



REPORT ON NATIONAL SITUATION IN THE FIELD OF ENERGY POVERTY

SLOVENIA

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CONTENTS

1. INTRODUCTION.....	4
1.1 AIM OF THE ANALYSIS.....	4
1.2 OVERVIEW OF EXISTING ENERGY POVERTY DEFINITIONS.....	4
2. METHODOLOGY.....	5
3. ACTIVITIES IN THE FIELD OF ENERGY POVERTY IN SLOVENIA.....	6
3.1 ATTEMPTS OF DECISION MAKERS TO ADDRESS ENERGY POVERTY.....	6
3.2 GOVERNMENT AND NATIONAL PROGRAMS FOR ENERGY POOR HOUSEHOLDS.....	7
3.3 SOCIAL SERVICES INVOLVEMENT IN ENERGY POVERTY AT NATIONAL LEVEL.....	8
3.4 OTHER PROGRAMS FOR REDUCING ENERGY POVERTY.....	8
4. RELEVANT INDICATORS AND SCOPE OF ENERGY POVERTY IN SLOVENIA.....	9
4.1 SOCIAL INDICATORS.....	9
4.2 ECONOMIC INDICATORS.....	11
4.3 ENERGY INDICATORS.....	14
4.4 INDICATORS OF ENERGY POVERTY.....	17
5. WAYS TO DEFINE ENERGY POVERTY IN SLOVENIA.....	21
5.1 PROBLEMS WITH EXISTING DEFINITIONS.....	21
5.2 PROPOSED MEASURES ON THE WAY TO DEFINE ENERGY POVERTY.....	22
6. SUMMARY OF THE ANALYSIS.....	25

1. INTRODUCTION

Energy poverty in Slovenia is becoming an increasing problem as rising energy prices outpace the rise of income of the population. Thus, the expenditure on energy for households in the first income quintile¹ rose sharply in the couple of last years and in 2010 represented 17.4% of all available resources of individual households (in 2000: 13.1%)². In the context of EU policies, the issue of energy poverty is becoming more and more visible, but there is no single definition of who is energy poor.

1.1 AIM OF THE ANALYSIS

The main purpose of the document is to present the available information and data about the problem of energy poverty in Slovenia. The first part presents the definition of energy poverty, which appears in some countries and in professional discussions. Furthermore, programs for reducing energy poverty in the country are presented, followed by the analysis of statistical data and indicators related to study issues (unemployment rate, age of the housing stock, poverty rate, increases in energy prices, etc.). In the last part of the document further steps to work on reducing energy poverty is presented and possible definitions of the term, which would be relevant and appropriate for Slovenia, are proposed.

1.2 OVERVIEW OF EXISTING ENERGY POVERTY DEFINITIONS

In general, energy-poor households are households, which have difficulties with affording adequate warmth of the dwelling or satisfying their basic energy needs.

The definition that was used for a long time in the UK and was also the basis for research in many other countries, defined the energy poor household as the household which spends more than 10% of its annual income for covering their basic energy needs³. It was an absolute definition, on the basis of which so defined energy poverty can be eradicated. The biggest problem was that, according to this definition, the energy poor households included also those with above-average incomes which use energy irrationally. Such households do not represent the priorities for assistance programs.

1 Income quintiles represent households, arranged by their size of disposable income. First quintile represents 20% households with lowest incomes; fifth quintile represent households with highest income.

2 SURS: http://www.stat.si/novica_prikazi.aspx?id=5164

3 Boardman, 2014: Definitions and dimensions of fuel poverty in Europe. Available at: http://www.focus.si/files/razno/Boardman_Definitions_and_dimensions_of_fuel_poverty_in_Europe.pdf

Therefore, they have adopted a different definition, which states that an energy poor household is a one whose revenues are less than 60% of the average income of households and has an above-average energy costs.

There are various estimates of the extent of energy poverty at different levels. For example, it is estimated that about 10% of households in the old EU Member States are facing energy poverty, while the problem in the new Member States is much higher – more than 30% of households are energy poor. Despite the fact that the European Union represents one of the most developed regions of the world, it is estimated that between 50 and 125 million people in the EU (between 10 and 25%) are energy poor.

Energy poverty is mainly an outcome of the functioning of these interconnected factors:

- low incomes, which are often related to poverty in general,
- high costs of energy, including the use of relatively expensive energy sources and
- poor energy efficiency of dwellings, due to, for example, poor insulation or inefficient heating⁴.

Although at the EU level and in most countries there is no formal definition of energy poverty, efforts to solve this problem focus on improving the housing stock and rise of low incomes.

The term energy poverty in Slovenia, despite the fact that it occurs in some government documents as well as in the legislation, does not yet have a legally accepted definition.

2. METHODOLOGY

The report is based on a review of relevant literature, analysis of development in the field of energy poverty at the national-level political arena and on analysis of relevant statistical data and indicators. In addition to the review of research studies and contributions from various experts and institutions, documents with policies and measures that relate to the study area were also analysed. Statistical data comes from multiple sources, while data of the Statistical Office of the Republic of Slovenia and the European statistical office Eurostat represents the basis. The documents and reports that were generated within the European Project ACHIEVE⁵ were also very useful.

4 Bouzarovski, 2014: Energy vulnerability in Southeastern Europe. Available at: <https://drive.google.com/file/d/0Bx7StTrzYqZ6NDNGQ0V5SUY4U2c/edit>

5 Project ACHIEVE: <http://www.achieve-project.eu/>

3. ACTIVITIES IN THE FIELD OF ENERGY POVERTY IN SLOVENIA

3.1 ATTEMPTS OF DECISION MAKERS TO ADDRESS ENERGY POVERTY

In Slovenia there is no legally accepted definition of energy poverty. However, the issue is becoming increasingly recognized, and the term began to be used in some rare legislative documents and studies.

*Cost analysis of energy use in households in the light of the issue of energy poverty*⁶ of the Institute of Macroeconomic Analysis and Development (UMAR) from 2010 is one of the first government documents on the energy poverty issue. It shows that in 2008 for 20% of households with the lowest incomes, the expenditure on energy accounted for 15% of their available resources. There are more than 30% households in Slovenia that pay more than 10% of their income to cover their energy needs.

