmitted by local TV channel At least **15%** of the residents of the selected community will be covered by the information campaigns	Project surveys and events, copies of the TV programs. The information on the project events and outcomes of the EE and RES projects will be published on the community web-site.
2.3: Involvement of community-based and women-lead organizations in decision making process and advocacy for low carbon development	Number of local NGOs, CSOs and number of their representatives (disaggregated by gender) reached / covered by capacity building events organized by the Project	Capacity building event reports, training effective-ness and participants satisfaction assess-ment reports, etc. Available research on related topic, own data	0	2	2	2		6 local NGOs and CSOs and **75%** of their staff is reached / covered by the Project capacity building events. Analytical report	Achievement of this target depends on willingness of local NGOs and CSOs to cooperate with the Project and to apply the knowledge gained in their daily activities. The facilitation of partnership between financial institutions may be challenging due to the objective reasons: small market, high level of vulnerable population, remoteness of the region from Yerevan.

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EXPECTED OUTPUTS	OUTPUT INDICATORS[23]	DATA SOURCE	BASELINE as of year 2022	TARGETS (by frequency of data collection)					DATA COLLECTION METHODS & RISKS
			Value	2022	2023	2024	2025 Jan-Feb	FINAL	
2.4: Supporting the professional training for green jobs creation	Number of capacity building trainings and workshops on "green transformation" organized for local administration staff of the selected community and other stakeholders	Training reports, training effectiveness and participants satisfaction assessment reports, results of post-tests.	0	0	3	3		At least **6** trainings are organized and reported.	Achievement of these targets depends on employee turnover in the local administration of the selected community. Success can be achieved if the trained employees remain in their positions and committed and motivated to contribute to the objective of "green transformation".
	Number of local administration staff and specialist of municipal structures covered by the Project's capacity and knowledge building activities		0	2	4	4		Al least **10** specialists of the local administration and municipal structures are trained on "green transition".	
Output 3. Energy savings improved in public facilities and residential buildings									
3.1: Imple-mentation of energy efficiency measures in public and residential buildings	Number of EE retrofitted public/municipal buildings and MABs. Direct energy saving achieved after retrofit activities.	Energy audit, monitoring and field verification reports.	0	0	9	3		At least **2** public buildings and **9** MABs are energy retrofitted. At least **2,300** MWh/year of energy is saved in total after retrofitting activities.	Achievement of this target depends on the co-financing for MABs and public buildings, willingness of tenants of MABs to cooperate and support the proposed interventions. Hence, the mentioned quantitative targets are subject to adjustment based on actual situation evaluated.
3.2: Energy efficient upgrade of indoor and outdoor lighting	Length of the street lighting system and number of public facilities with indoor lighting systems	Energy audit, monitoring and field verification reports.	0	0	2km	2 public build-ings		At least **2** km of street lighting system is upgraded. At least **30** MWh/a annual energy saving is	Achievement of this target depends on actual technical characteristics and the level of EE modernization of the street lighting system of the selected community. If by the

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EXPECTED OUTPUTS	OUTPUT INDICATORS[23]	DATA SOURCE	BASELINE as of year 2022	TARGETS (by frequency of data collection)					DATA COLLECTION METHODS & RISKS
			Value	2022	2023	2024	2025 Jan-Feb	FINAL	
	upgraded by the Project. Direct energy saving achieved after upgrade.							achieved after the upgrade of the system.	beginning of the Project most of the street luminaries in the community have already been replaced by LED, the proposed technical solutions and quantitative targets shall be revised and adjusted accordingly.
3.3: Counterpart funding to State Subvention Programme	Proposal to the State Subvention Fund for the consolidated community	State Subvention Fund	NA	0	2 (SSP proposals)	2		At least 4 EE or RES proposals developed and submitted to the State Subvention Fund for the amalgamated communities	The coalescing of communities may be hindered with a new wave of state reforms.
Output 4. Enhanced access to green and affordable energy sources									
4.1: Deployment of solar PV and solar thermal systems in public facilities	Renewable energy generation reported by the selected community and monitored by the project	Monitoring and field verification reports, electric meter readings, invoices from the distribution grid operator.	0	0	0	1		At least on utility scale 500kW PV plant is put in operation.	Achieving this goal depends on the availability, eligibility and characteristics of the co-financing, allocation of land and receiving construction license.
4.2: Solar thermal systems in residential sector	Solar water heaters installed in 50 family houses. Market studies on available financing opportunities offered by local financial institutions in the community	Report of the partner NGO on beneficiary families	0	0	20	30		Solar water heaters installed for 50 families. At least 3 private sector institutions participate in offering solar water heating systems installation	Achievement of this goal depends on the enhancement of interest towards green products from the demand side. Limited involvement of financial and private sector players in offering services in remote communities.

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EXPECTED OUTPUTS	OUTPUT INDICATORS[23]	DATA SOURCE	BASELINE as of year 2022	TARGETS (by frequency of data collection)					DATA COLLECTION METHODS & RISKS
			Value	2022	2023	2024	2025 Jan-Feb	FINAL	
								services in the community	
4.3: Establish Innovative RE model for further lower costs of finance to households	Community energy efficiency / renewable energy projects financing schemes introduced	Charter of Fund approved by the Council of Elders	0					Model accepted and operational	The risk associated with the delay with approval of Charter

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VI. MONITORING AND EVALUATION

In accordance with UNDP's programming policies and procedures, the project will be monitored through the following monitoring and evaluation plans. The costs are distributed throughout the project budget incrementally under corresponding activities.

Monitoring Plan

Monitoring Activity	Purpose	Frequency	Expected Action	Partners (if joint)
Track results progress	Progress data against the results indicators in the RRF will be collected and analyzed to assess the progress of the project in achieving the agreed outputs.	Annually, or in the frequency required for each indicator.	Slower than expected progress will be addressed by project management.	
Monitor and Manage Risk	Identify specific risks that may threaten achievement of intended results. Identify and monitor risk management actions using a risk log. This includes monitoring measures and plans that may have been required as per UNDP's Social and Environmental Standards. Audits will be conducted in accordance with UNDP's audit policy to manage financial risk.	Annually	Risks are identified by project management and actions are taken to manage risk. The risk log is actively maintained to keep track of identified risks and actions taken.	Alaverdi Municipality
Learn	Knowledge, good practices and lessons will be captured regularly, as well as actively sourced from other projects and partners and integrated back into the project.	At least annually	Relevant lessons are captured by the project team and used to inform management decisions.	EU Covenant of Mayors-East project's platform
Annual Project Quality Assurance	The quality of the project will be assessed against UNDP's quality standards to identify project strengths and weaknesses and to inform management decision making to improve the project.	Annually	Areas of strength and weakness will be reviewed by project management and used to inform decisions to improve project performance.	
Review and Make Course Corrections	Internal review of data and evidence from all monitoring actions to inform decision making.	At least annually	Performance data, risks, lessons and quality will be discussed by the project board and used to make course corrections.	
Project Report	A progress report will be presented to the Project Board and key stakeholders, consisting of progress data showing the results achieved against pre-defined annual targets at the output level, the annual project quality rating summary, an updated risk long with mitigation measures, and any evaluation or review reports prepared over the period.	Annually, and at the end of the project (final report)		Alaverdi Municipality
Project Review (Project Board)	The project's governance mechanism (i.e., project board) will hold regular project reviews to assess the performance of the project and review the Multi-Year Work Plan to ensure realistic budgeting over the life of the project. In the project's final year, the Project Board shall hold an end-of	Specify frequency (i.e., at least annually)	Any quality concerns or slower than expected progress should be discussed by the project board and management	Ministry of Territorial Administration and Infrastructure

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Monitoring Activity	Purpose	Frequency	Expected Action	Partners (if joint)
	project review to capture lessons learned and discuss opportunities for scaling up and to socialize project results and lessons learned with relevant audiences.		actions agreed to address the issues identified.	Alaverdi Municipality

Evaluation Plan[24]

Evaluation Title	Partners (if joint)	Related Strategic Plan Output	UNSDCF/CPD Outcome	Planned Completion Date	Key Evaluation Stakeholders	Cost and Source of Funding
Final Evaluation	Ministry of Territorial Administration and Infrastructure Alaverdi Municipality	Output 5.2 Transition to renewable energy accelerated capitalizing on technological gains, clean energy innovations and new financing mechanisms to support green recovery	**UNSDCF Outcome 5, corresponds to CPD Outcome 2:** Ecosystems are managed sustainably, and people benefit from participatory and resilient development and climate smart solutions and **UNDP CPD: Output 2.2:** Low-emission and climate-resilient objectives addressed in development plans/policies on economic diversification and green growth	mid-2024	Ministry of Territorial Administration and Infrastructure Alaverdi Municipality	USD 20,000 Project budget

[24] Optional, if needed

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VIII. GOVERNANCE AND MANAGEMENT ARRANGEMENTS

The project management routine embeds several functionalities that are detailed below.

Advisory Board

In line with UNDP's Programme and Operations Policies and Procedures, the Project will closely cooperate with the Government, including the Ministry of Territorial Administration and Infrastructure, the Ministry of Environment, local administration of the target community. This will be conducted through the establishment of a Project Advisory Board with high level representation of stakeholders to provide strategic orientation to the Project. It will also highlight the knowledge gaps and elicit the needs of local level stakeholder and involved professionals, to ensure their meaningful participation in the respective activities.

The Board will hold annual meetings with the participation of the donors to: 1) review progress inthe implementation of the project including inter alia the results achieved and lessons-learned, and 2) discuss strategic direction and adjustments for the remainder of the activity period. UNDP shallconsult with donors on timing of such a meeting and make the documentation for the meeting available to one month in advance of the meeting.

The Board decisions should be made in accordance with standards that shall ensure management for development results, best value money, fairness, integrity, transparency and effective international competition.

Apart from the Project Advisory Board meetings and for the purposes of closer engagement with the respective government agencies, the UNDP will conduct a series of dedicated meetings with the key stakeholders, such as the Ministry of Territorial Administration and Infrastructure to ensure their close involvement through the implementation process and as well as the sense of "ownership"and commitment

Monitoring and evaluation plan

The appropriate indicators will be defined and measured in accordance with monitoring and evaluation plan provided in the final report of inception phase. We recognize that our outputs mustremain within our sphere of influence, and that progress towards systemic change through new behaviors, in businesses and authorities, should be captured at the intermediate outcome level. Oursupport to an energy management system could allow for results to be captured and communicatedat the outcome level. Special attention will be paid to gender impacts, and findings in this respect will accordingly be reported.

Reporting

The project will deliver annual reports to Sida, that describe progress in activities, results at the outcome and impact level and an outline of the activities to be implemented in the following year. This annual report will include an updated risks and challenges register.

