ANNEX 2

of the Commission Implementing Decision on the Annual Action Plan 2019 of the Republic of Armenia

Action Document for EU4 Energy Efficiency and Environment

ANNUAL PROGRAMME
This document constitutes the annual work programme in the sense of Article 110(2) of the Financial Regulation and action programme/measure in the sense of Articles 2 and 3 of Regulation N° 236/2014.

1. Title/basic act/ CRIS number	**EU4 Energy Efficiency and Environment** CRIS number: ENI/2019/042-021 financed under the European Neighbourhood Instrument	
2. Zone benefiting from the action/location	Armenia The action shall be carried out at the following location: Armenia	
3. Programming document	Single Support Framework for EU support to Armenia 2017-2020	
4. Sustainable Development Goals (SDGs)	**Main Sustainable Development Goal (SDG):** 7. Affordable and Clean Energy 6. Clean water and sanitation **Secondary SDGs:** 11. Sustainable cities and communities 12. Responsible consumption and production	
5. Sector of intervention/ thematic area	(3) Connectivity, energy efficiency, environment and climate change	DEV. Assistance: YES[1]
6. Amounts concerned	Total estimated cost: **EUR 9 000 000** Total amount of European Union (EU) contribution EUR 9 000 000	

[1] Official Development Assistance is administered with the promotion of the economic development and welfare of developing countries as its main objective.

7. Aid modality(ies) and implementation modality(ies)	**Project Modality** **Direct management**: - Procurement **Indirect management** with the entrusted entity(ies) to be selected in accordance with the criteria set out in section 5.3.2
8 a) DAC code(s)	230 – Energy Generation, Distribution and Efficiency 23110 – Energy sector policy, planning; aid to energy ministries; institution capacity building and advice; unspecified energy activities 41081 – Environmental education/ training 43030 – Urban development and management
b) Main Delivery Channel	12000 – Other public entities in recipient country 40000 – Multilateral Organisations

9. Markers (from CRIS DAC form)

General policy objective	**Not targeted**	**Significant objective**	**Principal objective**
Participation development/good governance	☐	x	☐
Aid to environment	☐	☐	x
Gender equality and Women's and Girl's Empowerment	☐	x	☐
Trade Development	x	☐	☐
Reproductive, Maternal, New born and child health	x	☐	☐
RIO Convention markers	**Not targeted**	**Significant objective**	**Principal objective**
Biological diversity	x	☐	☐
Combat desertification	x	☐	☐
Climate change mitigation	☐	☐	x
Climate change adaptation	☐	x	☐

10. Global Public Goods and Challenges (GPGC) thematic flagships	Sustainable Energy Environment

SUMMARY

This programme builds on the donor mapping and gap analysis made in the framework of the High-level Energy Efficiency initiative in the beginning of 2019, CEPA Implementation Roadmap, as well as the list of priority projects of the Government of Armenia (GoA).

The main objective is to support initiatives aimed at energy efficiency and environmental protection. In particular, this programme aims to increase energy efficiency in existing buildings, in particular in multi-apartment residential buildings (MAB) as well as public buildings, non-gasified communities, low-income households and aims to reduce water contamination in Armenia's largest lake.

The project will provide technical assistance to implement energy efficiency standards, with particular aim to lower energy use and costs for both gas and electricity for individual consumers and public agencies. It will aim at setting up the necessary systems for management and implementation of energy efficiency standards in public and residential sector which is in line with CEPA implementation where the Armenian Government will continue to harmonise its national legislation in the energy sector with the EU *acquis*. Improved energy efficiency leading to more sustainable growth in energy demand will also contribute towards addressing Armenia's energy dependency and energy security.

The development and enforcement of the laws and regulations, combined with enhanced donor coordination, and support to effective institutional set up will create the necessary enabling environment. Strengthening the capacity of key energy sector stakeholders, including those at central and local government levels, as well as capacitating a one-stop-shop for technical support, will further contribute to the success of planning and managing energy interventions.

In order to maximise the outreach to the potential households, a complementary action through the Neighbourhood Investment Platform (NIP) will aim at supporting low-income households and multi-apartment buildings (MABs) with piloting innovative financing schemes which could be scaled up in the future. Further energy savings will be achieved through raising public awareness on the benefits of Energy Efficiency and changing practices and behaviours among local work force and citizens, both women and men.

The commitments undertaken in CEPA which foresee cooperation at preserving, protecting, improving and rehabilitating the environment, and utilising natural resources in a sustainable manner, including in the areas of water quality and resource management, will be further supported. In particular, this program will seek to address environmental problems that affect Lake Sevan. Namely, the water quality monitoring shows a troubling picture for Armenia. While Armenia does not have heavy industry, other sectors such as agriculture, aquaculture, mining, and municipal wastewater have a noticeable impact on the health of surface waters, especially rivers and lakes.

The programme is fully in line with the SSF 2017-2020 connectivity, energy efficiency, environment and climate change component and complements Eastern Partnership (EaP)/Regional programmes related to Energy Efficiency and Environmental protection. It supports CEPA implementation, contributes to the Deliverables 2020 as well as towards commitments taken under Paris Agreement.

1 CONTEXT ANALYSIS

1.1 Context Description

Armenia is a landlocked country with a population of about 3 million. Based on Organisation for Economic Co-Operation and Development (OECD)/ Development Assistance Committee (DAC) criteria, Armenia is classified as an upper middle-income country with projected Gross Domestic Product (GDP) per capita 4,190 USD (2018)[2].

Between 2013 and 2017, the country economy was growing, thus creating prerequisites for improved living conditions and reduced poverty rate in Armenia. Compared to 2012, GDP increased by 18.96% and poverty decreased by 20.7% in 2017.[3] In 2017, for the first time, the poverty rate was lower than the 2008 rate (27.6%) at 25.7%. In 2017, the difference between **poverty rates** in urban and rural communities was 1.8 percentage points (respectively 25.0% and 26.8%) and between Yerevan and other towns of the country was at 5.5% (respectively 22.4% and 27.9%). 55.7% of the poor are women and 44.3% men.

The three Northern regions - Shirak, Lori, and Tavush are amongst the poorest and amongst those from which people aged 15 and above emigrate the most (Shirak 15%, Lori 14%, Tavush 5%) because of poverty coupled with lack of employment opportunities. Social assistance is common with significant share of households receiving at least one social benefit (Shirak 22%, Lori 17%, Tavush 21%).

Armenia is still in transition towards a full and competitive market economy. This transition is accompanied by environmental challenges that require immediate attention. Some of those are inherited from the Soviet era, while others are products of the country's political and economic transformation. There are many areas of concern raising from mining, deforestation, land erosion, and declining biodiversity. Improvements in these areas can have a positive spill-over effect on other sectors of economy, especially agriculture and tourism. Besides, steps to raise environmental awareness of the population should be undertaken.

Armenia has a single integrated power supply system. The main power generation capacities are nuclear, thermal, large and small hydropower plants as well as small renewable power plants (a biogas plant, a wind power plant and a number of cogeneration units), which provided 32.54%, 35.06%, 19.05%, 13.0% and 0.35% of total electricity generation in 2016.[4]

Final energy consumption has increased in recent years. The residential sector was the most relevant, consuming over one third of total final energy (37.5%), followed by the transport sector with a share of 30% in 2016. However, both sectors have only marginal direct contributions to GDP. Industry used only 15% of energy, which is far below the industry's share in the Soviet era. Commercial and public services accounted for about 16% and agriculture – for about 2%. The share of the residential sector fluctuates depending on weather conditions. Only transport, commercial and the public service sectors have showed steady increase of energy consumption over the last years.