The main finding of this analysis is *that "in terms of energy policy in Slovenia it is necessary to identify vulnerable groups and create incentives and measures that will allow investment in energy-efficient use of energy in poor households"* (UMAR 2010, ii).

The draft proposal of the Energy Act EZ-1⁷, which had a public hearing in June 2013⁸, had few articles that mentioned energy poverty. The term was not defined, but certain measures for this issue were provided, especially those related to energy efficiency measures. However, addressing the energy poverty problem was excluded from the proposal after cross-sectoral coordination in the Government, on the ground that it will be addressed in other regulatory acts.

Program for spending means from Climate change fund in 2013, 2014, 2015⁹ has foreseen some action on energy poverty as support to households with low income *"for the implementation of prior and cheaper measures to reduce energy costs and increase living standards"* (Ministry of Agriculture and the Environment in 2013, 7). However, in 2013 there were no activities in this direction, except Eco Fund's program for low-income households in multi-apartment buildings.

In May 2014, the Government adopted a Program for spending means from Climate change fund in 2014 and 2015¹⁰, where measures for reducing the

6 UMAR, 2010: Analiza stroškov gospodinjstev za rabo energije v stanovanjih v luči vprašanja energetske revščine. Available at: http://www.umar.gov.si/fileadmin/user_upload/publikacije/dz/2010/dz07-10.pdf

7 Energetski zakon EZ-1. Available at: <http://www.energetika-portal.si/predpisi/energetika/slovenija/krovni-zakon-ez-1/>

8 MzI: <http://www.energetika-portal.si/novica/n/predlog-novele-energetskega-zakona-ez-1-v-javni-obravnavi-8467/>

9 MKO, 2013: Program porabe sredstev Sklada za podnebne spremembe v letih 2013, 2014, 2014. Available at: http://www.mko.gov.si/fileadmin/mko.gov.si/pageuploads/osnutki/ukrepi_podnebni_sklad_medresorsko.doc

10 MzI: <http://www.energetika-portal.si/novica/arhiv/2014/05/n/vlada-sprejela-program-porabe-sredstev-sklada-za-podnebne-spremembe-v-letih-2014-in-2015-8932/>



energy poverty were planned. For the realization of the free-of-charge energy advisory program for low-income households, implemented by ENSVET network, € 20,000 from the Climate Fund was spent in 2014.

Ministry of Infrastructure (Mzi) has in 2014 prepared an Action Plan for Energy Efficiency 2020 (AN URE 2020)¹¹. The document has not been adopted yet, but in the draft, which was in public hearing in August 2014, the measures to reduce energy poverty were provided. The definition of energy poverty is still not presented, thus the measures are related to low-income households.

Planned Action Plan for Energy Efficiency 2020¹² provides a measure of free-of-charge energy advising in low-income households, implemented by network ENSVET¹³:

"It is envisaged that the ENSVET network, in addition to its current duties, also takes over the measures of advising from the EE scheme for low-income households (existing measure: G.3). In this context, advising on possible measures to reduce energy consumption for socially disadvantaged citizens and grants for devices for EE are provided. Visits will be provided by the Regional Centres for social work. In 2014, 300 visits should have been carried out. One household could save up to 150 EUR per year with this individual assistance" (AN URE 2020 2014, 32-3).

3.2 GOVERNMENT AND NATIONAL PROGRAMS FOR ENERGY POOR HOUSEHOLDS

The network of offices for energy advising (ENSVET) operates at approximately 36 locations across the country. It consists of more than 50 energy advisers. The program is led by Civil Engineering Institute ZRMK (GI ZRMK) and funded by the Eco Fund. In offices, the energy advisers provide information and guidance to interested individuals on measures about efficient use of energy and renewable sources. Until October 2014, people had to come to the office to get wanted information, which was one of the disadvantages. Usually only those who already had some funds for investments and needed an advice for the best selection of EE measures, came to the office. In this way, the energy poor households that do not have the funds available for investment in EE measures, were cut off from the national energy advising network. After the presentation of the results of the projects ACHIEVE and REACH some actors (Ministry of Infrastructure, Ministry of Environment and Spatial Planning, Ministry of Labour, Family and Social Affairs, Eco Fund, GI ZRMK) agreed to upgrade the operation of the network ENSVET.

11 Mzi: <http://www.energetika-portal.si/dokumenti/strateski-razvojni-dokumenti/akcijski-nacrt-za-energetsko-ucinkovitost/>

12 Mzi 2014: AN URE 2020. Available at: http://www.energetika-portal.si/fileadmin/dokumenti/publikacije/an_ure/an_ure_2020_medresorsko_06.11.2014.pdf

13 ENSVET: <http://gcs.gi-zrmk.si/Svetovanje/index.html>



Since October 2014, energy consultants have visited households that receive social support and applied for free energy advising at the Centres for Social Work. Nevertheless, even if it is not proper to equate energy poverty with general poverty, most of these households are also energy poor. ENSVET network implements energy advising in households based on the methodology developed in ACHIEVE and REACH projects. Each household also receives a free package of devices to reduce energy and water use. The objective set for 2014 is to visit 300 households. Based on the results of the implementation, the plan for 2015 is to visit and advise in 1000 households.

Eco Fund presents a financial mechanism for households (and legal persons) for addressing energy efficiency. The Fund receives funding from the Efficient Energy Use contribution, which is paid by all energy consumers. Therefore, it offers programs of non-refundable incentives and assistance and loans for investments in EE and RES. One of the programs is aimed at socially disadvantaged households; in cases of refurbishment of residential buildings, it assists the eligible households with 100% co-financing. The primary purpose of the program is that those who cannot afford, do not stop the overall energy efficient refurbishment of the entire building. The program did not include many households, especially because they lack sufficient information on the implementation of the program and due to unfamiliarity with the administrative application process of the program.