We will also develop the project Final report document. This will follow UNDP's internal requirements and will be in compliance with included exit and program closure details.

Exit strategies will be developed for all interventions and engagements. Towards the end of the program, we will reinforce the sustainability of the new practices and will conduct a series of lesson learning events with public, private and civil society stakeholders.

Replication

We acknowledge that we can only achieve wide scale change for our target group, if the new practices catalyzed in Alaverdi can be replicated in additional secondary cities. We have identifiedthe following channels through which replication in other Municipalities can progress. These will be confirmed, and adapted, during the Advisory Board second meeting.

1. Sharing experience through case studies on each of the new practices
2. Engaging at the outset, with market actors who have the interest and capability to support

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replication (such as banks, national installers of solutions and the Ministry of Territorial Administration and Infrastructure)

3. Inviting the actors to the implementation site to get hands-on experience
4. Informing on the mode of participation, including share in funding
5. Highlighting the widening development outlook with the proposed instruments
6. Brokering public-private relationships
7. Utilizing established platforms of mayors and sub national authorities.

We also want to provide space for program supported replication. An indicative candidate community for potential program supported scale up is Akhuryan, Shirak region. This is aconsolidated community including 7 settlements with a population of 17,000, which will be expanded to 26 by the end of 2021. The community is a typical representative of rural communitiesin Shirak region, with the highest poverty rate (45%). The population is mostly engaged in agriculture and husbandry. Around 50% of males have out-migrated, increasing the burden on women in running the households. Experiencing high energy poverty, the population relies on woodand cow dung for heating purposes with only 25% gas use (only 4 out of 8 settlements are satisfied).UNDP has substantial experience in this Municipality.

Organigram

Project Manager: has the authority to run the project on a day-to-day basis on behalf of UNDP. The Manager will ensure that the project produces the results specified in the project document, tothe required standard of quality and within the specified constraints of time and cost. This actor willalso be responsible for the government liaison to sign the necessary memoranda of understanding /statements of intent (see Section 7.5) and will ensure the necessary teamwork quality to produce the proper design of interventions (see Section 7.4).

Quality assurance: will be undertaken by UNDP's Programme Officer by carrying out objective and independent project oversight and monitoring functions.

Experts and consultants: To ensure the relevant expertise, the project will hire two market system researchers, to specialize in municipal sector and in vulnerable households' issues. Their work willbe brought together and complemented by an international expert in market systems development.Another expert will contribute to multi-dimensional poverty analysis, ensuring correct application of the envisaged methodologies. The energy systems engineers will be responsible for planning and supervision of energy efficiency and renewable energy components, as well as for energy management system establishment and trainings. Experts will be hired to perform a simplified assessment of the project's environmental impact; communication policy of the project; stakeholderengagement, etc.

In order to ensure the smooth start-up and successful implementation of its activities, the project will use the knowledge, expertise, and capacities that have been accumulated by the UNDP Climate Change Programme.

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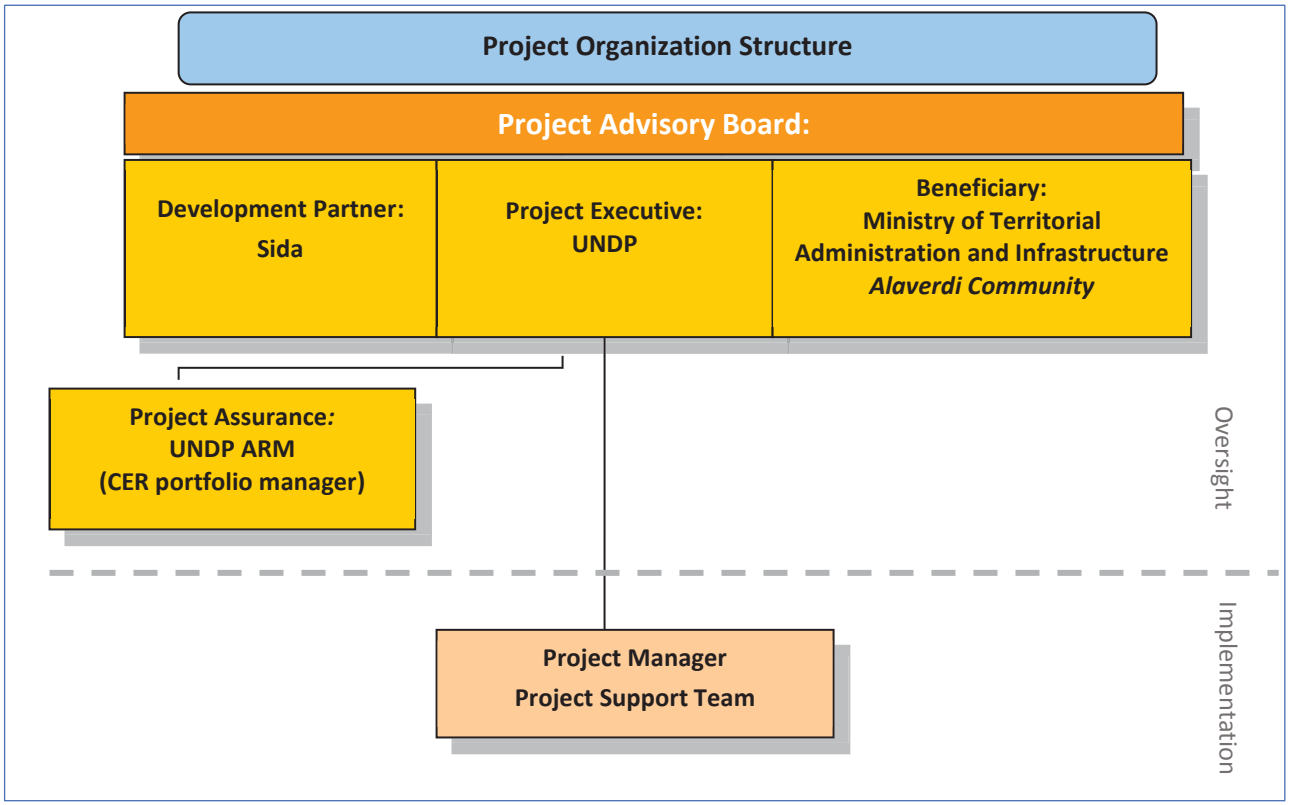

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IX. LEGAL CONTEXT

This project document shall be the instrument referred to as such in Article 1 of the Standard Basic Assistance Agreement between the Government of Armenia and UNDP, signed on 08 March 1995. All references in the SBAA to "Executing Agency" shall be deemed to refer to "Implementing Partner."

This project will be implemented in Direct Implementation Modality (DIM) by UNDP ("Implementing Partner") in accordance with its financial regulations, rules, practices and procedures only to the extent that they do not contravene the principles of the Financial Regulations and Rules of UNDP. Where the financial governance of an Implementing Partner does not provide the required guidance to ensure best value for money, fairness, integrity, transparency, and effective international competition, the financial governance of UNDP shall apply.

X. RISK MANAGEMENT

1. UNDP as the Implementing Partner will comply with the policies, procedures and practices of the United Nations Security Management System (UNSMS.)

2. UNDP as the Implementing Partner will undertake all reasonable efforts to ensure that none of the project funds[27] are used to provide support to individuals or entities associated with terrorism, that the recipients of any amounts provided by UNDP hereunder do not appear on the United Nations Security Council Consolidated Sanctions List, and that no UNDP funds received pursuant to the Project Document are used for money laundering activities. The United Nations Security Council Consolidated Sanctions List can be accessed via https://www.un.org/securitycouncil/content/un-sc-consolidated-list. This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.

3. Social and environmental sustainability will be enhanced through application of the UNDP Social and Environmental Standards (http://www.undp.org/ses) and related Accountability Mechanism (http://www.undp.org/secu-srm).

4. UNDP as the Implementing Partner will: (a) conduct project and programme-related activities in a manner consistent with the UNDP Social and Environmental Standards, (b) implement any management or mitigation plan prepared for the project or programme to comply with such standards, and (c) engage in a constructive and timely manner to address any concerns and complaints raised through the Accountability Mechanism. UNDP will seek to ensure that communities and other project stakeholders are informed of and have access to the Accountability Mechanism.

5. In the implementation of the activities under this Project Document, UNDP as the Implementing Partner will handle any sexual exploitation and abuse ("SEA") and sexual harassment ("SH") allegations in accordance with its regulations, rules, policies and procedures.

6. All signatories to the Project Document shall cooperate in good faith with any exercise to evaluate any programme or project-related commitments or compliance with the UNDP Social and Environmental Standards. This includes providing access to project sites, relevant personnel, information, and documentation.

7. UNDP as the Implementing Partner will ensure that the following obligations are binding on each responsible party, subcontractor, and sub-recipient:

a. Consistent with the Article III of the SBAA, the responsibility for the safety and security of each responsible party, subcontractor and sub-recipient and its personnel and property, and of UNDP's property in such responsible party's, subcontractor's and sub-recipient's custody, rests with such responsible party, subcontractor and sub-recipient. To this end, each responsible party, subcontractor and sub-recipient shall:

   i. put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried;

   ii. assume all risks and liabilities related to such responsible party's, subcontractor's and sub-recipient's security, and the full implementation of the security plan.

b. UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall

[27] To be used where UNDP is the Implementing Partner

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be deemed a breach of the responsible party's, subcontractor's and sub-recipient's obligations under this Project Document.

c. Each responsible party, subcontractor and sub-recipient (each a "sub-party" and together "sub-parties") acknowledges and agrees that UNDP will not tolerate sexual harassment and sexual exploitation and abuse of anyone by the sub-parties, and other entities involved in Project implementation, either as contractors or subcontractors and their personnel, and any individuals performing services for them under the Project Document.

(a) In the implementation of the activities under this Project Document, each sub-party shall comply with the standards of conduct set forth in the Secretary General's Bulletin ST/SGB/2003/13 of 9 October 2003, concerning "Special measures for protection from sexual exploitation and sexual abuse" ("SEA").

