Project funded by: Erasmus+ / Key Action 2 - Cooperation for innovation and the exchange of good practices, Strategic Partnerships for youth (European Commission, EACEA).





Country Specific Report

IDEA 2017-1-CY01-KA204-026725

I01.A3

Document Info

Deliverable Number IO1.A3

Deliverable Title Country Specific Report

Intellectual Output Title

Activity description Document presents the analysis of existing tools, methods

and educational practices in the areas relevant for energy poverty, identification of knowledge gaps in existing tools, relevant stakeholders in the area of energy poverty and adult education, and the training needs assessment in the area of

energy poverty

Authors organization/partner DOOR, Ana Tešija, Slavica Robić

Status (D: draft; RD: revised draft; F: final) D

Date (versioning) 13.02.2018.v1

Document History

Authors	Reviewe r	Date	File suffix [Version.Revision]	Approval
DOOR Ana Tešija, Slavica Robić	<partner< td=""><td>31/1/2 018</td><td>v1</td><td><yes no=""></yes></td></partner<>	31/1/2 018	v1	<yes no=""></yes>

Executive Summary:

Aim of this document is to present the analysis of existing tools, methods and educational practices in the areas relevant for energy poverty, identification of knowledge gaps in existing tools, relevant stakeholders in the area of energy poverty and adult education, and the training needs assessment in the area of energy poverty.

Purpose of the analysis being done and this document is to develop an up to date overview of quality learning practices relevant for the area of energy poverty, thereby improving the existing educational practices on the topic by highlighting the most participatory, innovative and efficient methods and practices that exist throughout Europe in order to make them available to the interested institutions dealing with training of adults, CSOs and other stakeholders.

This document provides a basic overview of the situation in the field of energy poverty in Croatia. Key stakeholders whose involvement is needed for successful implementation of both the project IDEA, and of the long term polices aimed at alleviating energy poverty while boosting employment and youth education, are listed in the document.

The document also assesses results of the survey undertaken amongst identified key stakeholders on their knowledge and work on energy poverty as well as on situation and possible outcomes for Croatia. The survey was designed to be used for designing possible training mechanisms within the IDEA project and to enable tailor-made solutions.

The last section of the report discusses in short the country specificities of energy poverty in Croatia and it suggests possible short term steps and long term solutions for alleviating energy poverty.

Contents

Contents	3
Introduction	4
About the project	4
Existing tools, methods and educational practices for trainings in the areas relevant for energy poverty	
2. Relevant stakeholders in the area of energy poverty and adult education	7
3. Training needs assessment in the area of energy poverty	9
3.1 Understanding of energy poverty and involvement in the topic	9
3.2 Stakeholders' needs in the are of energy poverty	.11
3.3 Households' needs in the area of energy poverty	.12
3.4 Form of educational materials and tools on the topic of energy poverty	.13
3.5 Content of educational materials and tools on the topic of energy poverty	.13
4. Country specifics on energy poverty	.16

Introduction

Aim of this document is to present the analysis of existing tools, methods and educational practices in the areas relevant for energy poverty, identification of knowledge gaps in existing tools, relevant stakeholders in the area of energy poverty and adult education, and the training needs assessment in the area of energy poverty.

Purpose of the analysis being done and this document is to develop an up to date overview of quality learning practices relevant for the area of energy poverty, thereby improving the existing educational practices on the topic by highlighting the most participatory, innovative and efficient methods and practices that exist throughout Europe in order to make them available to the interested institutions dealing with training of adults, CSOs and other stakeholders.

About the project

IDEA (Innovative Direction in Energy Advising) project's purpose is to develop innovations in education about energy poverty. Main objective is to improve existing and develop new innovative educational methods and materials for adult training on energy poverty. The partnership consists of experienced organizations strategically places in the most affected region regarding energy poverty - in Bulgaria, Croatia, Slovenia and Cyprus. Project is implemented by University of Cyprus, DOOR Society for Sustainable Development Design, Energy Agency Plovdiv and Focus Association for Sustainable Development. It is funded by Erasmus+ programme.

1. Existing tools, methods and educational practices for trainings in the areas relevant for energy poverty

The main tools identified can be divided into educational, promotional, advocacy and technical tools. Educational tools are aimed at different groups of stakeholders, ranging from energy poor households (advice on energy saving and energy efficiency on a household level) to official materials for national curriculum for training of energy advisors. Promotional tools can be used for raising awareness of general public and of different target groups on energy poverty and for increasing visibility of various energy poverty related actions — i.e. dissemination of leaflets and canvas bags on public events. Technical tools are aimed at collecting and analysing data.