3.3 SOCIAL SERVICES INVOLVEMENT IN ENERGY POVERTY AT NATIONAL LEVEL

Until October 2014, Social work centres that handle state social services and social assistance transfers, were not included in addressing energy poverty. Since October 2014 they are participating in the program of free-of-charge energy advising for households that receive social support. The program involves the Ministry of Infrastructure, Ministry of Environment and Spatial Planning, Ministry of Labour, Family and Social Affairs, Eco Fund and the network of energy offices ENSVET under the ZRMK Institute umbrella. The role of Social work centres is to promote the free energy advising and to collect the households' applications. Households that receive social support are the target group.

3.4 OTHER PROGRAMS FOR REDUCING ENERGY POVERTY

Caritas Slovenia implements a project, which helps households in need with assistance for paying the heating costs, with a maximum value of 500 EUR. By helping low income households to pay their heating costs, this program helps in reducing energy poverty. Even though it is not a measure that would have a long-term effect, because the funds pay for current heating expenses, such a

measure is extremely important for some households. The program would be upgraded if those funds would be used as an investment in the efficient use of energy, which would, in the long term, save heating costs and energy consumption (e.g. building insulation, replacement and optimization of the heating system, thermostatic valves, replacement of windows, sealing windows)¹⁴.

There are other energy efficiency programs implemented by companies, institutions and other organizations, but are not specifically aimed to reduce energy poverty.

4. RELEVANT INDICATORS AND SCOPE OF ENERGY POVERTY IN SLOVENIA

4.1 SOCIAL INDICATORS

Number of households and household members

According to Statistical Office of Republic of Slovenia (SURs)¹⁵, Slovenia has the population of 2,061,623 (data for 2014) and 813,531 households (data for 2011). Average household has 2.5 members. The smaller the household, the relatively higher are energy costs per person.

Extent of the housing stock

In 2011, according to SURs¹⁶, there are 844,656 apartments in Slovenia. 61% of them (510,915) are located in one- or two-apartment buildings. 36% (307,286) are located in multi-apartment buildings, 3% (26,455) are located in buildings with dominantly non-residential purposes. Approximately half (421,311) of the apartments are located in urban areas, which are dominated by multi-apartment buildings, while in other (non-urban) areas, one-apartment buildings are dominant.

Average size of dwellings

Average floor space of dwellings is 79.6 m² (SURs, data for 2011). Most dwellings range from 60 to 80 m². On average, dwellings in one-apartment buildings measure 97.5 m², and in multi-apartment buildings, 59 m². There is a difference between urban and other areas: in urban areas, average useful floor area is 70 m², while in rural, 89 m².

14 ACHIEVE, 2013: Barriers to retrofitting measures for low-income households. Available at: http://www.achieve-project.eu/index.php?option=com_phocadownload&view=category&download=279%3Abarriers-to-retrofitting-measures-for-low-income-households&id=20%3Aeu-solutions&Itemid=6&lang=eeu

15 SURs: <http://pxweb.stat.si/pxweb/Dialog/statfile2.asp>

16 SURs: http://www.stat.si/novica_prikazi.aspx?id=4771

Table 1: Size of dwellings (in %), data for 2002

	Up to 20 m ²	21-40 m ²	41-60 m ²	61-80 m ²	81-100 m ²	Above 101 m ²
Slovenia	1.4	13.4	25.8	27.2	17.5	14.6

Source: SURS

Age of building stock

21% of apartments were built in the seventies. At that time, multi-apartment buildings were built intensively: almost a quarter of these apartments were built during this period. In the seventies and eighties also one-apartment houses were massively built. In these two decades almost 40% of the one-apartment buildings were built. After 2005 only 5% of apartments were built. This means that most of the housing stock was built before the appropriate standards for energy efficiency were adopted. Almost 70% of apartments are older than 30 years. Thus most of the housing fund is energy inefficient and needs energy refurbishment. The average age of the apartment is 38 years.

Table 2: Year of construction of apartments, data for 2011

Period of construction	Dwellings in one-apartment buildings		Dwellings in multi-apartment buildings		All dwellings	
	No. of apartments	Share (%)	No. of apartments	Share (%)	No. of apartments	Share (%)
Before 1919	77,042	17	44,913	11	121,955	14.44
1919-1945	32,242	7	25,731	7	57,973	6.86
1946-1960	38,978	9	41,849	11	80,827	9.57
1961-1970	53,462	12	68,891	18	122,353	14.49
1971-1980	83,234	18	93,287	24	176,521	20.90
1981-1990	85,072	19	61,753	16	146,825	17.38
1991-2000	45,145	10	19,598	5	64,743	7.67
2001-2005	17,371	4	14,129	4	31,500	3.73
2006 and after	19,389	4	22,570	6	41,959	4.97

Source: SURS¹⁷

Ownership of apartments

90% of apartments are owned by natural persons, 6% are owned by the public sector, 3% are owned by other legal entities, and for 1% apartments type of ownership is not known. More than three quarters (77%) of occupied apartments were proprietary (meaning that at least one member of the household is the owner of the apartment). The second largest share of occupied apartments (14%) are apartments with another type of ownership or so called user apartments

17 SURS: <http://www.stat.si/PrikaziDatoteko.aspx?id=5931>

(Meaning that none of the residents is the owner, but the apartment is not rented. The owners of those apartments may be relatives, friends or other persons). There are 9% of rented apartments (included several types of renting: marketing, business, non-profit)¹⁸.

Table 3: Ownership of occupied apartments (in %), data for 2011

	Share of apartments
Proprietary (owner lives in the apartments)	77
Rented	9
Other type of ownership (users)	14

Source: SURS

4.2 ECONOMIC INDICATORS

GDP per capita

Since 2008, the decline of GDP per capita is noted for Slovenia, which coincides with the start of the financial crisis.

Table 4: GDP per capita (in EUR)

	2008	2009	2010	2011	2012
Slovenia	18,420	17,349	17,320	17,610	17,172

Source: SURS

Available assets of households

In 2012, the largest share of the available assets of households presented income from employment (57.1%) and pensions with additions (24.1%). For households in the lowest two income categories (first two quintiles) the largest share of the assets is derived from pensions, for households in the higher income category, the income from employment is the main asset¹⁹.