While Armenia has had an Energy Efficiency (EE) and Renewable Energy (RE) Law since 2004 and the National EE & RE programme since 2008, it has only started tracking its

[2] IMF: https://www.imf.org/external/datamapper/NGDPDPC@WEO/OEMDC/ADVEC/WEOWORLD/ARM
[3] NSS 2018: Social Snapshot and Poverty in Armenia. Statistical and Analytical Report. https://www.armstat.am/file/article/poverty_2018-_eng.pdf
[4] Latest year for which energy balance is available

accomplishments in energy efficiency improvements through the National EE Action Planning (NEEAP) process. The 1st NEEAP from 2010 set a 3.3% target for reducing the baseline energy consumption of 2010 (1900.6 kilo tonne of oil equivalent (ktoe)) by 2014. The assessment of the first NEEAP revealed that this target has been outperformed and the overall energy saving reached by 2014 was 8.6%. This is a noteworthy progress considering that most EU Member States commit to a comparable target of 1% per year.

This was largely achieved thanks to numerous accomplishments. The EE credit lines for various borrower groups have been successfully operating through banks on commercial terms, lending to households and businesses for energy efficiency upgrades in houses and production facilities, vehicle improvements, acquisition of efficient technologies as well as appliances. The lending for public building energy efficiency through the Renewable Resources and Energy Efficiency Fund (R2E2) energy saving agreements allowed cutting 51-52% of energy consumption in public buildings. Efficiency upgrades in transport sector were successful both in public and private sectors, including transition from minibuses to larger passenger-buses, and the road network optimisation. The energy tariff increases had a direct impact on curtailing consumption not only through accelerating efficiency, but also through suppressed demand and declines in comfort, thus giving rise to a new wave of deteriorating utility affordability among various consumer groups, and escalating pressure on forests for firewood. Furthermore, high energy expenditures vis-à-vis income levels result in energy poverty. The EE targets for households so far have not been reached (0% achievement, as the NEEAP targets have not been quantified in terms of delivered savings and referred mostly to energy efficiency provisions for new constructions) as well as those for industry (0.4%) and agriculture (0.1%).

Due to the energy shortages caused by the closure of the Armenian Nuclear power-plant after 1988 earthquake and military actions in the region in the 90s resulting in energy blockade of the country, Lake Sevan's use for hydroelectric power which had been stopped for environmental reasons, was resumed and the water level began to decline again. The lake faces numerous environmental challenges due to overexploitation of its water resources, water pollution from human activities and increase of average water temperature, causing eutrophication, reduction of dissolved oxygen and water transparency from 13 meters to three meters. Sevan has suffered significant biodiversity loss in all biological components.

The situation has somewhat improved thanks to the restoration of the country energy system and improving the legal framework.

1.2 Policy Framework (Global, EU)

In the framework of the **Comprehensive and Enhanced Partnership Agreement (CEPA)**, the EU and Armenia have agreed to promote common regulatory frameworks to facilitate trade in oil products, electricity and potentially in other energy commodities. The CEPA also outlines an ambitious environmental sustainability reform agenda.

The programme is in line with the **Single Support Framework 2017 – 2020**, which sets out four priority areas of support: (1) Economic Development and Market Opportunities, (2) Strengthening Institutions and Good Governance, (3) Connectivity, energy efficiency, environment and climate change, and (4) Mobility and People-to-people Contacts. The programme is particularly focused on connectivity, energy efficiency, environment and climate change component.

European Neighbourhood Policy (ENP) Review[5] conducted in 2015 highlighted the principles of differentiation, flexibility, focus and ownership. It also underlines the need to work with neighbours on energy security, including diversification of energy sources, routes and suppliers as well as better cooperation on energy efficiency. Increased cooperation on energy efficiency, renewable energy sources, on demand management and on action to mitigate and adapt to climate change will help to develop economies that are more efficient, competitive, resilient and stable while increasing energy sovereignty and reducing emissions.

The programme will also contribute towards achieving **20 Deliverables for 2020**[6]**;** in particular it will enhance energy efficiency and the use of renewable energy, as well as support environment and adaption to climate change.

1.3 Public Policy Analysis of the partner country/region

The programme is fully in line with **Armenia Development Strategy 2014-2025** (ADS) adopted in March 2014 and now under revision, which highlights promotion of energy efficiency in all sectors using energy resources among the main directions of the policy to be implemented in the Energy sector. Furthermore, it contributes to the numerous measures outlined in the ADS to reduce pollution of water resources.

In September 2015, the Government of Armenia signed on to **Agenda 2030**[7] and its 17 **Sustainable Development Goals** (SDGs). The country has established a mechanism for the implementation of the SDGs, including the National Council on Sustainable Development under the Prime Minister of Armenia, SDG Nationalization Inter-agency Task Force and Armenia National SDG Innovation Lab.

The **Government Programme 2019 – 2024** foresees focusing on ensuring energy independence and improving the energy security, including through building regulatory incentives for introduction of modern and high technologies, enhancing the policy development and energy efficiency measures. It highlights the need to enhance cooperation with international organisations to further explore mechanisms promoting energy-efficiency and the use of renewable energy. It also sets an ambitious agenda for environmental management, in particular, it outlines as a priority area to restore and preserve ecological balance in Lake Sevan and preserve and manage Ararat artesian basin and river ecosystems.

In 2013, the Government of Armenia adopted the **Energy Security Provision Concept of Republic of Armenia**. In fulfilment of the mentioned Concept, the National 2014-2020 **Action Plan on Energy Security Provision Concept of Republic of Armenia** was adopted and went into force.

In 2015, the Government of Armenia adopted the **Least-cost Plan for Long-term Development of Armenia's Energy Sector** until 2036.

The programme is also in line with the main strategic document of the Government of Armenia in the Energy Efficiency sector - the **second National Energy Efficiency Action Plan** (NEEAP), adopted in 2017. The second NEEAP energy efficiency target for 2020 is as high as 36.7%. To achieve this, aggressive policy reform is required which would need to

[5] Joint Communication to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, Review of the European Neighbourhood Policy, https://ec.europa.eu/neighbourhood-enlargement/sites/near/files/joint_communication_on_enp_review.pdf
[6] https://ec.europa.eu/neighbourhood-enlargement/sites/near/files/eap_20_deliverables_for_2020.pdf
[7] https://sustainabledevelopment.un.org/post2015/transformingourworld/publication

also address EE in sectors, where progress has so far lagged. This includes tapping into the market for EE in residential buildings (target set at 13.5% from baseline during 2010-2012). The main policy reforms that are needed include facilitating lending and elimination of bottlenecks for accessing finance.

The 2004 **Law on Energy Saving and Renewable Energy** was amended in 2016 to introduce (i) development of annual energy balance; (ii) sectoral categorisation by energy intensity; and (iii) mandatory technical provisions for energy efficiency in new residential building construction, as well as in new construction, capital renovation or reconstruction with the use of state budget funds.

The 2015 Government Decree No 1492-N adopted the **Procedures of Appliance Labelling** and label template for gas- and electricity-consuming appliances.

In 2018, the Government of the Republic of Armenia defined the technical regulation of energy saving and energy efficiency in newly constructed multi-apartment buildings, as well as facilities constructed (reconstructed, renovated) by state means.

The country's current **Water Code** was adopted on 4 June 2002 (the precedent dating from 1992). It establishes a balanced approach to water resources management. It contains provisions for the proper regulatory, management, and operational divisions of responsibilities in the water sector[8]. In order to ensure the proper application of the Water Code, Armenia adopted over 120 regulations and by-laws. They relate, for example, to the permitting procedures, river basin management, transparency and public participation in decision-making processes, access to information, establishment of the state water cadastre, water resources monitoring, and management of transboundary water resources.