There are also tools with multiple purposes, such as video and ICT tools, which can at the same time be used for promotion and visibility of the action and of the topic, while also serving as powerful advocacy tools for reaching interest of the media and of decision makers. List of tools identified in Croatia is presented in the Table 1.

Table 1 Identified tools, methods and educational practices in CROATIA

No.	Name of the tool	Author/Institution	Short description of the tool	Format of the tool
1	REACH excel tool for collecting and analysing data in Croatian	DOOR	The questionnaire (paper form) is used by energy advisers when implementing an energy audit in energy poor household. It contains questions related to the type and characteristics of the dwelling and energy and water use. Together with REACH excel tool it provides a good starting point for development of a new, more user friendly tool.	questionnaire - data collection sheet
2	REACH app form for field visits	DOOR	Application form which was delivered locally through LAs, NGOs and social welfare offices to potential beneficiaries of field visits	Leaflet
3	REACH canvas bags	DOOR	Promo-visibility material delivered to beneficiaries and other stakeholders	other
4	REACH energy saving advices for HHs (HR)	DOOR	Short publication with useful low-cost energy and water saving advices	educational material (text)
5	REACH Bookmark with energy saving advices (HR and ENG)	DOOR	Bookmark with basic energy saving advices	educational material (text)
6	REACH videos about en. poverty and field visits	DOOR	Short videos	video
7	Higher efficiency lower energy bills	DOOR	Booklet about reducing energy use and energy bills and improving energy efficiency produced with SEE SEP project	educational material (text)

8	Recommendations for tackling energy poverty in Zagreb	DOOR	Policy recommendations for reducing en. poverty in Zagreb	other
9	With knowledge to warm home leaflet	DOOR	Leaflet with energy saving and energy bills advice	educational material (text)
10	Energy advisers curricula (HR)	ZEZ	Curriculum for energy advisers	educational material (text)
11	Energy advisors guidebook (HR)	ZEZ	Handbook for energy advisers	educational material (text)
12	Energy advisors for poor households (HR)	UNDP Croatia	Video about energy poverty and households' visits	video
13	Video manual for energy efficiency - Biomass heating, Condensing gas boilers, Individual heat metering	DOOR	Video tutorials for energy efficient biomass heating systems	video

Currently in Croatia, the most useful tools are those which can be used for education and dissemination. Such tools can be further developed and modified for specific needs. Excel tool for collection of household data on energy efficiency and energy consumption (including certain indicators of energy poverty such as occurrence of mould and draught) developed within the project "Achieve" which was further adapted within the project REACH, can be further modified to be made more user friendly and publicly available via some form of ICT tool, such as online platform.

Other useful tools are already developed guidebooks on energy saving and energy efficiency which can be re-printed and disseminated in current form to energy poor households, as well as any other interested stakeholders. Curriculum for education of energy advisors, which has been officially adopted by relevant institution in Croatia, can be used for providing employment opportunity for young and unemployed people. This kind of tool enables simultaneous boos of national (or local) economy through promotion of employment while setting path to tackling energy poverty.

Video materials have been proven to be very powerful tool for motivating decision-makers and for increasing visibility of the energy poverty topic by putting focus on personal experience and real life struggles of the energy poor households.

2. Relevant stakeholders in the area of energy poverty and adult education

There are numerous stakeholders relevant in the area of energy poverty and adult education in Croatia. While some of the stakeholders are dealing with one of those issues separately, many of them have in recent years started trying to put focus of their actions on both issues - education and energy poverty. List of identified stakeholders in Croatia is given in the Table 2. This list of stakeholders was used for undertaking survey on training needs assessment presented in the "

3. Training needs assessment in the area of energy poverty" in addition to public dissemination of the survey via the social media.