(b) Moreover, and without limitation to the application of other regulations, rules, policies and procedures bearing upon the performance of the activities under this Project Document, in the implementation of activities, each sub-party, shall not engage in any form of sexual harassment ("SH"). SH is defined as any unwelcome conduct of a sexual nature that might reasonably be expected or be perceived to cause offense or humiliation, when such conduct interferes with work, is made a condition of employment or creates an intimidating, hostile or offensive work environment. SH may occur in the workplace or in connection with work. While typically involving a pattern of conduct, SH may take the form of a single incident. In assessing the reasonableness of expectations or perceptions, the perspective of the person who is the target of the conduct shall be considered.

d. In the performance of the activities under this Project Document, each sub-party shall (with respect to its own activities), and shall require from its sub-parties (with respect to their activities) that they, have minimum standards and procedures in place, or a plan to develop and/or improve such standards and procedures in order to be able to take effective preventive and investigative action. These should include: policies on sexual harassment and sexual exploitation and abuse; policies on whistleblowing/protection against retaliation; and complaints, disciplinary and investigative mechanisms. In line with this, sub-parties will and will require that their respective sub-parties will take all appropriate measures to:

(i) Prevent its employees, agents or any other persons engaged to perform any services under this Project Document, from engaging in SH or SEA;

(ii) Offer employees and associated personnel training on prevention and response to SH and SEA, where sub-parties have not put in place its own training regarding the prevention of SH and SEA, sub-parties may use the training material available at UNDP;

(iii) Report and monitor allegations of SH and SEA of which any of the sub-parties have been informed or have otherwise become aware, and status thereof;

(iv) Refer victims/survivors of SH and SEA to safe and confidential victim assistance; and

(v) Promptly and confidentially record and investigate any allegations credible enough to warrant an investigation of SH or SEA. Each sub-party shall advise UNDP of any such allegations received and investigations being conducted by itself or any of its sub-parties with respect to their activities under the Project Document, and shall keep UNDP informed during the investigation by it or any of such sub-parties, to the extent that such notification (i) does not jeopardize the conduct of the investigation, including but not limited to the safety or security of persons, and/or (ii) is not in contravention of any laws applicable to it. Following the investigation, the relevant sub-party shall advise UNDP of any actions taken by it or any of the other entities further to the investigation.

e. Each sub-party shall establish that it has complied with the foregoing, to the satisfaction of UNDP, when requested by UNDP or any party acting on its behalf to provide such confirmation. Failure of the relevant sub-party to comply of the foregoing, as determined by UNDP, shall be considered grounds for suspension or termination of the Project.

f. Each responsible party, subcontractor and sub-recipient will ensure that any project activities undertaken by them will be implemented in a manner consistent with the UNDP Social and Environmental Standards and shall ensure that any incidents or issues of non-compliance shall be reported to UNDP in accordance with UNDP Social and Environmental Standards.

g. Each responsible party, subcontractor and sub-recipient will take appropriate steps to prevent misuse of funds, fraud, corruption or other financial irregularities, by its officials, consultants, subcontractors and sub-recipients in implementing the project or programme or using the UNDP funds. It will ensure that its financial management, anti-corruption, anti-fraud and anti-money laundering and countering the financing of terrorism policies are in place and enforced for all funding received from or through UNDP.

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h. The requirements of the following documents, then in force at the time of signature of the Project Document, apply to each responsible party, subcontractor and sub-recipient: (a) UNDP Policy on Fraud and other Corrupt Practices (b) UNDP Anti-Money Laundering and Countering the Financing of Terrorism Policy; and (c) UNDP Office of Audit and Investigations Investigation Guidelines. Each responsible party, subcontractor and sub-recipient agrees to the requirements of the above documents, which are an integral part of this Project Document and are available online at www.undp.org.

i. In the event that an investigation is required, UNDP will conduct investigations relating to any aspect of UNDP programmes and projects. Each responsible party, subcontractor and sub-recipient will provide its full cooperation, including making available personnel, relevant documentation, and granting access to its (and its consultants', subcontractors' and sub-recipients') premises, for such purposes at reasonable times and on reasonable conditions as may be required for the purpose of an investigation. Should there be a limitation in meeting this obligation, UNDP shall consult with it to find a solution.

j. Each responsible party, subcontractor and sub-recipient will promptly inform UNDP as the Implementing Partner in case of any incidence of inappropriate use of funds, or credible allegation of fraud, corruption other financial irregularities with due confidentiality.

   Where it becomes aware that a UNDP project or activity, in whole or in part, is the focus of investigation for alleged fraud/corruption, each responsible party, subcontractor and sub-recipient will inform the UNDP Resident Representative/Head of Office, who will promptly inform UNDP's Office of Audit and Investigations (OAI). It will provide regular updates to the head of UNDP in the country and OAI of the status of, and actions relating to, such investigation.

k. Each responsible party, subcontractor or sub-recipient agrees that, where applicable, donors to UNDP (including the Government) whose funding is the source, in whole or in part, of the funds for the activities which are the subject of the Project Document, may seek recourse to such responsible party, subcontractor or sub-recipient for the recovery of any funds determined by UNDP to have been used inappropriately, including through fraud corruption or other financial irregularities or otherwise paid other than in accordance with the terms and conditions of the Project Document.

   Where such funds have not been refunded to UNDP, the responsible party, subcontractor or sub-recipient agrees that donors to UNDP (including the Government) whose funding is the source, in whole or in part, of the funds for the activities under this Project Document, may seek recourse to such responsible party, subcontractor or sub-recipient for the recovery of any funds determined by UNDP to have been used inappropriately, including through fraud, corruption or other financial irregularities, or otherwise paid other than in accordance with the terms and conditions of the Project Document.

   Note: The term "Project Document" as used in this clause shall be deemed to include any relevant subsidiary agreement further to the Project Document, including those with responsible parties, subcontractors and sub-recipients.

l. Each contract issued by the responsible party, subcontractor or sub-recipient in connection with this Project Document shall include a provision representing that no fees, gratuities, rebates, gifts, commissions or other payments, other than those shown in the proposal, have been given, received, or promised in connection with the selection process or in contract execution, and that the recipient of funds from it shall cooperate with any and all investigations and post-payment audits.

m. Should UNDP refer to the relevant national authorities for appropriate legal action any alleged wrongdoing relating to the project or programme, the Government will ensure that the relevant national authorities shall actively investigate the same and take appropriate legal action against all individuals found to have participated in the wrongdoing, recover and return any recovered funds to UNDP.

n. Each responsible party, subcontractor and sub-recipient shall ensure that all of its obligations set forth under this section entitled "Risk Management" are passed on to its subcontractors and sub-recipients and that all the clauses under this section entitled "Risk Management Standard Clauses" are adequately reflected, *mutatis mutandis*, in all its sub-contracts or sub-agreements entered into further to this Project Document.

Special Clauses. In case of government cost-sharing through the project, the following clauses should be included:

1. The schedule of payments and UNDP bank account details.

2. The value of the payment, if made in a currency other than United States dollars, shall be determined by applying the United Nations operational rate of exchange in effect on the date of payment. Should there be a change in the United Nations operational rate of exchange prior to the full utilization by the UNDP of the payment, the value of the balance of funds still held at that time will be adjusted accordingly. If, in such a case, a loss in the value of the balance

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of funds is recorded, UNDP shall inform the Government with a view to determining whether any further financing could be provided by the Government. Should such further financing not be available, the assistance to be provided to the project may be reduced, suspended or terminated by UNDP.

3. The above schedule of payments takes into account the requirement that the payments shall be made in advance of the implementation of planned activities. It may be amended to be consistent with the progress of project delivery.

4. UNDP shall receive and administer the payment in accordance with the regulations, rules and directives of UNDP.

5. All financial accounts and statements shall be expressed in United States dollars.

6. If unforeseen increases in expenditures or commitments are expected or realized (whether owing to inflationary factors, fluctuation in exchange rates or unforeseen contingencies), UNDP shall submit to the government on a timely basis a supplementary estimate showing the further financing that will be necessary. The Government shall use its best endeavors to obtain the additional funds required.

7. If the payments referred above are not received in accordance with the payment schedule, or if the additional financing required in accordance with paragraph 6 above is not forthcoming from the Government or other sources, the assistance to be provided to the project under this Agreement may be reduced, suspended or terminated by UNDP.

8. Any interest income attributable to the contribution shall be credited to UNDP Account and shall be utilized in accordance with established UNDP procedures.

In accordance with the decisions and directives of UNDP's Executive Board:

The contribution shall be charged:

(a) Eight percent (8%) cost recovery for the provision of general management support (GMS) by UNDP headquarters and country offices

(b) Direct cost for implementation support services (ISS) provided by UNDP and/or an executing entity/implementing partner.

9. Ownership of equipment, supplies and other properties financed from the contribution shall vest in UNDP. Matters relating to the transfer of ownership by UNDP shall be determined in accordance with the relevant policies and procedures of UNDP.

10. The contribution shall be subject exclusively to the internal and external auditing procedures provided for in the financial regulations, rules and directives of UNDP."

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XI. ANNEXES

Annex 1. Project Quality Assurance Report (currently under review)

The Project's Design & Appraisal Stage Quality Assurance Report is available online here:

https://intranet-apps.undp.org/ProjectQA/Forms/Design?fid=13682&year=2022&ou=ARM&pid=00140158&fltr=PROJECT

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Annex 2. LPAC Minutes

Local Project Appraisal Committee Meeting / Inception Workshop of

"Strengthened Community Resilience through Energy Efficiency and Low Emission Development"
UNDP-Sida project

UN Conference Hall, 06 July 2022

Objective: To introduce the progress and outcomes of the project's Inception phase activities and decide on the full-fledge project unfolding with project Advisory Board.

Participants:

1. Vache Terteryan, Deputy Minister, Ministry of Territorial Administration and Infrastructure
2. Gayane Gabrielyan, Deputy Minister, Ministry of Environment
3. Gor Asryan, Deputy Governor of the Lori Marz
4. Tomas Nystrom, Programme senior officer, Swedish International Development Agency
5. Sasun Khechumyan, Head of Alaverdi Community
6. Ashot Giloyan, Head of Local Government Policy Department of the Ministry of Territorial Administration and Infrastructure
7. Artur Ghavalyan, Deputy Head of Department of Strategic Policy of the Ministry of Environment
8. Hovhannes Ghazaryan, Climate, Environment, Resilience Portfolio Analyst, UNDP
9. Diana Harutyunyan, Climate Change Programme Coordinator, UNDP
10. Astghik Mirzakhanyan, UNDP National expert of social and gender issues
11. Andre Ohanian, UNDP National Expert on Energy Efficiency and Renewable Energy
12. Anna Sarkisyan, Climate, Environment, Resilience Portfolio Associate, UNDP

Welcoming Remarks

Mr. Hovhannes Ghazaryan welcomed the participants and thanked them for the time and dedication to project inception phase outcomes discussion He highly appreciated the role of the partnering Ministries, the Lori governor's office and the Alaverdi Municipality for actively assuming the responsibility to support the project related activities and for continuous partnership spirit. He highly appreciated the assistance of the Government of Sweden and Swedish International Development agency (Sida) for leading the partnership and hope for an effective and continuous cooperation.

Mr. Ghazaryan stressed that the Project is important for both local and national levels as it has a huge potential for sustainability and scaling up, as well as it provides for engagement on the community level to adhere to the Armenia's updated 2021-2030 Nationally Determined Contributions under Paris Agreement. The project dwells on the energy efficiency and the renewable energy use best practices implemented so far in Armenia and will allow for energy and monetary savings in Alaverdi consolidated community that can be channelled for supporting the needs of the community vulnerable groups. The Project will contribute to the affordability of green energy solutions and ensure pathing the good practices for low carbon development of the demonstration community.