One of the priority activities of the **Water Supply and Sanitation Strategy and Funding Plan (2018-2030)** is the implementation of activities to address sanitation and wastewater treatment issues, including the use of innovative technologies, which will result in the modernisation of sanitation and wastewater treatment systems, and resolution to environmental issues. Without being a Party to the United Nations Economic Commission for Europe/World Health Organisation (**UNECE/WHO) Protocol on Water and Health**, Armenia set its initial targets in 2014. These targets are being updated.

Laws **On the Lake Sevan** (2001) and **On Adoption of the Annual and Complex Program of Activities for the Use, Protection, Reconstruction and Reproduction of the Lake Sevan Ecosystem (2001)** have had a significant impact on enhancing the legal framework. These laws provide for the legal and economic bases of the policy on the use and management of the Lake Sevan, which is a strategic freshwater reservoir. With EU support, the country is now working on a basin-level plan to manage water resources of the lake.

The drought in 2008 triggered the environmental non-governmental organisations (NGOs) to activate the debate in the Parliament, which in December 2008 resulted in the formation of the Presidential Commission on the Lake Sevan Problems.

[8] FinWaterWei programme, Protocol on Water and Health – Improving health in Armenia through target setting to ensure sustainable water management, access to safe water and adequate sanitation, May 2014

1.4 Stakeholder analysis

The main beneficiaries of the programme are the Armenian citizens, in particular the members of low-income households as well as residents of the multi apartment buildings. The programme will also greatly benefit those living in the communities situated near Lake Sevan.

The key stakeholders will be:

Ministry of Territorial Administration and Infrastructures is in charge of elaborating and implementing the policies of the Republic of Armenia Government in the energy and energy efficiency sectors.

Armenia Renewable Resources and Energy Efficiency (R2E2) Fund started its operation in 2006, following the provisions of "Law on Energy Efficiency and Renewable Energy". It is a state entity with a mission to facilitate investments in energy efficiency and renewable energy in Armenia. Among its key strategic directions are preparing and implementing renewable energy and energy efficiency projects, development and introduction of financial instruments in renewable energy and energy efficiency sectors, participation in policy improvement and legislative reforms regarding the sector, promote relevant capacity building and innovations in the sector, international cooperation in sustainable energy sector.

National Institute of Standards Closed Joint Stock Company (CJSC) of the Ministry of Economic Development and Investments is in charge of developing energy efficiency standards.

Urban Development Committee of the Republic of Armenia elaborates and implements the policy of Government of Republic of Armenia in the field of urban development. It is responsible for legislation and secondary legislation associated with energy efficiency in buildings and retrofits, design and enforcement of new building codes and standards, and coordination and supervision of construction/reconstruction of the residential buildings.

Home-owners associations (HOAs) consisting of active residents of MABs will be important counterparts in tackling the Energy Efficiency issues of MABs.

Energy Service Companies (ESCOs) are a private energy efficiency market player serving as the project initiators, investors and implementers, bearing all the investment risks. They receive funds from savings generated by investments in energy efficiency. In addition, the catalyst role of the local civil society organisations (**CSOs)** in partnership with **local authorities** and small and medium-sized enterprises (**SMEs)** will be further strengthened and supported as important stakeholders in developing high-quality projects enhancing and promoting environmental protection and energy efficiency in their local communities.

Ministry of Environment has a wide scope of authority for natural resources protection. Among other tasks, the Ministry implements strategic management, protection and allocation of water resources with the main enforcement tools being the water use permits.

Water Committee is a public agency, operational in the system of governance of the Ministry of Territorial Administration and Infrastructure of the Republic of Armenia, which develops and implements the policy of the Government of the Republic of Armenia regarding the management and use of state-owned water management systems.

Water Resources Management Agency of the Ministry of Environment provides services in the field of water resources management (surface and groundwater) by the law. The objectives of the agency include, ensuring the pre-assessment of the quantity and quality of

water available for Armenia, supporting the management and protection of water resources within the National Water Policy and National Water Programme, etc.

The independent Commission on Lake Sevan, established in 2008 by a Presidential Decree, deals with the lake issues. The Commission has an annual action plan and is the main conduit of international development financial resources targeted at the lake. In addition, the lake and some of its surrounding areas form the Sevan National Park with about 340 km^2 in area, which was established in 1978.

1.5 Problem analysis/priority areas for support

CEPA Implementation Roadmap highlights various areas for approximation of Armenia's legislation to EU legislation. Among the envisioned measures there is an extensive list of EU environmental directives, for Armenia to approximate its legislative framework with. This programme contributes towards achieving these ambitious goals.

Some elements of the Energy Efficiency Directive (EED), Energy-labelling Directive as well as the Energy Performance in Buildings Directive (EPBD) have already been aligned with, including mandatory energy performance requirements for public buildings and new construction. Furthermore, the Government has committed to continued legal-regulatory reform under the CEPA agreement with EU.

There are also issues with enforcement of the existing EE&RE regulations, largely related to the lack of institutional capacities. Despite the new legislative initiatives put forward, **adoption and/or enforcement lags** due to insufficient affordable financial resources, administrative and technical capacity, and concerns of added/increasing cost burden on the private sector. This is evident in particularly in technical regulations on building safety and energy performance; amendments to the Law on Urban Development; and amendments proposed to housing legislation, which need a holistic policy reform promoting sustainable energy in residential sector. There is also a need for further institutional support, as well as training and accreditation of energy auditors.

There are also numerous **financial barriers**. The total number of private houses is 393 560, 39% of which are in urban areas and 61% in rural areas. In addition, there are 19 000 multi apartment buildings with 443 023 apartments. In 2015, 38.5% of the rural population was poor. These households cannot afford to borrow money to improve their households' energy performance, and thus reduce their utility bills or alternatively increase their living standards. Furthermore, there are currently no financial incentives for EE&RE, which would incentivise the enforcement of the voluntary provisions of the EE&RE Law. For example, introduction of a benchmarking, energy management (ISO 50001) or best available technologies (BAT/BREF notes) provision for large energy consumers, which, if compliant, can receive certain incentives, such as soft loans or tax benefits. Additionally, not all sectors are adequately covered by financiers: not all sustainable energy credit lines have financing terms (interest rate, tenor, technical assistance) adequate for EE and RE borrowers and investment features. Some sectors are served by multiple credit lines (e.g. public buildings, households, corporate), while others, like multi-apartment buildings (MABs) are not covered by any. This is particularly relevant as MABs are responsible for 30% of all energy use and hold an untapped potential for nearly 50% energy saving. The growth in the household EE lending has not resulted in spill-over effect to the MABs EE market and it continues underserved. In addition, MABs lack capacities to serve as a lending partner for EE and RE investments.

Imperfect information and lack of awareness among all user groups is a considerable bottleneck. Lack of information dissemination about the opportunities and benefits of EE, RE, sustainable energy, technical and financing solutions, service and material vendors as well as lack of information on sub-sectoral energy consumption patterns, utilised technologies, energy saving potential inhibit further progress in promoting energy efficiency.

The relevant specialists in the labour market need further training and change in mind-set. Further Measurement, Reporting and Verification (MRV) on the effectiveness of various policy, capacity-building, and financing efforts need to be promoted and utilised in public awareness campaigns.