Table 2 Identified stakeholders in the area of energy poverty and adult education in CROATIA

No.	Stakeholder	No.	Stakeholder	No.	Stakeholder
1	Green Energy Cooperative (ZEZ)	2	University of Zagreb Faculty of Electrical Engineering and Computing	3	University of Zagreb Faculty of Mechanical Engineering and Naval Architecture
4	University of Zagreb Faculty of Geotechnical Engineering	5	Ministry of Energy and Environmental Protection	6	Ministry of Construction and Physical Planning
7	Ministry of demography, family, youth and social policy	8	Institute for Social Research in Zagreb	9	Environmental Protection and Energy Efficiency Fund
10	City of Zagreb	11	City of Petrinja	12	Ombudsman
13	Energy Institute Hrvoje Požar	14	Institute for Political Ecology	15	University of Zagreb Faculty of Law
16	Terra Hub	17	Green Action (FoE Croatia)	18	Croatian Employment Buerrau
19	Craft Colleges	20	Pučko otvoreno učilište	21	Regional Energy Agency North
22	Regional Energy Agency of North West Croatia	23	Dekra	24	Adecco privremeno zapošljavanje
25	Social Welfare Centre/s	26	Green Building Council Croatia	27	City of Sisak
28	Red Cross		Caritas		

As one of key stakeholders, at the moment, for energy poverty in Croatia are the ministries and governmental bodies as the key step is currently adapting the national legislation and starting with the implementation of different programmes for tackling energy poverty. There have been few pilot projects implemented already, but those have been led by NGOs in collaboration with some of the stakeholders from academia.

First steps in policy-making have been made, but now it is important to scale up tested solutions and to further develop national legislation creating for enabling environment for policy implementation in general.

Important stakeholders which have, up to date, not been sufficiently capacitated for energy poverty in Croatia and which play important role in other countries are social welfare centres' representatives as well as Red Cross and Caritas staff and volunteers. Those stakeholders can and should play an important role in tackling energy poverty as they have direct outreach to the energy poor households and they have trust and credibility within the local communities. They are also very likely to be already capacitated for undertaking basic evaluation of the living conditions and should be able, subject to further education on energy poverty and energy efficiency, to undertake preliminary assessment of households' eligibility criteria for various policies.

Important actors are also all educational institutions, from craft colleges to universities as they offer a valuable pool of both knowledge and teaching methods, as well as potential pools of future energy advisors.

3. Training needs assessment in the area of energy poverty

Training needs assessment was carried out with a web-based questionnaire. Purpose of the questionnaire was to collect information from different stakeholders (primarily focusing on the list of identified key stakeholders as presented in the Table 2) on their current existing understanding of, and involvement in, the area of energy poverty. Inputs were collected anonymously. The results of the survey will be used to assess potential for improving existing tools for education on energy poverty and to develop tailor-made training programme with ICT tools to be used in future education on energy poverty in Croatia.

Questionnaire was filled in by 32 respondents. The results of the survey are presented hereafter.

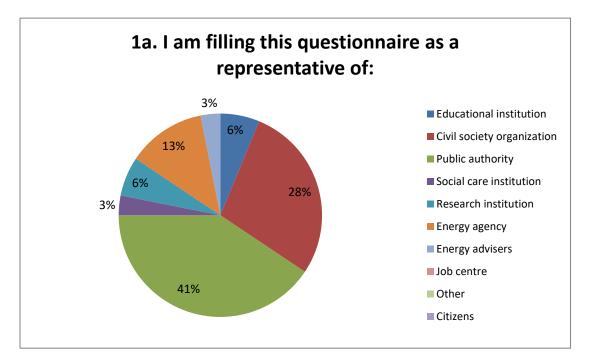


Figure 3.1: Respondents of the questionnaire by their representation

More than 80% of final beneficiaries of the respondents' services are general pupic/citizens. Around 28% of final beneficiaries are found to be adults, civil societies and households, and the rest are unemployed people, public authorities, students, energy poor/socially vulnerable households and children.

3.1 Understanding of energy poverty and involvement in the topic

Concerning the understanding of the topic, 6.3% of the respondents have heard of the term "energy poverty", but they are unfamiliar with it. 53.1% of the respondents have the basic insight of the problem and 40.6% of respondents are fully familiar with the problem of energy poverty. This result shows there is great need for further education on energy poverty even amongst the key stakeholder groups as they still have rather basic

understanding of the problem and they are to great extent not equipped to further disseminate the knowledge and help in alleviating energy poverty.

