

**EXEMPLARY ENERGY EFFICIENCY PROJECTS AND  
GOOD IMPLEMENTING PRACTICES IN**

***FYR MACEDONIA***

May 2016

No.	EE PROJECT/ PROGRAMME TITLE	IMPLEMENTING BODY/ BENEFICIARY/ TARGET GROUP(S)	IMPLEMENTATION PERIOD	SOURCE OF FINANCING /AMOUNT	BRIEF DESCRIPTION OF PROJCT/PROGRAME AND GOOD IMPLEMENTING PRACTICES	EARLY RESULTS /IMPACT EVALUATION (IF EXIST)
1.	<b>GEF Sustainable Energy Project</b>	Ministry of Economy and Macedonian Bank for Development and Promotion /  Public buildings, private sector	2006 – 2013	Source: Global Environmental Fund  Financing amount: 5.5 million US Dollars	<p>The restructure GEF Project haven been divided in three components:</p> <p><b><u>Component 1: Institutional support and technical assistance:</u></b> The component supported for the development of a regulatory and institutional framework and provided technical assistance for the preparation and implementation of the draft National Program for EE in public buildings.</p> <p><b><u>Component 2: Financial support for energy efficiency in public buildings:</u></b> The component provided grant support for energy efficiency retrofits in public buildings, focusing on municipal schools and kindergartens. A phased approach started with 100% grant financing, followed by 50% co-financing from municipalities.</p> <p><b><u>Component 3: SEFF credit line for renewable energy and energy efficiency:</u></b> The loan facility with a budget of US\$1.5million have been matched by MBDP.</p> <p>As a main outcome of the Project was a rehabilitation with EE measures of 42 public buildings (schools and kindergardens), implementation of two RES Project and one EE Project in private sector with providing credits through the GEF Project as well as procuring and installation of equipment and measurement of wing potential on 5 locations on the territory of the Republic of Macedonia.</p>	It is achieved 5.744 MWh/year energy savings of improved 42 public buildings (which is around 47% of the total annual consumption before implementation of the EE measures), while total achieved financial savings have been estimated to 632.000 US Dollars (which is around half of the total annual costs before implementation of the EE measures).
2.	<b>USAID Industrial Management Project</b>	TimeIProekt/  Industrial Companies	2013-2016	Source: USAID Grant, with co-financing from selected industrial companies /	This Project in under implementation in its third year in the Republic of Macedonia. As its main activity, there have been installed systems for monitoring and management of the energy consumption in 17 pilot companies in the private sector in different industrial branches. Systems are designed to carry out monitoring and management of the consumption of electricity and other type of energy on company	/

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				Financing amount: 1.3 million US Dollars	level, meaningless it is question of one of more objects on one or more locations in the country. This integrated system gives good basis to be made review in the consumption and to be assessed places where energy could be saved. The project provides expert's support to six industrial pilot companies by the end of 2015. This support helps the companies to select possible measures for improving of EE, to prepare technical documentation for implementation of these measures and, if necessary, to provide financial resources of the financial institutions for investing in selected measures.	
3.	<b>UNIDO/GEF Project for catalyzing the transformation of the market for energy efficiency in industry and speeding up of investments into the best available practices and technologies in the Republic of Macedonia</b>	REC, Energy Agency, Ministry of economy and Ministry of Environment and Physical Planning / Industrial Companies, Ministry of economy and Ministry of Environment and Physical Planning	2015-2018	Source: GEF Fund, UNIDO, REC and others  Financing amount: 5.5 million USD\$	This Project, which is financed with grant funds from the Global environmental fund (GEF), UNIDO and with participation of companies from Republic of Macedonia, relevant national institutions and others, started to be implemented in January 2015. The objective of this 3,5 annual project is to develop legislation and capacities for its implementation, related to introduction of energy management in industry, through introduction of the standard ISO 50001; training of experts in industrial companies; national consultants in the field of energy efficiency; representatives of the relevant national institutions and bankers for implementation, i.e. financial support to the projects where energy management will be introduced in industry, etc. So far activities mainly in the second component of the project are realized, including 11 partner companies to implement the ISO 50001 standard are selected, national consultants are selected and several training sessions for energy management for selected consultants and representatives of companies have been held.	On going
4.	<b>USAID Project for energy efficiency in the housing sector</b>	NGO "Habitat Macedonia" / Residential buildings for	2012-2015	Source: USAID,  Financing amount: /	This Project has been implemented with technical and financial assistance from USAID, in cooperation with the NGO "Habitat Macedonia", by April 2015. As a main activity of the Project was reconstruction of 31 buildings for collective housing with applying energy efficiency measures in eight municipalities.	/