The latter also applies to the numerous environmental challenges, such as Armenia's abundant water resources. Lake Sevan in particular, is the most significant source of freshwater, irrigation water, aquaculture, as well as hydropower source in Armenia. Its condition has direct bearing on the region's environmental health and Armenia's economic potential. To address wider environmental issues as well as to **protect major water sources, like Lake Sevan from contamination**, regulations and their enforcement need to be revised.

Since Armenia's independence in 1991, the deterioration of water supply and sanitation infrastructure and related service delivery mechanisms have impacted the quality and management of water, making it a crucial issue on the development agenda. Currently, only two-thirds of the country's population (mostly urban) is connected to sewerage-collection systems. About 20% of these networks are connected to sewer treatment facilities, all built before independence, in the Soviet era. Most of these facilities are not functional due to **aging, faulty and/or missing infrastructure in wastewater and sewage treatment**. To ensure water quality in Lake Sevan, proper sewage treatment is required for most of the neighbouring urban as well as rural settlements, from where wastewater is currently flooded into rivers which are flowing into Lake Sevan, polluting it further. It is necessary to refurbish and build new sewerage pipelines, to transfer wastewater of those settlements to the treatment plants and/or to apply local cleaning solutions.

2 RISKS AND ASSUMPTIONS

Risks	**Risk level (H/M/L)**	**Mitigating measures**
Structural changes in the Government related to the reform processes create uncertainties in institutional set up	M	Continued political and policy dialogue with the Government of Armenia. The programme foresees support to the new institutional set up and capacity building activities.
Lack of willingness to take loans for increasing Energy Efficiency in residential buildings	H	The programme takes a holistic approach, and puts a lot of emphasis on communication and training on energy efficiency and its benefits; Success stories will be showcased to encourage other potential beneficiaries.

Low affordability of many residential households in mixed-income buildings, absentee apartments as well as in low-income households	H	Innovative financing scheme with credit line and guarantee scheme will be developed in line with this programme, building on the experience of past projects with similar nature.
Behavioural risks related to poor building energy management practices in retrofitted buildings	M	Buildings' energy management guidelines and information materials will be developed, combined with carrying out a wide-scale outreach. Training the maintenance personnel, monitoring and controlling of building energy end-use.
Technical risks related to the delivery of expected energy savings, cash flow and other expected improvements	M	Use of international expertise to design standardised solutions, templates and best-practice energy efficiency improvement measures. Training and orientation for local construction companies will be carried out. Energy performance contracting, linking compensation for implemented construction works to delivered and documented savings, will be explored.
Assumptions		
• The Government maintains or enhances its reform plans for promoting Energy Efficiency and improving the quality of water in Lake Sevan; • Different stakeholders are willing to cooperate and partner for the implementation of the proposed actions; • The Government is willing to pilot and test new approaches and is committed to amend the legal and regulatory framework if deemed necessary.		

3 LESSONS LEARNT AND COMPLEMENTARITY

3.1 Lessons learnt

The EU and several other development partners are active in the sectors of energy efficiency and environmental protection in Armenia. Thus, there are numerous lessons learnt, which have been consolidated over the past years, and on which this programme has been built on.

According to the results of donor-funded **Energy Efficiency** pilot projects, an average residential building in Armenia has 30%-50% energy savings potential at current energy prices. The most indicative of all were the pilot projects implemented by the United Nations Development Programme – Global Environmental Finance (UNDP-GEF) Improving Energy Efficiency in Buildings Project. The thermal retrofit of a multi-apartment panel building in

Yerevan reduced energy consumption from 178 kWh/m2 to 74 kWh/m2 (by 58%) after thermal rehabilitation of the building façade.

The first 167 public facilities that underwent energy efficiency retrofitting under the 64 Energy Service Agreements signed within the Energy Efficiency Project 50-52% energy saving, which allowed repaying the investments exclusively from savings in 7-10 years. ESCO contracting was successfully applied in the framework of the World Bank/Global Environment Facility (WB/GEF) EE Projects. For these 64 Energy Service Agreements the R2E2 hired 22 companies that gained experience necessary for energy audit, engineering design, new technologies for improvement of EE in buildings and street lighting systems, as well as for measurement and verification of savings. These companies could be considered in fact ESCOs. However, there is need to continue development of ESCO market through creation of demand. This is possible through the further public procurement regulatory improvement.

The experience of Yerevan Municipality public building energy efficiency improvement supported by European Investment Bank (EIB) loan and Eastern Europe Energy Efficiency and Environment Partnership (E5P) grant also established the true cost of energy efficiency if duly combined with mandatory norms for energy efficiency, structural resilience and accessibility. The first tranche of the project has a EUR 7 million EIB sub-sovereign loan (municipal borrowing), combined with EUR 5 million E5P grant, and EUR 4 million co-financing from the municipality. Such a structure of loan combination with grant and equity was necessary due to heavy investment requirements in the non-energy efficiency interventions, such as structural reinforcement, handicapped accessibility upgrades, as well as massive general renovation needs of public buildings which have not had serious repair in over 25 years. Hence, energy efficiency retrofits must be designed to be comprehensive and bring buildings in compliance with all norms and standards when capital EE retrofits are initiated. This is also the requirement of the Armenian legislation. The direct capital investments also require adequate soft costs for the proper design such comprehensive retrofits, which is also a significant cost. However, initial energy audit, monitoring and verification of measures and results achieved will not only contribute towards result-oriented outcomes and quality of the projects but will also provide a great information source for communication, promotion of EE and awareness raising. The project also built on the grant-funded technical assistance from the "De-risking Climate Investments in Energy Efficiency in Buildings" project supported by the Green Climate Fund and UNDP.

With the exception of Yerevan Municipality EE project, all the past project successes were also anchored on public guarantees, heavy grant co-financing and favourable interest rates on lending. Having proven the technical and economic potential for energy efficiency investments in buildings, the solutions can be rolled out to the private sector through commercial bank lending. However, due to foreign currency risks, without favourable financing terms, these investments will not be viable. For example, hedging euro-based loans to be disbursed in local currency would require 8-9% foreign currency risk hedging. Combined with the base interest and commercial bank's commission, the loans will be priced at 13-14% interest rate. Such an interest rate will deteriorate the market for energy efficiency investments. To keep the momentum and scale up the energy efficiency investments in the buildings sector, there is need for innovative financing schemes which improve the concessionality and affordability of the funds, mitigation instruments to ease the burden of energy efficiency loans on low-income households, cash-stripped public/municipal/social

institutions, technical assistance to ensure high quality of project design, project preparation, competitive procurement, monitoring and verification, etc.

The MABs and low-income households have huge energy saving potential, which have a great impact on the daily-lives of the citizens of Armenia and could be achieved with fairly basic measures. To promote faster market uptake of the energy efficiency potential, the technical support needs to be accompanied with extensive awareness-raising measures to encourage people to apply for financing.

In the **environmental protection sector**, in January 2019, EU Water Initiative for Eastern Partnership conducted a comprehensive baseline analysis of legal, institutional and substantive aspects related to the Protocol on Water and Health in Armenia. The expert evaluation includes recommendations such as establishing and providing a mandatory requirement for the construction of a sewerage system and construction of water treatment plants in settlements with 1000 and more inhabitants, establishing stricter control over existing state norms and requirements for wastewater disposal and treatment, etc. This programme will build on the extensive needs assessments carried out in the framework of this regional initiative as well as other related projects.

3.2 Complementarity, synergy and donor co-ordination

The programme is complementary to the existing and planned support to the energy sector in Armenia. In particular, it will build on the regional EU4Energy project, which started in 2016 and will run until 2020. The project will benefit from the support provided towards improving energy data capabilities and enhancing data collection and monitoring. EU4Energy has also contributed towards evidence-based policy design, providing technical assistance on legislative and regulatory framework and on key energy infrastructure investments. This programme will build on numerous in-depth analyses[9] conducted, as well as support the implementation of the legislative and regulatory framework developed in the framework of EU4Energy programme.