The Project is also unique in terms of conducting a Market System Analysis prior to the full-fledged project to make the green energy solutions accessible for the vulnerable groups.

Presentations

Ms. Diana Harutyunyan presented the Inception Phase results achieved during the five months' research and mapping in Alaverdi community. The results of the 150 households' survey and the focus groups discussions provided good background to further tailor the project activities. The Market System Analysis (MSA) and the Multi-dimensional poverty analysis were conducted for the community to reveal the community's main challenges and seek for the most effective interventions for the vulnerable groups. During the inception phase co-financing commitments from the Alaverdi community 2022 budget and from the State Subvention Program for energy efficient retrofitting 10 panel multi-apartment buildings was ensured. Besides that, was agreed: to establish: (i) energy management system in the community for monitoring and

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assessment of benefits of low carbon development; and (ii) community managed savings/investment fund for continuity and sustainability of results (per the presentation). She thanked the project Advisory Board for their active involvement with the project activities and hoped for an affective cooperation during the full-fledged project.

Discussion

Mr. Tomas Nystrom thanked the UNDP for the perfect organization of the field trip to Alaverdi on July 4-5 to meet the head of the Municipality and visit the sites that will be targeted in the project implementation. He underlined that Sida has supported energy efficiency and renewable energy projects through regional platform for several years and currently they have a new strategy that builds on a bilateral portfolio. It is important for Sida to join efforts with the experts on the ground, and it is a privilege for Sida to launch the project with UNDP and partnering with national authorities and local administrations. He mentioned that it was important to conduct the MSA for innovative and interesting approaches. Mr. Nystrom thanked UNDP and the head of Alaverdi municipality for an excellent start of the project.

Mr. Vache Terteryan thanked the participants and Ms. Harutyunyan for a detailed presentation. He recalled that the first energy efficiency efforts were introduced by EU project in Spitak, Lori region, and it is no coincidence today that Alaverdi in Lori is chosen for the project implementation. When the country started to think about energy efficiency, this kind of projects were considered inapproachable. However, we currently are fully engaged in understanding of the importance and the benefits of energy efficiency projects. The main challenge here is the central role of the beneficiary community: we must make the trend scalable and accessible through educating people so that they feel the linkage between the commitments of country under Paris Agreement and needs and actions in their communities. He mentioned that it is a very well thought and designed project, and thanked UNDP and Sida for continuous partnership with great impact without much noise.

Ms. Gayane Gabrielyan thanked UNDP and Sida for ongoing partnership for years. She stressed that the beauty of the project is that it envisaged tangible results and products for the people in the Alaverdi community. Ms. Gabrielyan mentioned that in the age of climate changes the green investments become even more important. Provided the project has a wider visibility, the model developed under the project may be further replicated by others. In this regard, the Ministry of Environment stands ready for cooperation within the project for any way possible.

Mr. Sasun Khechumyan thanked UNDP and the Ministries for keeping Alaverdi in the focus of the interventions. Alaverdi has a unique history from an industrial giant to a community with high level of poverty. It is currently a touristic destination and considering the number of sunny days within the year, the community will benefit from the solar installations. Another advantage is that Alaverdi proposal is included in the State subvention program for 2022 that will also magnify the project impact. Mr. Khechumyan thanked Sida for channelling the Swedish tax-payers money for important initiatives on green energy in green areas in Armenia.

Mr. Hovhannes Ghazaryan thanked the members of the Advisory Board for comments and acceptance of the strategy of the project and planned interventions.

The participants agreed on the following:

- Ministries stand ready to support the project with means available.
- The UNDP will finalize the full-fledged project document and circulate for comments.
- The project Advisory Board will convene its next meeting in 6 months period to review the project progress.

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Annex 3. Selection of the Target Community

On the early stages of the project, the community was identified based upon the following criteria as agreed with the donor:

(i) The existence and severity of multi dimensionally poverty (region and community);
(ii) A willingness to embark on a low carbon footprint journey, i.e., to invest human resources and time into knowledge building and upgrading of institutional culture, to pilot the new technologies and applicable financial schemes, and to restructure the costsand redistribute available resources towards long-term green development;
(iii) The availability of suitable and structurally sound buildings and public facilities for theadoption of EE and RE solutions;
(iv) The co-financing capabilities of the community, and readiness to further increase the budgetary expenditures on green energy solutions;
(v) A relevant energy profile and the potential for ensuring sufficient energy savings and GHG reduction levels; and
(vi) The proximity and visibility from interstate highways and/or major transportation hubsfor better public awareness and outreach.

The town of Alaverdi, in the Lori region, is located on the steep slopes of the Debed River gorge, 167 km from the capital Yerevan and 44 km from the regional center Vanadzor. The town is locatedat the north-eastern part of Armenia, near the border with Georgia and is located the main highway linking Georgia and Amenia. The area of the city is 48 km^2, the altitudes range from 770 to 1450 m above sea level. The enlarged community of Alaverdi includes the Alaverdi town and villages of Akori, Jiliza, Haghpat, Kachachkut and Tsaghkashat. With total population of about 23,000 with 12,400 residing in Alaverdi town[28].

Income poverty exceeds 20%. Average household income is about 890 thousand to 1 million AMD annually, and per capita monthly income fluctuates between 30 to 40 thousand AMD[29]. The average monthly wages are 124,293. As of 01 January 2022, the unemployment rate was 14.5% in Lori marz, while Alaverdi consolidated community had 536 unemployed at the same time – with 66.2% share of women[30]. The population is aging, and younger male citizens are migrating. The elderly receiving pensions makes 19.9% of total population. About 49% of the population are, economically active. Recent developments include the emergence of clothing manufacturing, which largely employs women. The closure of the copper smelter plant has, however, resulted in lay-offs, with subsequent secondary effects on the local economy.

The community is eligible for environmental subsidies, because of its proximity to polluting industries (a now closed copper smelter factory and nearby mining). These subsidies could be usedas the community's co-financing for the project. Further, the community has recently shifted its development paradigm from being an industrial city to a settlement that will be attractive for tourism, as there are prominent monasteries of Sanahin, Haghpat and others. It is assumed that the results of this project will also contribute to this paradigmatic shift.

The key socio-demographic data of Alaverdi town is summarized in the table below.

Permanent population as of 01 April 2022	Number of families receiving family allowance	Number of persons in families receiving family allowance	Share of women in total population, %
12,400	463	1,459	51.4

Alaverdi town public and residential buildings are connected to the energy grid and billed through commercial meters. The majority of buildings are also connected to natural gas supply system. The energy bills of 14 public buildings are covered through municipal budget, although the municipality does not have energy management staff.

[28] The Demographic Handbook of Armenia, 2021
[29] Report on "Disaster Risk Analysis of Alaverdi consolidated community of Lori marz" by "Enhancing Human Security in Communities of Armenia" project, 2019 (in Armenian, Section 1)
[30] Letter # 02/12-1/22225-22 of 28.04.2022 from the General Secretary of the Unified Social Service.

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The mentioned buildings are commissioned in 1950s to 1980s, with exception of kindergarten No 7, which was built in 2018 with support of charitable foundation. In total seven kindergartens are serving 500 kids and ensuring employment for 121 staff, the music school, art school, sports school, wrestling school are attended by 428 children and youth and house of culture by 470 users, the house-museum of the Mikoyan brothers has around 500 thousand visitors per year. The energy monthly consumption data and visual inspection of key infrastructural elements of the buildings envelop and heating system revealed buildings were constructed mainly from "Midis" masonry walls with tuff stone, as well as prefabricated reinforced concrete structures widely used in the construction of the USSR, and do not meet the energy efficiency requirements in force in Armenia.

The windows and entrance doors in the half of public buildings are made of PVC profiles with single-chamber double-glazing, although due to poor-quality profile and not proper maintenance they are deformed. In another 5 buildings windows are partially replaced, and in 2 buildings, windows and doors are with old wood-aluminum frames.

The heating of only 8 buildings is organized by double-circuit gas boilers, in another 3 buildings by gas heaters with an open combustion chamber and partly by electric heaters. The remaining 3 buildings are not supplied with gas, they are use electric heaters, air conditioners, the worst situation is in sports school, which is not heated at all, in some rooms are used wood stoves.

The study of the volumes of natural gas consumed during the heating season indicates that the buildings are under heated as consumption is 2-3-fold less than for buildings built with similar envelopes, which has a direct impact on the comfort and temperature regime of the premises.

Energy consumption figures for 2019, 2020 and 2021 shows an increase in electricity consumption during the winter months. Heating with electricity is around 3 times more expensive than natural gas due to current tariffs in Armenia.

Given that most of the energy consumption of such buildings is spent on heating (about 80-90%), the importance of insulation of building envelopes and improving HVAC energy efficiency is evident. In 3 buildings there are photovoltaic systems with total capacity 37.4 kW (10kW - municipality building, 2.4 kW - sports school after O. Gorbunov, and 25kW - house of culture). The benefits from the installed systems are not tracked as the administration of the building does not have sufficient personnel and thus the O&M of that systems is also not properly ensured.

The operation and maintenance of the street lighting system of the city of Alaverdi is carried out by the public organization "Communal services of Alaverdi" CNCO. The street lighting systems includes 14 streets with a total length of 17.5 km, with 529 luminaries from which 429 are LED and 100 HPSL).

The city also has 13 courtyard areas, 11 parks and 9 bridges illuminated. The outdoor lighting system consumes around 140 MWh electricity per year.

Alaverdi community is signatory to the Covenant of Mayors and with help of the EC funded project and has developed the draft Sustainable Energy and Climate Action Plan. Certain knowledge and expertise were gained by the administration of the community on importance of systemic monitoring and analysis of the energy related expenses, particularly ones which impact the community budget. Currently, the community employs modest bundled operational divisions for power network maintenance and provision of communal/municipal services, which work in close cooperation and support the energy efficiency initiatives the town experienced so far. There is a utility Community Non-Commercial Organization (CNCO), with a staff of around 30 people, 12 of which are women, with limited capacity, which is mainly in charge for waste management, landscaping, outdoor/street lighting and associated maintenance works.

The project will also assess the energy management capabilities and practices at the municipality including opportunities for creation and deployment of an energy management system, capacity development needs assessment for personnel and budgeting.