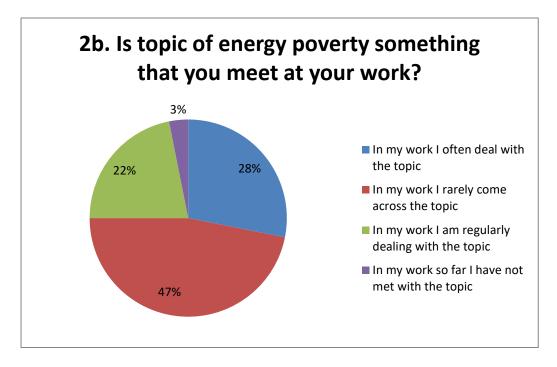


Figure 3.2: Respondents dealing with the energy poverty at their work

When it comes to relelavance of the topic of energy poverty on respondents every day work, 3.1% of respondents find energy poverty as not that relevant for their work, 2% find it somewhat relevant, but most of them find it relevant, as showed: 40.6% of respondents pinned relevant and 31.3% pinned very relevant, as their answer. In contrast to that, 3.1% of respondents find the issue of energy poverty somewhat important, whilst 43.8% finds it important and 53.1% finds it very important. This result, as compared to the high share of stakeholders (also 53.1%) that only have the basic understanding of the problem once again indicates the need and necessity of immediate education of stakeholders. This is a key first step needed for creating enabling environment for implementing training programmes for the unemployed and for creating employment opportunities in Croatia in the field of energy poverty.

3.2 Stakeholders' needs in the are of energy poverty

Stakeholders have been asked about what their main needs are in the field of energy poverty. 20% of the stakeholders have stated the biggest need is in getting clear understanding of the indicators to measure and monitor energy poverty and to have adequate policies and measures (18%). Respondents have also noted there is significant need to have more knowledge on the issue of energy poverty itself, its causes and possible solutions and to have more effective communication skills enabling them with insight into social aspects of working with vulnerable groups. Overview of all responses is provide in the Figure 3.3

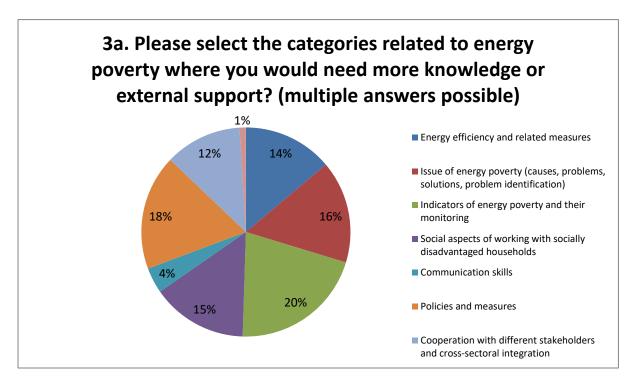


Figure 3.3: Categories related to energy poverty where respondents would need more knowledge or external support

The survey has also investigated which tools respondents find the most suitable for involvement and education on energy poverty. The best evaluated tools were Online platform , set of relevant statistics and database on energy poverty in households. These results (further presented in the Table 3).

Table 3 Most suitable tools for respondents' involvement in energy poverty

No.	Tools	Suitability of the tool (from 1-not suitable at all to 5-very suitable)
1	Educational seminars	3.80
2	Workshops	3.73
3	Educational material as text documents	3.90
4	Online platform with information on energy poverty (measures, relevant actors,)	4.23

5	Set of statistics on relevant indicators of energy poverty	4.00
6	Database of relevant stakeholders	- extra?
7	Managing stakeholders' dialogues	3.54
8	Questionnaire and tool for energy audits in households	3.83
9	Database on energy poverty in households (on country/regional level)	3.97
10	Videos and case studies on energy poverty	3.24

Results of this question analysis clearly indicate the importance of the various ICT tools. This finding is also in line with aims of the project IDEA and indicates the potential which project results could have in Crotia.

3.3 Households' needs in the area of energy poverty

Segment of the survey which was investigating what are main needs of energy poor households as seen by the key stakeholders has revealed that the most important step is provision of the training for the household members about measures which they could implement themselves. Stakeholders also find that it is important to provide households with practical measures for reducing energy and water use and that information about energy and help options should be disseminated widely.

Table 4: Respondents' input on beneficial content for energy poor households

No.	Content for households	Beneficialness of content (from 1-not beneficial at all to 5-very beneficial)
1	Awareness raising	4.13
2	Education and information sharing	4.23
3	Energy advising and auditing	4.21
4	Training about measures they can implement themselves	4.82
5	Implementation of structural measures	4.47
6	Practical measures for reducing energy and water use	4.77
7	Information about energy and social actors that could help households	4.42

3.4 Form of educational materials and tools on the topic of energy poverty

While it was fond there is a great need for education of energy poverty in different segments of the society, from general public to decision makers, as a best way to provide this practical activities have been identified. Apart from concrete practical training lectures have been found as a good tool for disseminating knowledge coupled with various textbooks and ICT tools such as applications. The attitudes of stakeholders on best approaches to dissemination of knowledge are presented in the Table 5.