Table 5: Available assets of households, for average household (in EUR), data for 2012

	1. quintile	2. quintile	3. quintile	4. quintile	5. quintile	Average
Available assets	6,439	12,404	18,395	26,989	46,762	22,204

Source: SURS²⁰

Average income

The average net salary in Slovenia grow yearly at a minimum rate, but are still below 1000 EUR per month.

18 SURS: http://www.stat.si/novica_prikazi.aspx?id=4420

19 SURS: http://www.stat.si/novica_prikazi.aspx?id=5832

20 SURS: <http://www.stat.si/PrikaziDatoteko.aspx?id=7357>

Table 6: Average monthly net earnings for month September in provided years (in EUR)

	2010	2011	2012	2013	2014
Slovenia	963.84	978.20	972.73	983.30	994.31

Source: SURS

Unemployment and employment rate

Data on registered unemployment rate shows that unemployment grows every year. In 2013, there was 13.1% of active population in Slovenia unemployed. Meanwhile, the proportion of active population declines every year.

Table 7: Registered unemployment rate according to the proportion of the active population (in %)

	2009	2010	2011	2012	2013
Slovenia	9.1	10.7	11.8	12	13.1

Source: SURS

Table 8: Employment rate among active population (in %)

	2009	2010	2011	2012	2013
Slovenia	60.5	58.8	58.1	57.4	-

Source: SURS

Poverty risk threshold

The poverty line or poverty risk threshold is defined as 60% of median of equivalent available net income of all households. For household not fall below the poverty line, it should have an annual income higher than the values specified in the table below.

Table 9: Poverty risk threshold (in EUR)

	2009	2010	2011	2012	2013
One-member household	7,118	7,042	7,199	7,273	7,111
Four-member household (2 adults + 2 children, younger than 14)	14,949	14,787	15,119	15,274	14,934
Two-member household (2 adults)	10,677	10,563	10,799	10,910	10,667

Source: SURS

Poverty risk rate and number of people below the poverty line

Poverty risk rate represents the percentage of people living below the poverty line. People below the poverty line are those living in households with available income below 60% of median equivalent available income in the country. Risk of poverty rate in Slovenia increases every year. The reason can be found in the

persistence of the financial crisis and inadequate economy measures at the national level.

Table 10: Poverty risk rate and number of people below poverty line

	2009	2010	2011	2012	2013
Poverty risk rate (% people)					
Slovenia	11.3	12.7	13.6	13.5	14.5
Number of people below poverty line					
Slovenia	223,000	254,000	273,000	271,000	291,000

Source: SURS

The poverty risk rate varies depending on the activity status of individuals. Risk of poverty rate is much higher for the unemployed. What is particularly problematic is the relatively high risk of poverty even with self-employed.

Table 11: Poverty risk rate by activity status of individuals (in %)

Activity status of individual	2013
Active	7.1
Employed	4.6
Self-employed	27.9
Inactive	22.0
Unemployed	46.2
Seniors	17.5
Other inactive	16.8
Total	14.5

Source: SURS

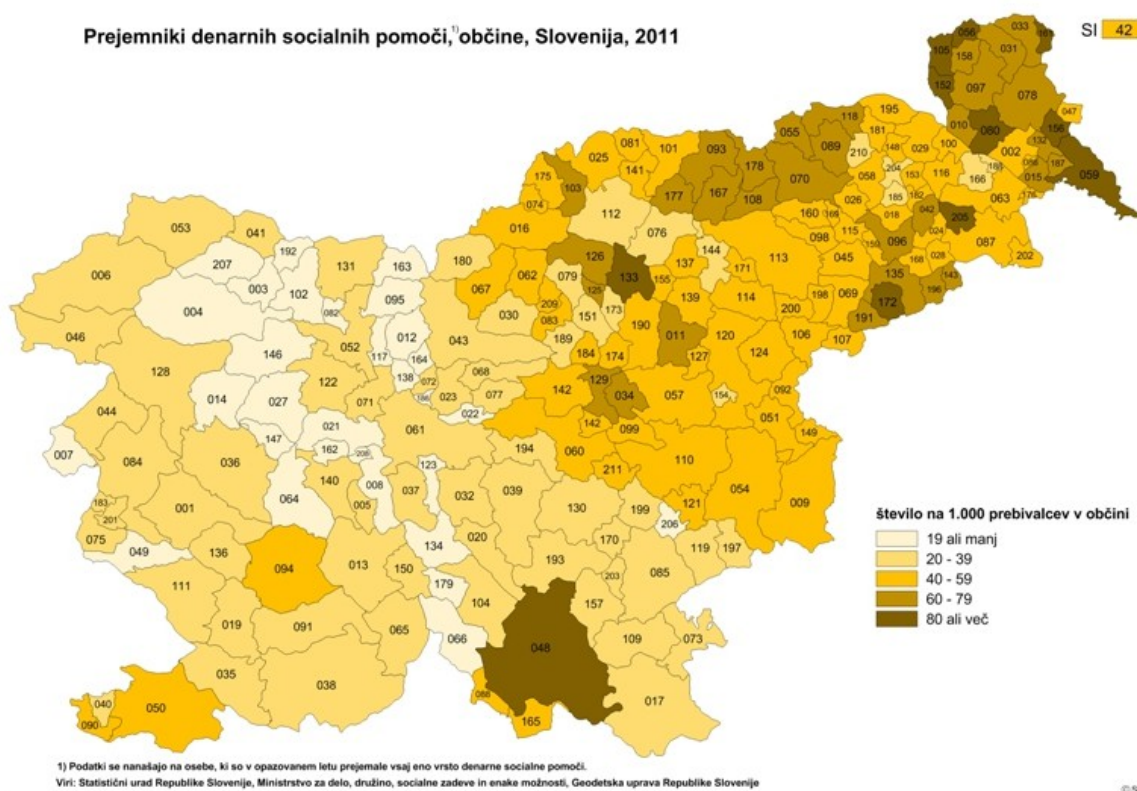
Recipients of social support

Social support is given to those individuals, who cannot provide means for their minimum survival needs, due to the circumstances, which they cannot control. The average value of state support in 2013 was € 253.29²¹. There is no comprehensive statistics in this area. Data on the number of different recipients of social support are available for 2010 (94,000 recipients²²) and 2011 (86,000 recipients²³). Geographically, the majority of recipients of social support are in the municipalities of the eastern part of the Slovenia, in Pomurje (66.2 / 1,000 inhabitants) and the Podravje statistical region.