Under the umbrella of EU4Energy, the Energy Charter Secretariat has provided technical support to the Ministry of Energy, Infrastructure and Natural Resources in upgrading the EE standards for buildings and developed recommendations for enforcement, which remains the main challenge in this area. In 2018-2019, the Charter will focus among other things, on eco-labelling requirements for different types of buildings, introduction of requirements for Near-Zero Energy Buildings and development of a calculation tool for energy audits.

The programme will also build on the activities of E5P which is providing grant co-financing for municipal infrastructure EE projects in diverse areas such as district heating; water and wastewater, solid waste management, street lighting, insulation of public buildings or residential housing, and urban transport.

In addition, through EU as well as United States of America (USA) funding the Habitat for Humanity of Armenia has tested different lending models and implemented loan-funded thermal enveloping of three different types of panel buildings. In combination with 40% municipal co-financing, loans from United States Agency for International Development (USAID) Residential Energy Efficiency in Low-Income Households (REELIH) project and

[9] E.g. EU4Energy Report "Armenian Building Energy Efficiency Regulatory Review, Comparison with EU Best Practices and Recommendations for Enhanced Enforcement of Minimum Energy Performance Requirements in Buildings", 2018.

the Habitat's own Condominium financing project, Habitat has leant to 41 multi-apartment buildings So far it has been the only success story in extending bank-based commercial loan from one condominium to six, with more pending. This programme will build on the lessons learnt and scale up the success.

In 2014, French Development Agency (Agence Française de Développement - AFD) credit line was set up through the National Mortgage Company (NMC) to work through 13 participating financial institutions on household energy efficiency loans and micro loans, which was further supported by a Neighbourhood Investment Facility (NIF) grant for technical assistance and investment grants for energy efficiency loans. The purpose has been to enable low- and middle-income households to renovate their buildings, reduce residential energy expenses, and promote the development of energy-efficient housing in towns and villages in Armenia. The criteria for eligibility to the loans and grants are being currently reviewed to simplify the access to the products while enhancing the energy efficiency aspect of the programme. In addition, Kreditanstalt für Wiederaufbau (KfW) launched a Housing Energy Efficiency Credit Line in 2016, which will also be partnered with the National Mortgage Company (NMC) and seek to cover another niche for residential energy efficiency. This programme will complement these programmes as well as take into account the lessons learnt.

The project will also create synergies with the "EU4Civil Society: Energy Efficiency in Armenian Communities" project aimed at raising awareness and implementing practical measures to improve energy utilisation pattern, increase quality of life and reduce energy bills in five regions (Lori, Tavush, Gegharkunik, Kotayk, Ararat).

The opportunities available under the EU External Investment Plan, adopted in September 2017 to help boost investment in partner countries in Africa and the European Neighbourhood will be explored. Furthermore so, as almost all of the IFIs and development partners in Armenia are engaged in the Energy sector. Loans by credit lines established by European Bank for Reconstruction and Development (EBRD), International Finance Corporation (IFC), Green for Growth Fund (GGF), AFD and KfW are offered for private households to finance energy efficiency investments and integrated renewable energy solutions.

However, the growth in the household EE lending does not apply to the multi-apartment buildings EE market, which continues to be underserved. This programme complements the existing support and aims to address the gaps and cater for target groups which have remained unattended. In particular, the programme will create synergies with the pilot projects implemented by the UNDP-GEF Improving Energy Efficiency in Buildings which have provided valuable insights to the potential energy savings in residential buildings.

An action under the NIP is expected to complement this program, Indeed, through the NIP, EE projects to test various financial, administrative and organisational models for innovative and affordable investment schemes will be developed for the following targeted areas: i) EE renovation with integrated solar systems for low-income households to gradually remove energy subsidies; ii) installation of solar water heating and solar PV for residents in non-gasified communities; iii) EE pilot projects for MABs.

The real financial viability of the investments will be calibrated based on estimated risks, occupancy, social/affordability constraints, technical and economic shortcomings, needs for structural reinforcement, etc. Standard set of interventions for a small group of representative building types (e.g. panel 9-floor or 14-15 floor, 5-floor stone), and design cost-optimal solutions for quick and standardised implementation with predictable economic return will be

developed. These designs should be comprehensive and take into account the compliance of all the other norms and standards (e.g. thermal protection of building envelope, efficiency of heating systems, handicapped accessibility and seismic safety, etc.) as required by law.

Even though, the HOAs are legal entities, with bank accounts and accounting books, their credit-worthiness is limited. Thus, the programme will aim to test the above-mentioned different innovative financing tools to find replicable investment schemes, which could further tap into the existing opportunities. It will also enable private sector participation in delivery schemes to ensure replicability and long-term sustainability of initiatives potentially addressing the needs of residents in 19,000 MABs throughout the country.

An action under the NIP will aim to engage existing ESCOs in Armenia in carrying out the above-described activities, which will gain necessary experience though learning by doing and receiving training on site in energy audit, engineering design, new technologies for improvement of EE in buildings, as well as for measurement and verification of savings. To extent possible, the programme will seek participation of local authorities in potentially co-financing of investments in MABs, e.g. for socially vulnerable households. Priority will be given to building-level solutions to ensure that more systematic upgrading and retrofitting of buildings takes place, which affects the energy losses in common spaces, extends the building lifecycle, focuses on building resilience along with common space energy conservation.

In order to address energy poverty and to help the government to gradually replace existing energy cost subsidy for low-income families by capital grant for EE, an action under the NIP will contribute to developing a sustainable financing mechanism. That could be i) co-financing of the existing project in MAB (on behalf of the low-income households), ii) capital grant scheme with partial repayment or co-financing by beneficiary, iii) other innovative financing scheme to ensure sustainability of investments. A separate lending product with grant co-financing will be developed and implemented with international financial institutions (IFIs) and local banks participation to scale-up solar water heating and solar PV systems for households living in non-gasified communities.

Project “Integrated environmental assessment of the lake Sevan” resulted in comprehensive assessment of the ecological status and trends of the lake, the proposals and recommendations for improvement of the ecological balance of the lake. The findings of this project will be taken into account and the proposed programme will build on the outcomes of this regional project.

Starting from 2003 EBRD has taken major steps to help clean the wastewater flowing into the Lake Sevan through improving wastewater treatment in five municipalities surrounding the lake. These investments were complemented by EU NIF grant.

The tender process for the construction of the sewage treatment plant for Sevan town is in process. The design capacity of this plant is maximum 8000 m3/day (for the population of 34,500 people). It is envisaged to carry out the construction in two stages, each is designed for a population of 17,250. In addition to Sevan town, this station will also serve the population of Gagarin town.

Project documentation for the construction of a wastewater treatment plant and access collector in Sevan is also being prepared within the framework of the Phase 3 of the Communal Infrastructure Program 2 funded by the German KfW Bank, the European Investment Bank (EIB) and the European Neighbourhood Investment Facility (NIF). Within the framework of the same project, the design and estimate documentation for the

improvement of water supply and sanitation systems in Gagarin, Varser, Semyonovka, Tsaghkunq, Geghhovit villages and the town of Vardenis are being elaborated.

In the framework of CEPA, Armenia has taken obligations to approximate its legislation to the EU legislation and international instruments. In the field of water quality and resources management, this will include five EU *acquis* directives: Water Framework Directive, Floods Directive, Urban Wastewater Directive, Drinking Water Directive and Nitrates Directive.

