



PROGRAMME FUNDED BY THE EU



Country: Armenia

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Renewable Resources and Energy Efficiency Fund (R2E2)

ITS Combined Event on lessons learned on Energy Performance Contracts
(EPC), EU experience and applicability in the Partner Countries RWP.09

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BUILDING PARTNERSHIPS FOR ENERGY SECURITY

General information about ESCO market in the country



***Department of Renewable Energy and Energy Efficiency
at the Ministry of energy and natural resources***

in cooperation with the



Renewable Energy and Energy Efficiency fund (R2E2)

are responsible for the improvement of Energy Efficiency in the country and development of ESCO market



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General information about ESCO market in the country



- ✓ The Republic of Armenia developed its first NEEAP in 2010 to accelerate the implementation of its national energy efficiency policy
- ✓ The first NEEAP, adopted by Government Resolution #43 on 4 November 2010, set the country on track for a ten-year process with intermediate targets and interim evaluations
- ✓ Preparation of 2nd NEEAP has been requested to be prepared in 2015 aiming to accomplish the missing points in the 1st NEEAP and updating the situation during the past 5 years
- ✓ One of the targets introduced in the second NEEAP is the Capacity Building on EE financing for ESCOs. The following measures particularly have been proposed
 - ✓ Industrial energy audit analysis for bankable projects for ESCOs
 - ✓ Capacity building for ESCOs on performance contracting

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General information about ESCO market in the country

- ✓ Majority of ESCO projects have been initiated under the Energy Efficiency Project (EEP) implemented by R2E2 fund where EPC contracts (with guaranteed savings) have been applied
- ✓ Around 10 ESCOs with medium quality knowledge are now providing services in the local market due to the capacity building provided in the scope of EEP implemented by R2E2
- ✓ Around 30 ESCOs with low quality knowledge are now providing services in the local market due to the capacity building provided in the scope of EEP implemented by R2E2
- ✓ Only few highly qualified ESCOs are available in the local market
- ✓ Around 100 medium and large size ESCO projects have been implemented during the past decade



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General information about ESCO market in the country

R2E2 EE Project for Public Buildings in Armenia

Objective: Reduce energy consumption in public buildings

Funding: \$9.8mln

Beneficiaries: Public and municipal agencies

Typical EE measures: *Insulation of walls and roofs, replacement of fenestrations, improving street lighting efficiency, installation of solar water heaters, installation of heat pumps, installation of energy monitoring/control systems etc.*

Average Investment per sqm: \$16

Simple payback: 7.1-7.2 years

Average Energy Saving rate: 54.4%:

Heating (kWh/m²/year) : Before ESM - 120 ► after - 55

CO₂ Emissions reduction : Before ESM - 471.8 t/year ► after - 218.2 t/year (-53.7%)



General information about ESCO market in the country



Revolving fund capitalization

Technical assistance

WB/GEF grant (\$1.8 mln) via MoF

IDA sovereign loan (\$9.2 mln of which \$8M for EEM)

Repayment in 2045

R2E2 (super ESCO)

Energy audit, initiation agreement, ESA, extended repayment agreement
Joint operation

Procurement of energy saving services through ESA

Investment repayment after Utility Bill

Utility Company

Utility Bill payment

ESCO

Public /municipal Agency

Repayment Account

Energy Saving Services under ESA contract annex

Repayment in size of historical utility bills

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Legislation framework on ESCO and EPC



R2E2 ESCO contract typical terms

**Advanced
payment (20%)**

**Construction
documents (10%)**

**Construction
completion
(50%)**

M&V (10%)

**365 days
O&M (10%)**

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Legislation framework on ESCO and EPC



- ✓ There are no provisions on energy performance contracting (EPC) and ESCO in the national legislation
- ✓ Armenia has signed the agreement of public procurement policies of WTO and following the corresponding procurement procedures
- ✓ The budget legislation allow municipalities to use energy savings to pay back the investments on energy efficiency

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Key barriers and challenges



Relatively low tariffs of electricity and gas compared to EU tariffs

- **High interest rates of financing**
- **No subsidies from government**
- **Lack of knowledge and skilled personnel**
- **Unpredictable fluctuations of national currency**
- **High price of construction materials because Armenia is land locked and have no access to the sea**
- **Cultural issues in the multiapartment buildings**
- **Absence of specific legislation identifying particular procedures for EPC**

Next step



- Awareness raising and capacity building of ESCOs and population
- Introduction of specific legislation
- Projects attracting/involving loans with low interest rates
- Creation of certifying bodies giving certificates to energy efficient products
- Creation of energy labelling system
- Development of R&D in the sector of EE and RE

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Thank You !

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