21 MDDSZ: http://www.mddsz.gov.si/si/uveljavljanje_pravic/statistika/denarna_socialna_pomoc/

22 SURS: <http://www.stat.si/obcinevstevilkah/Vsebinska.aspx?leto=2012&ClanekNaslov=SocialnaDenarnaPomoc>

23 SURS: <http://www.stat.si/obcinevstevilkah/Vsebinska.aspx?leto=2013&ClanekNaslov=SocialnaDenarnaPomoc>

Figure 1: Recipients of social support by municipalities, 2011


Source: SURS

4.3 ENERGY INDICATORS

Energy consumption

In 2013, Slovene households used a total of 48 474 Tj of energy²⁴. There is a trend of increasing the share of wood fuel in the fuel mix and steady decline in the use of heating oil, which can be connected with the rise of heating oil prices and relatively inexpensive wood-based fuels.

Table 12: Energy consumption in households (in Tj)

	2011 ²⁵	2012 ²⁶	2013
Total energy consumption in households	49,380	49,696	48,474

Source: SURS

24 SURS: http://www.stat.si/novica_prikazi.aspx?ID=6564

25 SURS: http://www.stat.si/novica_prikazi.aspx?id=5164

26 SURS: http://www.stat.si/novica_prikazi.aspx?id=5803



Table 13: Share of different energy sources used in households (in %)

Energy carrier	2011	2012	2013
Wood fuels ²⁷	35	40	41
Electricity	23	23	24
Heating oil	19	16	13
Natural gas	10	10	10
District heating	8	7	7
Other	5	4	5

Source: SURS

Share of the energy consumption in relation to the purpose of their use remains relatively constant in recent years. Most of the energy is consumed for heating space and water, a total of over 80% of energy consumption in households. For this reason, it is reasonable to focus precisely on these two areas with energy efficient measures to reduce energy poverty. A significant potential remains for measures for reducing energy use for heating, where significant savings can be achieved with systematic and continuous programs for energy efficiency in residential buildings.

Table 14: Share of energy consumption in households by purpose (in %)

Purpose of energy consumption in households	2011	2012	2013
Space heating	62	62	61
Water heating	19	19	20
Lighting and electrical devices	14	14	14
Cooking	5	5	5

Source: SURS

Table 15: Purpose of electricity consumption in households (in %)

Purpose of electricity consumption in households	2011	2012	2013
Electrical devices ²⁸	52	44	50
Water heating	20	19	20
Space heating	12	21	15
Lighting	8	8	7
Cooking	8	8	8

Source: SURS

27 Includes: wood chips, wood waste, firewood, pellets, briquettes

28 Includes: household appliances, TV sets, computers, ACs and other electricity consuming devices

Space heating systems in households

In 2011, according to the Census, 68.5% of apartments had central heating, 15.4% district heating, 13.2% used other ways of heating. 2.9% of apartments did not have a heating system.

Table 16: Type of heating in households (in %)

Type of heating in households	2011	2012
Central heating	68.5	78
District heating	15.4	9
Other ways of heating	16.1	13

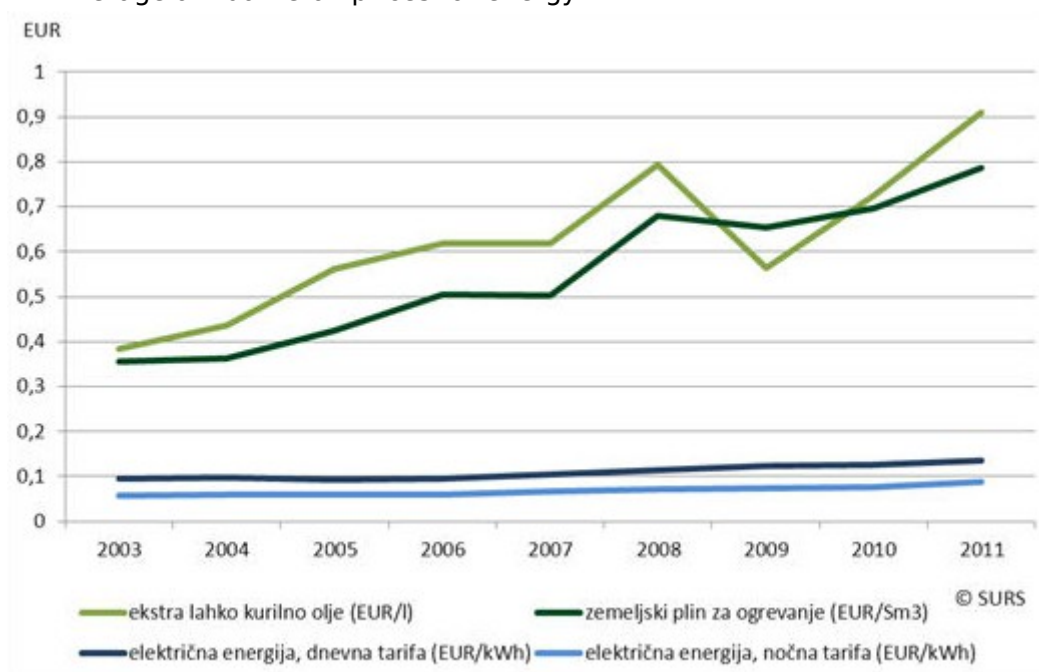
Source: SURS

Energy prices

Energy prices have a significant impact on the amount and structure of energy consumption. Low-income households are therefore increasingly opting for cheaper energy, primarily for wood, or they simply disconnect from the district heating system, which they then replace by heating with electricity. A particular problem arises due to increasing use of wood as it is often burned in older, inefficient furnaces with no cleaning system, which results in poorer air quality.

According to SURS, for the period 2003-2011, the average retail price of heating oil increased by 137%, natural gas by 121%, night electricity tariff by 56%, the daily tariff by 42%. After 2011, mainly electricity prices growth is noticed, while the prices of other energy sources do not show significant growth.