The overarching objective of EU Water Initiative (EUWI) Plus project in Eastern Europe and Caucasus countries for the period of 2016-2020, is to improve water resources management, in particular, transboundary water resources management. With financial support of the European Commission for EUWI+ project, the UNECE is working with the mentioned six countries to achieve convergence of national policies and strategies with principles of the EU Water Framework Directive (WFD), Integrated Water Resources Management (IWRM) and relevant Multilateral Environmental Agreements (MEAs) such as the Water Convention and its Protocol on Water and Health.

4 DESCRIPTION OF THE ACTION

4.1 Overall objective, specific objective(s), expected outputs and indicative activities

The **overall objective** of the programme is to improve energy efficiency and enhance environmental protection and resilience.

The **specific objectives** and results of the programme are:

Objective 1 Establish enabling environment to promote and effectively monitor EE in residential and public buildings, with particular focus on low-income households and MABs

Result 1.1. Enhanced institutional set-up through capacitating relevant government institutions to serve as a one-stop-shop which will effectively provide investment planning support, manage and monitor implementation of energy efficiency programmes, initiatives and standards.

Result 1.2. Relevant laws and regulations further developed and enforced in line with CEPA to implement energy efficiency standards and facilitate investments in the public and residential buildings sector.

Objective 2 Raise awareness on the benefits of EE

Result 2.1. Effective education and public awareness raising programmes developed and implemented.

Result 2.2. Improved energy consumption monitoring and management in public buildings.

Objective 3 Enhance the environmental protection and water quality in Lake Sevan

Result 3.1. Decreased level of human-caused pollution in Lake Sevan.

Activities envisioned under Specific Objective 1

The activities will aim to help to enforce and further develop the Energy Efficiency and Housing legislation and set up necessary systems for management and **implementation of energy efficiency standards** and business models in the public/residential sector. This also

greatly contributes to implementing the commitments taken by the Government of Armenia under **CEPA** which foresees continuous harmonisation of Armenia's national legislation in the energy sector with the EU *acquis*. Understanding and assessing the barriers (legal, regulatory, financial, social, institutional, informational, taking into account citizens' perspective, etc.), and designing measures to eliminate these, as well as defining building management, maintenance and investment business models, will contribute to finalising the legal-regulatory reform in EE in Armenia. Particular attention will be paid to revising the legal framework on the management of MABs, in the framework of a holistic policy reform promoting sustainable energy in residential sector.

Elimination of legal-regulatory barriers will be complemented by contributing to the development of long-term favourable environment with **adequate institutional support**. This activity will ensure that the enforcement of the existing laws and regulations is supported by the relevant institutions. Thus, the programme will strengthen the institutional set up, through enhancing the capacity of government institutions, notably R2E2, to serve as a one-stop-shop for facilitation, technical support and risk mitigation of energy efficiency investments in public and residential buildings. It will aim to provide technical assistance in project design, competitive procurement facilitation, oversight in construction, commissioning, technical monitoring and verification of delivered energy savings and financial revenues. The activities also include providing investment and investment planning support. In particular, opportunities under European Local Energy Assistance (ELENA) could be further explored and a pre-qualification to participate in the initiative could be achieved with the assistance of this programme. It will also serve as a platform for further capacity building of the key government institutions, such as the relevant Ministry, but also ESCOs and HOAs. Additionally, it will explore the need for supporting other relevant systems such as certification, audit, etc. (e.g. through further capacity building and accreditation of energy auditors). Through one stop shop, policy dialogue and donor coordination will also be further enhanced on issues related to energy efficiency in public and residential buildings.

In order to identify the EE potential in public buildings, a survey will be conducted and a public building inventory created, with all necessary data and information. The possibility of introducing milestone planning will be considered. The inventory will help the government in prioritising and decision-making processes. The inventory shall be user friendly tool to allow updates reflecting implemented EE investments and other renovations.

Through this programme the one-stop-shop will further support ongoing IFIs efforts to identify, assess, elaborate and bring to financing-ready condition such public building EE investment projects, which are viable in the absence of sovereign guarantees.

After implementation of EE projects, a study will be conducted on the energy efficiency investments impact and indirect benefits: job creation, improved health and reduced cold-related illnesses, quality of education, reduced deforestation and climate adaptation, etc.

Representative **pilot EE projects for MABs** will be prepared and implemented via the NIP, as indicated in section "3.2 Complementarity, synergy and donor co-ordination", with the aim to test different innovative financial tools in order to find the best financing scheme.

Activities envisioned under Specific Objective 2

In order to maximise the impact of Component 1, all the above-mentioned efforts will be complemented through comprehensive knowledge management, information sharing, awareness and outreach activities, which will be outlined in detail in National Public

Awareness Programme, targeting various groups in the population, both women and men. The activities under this component will include, **publicising and promoting** enhanced EE in public and residential buildings. This will further contribute towards ensuring that the people's **mind-set and behaviour** are adequately informed about the costs and benefits of energy efficiency. The sectoral reform needs substantial advance in the people's mentality and readiness to accept or initiate change.

The EU Delegation has successfully worked on several initiatives strengthening CSOs in Armenia in their role and ability to promote energy efficiency, especially in areas outside of Yerevan. Under this programme the EU will work to further catalyse the role of CSOs, in partnership with local authorities and SMEs, for awareness raising and development of high-quality projects aimed at enhancing energy efficiency of the public and residential infrastructures, in particular in the Northern regions of Armenia, where energy poverty and deforestation pressures are the acutest.

It will aim to pilot a comprehensive approach through enrolling and training local grassroots organisations, community initiatives and social outreach groups to reach individual households, provide explanations and clarifications on the program design, serve as the liaison between the program/financiers and households, deliver door-to-door support on project administration. The capacity building activities will be further complemented by developing buildings energy management guidelines and related info materials.

The program will seek support from the Government of Armenia in leveraging resources from public media channels such as the public television and radio, broadcasting, free-of-charge airing time, etc.

To improve energy consumption monitoring and management in public buildings, the program will develop templates and manuals for energy consumption monitoring and help the government in enforcement of the better energy management in public institutions. In addition, the staff in charge of EE working in state and local institutions will be trained to deliver quality services to citizens and stakeholders. This will not only improve the quality of service delivery, but also contribute to behavioural change in energy consumption patterns.

Activities envisioned under Specific Objective 3

The activities under Specific Objective 3 aim at improving the protection and preservation of the water quality in Lake Sevan. The activities under this objective will explore the impact of the wastewater originating from the lake's coastal towns, villages and hospitality services to the overall quality of water and level of pollution in the lake.

The initial mapping of the **wastewater treatment plants, pipelines and local treatment solutions** highlight numerous gaps in the infrastructure. These will be further examined under this component to better prioritise and provide evidence-based input to the design of cost-effective solutions. The activities under this component will attempt to address the immediate needs for **refurbishment**, whilst also contributing to longer-term solutions through supporting developing relevant investment plans and project designs for attracting further investments in improving the wastewater treatment infrastructure and coastal sewerage systems for Lake Sevan.

The European Union has provided support for the development of a robust River Basin Management Plan (RBMP) for Sevan basin. So far, work was completed as concerns basin characterisation, surface and groundwater identification, delineation and status assessment, and enhancement of monitoring capabilities critical to supporting RBMP implementation. The

next steps include risk assessment and setting environmental objectives; conducting an economic analysis of water use; and developing a feasible and well-costed **programme of measures** to achieve environmental objectives. Activities under Specific Objective 3 will be aligned, to the extent possible, with the future programme of measures.

