Project „Removing Barriers to Promote and Support the Energy Management System in Municipalities in Serbia“

Seminar „Establishing the Energy Management System in Units of Local Self-government”
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Contents

• UNDP in Serbia
• GEF
• Key information about the Project
• Project partners
• Project goals and objectives
• Project performance indicators
• Project components
• Cooperation with municipalities
• Energy Management Information System
The United Nations Development Programme (UNDP) works in line with the objectives identified in the Country Programme Document – CPD for the period 2016-2020. The Document was developed in 2015 in cooperation with the Government of the Republic of Serbia and is aligned with the national strategic documents.

Energy efficiency and renewable energy sources are included in the strategic activity areas.
UNDP in Serbia – Energy Portfolio

• Established in September 2011

• Activities within the portfolio are related to:
  o Renewable energy sources, and
  o Energy efficiency
Sources of funding

- Own sources;
- Combined - pooling of sources with the Government of the Republic of Serbia or with municipalities;
- The Global Environmental Facility - GEF;

UNDP acts as the implementing agency of the Global Environmental Facility providing in full capacity the support to the Government of the Republic of Serbia in preparing and implementing GEF projects;

- Other donors (EU, bilateral donors, foundations, etc.).
GEF is the financing mechanism for the following UN conventions:

- United Nations Framework Convention on Climate Change - UNFCCC;
- Convention on Biological Diversity - CBD;
- Stockholm Convention on Persistent Organic Pollutants - POPs;
- UN Convention to Combat Desertification - UNCCD;
- Minamata Convention on Mercury.
The Global Environmental Facility (GEF)

- States are entitled to use GEF funds for project provided that they:
  - Fulfill the criteria established by the Conference of Parties (COP) of the specific convention and if they are members of the convention;
  - Fulfill the borrowing requirements of the World Bank (IBRD and/or IDA);
  - Are entitled to technical support of the United Nations Development Programme (UNDP) through their relevant country programmes.
The United Nations Development Programme (UNDP), as implementing agency for GEF, has prepared, in cooperation with the Ministry of Mining and Energy the project proposal for the project “Removing barriers to promote and support the energy management system in municipalities in Serbia”;

In July 2015 the GEF Secretariat approved the project proposal and approved funds for its implementation.
Key information about the Project

- **Title:** „Removing Barriers to Promote and Support the Energy Management System in Municipalities in Serbia“

- **Total value of Project:** USD 22,100,000
  - The Global Environmental Facility (GEF): USD 2,300,000
  - UNDP: USD 200,000
  - Other project partners: USD 19,600,000

- **Project implemented by:**
  - UNDP (all 4 project components) and
  - The Ministry of Mining and Energy, sub-component 3.1 relevant to award of grants for implementation of investment projects in 10 municipalities

- **Project preparation:** 2014-2015

- **Project duration:** 2015-2020
Project partners

Political project partner: the Ministry of Mining and Energy

Other project partners

1. Standing Conference of Towns and Municipalities,
2. Serbian Chamber of Commerce,
3. JICA,
4. KfW
General project goal

- General project goal:
  - Increase investments in energy efficiency in public buildings and utility services within the competences of municipalities in order to improve their energy and cost efficiency.
Specific project objectives

1. Establish an enabling legal framework for introduction and efficient operation of the energy management system in LSG and implementation for relevant EE measures;

2. Establish the institutional framework, or functional central and local units to support the energy management system with built capacities for implementation of the Energy Management Information System and implementation of EE projects;

3. Implementation of at least 10 demonstration energy efficiency projects, identified and implemented within the energy management system with the use of Energy Management Information System;

4. Signing of the Energy Efficiency Charter by towns and municipalities by 80% of local governments in Serbia in order to raise public awareness and capacities for implementation for the energy management system and increase investments in energy efficiency.
Project performance indicators

• Reducing equivalent emissions of CO₂ expressed as direct result of project activities relative to 150 kt during 15 years of lifecycle of investment in energy efficiency measures.

• Incremental savings of primary energy of at least 94 TJ/year, or 1,400 TJ during 15 years of lifecycle of investment in energy efficiency and other project contributing measures.

• Value of energy efficiency investment in public buildings and utility services in the competence of municipalities which are directly supported by the project in the amount of 15 m USD until the end of the project.

• The energy management system established in 30 municipalities with the support of the project.
Project components

1. Development of legal and regulatory framework related to energy efficiency
   - Monitoring the implementation of pertinent regulations, identification of barriers for their implementation and formulating recommendations for removal of identified barriers;
   - Drafting new and reviewing existing laws/regulations relevant to energy efficiency;
   - Development and support of voluntary standards and public sector initiatives (ex. „green procurements“ etc.).
Project components

2. Development of institutional framework for energy efficiency

- Central project support unit within the existing structure of the MME established;
- Energy Management Information System introduced in all units of LSG;
- Units (offices) for support to energy management established in at least 30 units of local self-government established;
- National network of municipal energy managers established;
- Series of training courses on different aspects of energy management for energy managers and technical staff of municipalities delivered;
- Established and regularly updated national data base on public buildings;
- Energy efficiency programs developed in 30 units of LSG.
3. Co-financing of at least 10 demonstration energy efficiency projects in public buildings / utility services on the basis of public call to units of LSG

- Technical assistance provided for implementation of approved projects;
- Co-financing of projects;
- Demonstration projects results documented and published, and energy savings results and reduced emissions of GHG monitored and verified;
- Technical support provided for identification and preparation of energy efficiency projects in other units of local self-government (preparation of energy balances, feasibility studies, project optimization in terms of technical and financial criteria and available funding criteria).
4. **Raising public awareness regarding energy efficiency**