Chart 1: Average annual retail prices for energy



Source: SURS

Table 17: Average price of energy for households, including all taxes, levies and charges (in EUR)

	2011	2012	2013	2014
Natural gas (EUR/Sm3)	0.757	0.801	0.722	0.708
Electricity (EUR/kWh)	0.146	0.152	0.160	0.160
Heating oil (EUR/l)	0.913	1.014	1.009	1.013
District heating (EUR/kWh)	0.054	0.060	0.058	0.057

Source: SURS

4.4 INDICATORS OF ENERGY POVERTY

Share of available resources that households pay for energy

According to the Survey on consumption of households in 2010, households spent on average 6.8% of their available resources for electricity, gas and other fuels. The share had not changed significantly since 2000, when it stood at 6.7%. The lowest was between 2003-2005, when it stood at 6.3%, and the highest was in 2010. But there are differences across income quintiles. The share of households assets for energy also increased, the most in the first income quintile, from 13.1% to 17.4%. There was a slight increase in the second and third income quintile. Thus the share in second quintile had already exceeded 10% in 2008.

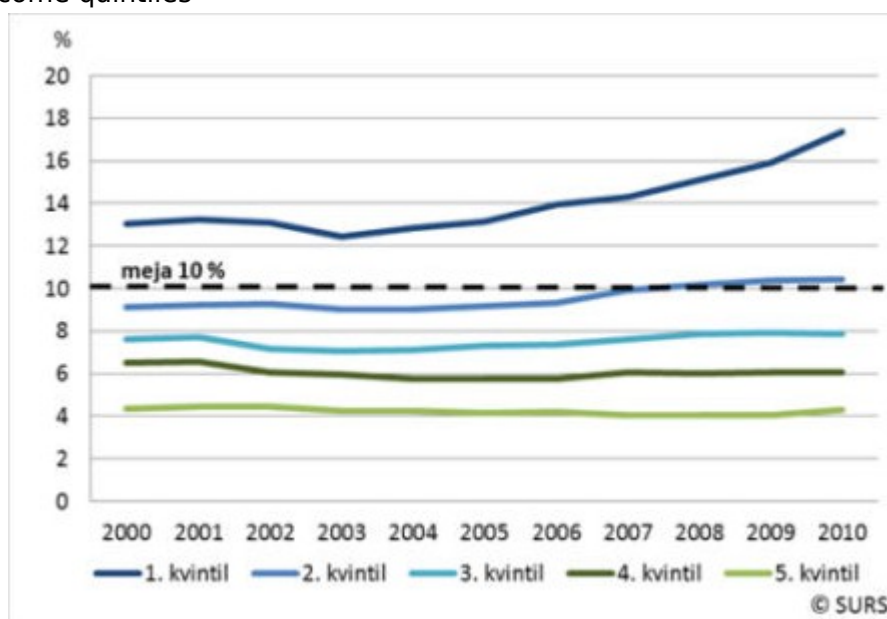
According to this data and the definition, that an energy poor household is a household that spends more than 10% of their income for their energy needs, more than 30% of households in Slovenia are energy poor – as shown in the analysis of the Office for Macroeconomic Analysis and Development (UMAR).

Table 18: Share of available resources of households used for electricity, gas and other fuels, by income quintiles (in %)

	2002	2004	2006	2008	2010	Difference between 2002 and 2010
1. quintile	13.1	13.9	14.3	15.1	17.4	4.3
2. quintile	9.3	9.3	10.0	10.2	10.4	1.1
3. quintile	7.2	7.4	7.6	7.9	7.9	0.7
4. quintile	6.1	5.8	6.0	6.0	6.1	0
5. quintile	4.4	4.2	4.0	4.0	4.3	- 0.1
Average	-	-	-	6.6	6.8	-

Source: SURS and UMAR

Chart 2: Share of available resources of households used for electricity, gas and other fuels, by income quintiles



Source: SURS

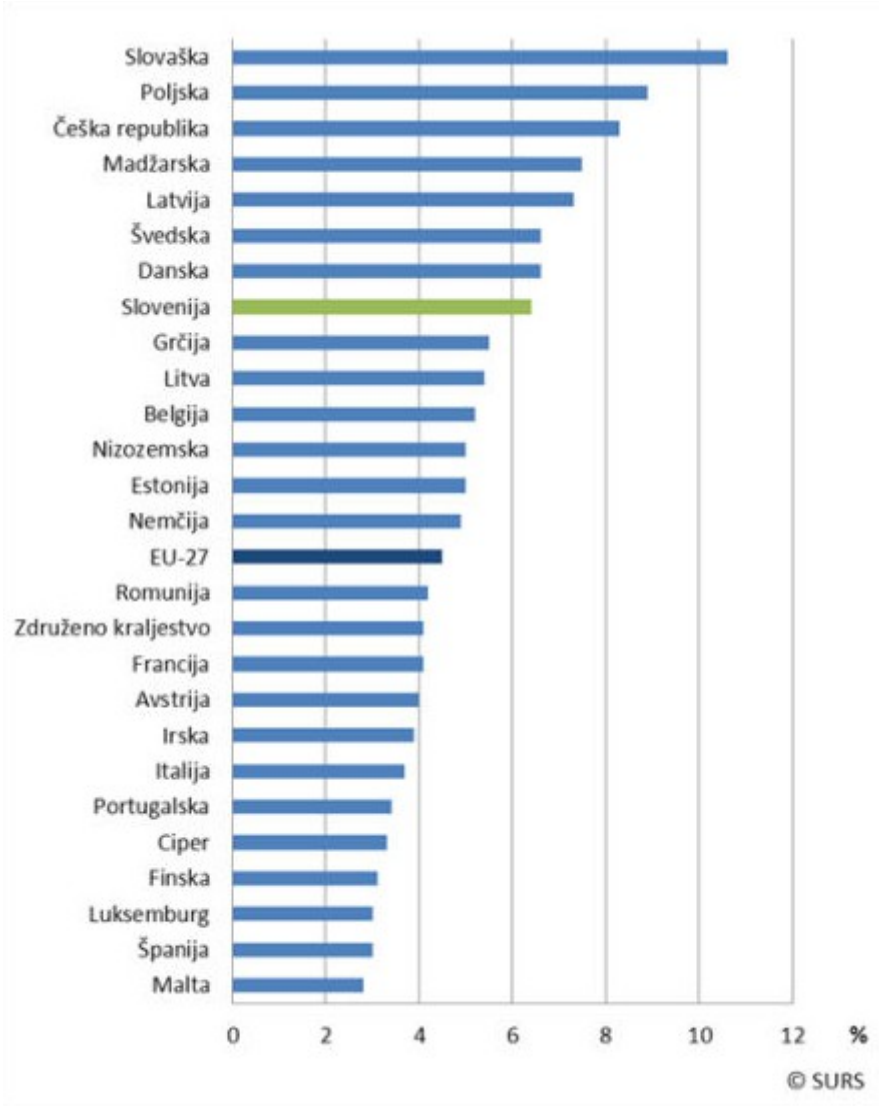
According to the Statistical Office, in 2010 households in Slovenia on average spent 6.4% of total final consumption expenditure for electricity, gas and other fuels²⁹. In comparison with other EU member states this share was among the highest. EU-27 average in 2010 amounted to 4.5%. Shares vary between