4.2 Intervention Logic

The program will aim at concurrently working in several complementing directions. The specificities of which are based on the high-level initiative of Energy Efficiency and gap analysis which was carried out in the beginning of 2019. To ensure well-planned coordination, sustainability as well as government ownership, the support will be channelled through one institution, which will serve as a "one-stop-shop" for different components of the envisioned support. This will also contribute towards further cooperation with the government institutions and agencies to ensure proper continuity and public support to the long-term operation of the program and to ensure minimal operating cost and maximise investments.

It will contribute towards finalising the EE and housing legal-regulatory framework reform in Armenia and bringing it in line with the CEPA commitments and EU best practices. To ensure the enforcement of the legal framework, institutional set up will be strengthened and capacity of relevant stakeholders will be built.

Technical assistance will be provided to enhance capacity of grass-root community-level groups and potential beneficiaries to participate in the process of the development of pipeline of residential/low-income household EE projects.

The programme will support the design of an innovative financing mechanism established in the framework of a complementary NIP programme, which aims to provide grant co-financing for public and residential/low-income multi-apartment buildings.

To ensure there is proper public outreach on EE, the programme will thoroughly monitor and report on project progress, results, changes in energy consumption, utility bills, indoor comfort, health impacts, environmental, social and gender indicators. Public outreach related to the environmental protection of Lake Sevan will also be monitored in an equivalent manner. It will continuously support the components with massive public outreach to increase the visibility of successes as well as provide exhaustive information on program elements, costs and benefits, work with local media to ensure proper and transparent coverage of program elements, etc.

To further promote the green agenda and environmental protection in Armenia, the quality of water in Lake Sevan as the largest lake in the South Caucasus region will be improved in the framework of this project. Based on the Government's brief overview of the shortfalls of the wastewater treatment facilities near Lake Sevan, the focus of project's activities will be on alleviating the water pollution caused by human activities.

4.3 Mainstreaming

The programme has the **rights-based approach** in its centre. It will greatly contribute towards **equity and inclusiveness** by directly tackling the energy poverty in Armenia as well as its impact from a gender perspective. In addition, environmental degradation has a greater impact on poorer segments of the society. Pollution in Lake Sevan directly impacts the local economic development, i.e. income of fishmongers and people working in the tourism sector.

In 2016, 34.3% of households were female-headed according to Social Snapshot and Poverty in Armenia, 2017. Poverty rates in female-headed households with children under six have

increased from 35% in 2008 to 42.6% in 2016, mostly due to economic crisis. Thus, by targeting low-income households and MAB, the programme will significantly support the female-headed households, through which it will further contribute towards **gender equality** efforts. In addition, access to stable, reliable low-cost energy often ease women's gender divided responsibilities for household workload, for instance their ability to use labour-saving electrical appliances in the household (e.g. washing machines, irons, kitchen equipment).

Accessibility to buildings and enhancing **seismic resilience** will be taken into account throughout the accompanying NIP programme, as the energy efficiency retrofitting financing schemes will allow also non-energy-efficiency improvements through blending of grant resources, which will mitigate the credit risk of such investments, as well as extend the lifespan of the building stock involved.

The programme is directly supporting **environmental sustainability** as reducing energy use has direct impact on environment, including through reducing polluting power plant emissions as well as the CO_2 levels in the atmosphere, while combatting massive illegal deforestation rates. Increasing energy efficiency will also address Armenia's future Green House Gas emissions and assist in meeting country's mitigation objectives, as well as commitments taken under CEPA as well as Paris Agreement. Furthermore, reducing pollution in Lake Sevan will have a direct impact on restoring the biodiversity and long-term impact on environmental sustainability.

4.4 Contribution to SDGs

This intervention is relevant for the 2030 Agenda. It contributes primarily to the progressive achievement of the following SDG(s): Affordable and Clean Energy – 7, Clean water and sanitation – 6. It also supports achieving the (11) Sustainable cities and communities and (12) Responsible consumption and production SDGs. The targeting at low-income households support the (1) No Poverty; support to energy efficiency in health and educational public buildings will address the (3) Good Health and Well-being and (4) Quality Education. Prioritizing female-lead households will help address the (5) Gender Equality.

5 IMPLEMENTATION

5.1 Financing agreement

In order to implement this action, it is foreseen to conclude a financing agreement with Armenia.

5.2 Indicative implementation period

The indicative operational implementation period of this action, during which the activities described in section 4 will be carried out and the corresponding contracts and agreements implemented, is 60 months from the date of entry into force of the financing agreement. Investment planning support will be provided in parallel to the planned activities.

Extensions of the implementation period may be agreed by the Commission's responsible authorising officer by amending this Decision and the relevant contracts and agreements.

5.3 Implementation modalities

The Commission will ensure that the EU appropriate rules and procedures for providing financing to third parties are respected, including review procedures, where appropriate, and compliance of the action with EU restrictive measures[10].

5.3.1 *Procurement (direct management)*

This procurement will contribute to the achievement of specific objective 1 "Establish enabling environment to promote EE in residential and public buildings, with particular focus on low-income households and MABs, and ensure effective oversight and monitoring". In particular, it will aim to enhance the capacity of the relevant government institutions to manage and monitor EE projects as well as will assist in ensuring an effective regulatory framework for implementation of EE projects in line with CEPA commitments (sub-results 1.1 and 1.2). This procurement will also contribute to specific objective 2, Raise awareness on the benefits of EE and Environmental protection, by carrying out information and public awareness campaigns (result 2.1 and 2.2).

5.3.2 *Indirect management with an entrusted entity*

A part of this action may be implemented in indirect management with entities which will be selected by the Commission's services using the following criteria: substantial experience in environmental protection, through supporting developing relevant investment plans and project designs for attracting further investments in improving the wastewater treatment infrastructure and sewerage systems (wastewater treatment plants, pipelines and local treatment solutions). The implementation by these entities entails activities foreseen under specific objective 3.

5.4 Scope of geographical eligibility for procurement and grants

The geographical eligibility in terms of place of establishment for participating in procurement and grant award procedures and in terms of origin of supplies purchased as established in the basic act and set out in the relevant contractual documents shall apply.

The Commission's authorising officer responsible may extend the geographical eligibility on the basis of urgency or of unavailability of products and services in the markets of the countries concerned, or in other duly substantiated cases where the eligibility rules would make the realisation of this action impossible or exceedingly difficult.

5.5 Indicative budget

	EU contribution (amount in EUR)	**Indicative third party contribu-tion, in currency identified**

[10] www.sanctionsmap.eu Please note that the sanctions map is an IT tool for identifying the sanctions regimes. The source of the sanctions stems from legal acts published in the Official Journal (OJ). In case of discrepancy between the published legal acts and the updates on the website it is the OJ version that prevails.

Objective 1: Enabling environment to promote investment in EE, ensure effective oversight and monitoring composed of:	**2 500 000**	
- Procurement (direct management) cf. section 5.3.1		
Objective 2: Public Outreach on EE composed of	**1 200 000**	
- Procurement (direct management) cf. section 5.3.1		
Objective 3 : **Improve protection of Lake Sevan**	**5 000 0000**	
- Indirect management with an entrusted entity – cf. section 5.3.2		
Procurement – total envelope under section 5.3.1	**3 700 000**	N.A.
Evaluation (cf. section 5.8) **Audit/ Expenditure verification** (cf. section 5.9)	300 000	N.A.
Total	**9 000 000**	

5.6 Organisational set-up and responsibilities

A Steering Committee will be set up to oversee and validate the overall direction of the programme. It shall agree on the annual work plan, provide comments on the narrative and financial reports and validate them. The Steering Committee may take necessary measures to ensure the proper implementation of the project according to the framework set by this document.