Table 5 Respondents' input on appropriateness of approaches and tools for education about energy poverty and measured for alleviating energy poverty

No.	Appropriateness of approaches and tools for education about energy poverty	Appropriateness of approaches and tools (from 1-not appropriate at all to 5-very appropriate)
1	Lectures	4.00
2	Textbooks	3.78
3	Applications	3.70
4	Games	3.03
5	Web based tools	3.55
6	Role playing	2.52
7	Practical activities	4.55

Respondents have also mentioned some other approaches and tools that they see as appropriate for education about energy poverty and measures for alleviating energy poverty: (answer 5b). Majority of respondents think that educational tools should include the possibility of contributing new ideas, notifying the authors about shortcomings and bugs, and proposing solutions for improvement of the tool.

3.5 Content of educational materials and tools on the topic of energy poverty

It has been found that most respondents find that it is very important to provide information on energy use of household appliances and that it should be coupled with information on different measures for reducing energy and water consumption. Respondents also find there is necessity to provide education on various forms of energy, which is used on the household level, and to educate on potentials of renewable energy sources.

Table 6 Respondents' input on importance of topics for education about energy poverty and measures for alleviating energy poverty

No.	Topics for education about energy poverty and measures for alleviating energy poverty	Importance of the topic (from 1-not suitable at all to 5-very suitable)
1	Detecting energy poverty (definition, indicators, causes, solutions)	4.42
2	Climate change and other environmental impacts of energy use	3.94
3	Basics about energy and energy needs	3.94
4	Renewable energy sources	4.03
5	Heat Energy, Electric Energy and Water	4.29
6	Energy use of domestic devices and appliances	4.68
7	Soft and infrastructural measures and devices for reducing energy and water consumption	4.66
8	Communication training (communicating with costumers, households members and other stakeholders)	3.97
9	Methodology of energy advising in households (process of implementation of energy advising, how to use questionnaire and software tool, saving devices)	4.00
10	Practical training (how to implement energy advising in households, measuring energy and water use, replacement of devices in household, identification of key problems in household)	4.32
11	Social security aspect and related services (to be able to identify problem and give advice to household)	4.27
12	Information about energy and social actors and schemes that can help energy poor household	4.16
13	Entrepreneurship (job application, how to start your own business initiative, marketing, etc.)	3.60

Different modules for education on energy poverty have been assessed and as best tool once again practical work has been evaluated.

Table 7 Respondents' input on importance of different types of modules for education about energy poverty

No.	Type of modules for education about energy poverty	Importance of the module (from 1-least important to 6-most important)
1	Theoretical part on energy and reducing energy and water use	3.75
2	Issue of energy poverty	4.66
3	Practical part: energy advising, implementing measures, saving devices, household visits	5.03
4	Communication part: communicating with costumers, households members and other stakeholders	4.58
5	Social aspects of working with socially disadvantaged households	4.66
6	Entrepreneurship part: job application, marketing, how to start your own business	3.52

4. Country specifics on energy poverty

Households in Croatia are responsible for almost 30 percent of total country's final energy demand and 40 percent of electricity demand. While the whole residential building stock has poor energy performance with heating requirements typically exceeding 200 kWh/m2, the situation is even worse for the households with limited financial means. With high heating requirements, resulting from inefficient household stock and inadequate heating system, energy poor are living in deteriorated buildings with constant draft through the poorly insulated windows and doors, damp walls with mould and dark rooms as result of inadequate indoor lighting.

Croatian legislation does not much differentiate between energy poverty and general poverty, which is unfortunate for many vulnerable groups that are currently excluded from any help or support mechanisms related to energy poverty. In Croatia, there is no all-encompassing definition of a vulnerable consumer nor are there methods for confirming and monitoring energy poverty, however there is public policy which concerns (in part) vulnerable consumers (customers). Additionally, at the moment, in Croatia there is no program specifically aimed at energy poor households.

