

DEVELOPMENT STRATEGY 2016-2025

**ARMENIA RENEWABLE ENERGY AND ENERGY EFFICIENCY FUND**

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# Fund Vision and Mission

## **Vision**

*The Fund is a structure creating development environment for renewable resources and energy efficiency sectors by introducing best practice of sustainable energy aimed at ensuring energy security and freedom and ensuring economic growth in Armenia.*

This vision is guiding the Fund, and all our actions will be in compliance with this vision.

## **Mission**

The mission of the Renewable Resources and Energy Efficiency Fund is:

*Promote energy security and energy freedom of Armenia through development of renewable resources and energy efficiency sector.*

All actions of the Fund will be directed towards the implementation of this mission. All implemented programs should be in compliance with this mission.

The key provisions of our vision and mission are interpreted as follows:

**Fund** – Armenia Renewable Resources and Energy Efficiency Fund (R2E2)

**Structure creating environment –** The Government of the Republic of Armenia created the Structure aimed at:

1. Promoting investments in renewable resources and energy efficiency sectors,
2. Promoting market development,
3. Promoting reduction of man-made impact on environment and human health
4. Elaborating mechanisms directed to increasing the level of energy safety and reliability,
5. Organizing on behalf of the Government implementation of credit and grant projects promoting sector development.

**Sustainable energy –** The energy system ensuring current demand without reducing the capacity of future generations in terms of ensuring their needs.

**Economic growth** – One of the most important guarantees for ensuring sustainable economic development of Armenia is intensive application of renewable resources and energy efficiency leading technologies.

**Best international practice in renewable resources and energy efficiency sector** – Our sector is renewable resources and energy efficiency and we will focus our efforts in obtaining the best sector related experience and using it in favor of the Republic of Armenia.

**Armenia energy security and freedom** – Each country tries to ensure the country demand with uninterrupted, accessible and secure energy by reducing energy dependence from other countries.

# Strategy Objectives and Principles

## **Strategy objectives**

The Fund states the following strategy objectives aimed at implementation of its mission:

1. Develop renewable resources sector of Armenia through implementation of targeted projects. Elaborate and introduce energy efficient solutions and renewable resources projects. These projects will include both financing and educational initiatives.
2. Promote insinuation of energy efficiency ideology. Disseminate accessible and efficient initiatives based on renewable resources and energy efficiency solutions. Ensure high quality technical and financial services to beneficiaries, enabling adoption of informed decisions on the future of energy. Inform the public and business society about the benefits of renewable energy and energy efficiency by promoting effective use of energy and creation of renewable energy for communal, as well as for public and industrial needs.
3. Promote investments in renewable resources and energy efficiency sectors. Ensure availability and accessibility of proper financial and consultancy tools, which will promote development of renewable resources and energy efficiency sectors in Armenia.
4. Promote energy security by promoting renewable resources development and increasing the level of energy efficiency in Armenia.
5. Knowledge transfer to the beneficiaries, service consumers and other interested bodies by the Fund, as well as introduce in Armenia modern and leading approaches, tools and technologies.
6. Become a fully self-sufficient and self-sustainable organization.

## **Principles**

During its activities the Fund adopted principles that form the behavior and values for itself and its employees.

***Result oriented***

All actions should have a positive result:

*The Fund is guided by best examples and experience; applies only best approaches and methods ensuring only positive impact on strategy, tactical and program levels. Fund projects will be implemented taking into consideration best cost effective approaches, i.e. receiving maximum result against the used unit.*

***Innovative***

The Fund tries to provide its beneficiaries the best and modern solutions.

*We always take into consideration the lessons learned, as well as opinions of our partners, beneficiaries and co-partners aimed at ensuring continuous improvement. We will constantly cover the professional development requirements of our employees in order to ensure provision of best services to the beneficiaries.*

***Cooperative***

Aimed at sector development we will promote active involvement of other participants and will promote creation of mutually beneficial cooperation terms:

*During its activities the Fund will be guided by the needs of its beneficiaries and will approximate the scope of its services to those needs, will promote development of services provided by other sector participants, will try to achieve diversity of financial tools, will adopt competition rules promoting sector development. We will demonstrate professionalism by applying professionally justified approaches during the implementation of activities and in relations with beneficiaries and partners.*

***Mission oriented***

The activities of the Fund will be in compliance with its mission:

*High criteria are put forward for the Fund, our employees and partners. We are the leaders in this sector and do our best to strengthen our position and guide the others. We are learning and improving.*

***Accountable***

Each function implemented by the Fund and its structures is open, faire and transparent:

*All our actions and decisions are open, transparent and in compliance with the law. We are responsible for all actions and decision and are accountable against the public. Due to our coordinated work we try to adopt only equitable decisions, which are fully in compliance with our strategy.*