The project steering committee will include the following members:

- A representative of the EU Delegation to Armenia (co-chair)
- A representative of the partner country (co-chair)
- Representatives of implementing partners (co-chairs)
- A representative of the Director General for Energy and, if relevant, other Commission Directorates General (as member/s)
- Representatives of relevant beneficiaries of the action (as members)
- Representatives of EU Member States, development partners, business associations and other civil society organisations might be invited (as observers)

5.7 Performance and Results monitoring and reporting

The Commission and the partner country will regularly review progress made in the overall implementation of the action through a Programme Steering Committee (PSC) meeting on a regular basis. At the level of the individual projects funded under this action, specific Steering Committees (SCs) will be convened by the beneficiary institutions involving the EU Delegation and other relevant stakeholders. These SCs will meet regularly to review progress on the basis of periodic reports.

The day-to-day technical and financial monitoring of the implementation of this action will be a continuous process, and part of the implementing partner's responsibilities. To this aim, the

implementing partner shall establish a permanent internal, technical and financial monitoring system for the action and elaborate regular progress reports (not less than annual) and final reports. Every report shall provide an accurate account of implementation of the action, difficulties encountered, changes introduced, as well as the degree of achievement of its results (outputs and direct outcomes) as measured by corresponding indicators, using as reference the Logframe matrix (for project modality) or the partner's strategy, policy or reform action plan list (for budget support).

SDGs indicators and, if applicable, any jointly agreed indicators as for instance per Joint Programming document should be taken into account.

The Commission may undertake additional project monitoring visits both through its own staff and through independent consultants recruited directly by the Commission for independent monitoring reviews (or recruited by the responsible agent contracted by the Commission for implementing such reviews).

5.8 Evaluation

Having regard to the nature of the action, a final evaluation(s) will be carried out for this action or its components via independent consultants contracted by the Commission.

It will be carried out for accountability and learning purposes at various levels (including for policy revision), taking into account in particular the fact that some aspects of the action are innovative, in particular those under sub-results 1.3 and 1.4. Such innovative aspects can be designing and piloting an attractive EE programme financing scheme to boost implementation of EE projects specifically targeting residents of MABs, low-income households and non-gasified communities.

The evaluation reports shall be shared with the partner country and other key stakeholders. The implementing partner and the Commission shall analyse the conclusions and recommendations of the evaluations and, where appropriate, in agreement with the partner country, jointly decide on the follow-up actions to be taken and any adjustments necessary, including, if indicated, the reorientation of the project.

Evaluation services may be contracted under a framework contract.

5.9 Audit

Without prejudice to the obligations applicable to contracts concluded for the implementation of this action, the Commission may, on the basis of a risk assessment, contract independent audits or expenditure verification assignments for one or several contracts or agreements.

It is foreseen that audit services may be contracted under a framework contract.

5.10 Communication and visibility

Communication and visibility of the EU is a legal obligation for all external actions funded by the EU.

This action shall contain communication and visibility measures which shall be based on a specific Communication and Visibility Plan of the Action, to be elaborated at the start of implementation.

In terms of legal obligations on communication and visibility, the measures shall be implemented by the Commission, the partner country (for instance, concerning the reforms supported through budget support), contractors, grant beneficiaries and/or entrusted entities.

Appropriate contractual obligations shall be included in, respectively, the financing agreement, procurement and grant contracts, and delegation agreements.

The Communication and Visibility Requirements for European Union External Action[11] (or any succeeding document) shall be used to establish the Communication and Visibility Plan of the Action and the appropriate contractual obligations.

The communication and visibility activities for this AAP 2019 Action Document will be covered by the service contract foreseen in the AAP 2019 Action Document for CEPA Reform Facility under the Component 2. This shall ensure streamlining the communication efforts of the EU to achieve a greater impact and outreach.

[11] https://ec.europa.eu/europeaid/node/17974

APPENDIX - INDICATIVE LOGFRAME MATRIX (FOR PROJECT MODALITY)

	Results chain: Main expected results (maximum 10)	Indicators (at least one indicator per expected result)	Sources of data	Assumptions
Impact (Overall Objective)	Improve energy efficiency and enhance environmental protection and resilience.	1) CO2 emissions (tons) associated with space heating energy use 2) Final energy consumption in target buildings 3) All energy products new imports (thousand TOE) – 2040 (2013) 4) Environmental Performance Index: Water Resources	Green House Gas (GHG) inventory National EE Action Plan (NEEAP) monitoring report. RA Energy Balances, published by Statistics Committee of Armenia World Economic Forum Environmental Performance Index	*Not applicable*
Outcome(s) (Specific Objective(s))	1. Establish enabling environment to promote and effectively monitor EE in public and residential buildings, with a particular focus on low-income households and MABs	1.1. Energy consumption in target public buildings (specific energy consumption per $1m^2$ per year) 1.2. Energy consumption in target residential buildings (specific energy consumption per $1m^2$ per year)	Respective energy audit report and measurement verification report Water samples	Legal-regulatory gaps are eliminated, necessary policy provisions put in place.
	2. Raise awareness on the benefits of EE among citizens and public employees	2.1. Share of citizens aware of the benefits of EE	Project Performance Reports	
	3. Enhance the environmental protection and water quality in Lake Sevan	3.1. Quality water index: Biochemical oxygen demand (mg O2 per litre) 3.2. Surface water pollution standards based on various resources (mg/L).	National statistics service reports	

Outputs	1.1. Enhanced institutional set-up through capacitating R2E2 to serve as a one-stop-shop which will effectively provide investment support, manage and monitor implementation of energy efficiency programmes, initiatives and standards	1.1.1. New institutional set-up created with capacity to oversee housing/MAB EE programmes (Yes/No) 1.1.2. Share of one-stop-shop staff who successfully completed training 1.1.3. Number of periodic performance evaluations of the one-stop-shop staff (e.g. based on KPI, 360 degree or other)	Project Performance Reports	Work with the Government of Armenia (Urban Development Committee of RA and Ministry of Energy Infrastructures and Natural Resources) continues.
	1.2. Relevant laws and regulations further developed and enforced in line with CEPA to implement energy efficiency standards and facilitate investments in the public and residential buildings sector	1.2.1. % of laws and regulations in EE adopted following internal and external consultations and brought in line with the CEPA commitments 1.2.2. New/revised Law on multi-apartment building management adopted in an evidence-based and inclusive way 1.2.3. % of EE related laws amended in an inclusive manner	Project Performance Reports. CEPA implementation reports.	Political will to continue with the reform agenda in Energy Efficiency continues
	2.1. Effective education and public awareness raising programmes developed and implemented for citizens, central government, local authorities' employees and relevant specialists	2.1.1. Number of nation-wide public awareness campaigns conducted (including outreach of the campaign) 2.1.2. Number of relevant central government and local authorities' employees trained (disaggregated by sex) 2.1.3. Number of specialists in target regions trained (disaggregated by sex)	Project Performance Reports. Government accountability reports.	
	2.2. Improved energy consumption monitoring and management in public buildings	2.2.1. Number of regular monitoring reports developed and published based on newly developed monitoring manuals/ tools 2.2.2. % of savings on heating bills: average monthly per capita consumption expenditure for housing, utilities and heating	Baseline and ex-post evaluation reports. Utility bills statistics and monitoring in target buildings.	Change is calculated based on moderate weather conditions.
	3.1. Decreased level of human-caused pollution in Lake Sevan.	3.2.1. Volume of cubic meters of treated	National Statistics	

		wastewater outflowing to Lake Sevan	Committee Reports; Project reports	