- Energy efficiency charter of towns and municipalities signed by 80% LSG in Serbia in order to raise capacities for implementation of the energy management system and increasing investments in energy efficiency;
- Curricula and textbooks covering energy efficiency and use of renewable energy sources for at least 3 professions (electrical, mechanical and construction) developed and introduced in use in at least 10 different occupational schools;
- Manuals for energy managers in municipalities and buildings developed as well as Instructions for the use of the Energy Management Information System;
- Awareness raising campaigns on the significance of energy efficiency and energy management implemented.
Cooperation with municipalities

- Public call for support to energy management system in municipalities:
  - Implementation: UNDP
  - Time frame: fourth quarter of 2016
  - Number of municipalities covered: at least 30
  - Support duration: 12-24 months
  - Qualified municipalities: with population from 20,000 to 50,000
  - Contents: establishing the energy management office, technical assistance in developing the baseline energy balance and plans, assistance in project identification and preparation, additional training courses for energy managers and technical staff in facilities, etc.

- The project will provide training for final users of the EMIS in all interested municipalities (including those who are not obliged by mandatory reporting of the system)
Cooperation with municipalities

- Public call for co-financing of at least 10 energy efficiency demonstration projects in public buildings / utility services:
  - **Implementation**: The Ministry of Mining and Energy in cooperation with the UNDP
  - **Time frame**: third quarter of 2016
  - **Number of municipalities covered**: all
  - **Type of project**: to be defined by the public call
  - **Content of applications**: to be defined by the public call, but will certainly include current energy consumption data
  - **Qualified municipalities**: all
Cooperation with municipalities

- **Implementation modality:** defined in the joint implementation agreement with the UNDP (Letter of Agreement – LoA). The LoA stipulated the National Implementation Modality – NIM.

- **This will be the first time that in project funding a combination will be made of donor funds and National Energy Efficiency Budget Fund.**

- **Financial model:**
  - Grant by GEF/UNDP: up to 50% of project value (excluding VAT);
  - Local governments: at least 30% of project value (excluding VAT);
  - The remaining funds by the Energy Efficiency Budget Fund.
Public calls to local self-governments

**Obligations of the Ministry of Mining and Energy:**

- To complete project selection on the basis of technical assessment of project proposals with respect to reduced emissions of GHG and reduced operational costs of public buildings;
- To undertake subsequent technical assessment of reduced emissions of GHG and reduced operational costs of public buildings.

**Obligations of UNDP:**

- The UNDP shall, among other things, provide technical assistance to the Ministry with respect to technical assessment of project proposals and subsequent verification of achieved reduction of GHG emissions and operational costs of public buildings. The assessment shall include undertaking of energy audits of public buildings at the adequate level of detail.

**Energy Management System in Municipalities**

Republic of Serbia
Ministry of Mining and Energy
EMIS Energy Management Information System

• **The purpose of EMIS?**
  - It is a web application as the basic software tool for energy management in buildings and municipalities.

• **Key application**
  - Collection and archiving of data on achieved energy and water consumption in public buildings;
  - Establishing a national data base of public buildings;
  - Establishing a national data base on energy and water consumption in public buildings.
Which building is EMIS intended for?

- Buildings under the competences of local self-governments (schools, kinder-gartens, municipal administration buildings, sports centers, primary health care centers, buildings od PUC, etc.);
- Buildings under the competences of national authorities (buildings of state administration, courts, hospitals, gerontology centers, faculties, students dorms, military barracks, prisons, PC buildings, etc.);
- Buildings under the competences of indirect budget beneficiaries;
- Buildings under the competences of other organizations and PC;
- EMIS can also be used for commercial buildings!!!
Why is it important?

- It makes it possible to know how much energy and water a public building consumes and how much it pays for it;
- It enables identification of acute problems (excessive energy consumption and water leakages) and undertaking of corrective measures;
- It enables management of the energy and water budget in public buildings;
- It provides the basis for preparation of projects to apply for different funds;
- It provides the basis for preparation of public procurements for energy and energy sources;
- It provides the basis for performance contracting, or preparation of ESCO projects.
How is data entered?

- Manually
  - Entry of data from invoices for energy (electricity, gas, PTV, distant heating), energy sources (gas, coal, fuel oil, crude, wood, etc.) and water;
  - Entry of read data from meters and counters.

- Automatically
  - Taking data from relevant meters and counters enabling distant reading;
  - Taking data from suppliers by means of Internet.
Hierarchy of EMIS users

- National system administrator;
- Ministry of Mining and Energy;
- Local decision makers;
- Municipal energy managers / building energy managers;
- Users at building level;
- Guests.
EMIS - Structure

EMIS – automatic reading and the EE panel

- El. counter
- Gas meter
- Calorimeter
- Water meter
- Communication system
- Concentrator
- M-bus
- EE panel
- Web presentations

**Components:****
- Backup disc
- Server cluster
- Data base disc
- Web server
- Application server
- Communication server
- GPRS
- M-bus
- EE panel
EMIS – automatic reading and the EE panel
EMIS – manual data entry
EMIS – Automatic reading

ENERGY MANAGEMENT SYSTEM IN MUNICIPALITIES

Republic of Serbia Ministry of Mining and Energy
Thank you for your attention!

Maja Matejić, Energy Portfolio Manager
United Nations Development Programme
e-mail: maja.matejic@undp.org
www.undp.org.rs
www.ems-undp.rs
http://isem.undp.org.rs
http://biomasa.undp.org.rs