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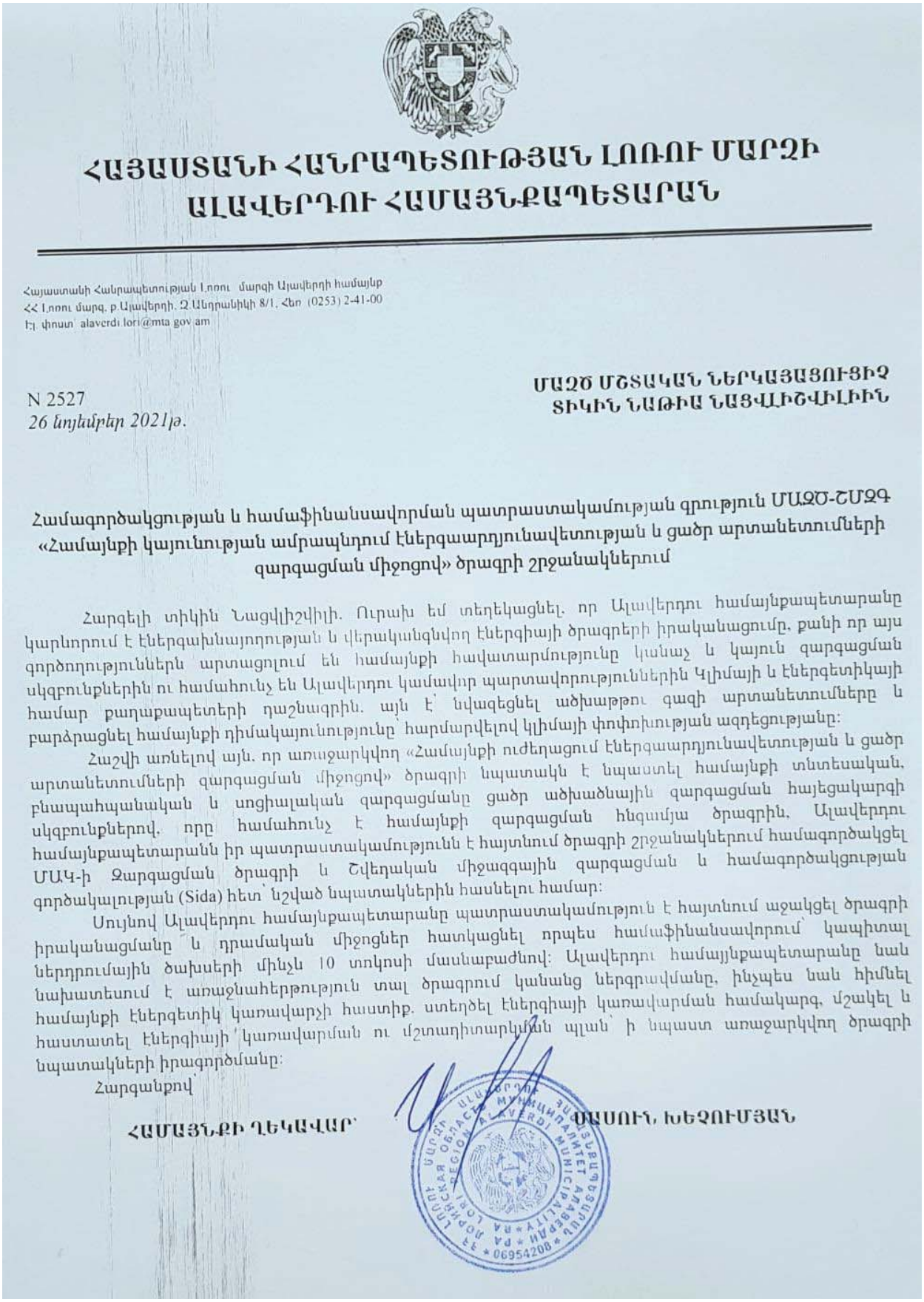
Annex 4. Alaverdi community co-financing letter (in Armenian and in English)



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Հայաստանի Հանրապետության Լոռու մարզի Ալավերդի համայնք
ՀՀ Լոռու մարզ, ք.Ալավերդի, Զ.Անդրանիկի 8/1, հեռ՝ (0253) 2-41-00
Էլ. փոստ՝ alaverdi.lori@mta.gov.am

N 2527
26 նոյեմբեր 2021թ.

ՄԱԶԾ ՄՇՏԱԿԱՆ ՆԵՐԿԱՅԱՑՈՒՑԻՉ
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Համագործակցության և համաֆինանսավորման պատրաստակամության գրություն ՄԱԶԾ-ՇՄԶԳ «Համայնքի կայունության ամրապնդում էներգաարդյունավետության և ցածր արտանետումների զարգացման միջոցով» ծրագրի շրջանակներում

Հարգելի տիկին Նացվլիշվիլի. Ուրախ եմ տեղեկացնել. որ Ալավերդու համայնքապետարանը կարևորում է էներգախնայողության և վերականգնվող էներգիայի ծրագրերի իրականացումը. քանի որ այս գործողություններն արտացոլում են համայնքի հավատարմությունը կանաչ և կայուն զարգացման սկզբունքներին ու համահունչ են Ալավերդու կամավոր պարտավորություններին Կլիմայի և էներգետիկայի համար քաղաքապետերի դաշնագրին. այն է՝ նվազեցնել ածխաթթու գազի արտանետումները և բարձրացնել համայնքի դիմակայունությունը՝ հարմարվելով կլիմայի փոփոխության ազդեցությանը:

Հաշվի առնելով այն. որ առաջարկվող «Համայնքի ուժեղացում էներգաարդյունավետության և ցածր արտանետումների զարգացման միջոցով» ծրագրի նպատակն է նպաստել համայնքի տնտեսական. բնապահպանական և սոցիալական զարգացմանը ցածր ածխածնային զարգացման հայեցակարգի սկզբունքներով. որը համահունչ է համայնքի զարգացման հնգամյա ծրագրին. Ալավերդու համայնքապետարանն իր պատրաստակամությունն է հայտնում ծրագրի շրջանակներում համագործակցել ՄԱԿ-ի Զարգացման ծրագրի և Շվեդական միջազգային զարգացման և համագործակցության գործակալության (Sida) հետ՝ նշված նպատակներին հասնելու համար:

Սույնով Ալավերդու համայնքապետարանը պատրաստակամություն է հայտնում աջակցել ծրագրի իրականացմանը՝ և դրամական միջոցներ հատկացնել որպես համաֆինանսավորում՝ կապիտալ ներդրումային ծախսերի մինչև 10 տոկոսի մասնաբաժնով: Ալավերդու համայնքապետարանը նաև նախատեսում է առաջնահերթություն տալ ծրագրում կանանց ներգրավմանը. ինչպես նաև հիմնել համայնքի էներգետիկ կառավարչի հաստիք. ստեղծել էներգիայի կառավարման համակարգ. մշակել և հաստատել էներգիայի կառավարման ու մշտադիտարկման պլան՝ ի նպաստ առաջարկվող ծրագրի նպատակների իրագործմանը:

Հարգանքով՝

ՀԱՄԱՅՆՔԻ ՂԵԿԱՎԱՐ՝ **ԱՍՏՈՒՀ ԽԵՉՈՒՄՅԱՆ**

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Հայաստանի Հանրապետության Լոռու մարզի Ալավերդի համայնք
ՀՀ Լոռու մարզ, ք Ալավերդի, Զ Անդրանիկի 8/1, հեռ (0253) 2-41-00
Էլ փոստ alaverdi.lori@mta.gov.am

N 2527
26.11. 2021

To: Mrs. Natia Natsvlishvili
UNDP Resident Representative

Letter of Commitment on Cooperation and Co-financing of UNDP-SIDA "Strengthened community resilience through energy efficiency and low emission development" project

Dear Mrs Natsvlishvili, I am pleased to inform you that the Municipality of Alaverdi prioritizes implementation of energy saving and renewable energy projects, as these activities reflect the community's dedication to the principle of green and sustainable development, and are in line with the voluntary commitments of Alaverdi to reduce CO2 emissions and increase resilience of the community by adapting to the impact of climate change, taken as Signatory under the Covenant of Mayors for Climate and Energy.

Given the fact that the overall objective of the proposed "Strengthened Community Resilience through Energy Efficiency and Low Emission Development" project is to enhance the economic, environmental and social development of Alaverdi municipality through piloting concept of low carbon development and is in line with the five-year Alaverdi community development plan, the municipality of Alaverdi is expressing its commitment to cooperate with UNDP and Sida within the framework of the project for achieving the stated objectives.

This letter is to confirm readiness of Alaverdi municipality to support implementation of the project and to allocate financial resources to co-finance the project activities implemented in the community, in the amount of up to 10% of the capital investment costs. Alaverdi municipality is also committed prioritize inclusion of women, to recruit an Energy Manager, and establish an energy management system, alongside developing and approving an energy management and monitoring plan, in accordance with the scope of the proposed Project.

Sincerely yours,

SASUN KHECHUMYAN — MAYOR OF THE ALAVERDI COMMUNITY

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Annex 5. Social and Environmental Screening

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UNDP Social and Environmental Screening Template (v. July 2022)

The completed template, which constitutes the Social and Environmental Screening Report, must be included as an annex to the Project Document at the design stage. Note: this template will be converted into an online tool. The online version will guide users through the process and will embed relevant guidance.

Project Information

Project Information	
1. Project Title	Strengthened Community Resilience through Energy Efficiency and Low Emission Development
2. Project Number (i.e. Atlas project ID, PIMS+)	Project ID: 00140158, Output ID: 00129453
3. Location (Global/Region/Country)	Armenia
4. Project stage (Design or Implementation)	Design (ProDoc)
5. Date	25 August 2022

Part A. Integrating Programming Principles to Strengthen Social and Environmental Sustainability

QUESTION 1: How Does the Project Integrate the Programming Principles in Order to Strengthen Social and Environmental Sustainability?
Briefly describe in the space below how the project mainstreams the human rights-based approach
The approach promoted by the donor is the Market System Development (MSD) based on Multidimensional Poverty Assessment (MDPA), which targets most vulnerable groups and supports their inclusion in the societal developments *on par* with the rest of the population. The approach aims at alleviating resource poverty, enhance opportunity and choice, empower the target groups and amplify their voice, ensure human security. The respective details per the selected community are provided in the project's Inception report.
Briefly describe in the space below how the project is likely to improve gender equality and women's empowerment
In accordance with its Gender Marker GEN2, the project will apply a gender-responsive approach to address the most relevant structural and cultural barriers impacting women and men differently and to enlarge the scope and nature of participation of women in the sectors that are mainly male dominant. The project will implement inclusivity, such as increasing the share of women in municipal revolving fund's board, in trainings (including as Municipal Energy Manager) and professional development efforts, prioritizing female-headed households and kindergartens/childcare centers. The project will closely cooperate with local NGOs to ensure consideration of special needs of women and socially vulnerable groups in the selected community.
Briefly describe in the space below how the project mainstreams sustainability and resilience
Resilience mainstreaming is straightforward in this project: renewable energy sources, higher energy performance of energy consuming systems, improved energy management on communal level, explanatory work with the residents and their involvement in the market development process. Sustainability is provided by ensuring participation of key actors on national and local levels (the Ministry and the Municipality), and facilitating involvement of businesses, financing entities, NGOs, educational institutions and other relevant actors. The project also involves capacity buildings activities to ensure sustainability of effort after the project's completion, both in the educational institutions and in the Municipality in the framework of the Energy Management System establishment.
Briefly describe in the space below how the project strengthens accountability to stakeholders
Financially, the implementation of the envisaged actions is set to be transparent by employing the funding schemes piloted successfully in the earlier projects. Moreover, most of the funding is by definition accountable to the state or to the donor or to the community. Activity-wise, the engineering and installations are performed *secundum artem*, holding continuous consultations with the project's experts and using the services of the technical supervision company. At the same time, the key goals of Component 1 will be achieved via continuous consultations with the relevant actors and in accordance with the iterative nature of achievement throughout the project. As for participation of the marginalized groups, the project worked with the local community and NGOs within its Inception phase to identify those possibly left out and ensure their perceptions and opinions are accounted for under the unfolding effort of the project.

