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WG Session 2: Changing behaviour programme

„ENERGY EFFICIENCY PROJECT IN CROATIA“

UNDP Croatia 2005-2012



Project summary

- ▶ The energy efficiency project in Croatia (EE Project) aims to increase public awareness on the efficient use of energy
- ▶ The basis of the EE project is a complex process of behavioural change in energy users and energy management in the public and residential sectors.
- ▶ Public sector as a role model for implementing EE measures
- ▶ The EE project is developing a critical mass of human, organizational and procedural resources necessary for energy management as the basic condition for permanent change in habits regarding the use of energy and other resources necessary for the activities of the public sector.

The ee project evolved into three main national components:

- ▶ The project „Systematic energy management in cities and counties of Croatia“ (**SGE project**) introduces systematic energy management in cities and counties by launching the application of energy efficiency principles for buildings owned or used by local or regional governments.
- ▶ „Bringing your own house in order“ is a government program (**HiO program**) that introduces systematic energy management in ministries and other governmental bodies by launching the application of energy efficiency principles in buildings owned or used by the central state administration.
- ▶ The systematic information and education of citizens about the benefits of energy efficiency

WHY SYSTEMATIC ENERGY MANAGEMENT?

► Status in 2005:

- An incomplete legal framework in the area of energy efficiency
- Insufficient human and technical resources for energy management in the public sector
- The majority of data regarding buildings owned or used by cities, counties and ministries were incomplete, and provided no information on energy consumption and the cost of thereof
- A general absence of energy management in buildings
- Insufficient awareness of energy efficiency as an energy source, and inadequate knowledge on energy efficient products and technologies. Only two companies in Croatia had the professional capacities necessary to conduct energy audits in buildings

KEY STEPS TO INTRODUCE ENERGY MANAGEMENT IN PUBLIC BUILDINGS:

A political decision on project implementation and a public declaration of an Energy policy and its aims	RESPONSIBILITY
Establishing and organizing an Office for energy management (EE team) within the organizational structure in public administration and local management	
Establishing the buildings' registry	DATABASE AND TOOLS
Using the Energy Management Information System (EMIS)	
The identification and implementation of measures that improve energy efficiency (Energy audits are the key instrument in identifying economically feasible measures in order to improve energy efficiency, and their implementation is recommended before initiating any investments)	STARTING INVESTMENT CYCLE AND ENCOURAGING MARKET DEVELOPMENT
Local promotion of a sustainable use of energy and the implementation of measures that improve energy efficiency in the public sector	
Training and capacity building (public administration, EE team, technical staff, employees)	EDUCATION

RESULTS ACHIEVED AFTER 6,5 YEARS

▶ *Public policy*

- ▶ Energy policy in line with the EU energy policy; the National energy efficiency program adopted (NPPEU) 2008-2016; First national energy efficiency action plan (2008-2010); Second energy efficiency action plan is expected.
- ▶ The Energy charter signed by ALL city and county mayors in Croatia (127 cities and 20 counties), all 20 ministries actively involved in project implementation.
- ▶ In 2012, the core project team participated in drafting of amendments to the Energy Efficiency Act.
- ▶ **EMIS Building registry database** was transferred to government agency
- ▶ The **Informative-educational activities** were transferred to the Environmental Protection and Energy Efficiency Fund

RESULTS ACHIEVED AFTER 6,5 YEARS

▶ *Human and technical capacities*

- ▶ Energy offices and Energy teams established in **68 cities** and **15 counties** with a total number of **373 employees** and **30 employees** in **10 ministries**.
- ▶ The Building register established for approximately 10.000 buildings owned or used by the public administration in Croatia: a total number of **6612 buildings** in 19 counties, 80 cities and 15 ministries have been identified so far.
- ▶ The Central information system for energy management - **EMIS**, a web application for monitoring and analyzing energy consumption in public sector buildings has been established.

RESULTS ACHIEVED AFTER 6,5 YEARS

▶ *Building data*

- ▶ Data on energy consumption is collected for approximately one half of all buildings owned or used by the public administration in Croatia.
- ▶ More precisely, data on 5.481 buildings have been analyzed and input in EMIS in both national projects (local and regional governments as well as state administration).
- ▶ 4.474 buildings control their energy costs by checking their bills, while approximately 1.532 buildings monitor energy consumption by reading energy and water meters twice a week.
- ▶ The number of independent buildings that regularly control their energy costs by checking their bills is 1.422, while 1.035 buildings monitor energy consumption by reading energy and water meters twice a week.
- ▶ The system for automatic and remote metering has been implemented in 36 buildings.

RESULTS ACHIEVED AFTER 6,5 YEARS

► Education

- Various educational programs have been developed that target both technical and non-technical staff - employees of the public sector and the building management sector.
- A TOTAL number of over 500 diverse workshops took place for over 13.000 attendees

Education		
Workshop/course	No. of participants (HIO)	No. of participants (SGE)
Green Office motivational workshops	5987	596
Workshops for the establishment of the Green Office	67	466
Course for energy advisors	199	389
Course for building's technical staff	226	474
Responsible staff	951	791
Technical and maintenance staff	792	2037
EMIS workshops	426	1095
Total	7576	5848

RESULTS ACHIEVED AFTER 6,5 YEARS

Research conducted from 2007 until 2011 shows, knowledge on EE measures and products, as well as on the willingness to implement these same measures significantly improved among the public:

- ▶ the number of citizens who believe they can reduce energy consumption by implementing EE measure rose from 27.9% to 47.7%;
- ▶ the number of citizens who are familiar with the available EE products rose from 33.4% to 43.9%;
- ▶ the number of citizens who use energy saving light bulbs rose from 48% to 67.4%;
- ▶ the number of citizens who use grade A+ energy efficient appliances rose from 22% to 30.8%;
- ▶ the number of citizens who use windows with low-e insulated glass rose from 14.8% to 23.4%.

Thank you for attention!

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