# Strategy Directions of Actions

## **(1) – Policy Development and Legal Reforms**

The RA Government and local bodies adopted state policy directed to the increase of RE share and increasing the level of EE. One of the components of the Fund mission is promoting implementation of this policy. The Fund will periodically be involved in the following actions:

* Provision of expertise interpretation and opinions on sector related laws and other legal acts;
* Assistance in elaboration of sector related laws and regulations;
* Provision of technical and consultancy services to the Government of the Republic of Armenia

## **(2) – Performance Development, Public Awareness and Promotion of Innovations**

The Fund tries to continuously develop the capacities of itself and the beneficiaries in RR and EE sectors. Public awareness is important for insinuation of ideology and informing about the projects. For these purposes it is envisaged to create the following units with appropriate functions:

* Renewable Resources and Energy Efficiency information center,
* *Provision of information on renewable resources and energy efficiency;*
* *Organization of coordinated public awareness campaigns and provision of information on energy efficiency labeling;*
* *Preparation of manual on energy efficiency measures for residential buildings;*
* *Assistance to sector related research capacities and development in Armenia*
* Renewable Resources and Energy Efficiency capacity development,
* *Training on renewable resources*
* *Training, seminars, exhibitions and energy weeks on energy efficiency;*
* *Promoting secondary professional education*
* *RE and EE market analysis*

## **(3) – Implementation of RR and EE projects**

Renewable resources investment projects have huge development potential in Armenia, however, private investors are not ready to do the first steps and cover the full risk related to the market entry. The Fund will organize implementation of these projects by preparing a path for future investors. It is envisaged to cover the full implementation cycle, i.e. identification of projects, pre-feasibility study, design, organization of financial schemes, control, monitoring, etc. Already the following projects are in process:

* Solar photo voltaic plants creation (PV) project
* Geothermal energy development project
* Energy efficiency project

The Fund successfully implements technical consultancy, feasibility studies and management support in energy efficiency sector and will continue development of this direction in future:

* Energy efficiency actions in public and partially private buildings
* *Modernization of external lightening with energy efficient solutions;*
* *Promotion of led diode traffic lights application in the RA;*
* *Financing introduction of thermal pumps;*
* *Assistance in implementation of EE measures in public buildings;*
* *Promoting application of thermal pumps;*
* *Re-equipping water supply and wastewater pumps;*
* *Assistance in municipal EE measures/programs*

## **(4) – Elaboration, Introduction and Organization of Financial Tools, including Loans and Grants**

The financial market of Armenia offers very limited tools for sustainable energy development programs. R2E2 provides financial support to the measures implemented in RR, EE and SE sectors in the RA. These support is exercised directly by the Fund through provision of services in the mentioned sectors or financing by financial system. Projects implemented by interference of financial institutions have advantages from the point of view of the Fund, since the banks are fully responsible for payback. However, such financing increasing the cost of credit means, since loan percent provided by the banks include also bank overheads (bank margin). From the other hand, according to the current estimates of the renewable resources sector there is only USD 500,0 mln investment demand, which attraction is rather limited taking into consideration particularly the essentially reducing margin of RA public debt. It is possible to obtain those means without directly increasing the debt responsibilities of the state.

Taking into consideration the above mentioned circumstances, it is expedient that R2E2 creates an Investment fund, which shares can belong to R2E2, as well as to partially international financial organizations, investment funds and other private investors.

## **(5) – Consultancy and Expertise, Evaluation and Monitoring**

RE and EE development and creation of investment market in Armenia gradually created and further will increase the need of sector related professional services. Such professional services are:

* Evaluation of investment projects for private investors,
* Implementation of energy efficiency audits,
* Licensing of private audit organizations (if necessary),
* Energy efficiency expertise and labelling of imported and locally produced equipment,
* Preparation of the energy balance for the country.

Introduction of professional services is an important step from the point of RR and EE sectors development in the RA. Wide application of such services will enable easy implementation of RR and EE investment projects, since proper environment, infrastructures, institutes and mechanisms will be created. This is a priority term for creation of a market for such projects.

## **(6) – International Cooperation in Sustainable Energy Sector**

Implementation of clean energy agenda and achievement of objectives has a big importance in international arena. Certain indicators, actions and international financial structures are specified particularly in agreements adopted by G20 countries. Armenia is eager to achieve those objectives. The Fund has the following goals:

1. Promote cooperation with international organizations in energy efficiency, renewable and sustainable energy sectors through creation, dissemination and popularization of new technology solutions;
2. Promote sustainable development in energy sector, dissemination of actions directed to the reduction of negative impact on clean energy and environment,
3. Ensure cooperation with energy agencies, international and other similar structures aimed at providing information, technical and technology assistance, reduction of economy energy consumption
4. Participate in International Conferences devoted to clean energy by presenting our experience, creating new relations and gaining best practice of other countries.