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		collective housing			The objective was to provide credits with very appropriate conditions and to create revolving facility for further EE investments.	
5.	<b>EBRD Credit line - WeBSEFF II</b>	EBRD National Office / Private companies and public sector	2013-	EBRD with local commercial banks (Ohridska Banka Societe Generale and NLB Tutunska Banka)  / 12 million euros	WeBSEFF II credit line in the Republic of Macedonia is being implementing through Ohridska Banka Societe Generale, in amount of 7,5 million euros and NLB Tutunska Banka in amount of 4,5 million euros. In the period until now nine projects in total amount of 9,2 million euros have been implemented, out of which 8 are in the file of energy efficiency.	/
6.	<b>Providing subsidies for buying and installation of solar thermal collectors in households</b>	Ministry of Economy	2007, 2009, 2011, 2012, 2013, 2014, 2015 and 2016 (ongoing)	Ministry of Economy (annual budget for subsidies is around 100.000 Euro)	Providing subsidies stimulates households for installation of solar water heaters (SWHs) in their buildings and promote the use of renewable energy sources and achieving financial savings. In the total period of 7 years 11659 households installed SWHs and applied for subsidies and only 3612 received subsidies.	According to the Bottom-Up methodology for monitoring and evaluation of energy savings of installed SWHs in the period 2010-2015, there has been achieved 2.071ktoe/year.
7.	<b>Energy management system in the building of the Ministry of Economy</b>	Ministry of Economy / Ministry of Economy	2014 - 2015	Budget of the Ministry of Economy	Ministry of Economy in 2014 and in 2015 set up a system to monitor the power consumption in the parts of the building which the Ministry is using as well as regulation of the system for radiator heating and fan coils heating in the same building. In addition to achieving energy savings in the building, the aim of establishing of this system in the building of the Ministry of Economy, as a public institution and the institution responsible for the energy policy in the country, is to serve as a promotional example that such systems can be built and operated in other public buildings and using them to achieve energy savings, which is in accordance with European	Results will be presented after evaluation is made.

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					directives for energy efficiency.	

## - PHOTOS AND LINKS TO PROJECT WEB SITE, BROCHURES AND OTHER USEFUL INFO-MATERIAL

<http://www.worldbank.org/projects/P089656/sustainable-energy-gef-project?lang=en>

<https://www.usaid.gov/news-information/fact-sheets/industrial-management-project>

<http://mk.rec.org/proekti/239/pottiknuvanje%20na%20pazarnata%20transformacija>

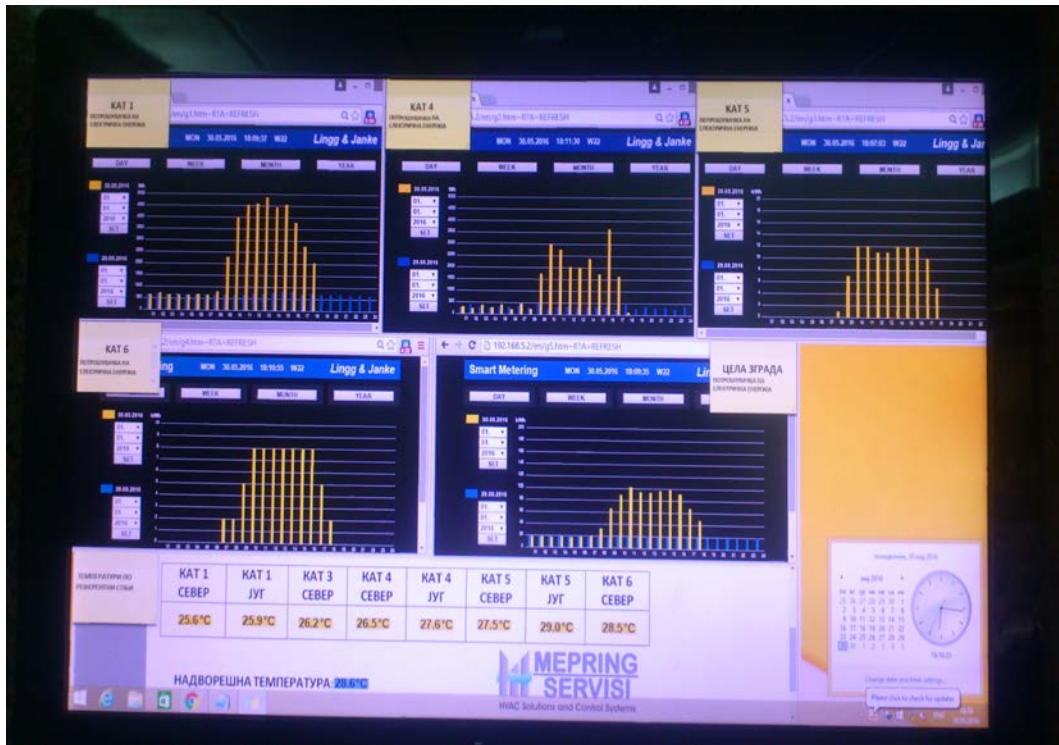
[http://www.habitat.org.mk/eng/n\\_usaid-c.html](http://www.habitat.org.mk/eng/n_usaid-c.html)