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Part B. Identifying and Managing Social and Environmental Risks

QUESTION 2: What are the Potential Social and Environmental Risks? *Note: Complete SESP Attachment 1 before responding to Question 2.*	**QUESTION 3: What is the level of significance of the potential social and environmental risks?** *Note: Respond to Questions 4 and 5 below before proceeding to Question 5*			**QUESTION 6: Describe the assessment and management measures for each risk rated Moderate, Substantial or High**
Risk Description (broken down by event, cause, impact)	***Impact and Likelihood (1-5)***	***Significance (Low, Moderate Substantial, High)***	***Comments (optional)***	***Description of assessment and management measures for risks rated as Moderate, Substantial or High***
P.2 Is there a risk that duty-bearers (e.g. government agencies) do not have the capacity to meet their obligations in the project? ***Event***: Necessary capacity or people/specialists (municipal duty-bearers) not in place for successful implementation of the Project at municipal level ***Cause***: Municipal staff turnover, insufficient knowledge or capacity in place ***Impact***: Lower quality cooperation with the local authorities, longer timelines for delivering planned activities and achieving results.	I = 2 L = 2	Low	The pilot community has experience of implementation of EE &RE and of membership in the Covenant of Mayors for Climate and Energy.	The Project will use its direct implementation modality and take the necessary actions to: (i) identify the most appropriate municipal specialists with the needed qualification and ensure designation of these specialists as main contact persons for the purposes of the Project, (ii) ensure proper training and capacity building of the identified staff, and (iii) contribute, to the possible extent, to the motivation of local specialists and their commitment and sense of ownership of the Project and its results.
P.13 Would the project potentially involve or lead to exclusion of any potentially affected stakeholders, in particular marginalized groups and excluded individuals (including persons with disabilities), from fully participating in decisions that may affect them? ***Event***: Excluding some of the affected stakeholders from meetings, discussions, presentations, community awareness raising events etc. ***Cause***: Insufficient effort for involving those marginalized ***Impact***: Lower rate of affected stakeholder participation (due to physical, logistical and organizational barriers or deficiency of	I = 2 L = 2	Low	The project has sufficient understanding on who are the marginalized groups acquitted within the Inception phase of this project with the help of the local NGOs and the Municipality.	While the project aims at supporting the vulnerable local populations, it is still possible to miss certain groups. Therefore, the project will take the necessary actions to ensure sufficient effort in identification of the marginalized groups and in eliciting their perception of the activities to unfold their opinions on the proper developmental actions in their community. The project will apply sufficient and targeted effort for involving those marginalized.

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accessible information, the vulnerable marginalized groups may have restrictions on participation in project activities, thus they may be limited in benefiting from any of the initiatives supported by the project)				
3.3 Would the project potentially involve or lead to harm or losses due to failure of structural elements of the project (e.g. collapse of buildings or infrastructure)? ***Event***: Failure of structural elements during building retrofit works ***Cause***: Energy efficient retrofits for higher energy performance of the selected buildings ***Impact***: Lower safety in the retrofitting works area	I = 2 L = 1	Low	Small-scale event naturally embedded into any reconstruction works.	The safety risk will be controlled by the technical supervision licensed company to follow national legislation, rules and technical regulations for construction safety. In addition, the project's technical expert will implement the necessary supervision.
8.2 Would the project potentially involve or lead to the generation of waste (both hazardous and non-hazardous)? ***Event***: Restructuring of the selected buildings' roofs will generate waste ***Cause***: Installation of PV equipment on the selected buildings' roofs ***Impact***: Necessity to remove the mostly metal waste	I = 2 L = 2	Low	Small-scale event naturally embedded into any reconstruction works.	The waste disposal will be controlled by the technical supervision licensed company to follow national legislation, rules and technical regulations for waste disposal. In addition, the project's technical expert will implement the necessary supervision.
	QUESTION 4: What is the overall project risk categorization?			
	Low Risk	X	The project builds upon a number of successful initiatives and aims to replicate selected effective schemes and approaches in an attempt to elaborate a holistic approach to enhances resilience of Armenia's community t climate change and their green development. As both national and local authorities and civic society welcome the initiative and make steps towards targeted cooperation, the programmatic risks of socio-environmental nature are low.	
	Moderate Risk	☐		
	Substantial Risk	☐		
	High Risk	☐		
	QUESTION 5: Based on the identified risks and risk categorization, what requirements of the SES are triggered? (check all that apply)			

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	Question only required for Moderate, Substantial and High Risk projects				
	Is assessment required? (check if "yes")	☐			***Status? (completed, planned)***
	If yes, indicate overall type and status		☐	Targeted assessment(s)	
			☐	ESIA (Environmental and Social Impact Assessment)	
			☐	SESA (Strategic Environmental and Social Assessment)	
	Are management plans required? (check if "yes)	☐			
	If yes, indicate overall type		☐	Targeted management plans (e.g. Gender Action Plan, Emergency Response Plan, Waste Management Plan, others)	
			☐	ESMP (Environmental and Social Management Plan which may include range of targeted plans)	
			☐	ESMF (Environmental and Social Management Framework)	
	Based on identified risks, which Principles/Project-level Standards triggered?		**Comments (not required)**		
	Overarching Principle: Leave No One Behind				
	Human Rights	☐			
	Gender Equality and Women's Empowerment	☐			
	Accountability	☐			
	1. Biodiversity Conservation and Sustainable Natural Resource Management	☐			
	2. Climate Change and Disaster Risks	☐			
	3. Community Health, Safety and Security	☐			
	4. Cultural Heritage	☐			
	5. Displacement and Resettlement	☐			
	6. Indigenous Peoples	☐			
	7. Labour and Working Conditions	☐			
	8. Pollution Prevention and Resource Efficiency	☐			

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Final Sign Off

Final Screening at the design-stage is not complete until the following signatures are included

Signature	*Date*	*Description*
QA Assessor	25-Aug-2022	**Hovhannes Ghazaryan** DocuSigned by: D9B913B81B4C4CD... UNDP staff member responsible for the project, typically a UNDP Programme Officer. Final signature confirms they have "checked" to ensure that the SESP is adequately conducted.
QA Approver	25-Aug-2022	**Konstantin Sokulskiy** DocuSigned by: Konstantin Sokulskiy 2F8B32720B14C5... UNDP senior manager, typically the UNDP Deputy Country Director (DCD), Country Director (CD), Deputy Resident Representative (DRR), or Resident Representative (RR). The QA Approver cannot also be the QA Assessor. Final signature confirms they have "cleared" the SESP prior to submittal to the PAC.
PAC Chair	25-Aug-2022	**Konstantin Sokulskiy** DocuSigned by: Konstantin Sokulskiy 2F8B32720B14C5... UNDP chair of the PAC. In some cases PAC Chair may also be the QA Approver. Final signature confirms that the SESP was considered as part of the project appraisal and considered in recommendations of the PAC.

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SESP Attachment 1. Social and Environmental Risk Screening Checklist

Checklist Potential Social and Environmental Risks		
INSTRUCTIONS: The risk screening checklist will assist in answering Questions 2-6 of the Screening Template. Answers to the checklist questions help to (1) identify potential risks, (2) determine the overall risk categorization of the project, and (3) determine required level of assessment and management measures. Refer to the SES toolkit for further guidance on addressing screening questions.		
Overarching Principle: Leave No One Behind **Human Rights**		**Answer (Yes/No)**
P.1	Have local communities or individuals raised human rights concerns regarding the project (e.g. during the stakeholder engagement process, grievance processes, public statements)?	No
P.2	Is there a risk that duty-bearers (e.g. government agencies) do not have the capacity to meet their obligations in the project?	**YES**
P.3	Is there a risk that rights-holders (e.g. project-affected persons) do not have the capacity to claim their rights?	No
Would the project potentially involve or lead to:		
P.4	adverse impacts on enjoyment of the human rights (civil, political, economic, social or cultural) of the affected population and particularly of marginalized groups?	No
P.5	inequitable or discriminatory impacts on affected populations, particularly people living in poverty or marginalized or excluded individuals or groups, including persons with disabilities? [16]	No
P.6	restrictions in availability, quality of and/or access to resources or basic services, in particular to marginalized individuals or groups, including persons with disabilities?	No
P.7	exacerbation of conflicts among and/or the risk of violence to project-affected communities and individuals?	No
Gender Equality and Women's Empowerment		
P.8	Have women's groups/leaders raised gender equality concerns regarding the project, (e.g. during the stakeholder engagement process, grievance processes, public statements)?	No
Would the project potentially involve or lead to:		
P.9	adverse impacts on gender equality and/or the situation of women and girls?	No
P.10	reproducing discriminations against women based on gender, especially regarding participation in design and implementation or access to opportunities and benefits?	No
P.11	limitations on women's ability to use, develop and protect natural resources, taking into account different roles and positions of women and men in accessing environmental goods and services? *For example, activities that could lead to natural resources degradation or depletion in communities who depend on these resources for their livelihoods and well being*	No
P.12	exacerbation of risks of gender-based violence? *For example, through the influx of workers to a community, changes in community and household power dynamics, increased exposure to unsafe public places and/or transport, etc.*	No

[16] Prohibited grounds of discrimination include race, ethnicity, sex, age, language, disability, sexual orientation, gender identity, religion, political or other opinion, national or social or geographical origin, property, birth or other status including as an indigenous person or as a member of a minority. References to "women and men" or similar is understood to include women and men, boys and girls, and other groups discriminated against based on their gender identities, such as transgender and transsexual people.