²⁹ Slightly lower number than in previous paragraph, due to different methodology used in research.



countries due to the different purchasing power of the population, energy prices, state of the housing stock, climate, etc.

Chart 3: Share of expenditure for electricity, gas and other fuels from the total expenditure of households' final consumption, 2010



Source: SURS and Eurostat

Proportion of households which are unable to provide adequately warm home

SILC survey on the share of households that are unable to provide adequately warm home predictably shows that the problem is acute in low-income households. In 2013, there were 13.1% of households whose income was below 60% of median income. Households with a population of only one person and



households with one parent and one or more children are especially vulnerable. Data for these critical groups are presented in the table below.

Table 19: Percentage of households which are unable to provide adequately warm home

Share of households (%)	2009	2010	2011	2012	2013
Households below 60% of median income					
One person, under 65	19.3	18.1	15.5	25	13.8
One person, above 65	11.7	16.8	16.2	16	16.1
One adult with one child	9.6	19.8	12.1	21.8	21.8
Total	11.5	13.1	12.4	17.3	13.1
Households above 60% of median income					
One person, under 65	4.4	7	4.3	8.6	6.8
One person, above 65	4.4	7.3	7.7	7.2	9
One adult with one child	7.9	3.3	7.7	7.7	6.1
Total	3.7	3.5	4.2	4.3	3.5
All households					
One person, under 65	9.8	10.7	8.9	14	8.7
One person, above 65	8.1	11.5	11.5	10.9	11.8
One adult with one child	8.4	8.5	9.1	11.4	10.8
Total	4.6	4.7	5.4	6.1	4.9

Source: Eurostat

In 2013, 4.9% of households in Slovenia, which were included in the survey of Eurostat, stated that they are unable to provide adequate warmth of their home. Average number for EU level was 10.8%. In Sweden this share is the lowest - 0.8%, while the situation is completely different in Bulgaria, where 44.9% of households cannot provide adequate warmth of their homes.

According to the Statistical Office, in 2010 approximately 6% of households could not afford adequately warm home³⁰. There are differences according to income quintiles, in the lowest income category, 13% of households could not afford adequately warm home, but only 1% in the highest income category. Regarding the type of household, sufficient heating is hardest to provide in one-person households, and regarding the residential status, in rented apartments (tenants).

³⁰ Slightly higher number than in previous table, due to different methodology used in research.

Number of disconnections from the electricity grid in households due to failure to pay the bills

In 2013, there were 6,877 disconnections from the electricity grid in Slovenia due to failure to pay the bills³¹. The number of disconnections is lower than in 2011, and the issue does not receive wider attention.

Table 20: Number of disconnections from the electricity grid in households due to failure to pay the bills

	2011	2012	2013
Number of disconnections	8,037	6,577	6,877
Share of disconnections in the total number of households (%)	0.98	0.80	0.83

Source: Agency RS for energy

Share of population living in dwellings with leaky roof, damp walls, foundations, floor, or rotten window frames, floor

According to SILC research³², there is relatively high proportion of population who live in the apartment with leaky roof, damp walls, foundations, floor or rotten window frames, floor. In 2013, 27% of the population lived in such conditions. The average in EU is 15.7%, which means that Slovenia is in the top. Only Portugal, Cyprus and Latvia have a higher share. Among low income households³³, this proportion is 39.6%.

Table 21: Share of population living in dwellings with leaky roof, damp walls, foundations, floor, or rotten window frames, floor

	2009	2010	2011	2012	2013
Households below 60% of median income	40.9	47	47.2	46.1	39.6
Households above 60% of median income	29.2	30.3	32.7	29.3	24.8
Total	30.6	32.4	34.7	31.5	27

Source: Eurostat

5. WAYS TO DEFINE ENERGY POVERTY IN SLOVENIA

5.1 PROBLEMS WITH EXISTING DEFINITIONS

There are certain problems with the existing definitions of energy poverty. For example, definition that energy poor household is a household that spends more than 10% of its annual income for covering energy needs, includes not only low-

31 Agency RS for energy: Report 2013. Available at: <http://katalogi.studio8.si/jarselp2013/files/assets/basic-html/page78.html>

32 EUROSTAT: http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database

33 Below 60% median income

income households, but also households with above-average incomes, which have higher energy costs due to excessive or irrational use of energy.

If low income households with above-average energy costs are included in the definition, we favour households that live in big houses, where the heating costs are much higher. In this case, the measures that are linked to such a definition avoid households that live in small apartments and should also be involved in programs of reducing energy poverty.

Also, certain definitions do not distinguish between the basic energy needs or actual energy consumption, which is in some cases irrational (eg. room temperature in winter is 24°C). In such cases households that due to their irrational use consume too much energy could also be counted as energy poor.

Problems with the definition are related primarily to the fact that in the case of unsuitable definition of fuel poverty, if we bound measures and programs to it, we can address inappropriate target group (for example, households with above-average incomes who have irrational energy consumption), instead of concentrating to those most in need. These are certainly low-income households, that can not afford to finance measures to reduce energy consumption.