<http://www.wb-reep.org/eng/financing/WebSEFF>

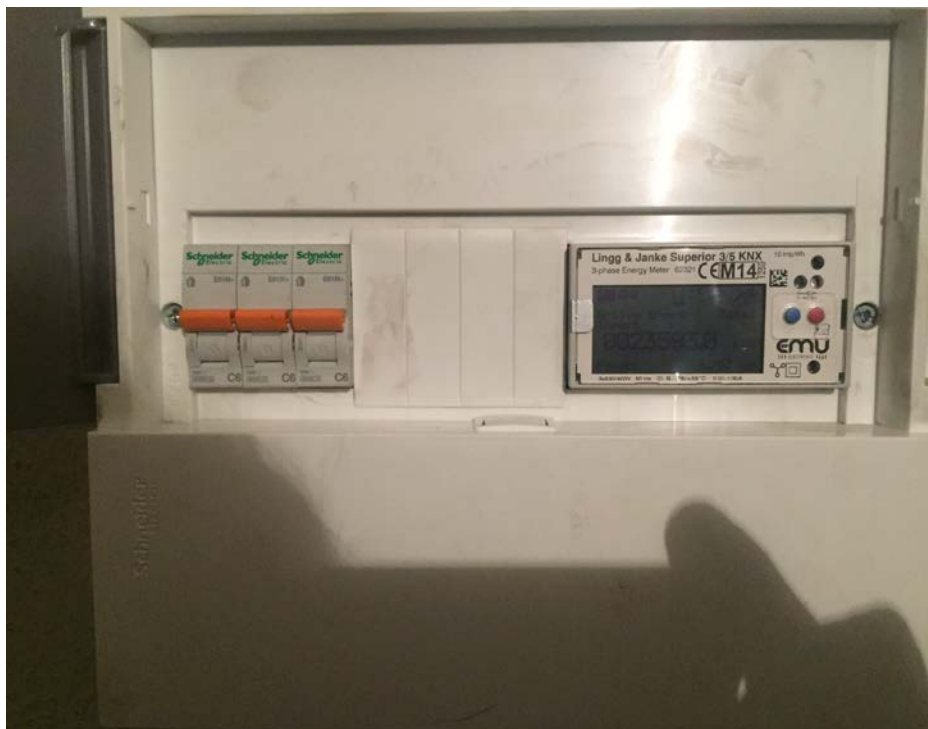
Pictures from the BMS system in the building of the Ministry of Economy:



Picture 1. DDC controller with supplementary elements for regulation of the system for radiator heating and fan coils heating in the building



Picture 2. Grafical comparison between electricity consumption of two subsequent days in different part of the building



Picture 3. Display for presenting different data acquired from the one of the network analysers



## - EXAMPLES/PHOTOS OF EP CERTIFICATES

As of the 2015 there have been issued around 50 EPCs.

Деловен бр.: 004/15  
Издание: 06.02.2015

Страна	име	категорија	документација	тип на зграда	стандард
Македонија	ДА				Класа Бина 2
тип на зграда	Станбен објект 7/Л 2.30			к.г.	162/13 и 162/13
адреса	Методија Штеревска Зграда бр.23			интервенција	И
плоста	Квадрат	Плоштина (м <sup>2</sup> )	1000	Страна (м <sup>2</sup> )	2.530
Адреса на извршител: СКОПЈЕ					
извршител на работите	АДОРЪ ЕНЕРџИ/МАК СКОПЈЕ			година на извршител на работите	2014
				година на извршител на работите (месеци)	2014
ЕНЕРГЕТСКО БАРАЊЕ НА ЗГРАДАТА ЗА ГРЕЕЊЕ					
Зграда (м <sup>2</sup> )		класификација		14,33	
					
топлинска гондла (кВт) 8,910 топлинска гондла (кВт) 4,470 топлинска гондла на зградата (кВт) 23,813		% на зграда % на зграда % на зграда		100% 100% 100%	
Тип на извршител: <b>проектно</b> Тип на објектот: <b>И</b> Тип на објектот: <b>И</b>					
Проектант: <b>ДАТТА ПРОЕКТ д.о.о.</b> Адреса бр.: 13-4140/2		Име и презиме на одговорниот лице: <b>М.а. Марија Стопанова д.о.</b>		Потпишан: <i>[Signature]</i>	
Име и презиме на одговорниот инженер: <b>М.а. Марија Стопанова д.о.о.</b>		Потпишан: <i>[Signature]</i>		Потпишан: <i>[Signature]</i>	
Име и презиме на одговорниот инженер: <b>М.а. Марија Стопанова д.о.о.</b>		Потпишан: <i>[Signature]</i>		Потпишан: <i>[Signature]</i>	
Име и презиме на одговорниот инженер: <b>М.а. Марија Стопанова д.о.о.</b>		Потпишан: <i>[Signature]</i>		Потпишан: <i>[Signature]</i>	
издат бр.	дата на издавање	дата на валидитет			
004/15	06.02.2015	06.02.2025			