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Sustainability and Resilience: Screening questions regarding risks associated with sustainability and resilience are encompassed by the Standard-specific questions below		
Accountability		
Would the project potentially involve or lead to:		
P.13	exclusion of any potentially affected stakeholders, in particular marginalized groups and excluded individuals (including persons with disabilities), from fully participating in decisions that may affect them?	**YES**
P.14	grievances or objections from potentially affected stakeholders?	No
P.15	risks of retaliation or reprisals against stakeholders who express concernsor grievances, or who seek to participate in or to obtain information on the project?	No
Project-Level Standards		
Standard 1: Biodiversity Conservation and Sustainable Natural Resource Management		
Would the project potentially involve or lead to:		
1.1	adverse impacts to habitats (e.g. modified, natural, and critical habitats) and/or ecosystems and ecosystem services? *For example, through habitat loss, conversion or degradation, fragmentation, hydrological changes*	No
1.2	activities within or adjacent to critical habitats and/or environmentally sensitive areas, including (but not limited to) legally protected areas (e.g. nature reserve, national park), areas proposed for protection, or recognized as such by authoritative sources and/or indigenous peoples or local communities?	No
1.3	changes to the use of lands and resources that may have adverse impacts on habitats, ecosystems, and/or livelihoods? (Note: if restrictions and/or limitations of access to lands would apply, refer to Standard 5)	No
1.4	risks to endangered species (e.g. reduction, encroachment on habitat)?	No
1.5	exacerbation of illegal wildlife trade?	No
1.6	introduction of invasive alien species?	No
1.7	adverse impacts on soils?	No
1.8	harvesting of natural forests, plantation development, or reforestation?	No
1.9	significant agricultural production?	No
1.10	animal husbandry or harvesting of fish populations or other aquatic species?	No
1.11	significant extraction, diversion or containment of surface or ground water? *For example, construction of dams, reservoirs, river basin developments, groundwater extraction*	No
1.12	handling or utilization of genetically modified organisms/living modified organisms?[17]	No
1.13	utilization of genetic resources? (e.g. collection and/or harvesting, commercial development)[18]	No
1.14	adverse transboundary or global environmental concerns?	No
Standard 2: Climate Change and Disaster Risks		
Would the project potentially involve or lead to:		

[17] See the Convention on Biological Diversity and its Cartagena Protocol on Biosafety.
[18] See the Convention on Biological Diversity and its Nagoya Protocol on access and benefit sharing from use of genetic resources.

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2.1	areas subject to hazards such as earthquakes, floods, landslides, severe winds, storm surges, tsunami or volcanic eruptions?	No
2.2	outputs and outcomes sensitive or vulnerable to potential impacts of climate change or disasters? *For example, through increased precipitation, drought, temperature, salinity, extreme events, earthquakes*	No
2.3	increases in vulnerability to climate change impacts or disaster risks now or in the future (also known as maladaptive or negative coping practices)? *For example, changes to land use planning may encourage further development of floodplains, potentially increasing the population's vulnerability to climate change, specifically flooding*	No
2.4	increases of greenhouse gas emissions, black carbon emissions or other drivers of climate change?	No
Standard 3: Community Health, Safety and Security		
Would the project potentially involve or lead to:		
3.1	construction and/or infrastructure development (e.g. roads, buildings, dams)? (Note: the GEF does not finance projects that would involve the construction or rehabilitation of large or complex dams)	No
3.2	air pollution, noise, vibration, traffic, injuries, physical hazards, poor surface water quality due to runoff, erosion, sanitation?	No
3.3	harm or losses due to failure of structural elements of the project (e.g. collapse of buildings or infrastructure)?	**YES**
3.4	risks of water-borne or other vector-borne diseases (e.g. temporary breeding habitats), communicable and noncommunicable diseases, nutritional disorders, mental health?	No
3.5	transport, storage, and use and/or disposal of hazardous or dangerous materials (e.g. explosives, fuel and other chemicals during construction and operation)?	No
3.6	adverse impacts on ecosystems and ecosystem services relevant to communities' health (e.g. food, surface water purification, natural buffers from flooding)?	No
3.7	influx of project workers to project areas?	No
3.8	engagement of security personnel to protect facilities and property or to support project activities?	No
Standard 4: Cultural Heritage		
Would the project potentially involve or lead to:		
4.1	activities adjacent to or within a Cultural Heritage site?	No
4.2	significant excavations, demolitions, movement of earth, flooding or other environmental changes?	No
4.3	adverse impacts to sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture (e.g. knowledge, innovations, practices)? (Note: projects intended to protect and conserve Cultural Heritage may also have inadvertent adverse impacts)	No
4.4	alterations to landscapes and natural features with cultural significance?	No
4.5	utilization of tangible and/or intangible forms (e.g. practices, traditional knowledge) of Cultural Heritage for commercial or other purposes?	No
Standard 5: Displacement and Resettlement		
Would the project potentially involve or lead to:		
5.1	temporary or permanent and full or partial physical displacement (including people without legally recognizable claims to land)?	No

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5.2	economic displacement (e.g. loss of assets or access to resources due to land acquisition or access restrictions – even in the absence of physical relocation)?	No
5.3	risk of forced evictions?[19]	No
5.4	impacts on or changes to land tenure arrangements and/or community based property rights/customary rights to land, territories and/or resources?	No
Standard 6: Indigenous Peoples		
Would the project potentially involve or lead to:		
6.1	areas where indigenous peoples are present (including project area of influence)?	No
6.2	activities located on lands and territories claimed by indigenous peoples?	No
6.3	impacts (positive or negative) to the human rights, lands, natural resources, territories, and traditional livelihoods of indigenous peoples (regardless of whether indigenous peoples possess the legal titles to such areas, whether the project is located within or outside of the lands and territories inhabited by the affected peoples, or whether the indigenous peoples are recognized as indigenous peoples by the country in question)? *If the answer to screening question 6.3 is "yes", then Standard 6 requirements apply, and the potential significance of risks related to impacts on indigenous peoples must be Moderate or above.* *	No
6.4	the absence of culturally appropriate consultations carried out with the objective of achieving FPIC on matters that may affect the rights and interests, lands, resources, territories and traditional livelihoods of the indigenous peoples concerned?	No
6.5	the utilization and/or commercial development of natural resources on lands and territories claimed by indigenous peoples?	No
6.6	forced eviction or the whole or partial physical or economic displacement of indigenous peoples, including through access restrictions to lands, territories, and resources? *Consider, and where appropriate ensure, consistency with the answers under Standard 5 above*	No
6.7	adverse impacts on the development priorities of indigenous peoples as defined by them?	No
6.8	risks to the physical and cultural survival of indigenous peoples?	No
6.9	impacts on the Cultural Heritage of indigenous peoples, including through the commercialization or use of their traditional knowledge and practices? *Consider, and where appropriate ensure, consistency with the answers under Standard 4 above.*	No
Standard 7: Labour and Working Conditions		
Would the project potentially involve or lead to: (note: applies to project and contractor workers)		
7.1	working conditions that do not meet national labour laws and international commitments?	No
7.2	working conditions that may deny freedom of association and collective bargaining?	No
7.3	use of child labour?	No
7.4	use of forced labour?	No
7.5	discriminatory working conditions and/or lack of equal opportunity?	No
7.6	occupational health and safety risks due to physical, chemical, biological and psychosocial hazards (including violence and harassment) throughout the project life-cycle?	No

[19] Forced eviction is defined here as the permanent or temporary removal against their will of individuals, families or communities from the homes and/or land which they occupy, without the provision of, and access to, appropriate forms of legal or other protection. Forced evictions constitute gross violations of a range of internationally recognized human rights.

* Note: revised July 2022 modifying presumption of risk significance from Substantial or higher to Moderate or higher.

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Standard 8: Pollution Prevention and Resource Efficiency		
Would the project potentially involve or lead to:		
8.1	the release of pollutants to the environment due to routine or non-routine circumstances with the potential for adverse local, regional, and/or transboundary impacts?	No
8.2	the generation of waste (both hazardous and non-hazardous)?	**YES**
8.3	the manufacture, trade, release, and/or use of hazardous materials and/or chemicals?	No
8.4	the use of chemicals or materials subject to international bans or phase-outs? *For example, DDT, PCBs and other chemicals listed in international conventions such as the Montreal Protocol, Minamata Convention, Basel Convention, Rotterdam Convention, Stockholm Convention*	No
8.5	the application of pesticides that may have a negative effect on the environment or human health?	No
8.6	significant consumption of raw materials, energy, and/or water?	No

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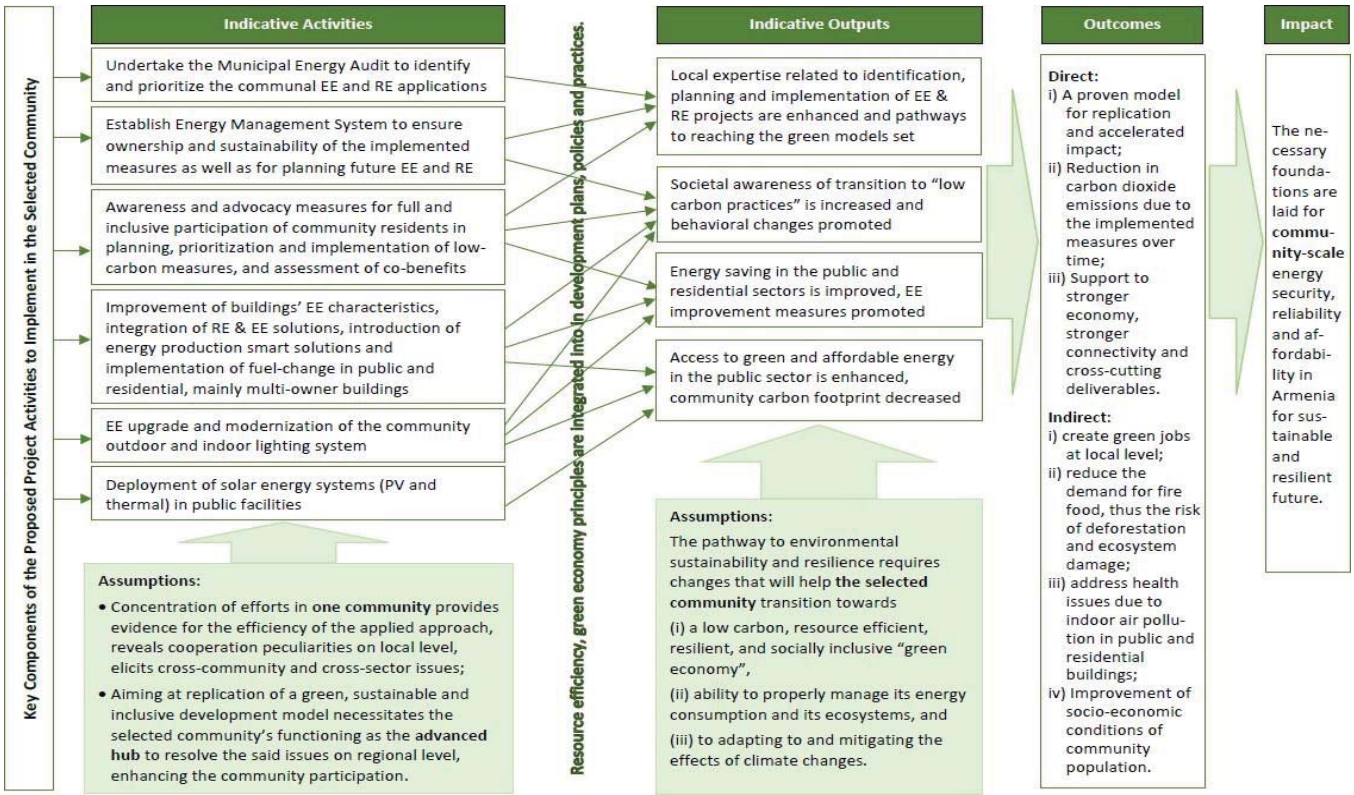
Annex 6. Theory of Change