In The Energy Act (OG 120/12, 14/14) vulnerable consumer is defined as a consumer from the household category who, due to their socially vulnerable status and/or due to health status, has the right to receive energy under specific conditions. In September of 2015, the Regulation on criteria for achieving the status of vulnerable consumer was adopted (OG 95/15). The Regulation states that funding for the compensation for energy costs of vulnerable consumers shall be secured by way of solidarity fee in the amount of 3 lipa/kWh for all final customers, which for the average household will amount to roughly 6 HRK per month. To date, an agreement with suppliers is in effect in which they forswear profit as a way to satisfy funding, and social compensation for the end consumer was set to zero.

Only criteria on energy vulnerability is regulated via the Ordinance on criteria for achieving the status of vulnerable grid connected energy consumer was adopted (OG 95/15), which states that socially vulnerable and disabled are entitled to the 200 HRK/month (ca. 26 EUR/month) deduction of their electricity bills.

In the Social Welfare Act (OG 157/13, 152/14) it is stated that all recipients of guaranteed minimum compensation have the right to financial aid for the purpose of housing expenses and related bills and heating. In article 43 a decision was given regarding minimal compensation for households which use wood heating, on the basis of which they would be provided with either 3 m3 of wood for heating or an approved monetary amount to ease this expense. The decision regarding the manner of compensation shall be given by the local administrative unit, and be paid out on a yearly basis.

In The Energy Efficiency Act (OG 127/14), in article 13, distributors' obligations for accomplishing energy savings through measures of energy efficiency are defined. Distributors of energy are required to achieve energy savings in total energy expenditures by carrying out energy efficient measures. The cumulative goal of the new savings of energy in total energy expenditure, alternative measures, criteria for calculating energy savings, methodology for saving energy, obligatory savings quotas for every energy distributor, and so on, are legally defined under the regulation.

In the National Programme for Renovation of Multifamily Buildings for the period 2013-2020 [17] it is stated that energy poverty is one of Croatia's growing problems, which is the consequence of the increase in the price of energy, and, though there is still no clear definition (of energy poverty) in Croatia, its existence is shown in the inability of many to maintain adequate heating in the household. It is recommended that the Ministry of Social Politics and Youth, as well as local providers of social welfare, become involved in carrying out and co-financing measures for the most vulnerable citizens and in this way contribute to a solution to the problem of energy poverty with which a long-term reduction in state subsidies for energy expenses for the socially vulnerable can be secured. Additionally, the Programme states that in carrying out these energy renewal measures, local administrative units, together with local providers of social welfare and competent bodies should envisage providing additional funding for the socially vulnerable, in the total amount of up to 85% of the total investment expenses.

First important step in that direction has been made by the Ministry of Construction and Physical Planning by forming of the working group which has aim to develop social criteria to be incorporate in future programmes for retrofitting of family houses and residential buildings enabling higher subvention rates.

In total, there were 1,535,635 households in Croatia in 2011[1]. The largest portions of household expenditures were related to food and non-alcoholic drinks, 31.7%, and housing and energy expenditures, 15.7%. Of that, 9.9% was spent on electricity, natural gas, or other types of fuel. Observed in total, according to results of the survey on household expenditures [2]:

- 9.9% of people lived in households which were unable to maintain adequate warmth during the coldest months,
- 30.4% of people lived in households which were unable to pay bills for communal services on time during the previous 12 months,
- 68.4% of people lived in households in which the total housing expenses presented a large financial burden, while only 2.1% of people lived in households in which the total housing expenses did not present a burden of any kind.

Energy poverty is not only caused by low income and lack of access to certain energy services, but is also directly related to inefficient housing stock and inefficient household appliance. Increasing disposable income alone is not likely to impact those other causes of energy poverty, unless the increase is significant. Most public policies, which are currently in place, as is the case in Croatia, only provide financial support for covering part of energy expenses. While this approach eases financial burden of energy costs, it does not offer solution to inefficiency of the building or appliances, and resulting it does not improve living and health conditions. Furthermore, this approach does not support rational use of energy, and as such, it does not have any positive impact on the environment.

Refernces:

- [1] Croatian Bureau of Statistics, "Popis stanovništva, kućanstava i stanova 2011.," 2011. [Online]. Available: http://www.dzs.hr/Hrv_Eng/publication/2011/SI-1441.pdf. [Accessed: 14-Feb-2016].
- [2] Croatian Bureau of Statistics, "Statističko izvješće 1484: Rezultati Ankete o potrošnji kućanstava u 2011.," Zagreb, 2013.