



ENERGY EFFICIENT PUBLIC BUILDINGS AND HOUSING IN ARMENIA

NAMA Profile # 11

Seeking support for implementation

Jan 2016

Buildings are primary components of every country's economy and society. In Armenia, past natural disasters have provoked a shortfall in adequate housing and damages to public buildings, which have significantly affected the provision of services. Public budgets are not sufficient to fully address the social and economic development needs related to the maintenance of existing and the construction of new buildings.

Due to the absence of domestic fossil fuel resources and the increasing energy demand from the public buildings and housing sectors, Armenia's dependence on imported primary energy sources strongly affects the country's economy. Increasing energy prices have further aggravated this dependency. In fact, from 2008, gas prices increased by 170%, while electricity prices increased by 67% (during the day) and 212% (during the night). Previous programs promoting energy efficiency in buildings in Armenia have prepared the essential groundwork and basic conditions for this promotion, such as developing a strategic framework, primary legislation, basic regulations, raising awareness, and providing evidence of the potential and feasibility of energy efficiency in Armenian circumstances.

For these reasons, maximization of energy efficiency has become a main objective for

Armenia. Improving energy efficiency, specifically regarding the building sector, has been assigned high priority in Armenia's climate, energy and housing strategies. In line with the expectations of higher electricity costs, it is understandable that the profitability of energy efficiency in buildings will further increase with rising energy prices. For public buildings, this will result in substantial savings of public resources for low-energy building construction and building operation. Regarding housing, more than half of Armenia's population lives in apartment buildings where, for the majority, wall insulation was not included during construction. The National Programme on Energy Saving and Renewable Energy estimated that 40% of energy saving potential in the buildings sector can be achieved through thermal isolation alone.

Energy efficiency improvements can substantially help to bring comfort and economic mitigation to public organizations and vulnerable households in Armenia. This is an important issue as it affects energy security, economic stability, and social and environmental protection, with the government constantly emphasizing the relevance it attaches to energy efficiency, both in public buildings and social housing.



[Photo](#) by Stefan Leijon -flickr/[CCBY](#)

NAMA objectives

In view of promoting energy efficiency, the NAMA project, prepared with the support of the UN Development Programme (UNDP), will target the following key objectives:

- Support the policy, regulatory, institutional and market transformation, leading to a higher level of energy efficiency of structures and decreased emissions from the building sector.
- Contribute to improved energy performance of public buildings in health, educational, cultural and other sectors, improving the comfort level and cutting public budget allocations for energy bills, while improving the overall quality of public services.
- Support the provision of adequate and affordable housing in Armenia using the integrated building design concept, and contribute to reducing the total operation costs of buildings, decreasing public costs and costs for the users/clients.
- Support transformational change to a low-emission development path in the longer term.
- Contribute to improving Armenia's energy security.

NAMA baseline scenario

During NAMA implementation, the mitigation impact will increase to approximately 100 ktCO₂eq by 2020. Over the total average lifetime of the energy efficiency measures (20 years), this will result in 2 MtCO₂eq of total estimated emission reductions. The evaluation of impacts of interventions 1 and 2 is based on the baseline of the average specific final energy use in existing buildings and on the cost-effective potential of energy efficiency in new construction and renovation, as assessed for Armenian circumstances.

In addition to the estimated direct mitigation impacts, indirect impacts are expected to affect other building sectors outside the direct scope of the NAMA in several ways.

- Mainstreaming of energy efficiency in public sector building will transform the market with spin-off to the private sector.
- The NAMA can boost the market share of energy-efficient construction materials supply and production.
- The NAMA will build capacity and awareness on the (economic) benefits of energy efficiency with a range of market actors (contractors, architects, suppliers, real estate brokers/companies, etc.) who also serve the private sector.

NAMA interventions

The NAMA program will address the main barriers for energy efficiency and provide support for financing, policy and strategies, and a regulatory framework, including enforcement, capacity building and awareness raising. All relevant practices, measures and technologies for energy efficiency will be considered, including energy efficient design with the incorporation of passive solar, efficiency upgrades to building envelope, heating/ventilation/cooling system, and renewable energy applications in the buildings. The NAMA is composed of three main interventions:

- **Investment grants to cover (initial) incremental investment costs for energy efficiency** in new construction and rehabilitation (public buildings, social housing) for planned investment programs.
- **New investment program for energy efficient rehabilitation/construction of public buildings**, additional to planned investment programs through leveraging low interest concessional loans, with higher energy efficiency requirements.
- **Technical support and capacity building** to support interventions 1 and 2, including support for strengthening building management and maintenance.