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Annex 7. Offline Project Risk Register

Project Title: Strengthened Community Resilience through Energy Efficiency and Low Emission Development	**Project Number:** 00140158 - 00129453	**Date:** Aug 2022

#	Event	Cause	Impact(s)	Risk Category	Impact and Likelihood = Risk Level	Risk Valid From/To	Risk Owner	Risk Treatment / Management Measures
1	Risks associated with political developments and elections, instability of national and local administrative structures, limited interest of local authorities in EE & RE and low emission development because of other social and economic priorities.	Continuous political restructuring in the country and ongoing military conflict.	Slower processing / slower response of authorities on both national and local level	Political	**I=2** **L=3**	Throughout the project lifetime	UNDP, MoTAI	The Project will closely monitor the situation and adapt to political developments in consultation with the partners from UN/DP and Sida. Active interaction with national authorities having political influence and financial influence on municipalities (particularly, with MoTAI) will be maintained by the project, using the mechanisms of effective cooperation already established by UNDP. At the same time, more active involvement of local municipal specialists of the selected community shall be ensured to, as far as possible, mitigate possible risks associated with a change of the local administration.
2	Municipal staff turnover and insufficient capacities and qualification of municipal specialists, including people key for the successful implementation of the Project.	Continuous political restructuring in the country.	Lower quality cooperation with the local authorities, longer timelines of achieving their informed action. The risk is alleviated by the fact that the pilot community has experience of implementation of EE &RE and of membership in the Covenant of Mayors for Climate and Energy.	Opera-tional	**I=3** **L=2**	Throughout the project lifetime	UNDP, community	The Project will take the necessary actions to: (i) identify the most appropriate municipal specialists with the needed qualification and ensure designation of these specialists as main contact persons for the purposes of the Project, (ii) ensure proper training and capacity building of the identified staff, and (iii) contribute, to the possible extent, to the motivation of local specialists and their commitment and sense of ownership of the Project and its results.
3	Uncertainty around the government budget availability for the State Subvention Program	Possible low co- financing by the selected community	Undermining cooperation under the State Subvention Program. The risk is alleviated by the fact that a commitment letter is provided by the selected community head to secure up to 10% co-financing of capital investments into the community infrastructure.	Opera-tional / Financial	**I=3** **L=2**	Throughout the project lifetime	UNDP, MoTAI	The project will cooperate and communicate continuously with the MoTAI to ensure that upon the launch of the Project, the MoTAI reserves funds in the State budget for their further allocation for these specific multi donor-funded activities in the selected community. The Project will also interact with the community to make sure that the appropriate funds are timely foreseen in the municipal budget.

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#	Event	Cause	Impact(s)	Risk Category	Impact and Likelihood = Risk Level	Risk Valid From/To	Risk Owner	Risk Treatment / Management Measures
4	Possible lower interest of private households and communities to invest into energy efficiency	Energy efficiency is often considered a secondary concern	Lower participation in the project's activities therefore lower impact of the project	Financial	**I= 3** **L=4**	Throughout the project lifetime	UNDP, community	The Project will mostly focus on the facilities and buildings where UNDP has enlisted through conducted preliminary assessment and analysis, taking proactive measures with selected community to foster the applicable solutions accordingly.
5	Inflationary pressure and increase in cost of construction	Higher prices for imported goods and materials	New technologies and high-quality goods, materials, and equipment to be used in the process of Project implementation are mainly imported and will have high correlation to foreign currencies (USD, EUR) exchange rates, whereas the cost of works and services will mainly be expressed in local currency (AMD).	Financial	**I= 3** **L=2**	Throughout the project lifetime	UNDP, community	The structure of Project budget is expected to mitigate the possible currency fluctuation and inflationary pressure, as the financial inflows from the considered sources in local and foreign currencies (EUR from Sida, USD from UNDP, and AMD from community) would hedge the related risks.

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Annex 8. Gender issues

The Project will ensure that the proposed EE and RE interventions correspond to the needs andexpectations of men and women-headed households, as well as of female and male residents of the selected community. This will be achieved through ensuring equal participation of women and men in the project-related decision-making process and facilitating equal opportunities for engagement in and benefiting from the project activities.

Unfortunately, despite a fairly high level of education (more than 55% of women in Armenia have higher education), women empowerment and participation in decision-making processesremains critically low at all levels, particularly, in communities (women have less than 10% ofrepresentation in the local governance). According to the Global Gender Gap Report 2021, Armenia occupies the 114th position out of 156 countries in the Gender Gap Index 2021 (the 132nd place in terms of political empowerment and the 96th place in terms of economic participation and opportunities).

There is a number of society-specific structural, socio-economic and cultural factors and barriers that create gender inequality and limit women participation, including insufficient mechanisms and regulations to advance gender equality at the national and, particularly, locallevel:

- reluctance of national and local governance to appreciate and promote women leadership;
- limited access to resources for economic empowerment;
- lack of female leadership culture and support networks;
- power distance;
- lack of confidence and necessary skills and capacities among women[31].

As a result, men actively participate in and benefit from development and implementation of climate change mitigation, green growth, and low-emission development policy, including EE& RE projects at both national and local levels, while women are not always involved equitablyin these processes.

To this end, **a gender-responsive approach** will be applied to consider the most relevant structural and cultural barriers impacting women and men differently and to enlarge the scopeand nature of participation of women in the sectors that are mainly male dominant. Further, theProject sets out to ensure community ownership and equal opportunities for participation for both men and women throughout the Project implementation.

Throughout the entire duration of the Project, UNDP will closely **cooperate with local NGOsto ensure consideration of special needs of women and socially vulnerable groups in the selected community**, as well as their active participation in defining targets, proposingsolutions, and evaluating gender and social impact of Project measures to be undertaken.

In the table below some examples of practical application of gender-responsive approach and expected outcomes as per key activities of the project is explained.

Activity	Gender-responsive approach	Expected results
Organization of Municipal Energy Audit	Ensuring participation of female specialists of the local administration in MEA	Equal participation of women in evaluation of the baseline situation and prioritization of EE&RE and LED actions.
Establishment of Energy Management Systems	Designation and training of at least one female specialist of the local administration to execute functions of the Municipal Energy Manager	Promoting women's access to technical knowledge and expertise building, facilitating women participation in community decision making processes, particularly, in development, implementation and monitoring of the municipal energy policy.
Establishment of Special Purpose Municipal Fund *	Ensuring gender-balanced representation of the Board of the Fund.	Equal participation in decision making processes related to Fund activities (municipal EE and LED policy), allocation of resources, replication of EE & RE projects, etc.
Awareness and advocacy measures for full and inclusive participation of community residents in planning, prioritization	At least 50% of persons to be covered by awareness raising activities of the project are women.	Women-headed households have equal access to information related to the Project and can equally impact, participate in, and benefit from the proposed activities; women are aware of co-benefits of the proposed

[31] Gender Equality in Public Administration of Armenia (GEPAA), www.undp.org

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Activity	Gender-responsive approach	Expected results
and implementation of low- carbon measures, and assessment of co-benefits		interventions.
Capacities of local NGOs enhanced to protect rights of women and socially vulnerable people on equal access to and equitable benefits from low carbon practices	At least 50% of persons to be covered by awareness raising activities for NGOs and CSOs are women. Preference will be given to women-led organizations.	Local women-headed NGOs and CSOs have sufficient capacities to protect rights of women and SVP on equal access to and equitable benefits from LED policy and EE&RE interventions.
Building EE characteristics improved, renewable energy integrated, and fuel-change implemented in public and residential, mainly multi- owner buildings	When designing energy saving activities in public buildings, preference will be given to infrastructures most frequently or equally visited by women and children (e.g., kindergartens and child care centers, art, music and sport schools, etc.), while in case of MABs, the project will target buildings with maximum number of women-headed and low-income households. It is also envisaged to involve women in all stages of the design, implementation and monitoring of the proposed EE interventions in MABs to improve their knowledge on new technologies, ensure awareness of the achieved progress and get the most benefit from project activities.	Contribution to reduction of women's time poverty through improved services of kindergartens and child care centers and access to energy, allowing them to redirect their time to other activities, including education, business, etc. Support the female-headed and low-income (vulnerable) households to substantially reduce their energy costs, improve the comfort level in apartments, use labor-saving electrical appliances thanks to the improved EE characteristics of MABs and other interventions. To a certain extents women's economic empowerment is expected.
Community streets and outdoor/indoor lighting system EE upgraded	When designing EE modernization of outdoor and indoor lighting systems, preference will be given to residential areas, as well as the areas where the infrastructures most frequently visited by women, children and SVP are located.	Safety, health, and well-being of women and their families as well as SVP is improved through better quality and prolonged duration of illumination, improved traffic safety, reduced gender-based violence, etc.
Solar energy systems (PV and thermal) deployed in public facilities	Given that women often are more important users of and contributors to social infrastructure such as education, health, and childcare centers, priority will be given to public infrastructure. At the same time, women will be involved the design, implementation and monitoring of the proposed RE interventions to improve their knowledge on new technologies, provide opportunity to be employed during construction and/or operation of the systems, ensure awareness of the achieved progress and get the most benefit from project activities.	Women and SVP may benefit from renewable energy in municipal structures through better working conditions, reduction of time poverty through improved services of municipal structures (e.g., kindergartens and child care centers), involvement in construction and O&M of large-scale renewable energy utilities.

Cooperation with Women Empowerment and Gender Equality Programme of UNDP Armenia series of leadership advancement and capacity development schemes will also be applied where relevant to strengthen the voices and participation of women in the green transformation.

** Sida will not bear any responsibility and/or commitment to follow-up on Municipal Fundactivities.*