5.2 PROPOSED MEASURES ON THE WAY TO DEFINE ENERGY POVERTY

In the field of energy poverty not enough research has been done in Slovenia to be able to come up with some strong conclusions or appropriate definition of the term itself. Statistical Office has an extensive database and statistical information, but the statistical research should be extended to some other indicators. In particular, it is important to check the situation and indicators every year and for each statistical region, to to be able to have more relevant geographic data comparability and time tracking of the issue.

The issue of fuel poverty is sited in the social and also in the energy field, thus it is also necessary to explore relevant indicators from both areas. In particular, level of household income and poverty rate, in combination with energy prices, share of household expenditure on energy needs and situation in dwellings (energy efficiency, energy consumption in households, leaking roof, damp walls, etc.), are indicators that relate to the issue of energy poverty. Some of these indicators are presented and analysed in the previous chapters, but surely it would be necessary to include additional ones:

- state of buildings - whether they are isolated, how energy efficient they are, age and condition of windows;
- energy consumption for heating per apartment/household (and by household type);

- electricity consumption per apartment/household (and by household type);
- water consumption per apartment/household (and by household type);
- means used for energy and energy sources (separately, without costs for apartment and water).

In order to facilitate locating and addressing the relevant issue, the data must be available for individual statistical regions and municipalities, not only for the national level.

Income level, thermal efficiency, insulation and type of heating system determine the vulnerability of households to energy poverty³⁴. The older the building gets, less energy efficient it is and heating costs are getting higher. If the household relies on expensive heating, risk of energy poverty increases. People with low income are more likely to live in apartments that are thermally inefficient and expensive to heat, making them more liable to energy poverty. People who spend more time in their homes (because of unemployment, old age, disability, chronic illness) must maintain a higher home temperature throughout the day, which makes their heating needs greater and costs higher³⁵.

Energy poverty mostly affects low-income households, especially pensioners, unemployed and households that receive any form of social support. Their economic status is often associated with poor energy efficiency of their homes (poor insulation, old and inefficient heating systems, expensive energy source), and both are commonly associated with poorer health status (especially of the elderly). Energy poor households are often socially isolated. The main threats they face are primarily a risk for physical and mental health issues, degradation of the state of the apartment and excessive debts. All of these aspects need to be considered in determining the definition of energy poverty and in the planning of programs that address energy poverty.

Countries that do not have a formal definition of energy poverty, use financial indicators to identify households at risk of energy poverty. Measures are directed to the households living below the poverty line, who are the recipients of social or financial support and those who, due to inability to pay bills, are disconnected from the energy supply. This is also the situation in Slovenia; program of free-of-charge energy advising for energy poor households carried out by the ENSVET network, is targeted at households receiving social support.

34 Thomson, Harriet 2013: The EU Fuel Poverty Toolkit: an introductory guide to identifying and measuring fuel poverty. University of York.

35 ACHIEVE, 2011: Focus groups: report with guidance transferable to other regions. Available at: http://www.achieve-project.eu/index.php?option=com_phocadownload&view=category&download=51%3Aguidance-and-results-for-local-focus-groups-d24achieve&id=1%3Aeu-targetareas&Itemid=6&lang=eue



Problem with some programs to reduce energy poverty is that they inadequately address low income households. For example, administrative procedure for financial support for energy efficiency measures for low income households might be too complex. Extensive or incomprehensible administrative requirements often discourage households with lower income to apply for the program. It is therefore necessary to adapt programs and mechanisms, which are intended to energy poor households, in a way to facilitate the application, to adjust the communication and to provide constant support and the necessary information.

However, it would be beneficial if there would be legally accepted definition of energy poverty at the national level, because the existing assistance programs could be expanded on its basis and new programs could be launched. It is important that the definition of energy poverty is adapted to national specifics regarding energy prices, income levels and climate areas in which the country is located.

A possible definition could go in the direction of the proposal of dr. Brenda Boardman for a common European definition: energy poor household is a household, which spends more than twice the median (as a percentage of annual income) - medium or average value which is spent for the basic energy needs at the national level, for its basic energy needs. If we say that the median is 6%, then energy poor households are those households, that spend more than 12% of its annual revenue for their energy needs. In this way, the definition would not be set as an absolute, but as a relative value that varies in time. At the same time, it is able to monitor it. However, the limitation that only households whose income does not reach 60% of median household income in the country, could be added to the definition.

If we use the limit of revenues on 60% of the median income of households for the country, we could use the diction "households which pay above-average proportion of their annual revenue for basic energy needs", instead of the criterion "twice the median".

Because of the limitations and problems posed by the various definitions of the term, it would be necessary to examine in detail the advantages and disadvantages of certain definitions. Indeed, finding a suitable definition for Slovenia needs expert debate, supported by figures and studies. Relevant indicators (economic, social and energy), that will adequately address the level of energy poverty in the country and region by region, will need to be structured and taken into account. All relevant institutions and actors that have experience or knowledge in the field of energy poverty from energy, technical and social area need to be included in the discussion.

6. SUMMARY OF THE ANALYSIS

In Slovenia there is no official definition of the energy poverty. Still, indicators show that the situation has worsened over the past few years - households with lower income pay relatively more to cover their energy needs than few years ago. This means more effort in solving these issues will need to be invested to prevent it from deepening the problem.

Energy poverty research needs to be addressed more systematically. At the same time additional indicators need to be included in the statistical research. Based on research and professional debates of the relevant stakeholders, priority activity areas would need to be determined and answer to the question, whether the formal definition is needed to act in the field of energy poverty, should be obtained.

Despite the fact that there is no formal definition of the problem, the issue itself has gained in importance in recent years. Certain programs of energy efficiency measures for low-income households on the national level have been implemented. However, this is only the beginning, because the programs are set in modest way, even their results will not produce a significant improvement of the situation. Therefore, to reduce energy poverty in the country, the problem of energy poverty should be given a priority (both in social and energy policies and programs) and more resources and a wide range of measures, from soft to more financially demanding, should be implemented at various levels.

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