# Beneficiaries and Partners

## **Beneficiaries**

The Fund has several groups of beneficiaries and each of them benefits by itself from the Fund results.

**RA Government, RA Ministry of Energy and Natural Resource and other public administration bodies.** Due to the projects implemented by the Fund these bodies will have essential long term benefits by saving the means of taxpayers and directed them to other more important measures for the State.

**Public organizations** are direct beneficiaries of the Fund, since they receive financing and/or technical assistance as a result of which population also benefits. Expectations of this group from the Fund are rather simple: financing of investments by favorable terms and high quality consultancy.

**Business entities (big, medium and small)** are beneficiaries of the Fund activities and results. Contractor, supplier and consultant organizations involved during the activities benefit not only from proper turnover, but also from education and opportunity of getting acquainted with new approaches. Due to the efforts of the Fund renewable resources and energy efficiency are being developed in the RA aimed at ensuring energy security of Armenia. Business entities are energy consumers and in this regard are the Fund beneficiaries.

**Municipal structures** are beneficiaries of Fund activities. As in case of business entities the municipal structures are energy consumers and in this regard have a potential for ensuring real savings and thus, need the interference of the Fund.

## **Partners**

The partners of the Fund are:

**RA Government, including interested services and agencies, other public bodies (Public Services Regulatory Committee, RA Central Bank) and other structures:** Apart from being a beneficiary these bodies can implement RA public policy and projects by the Fund. Also, being the agent of the Government the Fund is a rather effective and convenient mean for managing loans.

**Operating local banks and credit organizations:** Being an agent of the loans received by the RA Government from international structures the Fund provides credits to banks for implementation of targeted credit projects. In this regard, the Fund is a rather accessible financial source for the banks.

**International organizations** are partners providing or can provide technical assistance and credits. Being a management agent of credits provided by these organizations the Fund is one of the most important partners of these organizations. International organizations expect from the Fund dissemination of RE and EE ideas, effective management of provided means and their timely payback.

**Local Self-Governance Bodies** face a number of issues during the implementation of their activities, which solution requires professional skills of the Fund. They can be beneficiaries for achieving their energy efficiency projects in municipal economies and can become a partner of the Fund for informing the community members about the improvement of the economic situation.

**Non-Governmental Organization** have their mission, which usually coincides with the Fund objectives and this can be a reason for becoming partners within the scope of Fund projects.

# Summary of Program Concepts

## **Program Concept 1**

**Creation of Information-Analytical and Education Centre**

The concept envisages creation of an Information-Analytical and Education Centre in Armenia Renewable Resources and Energy Efficiency Fund aimed at dissemination of professional and general information, as well as implementation and publication of professional researches.

## **Program Concept 2**

**Creation of Investment Fund**

This program concept envisages creation of Investment Fund aimed at financing sustainable energy (renewable resources and energy efficiency) projects in the RA.

The activities of Investment Fund will enable to considerably increase the amount of financial resources directed to the renewable energy sector, which will lead to the growth of renewable or clean energy share within general volumes of produced energy.

## **Program Concept 3**

**Financing Energy Efficiency Investments in Public Sector by Financial Market**

The concept on “Financing Energy Efficiency Investments in Public Sector by Financial Market” assumes financing of Renewable Resources (RR) and Energy Efficiency (EE) measures in the public sector of Armenia, particularly in public and municipal organizations, structures and systems, as well as in multi apartment buildings. Also structures envisaged for providing education, cultural and health services to population regardless of the type of ownership can be considered

## **Program Concept 4**

**Financing Renewable Resources and Energy Efficiency Investments in Public Sector by Energy Services**

The concept envisages initiation of Renewable Resources (RR) and Energy Efficiency (EE) measures in the RA public sector, building and structures, modernization of external and internal lightening, substitution of traffic lights with led diodes, etc. Within the scope of this project R2E2 undertakes studies for introduction of EE and RR technologies, elaboration of recommendations, preparation of design estimation documents, as well as direct financing of projects.

## **Program Concept 5**

**Financing Renewable Resources and Energy Efficiency Investments in Private Sector**

The idea of program concept on “Financing Renewable Resources and Energy Efficiency Investments in Private Sector by Financial Market Energy” is promoting energy efficient technologies in RA private companies.

## **Program Concept 6**

**Financing Renewable Resources and Energy Efficiency Investments in Private Sector through Provision of Energy Services**

The program concept is promotion of energy efficient technology solutions in private companies of the RA. RA energy efficiency potential is assessed 16% of the total energy consumption and 30% of total gas consumption. Introduction of energy efficiency technologies can promote solving the issue of energy safety. The program includes re-equipping thermal, water supply and wastewater pumps and promoting introduction of energy efficiency technologies.