NAMA relevance in the national policy context

The presented NAMA is in line with the following national policies and plans:

- Armenia's association with the Copenhagen Accord and Bali Action Plan regarding implementation of UNFCCC commitments;
- National laws on Energy Saving and Renewable Energy and on Urban Development;
- National Strategy on Developing Social Housing Stock for the period 2014-2025;
- Strategic Program for Sustainable Development for 2014-2025.

Support required for NAMA implementation

A total amount of USD 24,500,000 is required for NAMA implementation. This support includes:

- Investment grants to cover incremental energy efficiency costs for planned investment grants of USD 2 to 4 million for intervention 1.
- Concessional loans for energy efficiency renovation of public buildings of USD 10 to 30 million for intervention 2.
- Grants for technical assistance/capacity building of USD 1 to 2 million (3rd NAMA component).

Capacity-building support, which is also required on individual, institutional and systemic levels, includes: strengthening enforcement/inspection of construction; training on energy efficient design and design evaluation; and training on maintenance and operation of public buildings and social housing.

Sustainable development co-benefits

The NAMA is also expected to result in, and is driven by, many important sustainable development co-benefits other than emission reductions. Due to the current initial stage of NAMA development, only a qualitative assumption of co-benefits can be made based on the experience of the Clean Development Mechanism (CDM) in Armenia. The following co-benefits are expected:

Economic benefits: Attraction of foreign investments, renewable energy development and energy saving, sustainable technology transfer, employment generation, and regional and local economic development.

Social criteria: Improved service quality, full participation of stakeholders and capacity development in energy efficiency, which can be replicated in other sectors.

Salient Features of the Proposed NAMA

Sector: Public buildings and social housing

Technology: Energy efficiency

Type of action: Project investment in infrastructure, National/Sectoral policy or program

GHGs covered by the action: CO₂

Expected timeframe for implementation: 6 years

National implementing entity: Ministry of Urban Development, Urban Development Projects Implementation Unit

Total estimated cost of the NAMA: USD 24,500,000

Required support for NAMA implementation: USD 24,500,000

Relevant contacts

Mrs. Eugenia Atayan

Phone: +37494 40 45 91

+37410 60 62 19

mud-housing@rambler.ru

Mrs. Diana Harutyunyan

Phone: +37491 24 00 82

diana@nature.am

Mrs. Marina Sargsyan

Phone: +37491 40 65 15

marinasargsyan@mail.ru

References

UNDP (2014). Energy efficient public buildings and housing in Armenia. New York, NY: United Nations Development Programme.

UNFCCC (2015). NS-144 - Energy Efficient Public Buildings and Housing in Armenia. NAMA Registry. <https://process.unfccc.int/sites/NAMA/layouts/un/fccc/nama/NamaSeekingSupportForImplementation.aspx?ID=144&viewOnly=1>

USAID (2007). National Program on Energy Saving and Renewable Energy of Republic of Armenia. Yerevan: United States Agency for International Development, Scientific Research Institute of Energy for the Alliance to Save Energy.

The series of NAMA profile is produced by the NAMA and Registry Unit of the non-Annex I Support Sub-Programme of the Mitigation, Data and Analysis Programme (MDA) of the United Nations Framework Convention on Climate Change (UNFCCC) Secretariat based on the information recorded by Parties in the NAMA registry. The objective of NAMA profile is to enhance visibility of NAMA which increases probability for obtaining international support and encourages similar mitigation actions in the developing countries.

The NAMA registry is a dynamic, web-based platform to record nationally appropriate mitigation actions by the developing countries and support available and/or provided by the Parties and entities for such mitigation actions. Further, the registry aims to facilitate the matching of NAMAs with available support. The participation in the registry is voluntary and the registry contains only information that has been submitted specifically for recording purpose. For any queries and assistance in relation to the NAMA registry, please contact: NAMA-registry@unfccc.int and NAMA-support@unfccc.int

To learn more about stories about how developing countries, often with international support, are lowering global emissions, creating jobs, improving living conditions, and preparing for a low-emissions world, please visit :

<http://www4.unfccc.int/sites/nama/SitePages/Home.aspx>

<http://namanews.org/news/>

<https://www.facebook.com/namamarketplace>

<https://twitter.com/NAMAPartnership>