## **Program Concept 7**

**Construction of Photovoltaic Power Plants**

The main objective of this program is promoting development of photovoltaic energy in the RA. This assumes both provision of consultancy for construction of photovoltaic power plants and attracting investments for the construction thereof.

## **Program Concept 8**

**Geothermal Energy Development**

The concept assumes creation and development of geothermal energy in the RA. It includes construction of the power plant and drilling. During the first phase of the program research drilling should be done. This will enable collecting enough information about the entrails thermal indicators and in case those indicators are positive phase 2 of the project will be initiated. It will include drilling of industrial wells for construction of geothermal power plant. The initiative will create a system and in case of implementation will have an essential importance in the RA energy sector.

## **Program Concept 9**

**Accomplishment of Innovation Programs**

Taking into consideration the current development trends of science and technologies implementation of innovation approaches is vital for ensuring sector development and effectiveness. The program will promote introduction of innovations in energy efficiency and renewable resources sector. The concept assumes assistance to initiatives targeting introduction of innovations in the energy efficiency and renewable resources sectors, which will ensure sustainable development of the sector.

## **Program Concept 10**

**Provision of Professional Services**

RE and EE development and investment market establishment in the RA will gradually create a need of professional services, such as evaluation of investment projects for private investors and implementation of energy efficiency studies and audits. It is envisaged also that licensing of private audit companies, energy efficiency expertise and labelling of imported and locally produced equipment, preparation of energy balance, etc. will be activated. Introduction of mentioned professional services in the RA is an important step for development of investment market infrastructures, as well as in terms of dissemination of renewable and energy efficient technology solutions.

# Action Plan

## **Summary of Action Plan**

The Fund has elaborated an Action Plan for achieving the 2016-2025 goals.

1. Creation of Information-Analytical and Education Centre

Information-analytical center should play an important role in achieving the strategy goals, including capacity development, public awareness and innovation.

The envisaged actions are:

* 1. Preparation of the list of materials required for information-analytical center
  2. Documentation of Fund experience and formulation of knowledge-base
  3. Website elaboration and public awareness
  4. Organization of training center
  5. Preparation of training center materials
  6. Public awareness
  7. Trainings

1. Creation of Investment Fund

Creation of Investment Fund requires achievement of new capacities by the Fund. The following actions are required for Fund creation:

* 1. Preparation of Fund documents
  2. Identification of financing sources
  3. International competition – selection of Fund Administrator
  4. Fund registration in the RA Central Bank
  5. Staff selection and elaboration of operational procedures
  6. Fund operation

1. Financing Energy Efficiency Investments in Public Sector by Financial Market
   1. Elaboration of concept of financing led diode traffic light project
   2. Elaboration of concept of financing thermal pumps (air, water and geothermal)
   3. Elaboration of concept of financing re-equipment of water supply and wastewater pumps,
   4. Elaboration of concept of financing modernization of street lightening (substitution of mercury lamps with led diode lamps)
   5. Achieving agreement with financial market participants
   6. Continuation of projects currently implemented in financial market
2. Financing Renewable Resources and Energy Efficiency Investments in Public Sector by Energy Services
   1. Implementation of led diode traffic light project
   2. “Thermal pumps (air, water and geothermal)”
   3. Re-equipping water supply and wastewater pumps
   4. Modernization of street lightening (substitution of mercury lamps with led diode lamps)
   5. Continuation of projects currently implemented in public sector
3. Financing Renewable Resources and Energy Efficiency Investments in Private Sector
   1. Elaboration of concept of financing private photovoltaic initiatives
   2. Elaboration of concept of financing solar heater initiatives
   3. Elaboration of concept of financing energy efficiency projects in residential buildings of private sector
   4. Elaboration of concept of financing SME energy efficiency projects in private sector
   5. Achieving agreements with participants of financial market
4. Financing Renewable Resources and Energy Efficiency Investments in Private Sector through Provision of Energy Services
   1. Implementation of private photovoltaic initiatives
   2. Implementation of solar heater initiatives
   3. Continuation of energy efficiency projects in residential buildings of private sector
   4. Implementation of SME energy efficiency projects in private sector
5. Promoting investments of solar photovoltaic plants
   1. Preparation of Industrial Solar Energy Project
   2. Obtaining permissions
   3. Selection of investors
   4. Construction of plants
   5. Operation
   6. Project transfer (Exit)
6. Geothermal Energy Development
   1. Exploratory drilling
   2. Obtaining permissions
   3. Construction of geothermal plant
   4. Operation and supervision
   5. Project transfer (Exit)
7. Accomplishment of Innovation Programs
   1. Identification of innovative concepts on sustainable energy
   2. Introduction of pilot innovative projects
   3. Defining transfer option of pilot project
8. Provision of Professional Services
   1. Implementation of energy audits
   2. Expertise
   3. Labelling
   4. Preparation of energy balance

## **Action Plan (Gantt Chart)**



