



EmpowerMed

Energy poverty situation in Primorska region *Deliverable D1.1*

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Introduction

The aim of this document is to explore the energy poverty situation in the EmpowerMed pilot area in Slovenia. This analysis seeks to describe the local situation in the pilot site, mainly focusing on the following aspects: identifying the households in energy poverty, assessing their needs, accessing channels to reach them and engaging the right actors. The document includes some of the relevant statistical data about the region, in particular social, economic and energy indicators, related to the issue of energy poverty.

By understanding the situation in the pilot site better, it will be possible to fine-tune the planned activities for tackling energy poverty in Primorska region.

1 Overall context

1.1 Scale of analysis and intervention

EmpowerMed's pilot area in Slovenia covers 4 municipalities that line up the coast of Slovenia, Koper, Izola, Ankaran and Piran. The main focus of the activities will be in the coastal city Koper, but the actions will also target the other 3 coastal municipalities.

Sometimes referred to as 'South Primorska', the area is part of Obalno-Kraška statistical region. Although this statistical region is wider than the pilot area itself, data about this statistical region will be used to illustrate the situation in the pilot area in cases when more detailed data for the pilot area is not available.

1.2 Basic socio-economic and environmental data¹

The surface of the selected pilot area that consists of 4 coastal municipalities in Slovenia is 384.2 km², and it has 88,244 inhabitants. The pilot area is estimated to have 36,928 households [1]. Average age of the population in Obalno-Kraška region is 44.1 years and for the national level it is 42.9. Obalno-Kraška region is covering 5% of Slovenia's surface and is home to 5 % of the Slovenian population. GDP per capita in the Obalno-Kraška region is 22,627 EUR and is second highest in Slovenia.


Figure 1: Map of Slovenia with highlighted Obalno-Kraška region



Source: [2]

The region has the highest share of foreign citizens in the population (9.7%). The average net monthly wage in 4 coastal municipalities (1030.16 EUR) is slightly higher than the Slovene average (1014.77 EUR). With almost 2.4 million of tourist stays, this region

¹ Unless specified differently, this section is based on [19] and [43].



generates the largest share of tourist stays in the country. Unemployment rate of 11.8% is the highest in the country. Relative difference between unemployment rate for female and male in the region (14%) is lower than the national average (21.6%), and on the municipal level it is the lowest in Ankaran (6.2%) [3]. Rate of risk of poverty is 8.7%, which is the lowest in Slovenia and far below the average (13.9%).

The main harbour of Slovenia is located in Koper, which creates employment opportunities, but mainly for low quality and often precarious jobs. Although in terms of GDP per capita the second richest region in Slovenia, about 3% of inhabitants are recipients of regular social support (the situation is the same in all three coastal municipalities), which in absolute terms represents about 2,000 people and their dependent members of the family. All three municipalities detect a trend of growing demand for social support in recent years (e.g. in Piran the number of recipients grew by 14% from 2015 to 2017).

The area is marked by Mediterranean climate (hot summers, mild winters) and shares other specifics, targeted by EmpowerMed:


- lacking or inefficient heating systems,
- lacking or inefficient cooling systems,
- poor insulation and general deterioration of buildings,
- tourism related low quality jobs and
- tensions in real-estate markets due to tourist demand for housing.

1.3 Key governance aspects of energy poverty

In Slovenia is that there is no official definition of energy poverty in Slovenia [4]. The term energy poverty occurs in some government policies, but there is no formal definition available. For example, the National Energy Efficiency Action Plan 2008-2016 [5] highlights the need to tackle energy poverty and envisages an energy efficiency scheme for low-income households. The National Energy Efficiency Action Plan 2014-2020 [6] also highlights the need to tackle energy poverty and lists a few possible schemes. In the European Cohesion Policy Operational Program 2014-2020 [7], € 5 million are earmarked to tackle energy poverty by subsidizing energy efficiency measures in 500 low-income households. The recently adopted National Energy and Climate Plan of the Republic of Slovenia [8] proposes several objectives on energy poverty, such as forming the official definition of energy poverty by 2021 and developing an action plan for combating energy poverty in Slovenia by 2023.

For now, the only two measures for alleviating energy poverty, mentioned in any of the national strategic energy documents, are the above-mentioned program ZERO and Program for reducing energy poverty in 500 households, financed from the Cohesion Funds. Both of them are included in the National Action Plan for Energy Efficiency, prepared in 2017 [9].

Currently, the closest to an existing official definition is that of the Statistical Office of the Republic of Slovenia, which monitors the phenomenon of energy poverty in Slovenia, defines it as "a situation in which a household is unable to provide adequately warm housing (and other energy services - heating of sanitary water, lighting, etc.) at an affordable price [10].




In practice, due to lack of definition on who can be categorized as energy poor, financial indicators are used to identify households at risk of energy poverty. The key indicator, which is used to qualify as energy poor for participating in Eco Fund's energy poverty alleviation programs, is receiving social or financial support [11]. So, in spite of not having a legal definition of energy poverty, in practice the energy poverty alleviation programs use the receiving of social or financial support as an indicator of energy poverty. This shows that action against energy poverty can be taken, in spite of lacking an official definition, yet it does not mean that Slovenia needs no official definition of energy poverty.

Governmental and national programs for energy poverty

Slovenian Eco Fund established programs for reducing energy poverty:


- Advising for households affected by energy poverty (ZERO): 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 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. 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 program is called ZERO and coordinated by the national Eco Fund. The number of visited households per year is around 250.
- 100% co-financing of replacement of private old stoves and furnaces on wood: Grants to socially disadvantaged citizens - recipients of regular financial assistance or protection allowance for the replacement of old combustion heaters with new wood biomass firing installations in residential buildings. It is valid at the entire territory of the Republic of Slovenia (the previous grant was only available in the municipalities with the adopted Air Quality Plan Ordinance). In municipalities, where other forms of heating fuel are prioritised due to poor air quality, the grant might not be applicable. The municipality provides the Eco Fund with information on the boundaries of the areas where another preferred mode of heating is specified, to the land plot exactly. The purpose of the public call is to replace PM10 particulate matter by replacing old combustion plants, thereby improving ambient air quality



and increasing the use of renewable energy sources and energy efficiency in residential buildings.

- 100% co-financing of replacement of old stoves and furnaces on wood in multi-flat buildings: The scheme provides a non-refundable financial incentive to citizens for new investments in the replacement of old combustion boilers in joint boilers owned by owners, co-owners or condominium owners of multi-apartment buildings (ie buildings with three or more apartments) in the Republic of Slovenia. The purpose of the public call is to increase the use of renewable energy sources and to increase the energy efficiency of multi-dwelling buildings and to reduce PM10 particulate pollution, thereby improving the quality of ambient air. A non-refundable financial incentive can only be granted for the replacement of old or old combustion plants in a common boiler room of a multi-dwelling building with a new heating installation, namely: wood biomass firing plant; with a heat pump; with gas condensing boiler; with a heat station for connection to the district heating system; subject to the following restrictions on the allocation of incentives in certain areas. In municipalities, where other forms of heating fuel are prioritised due to poor air quality, the grant might not be applicable. The municipality provides the Eco Fund with information on the boundaries of the areas where another preferred mode of heating is specified, to the land plot exactly. The call is open for all citizens of Slovenia, but for the recipients of regular financial social assistance, which are the condominium owners, the Eco Fund reimburses the full cost of their share of the investment in renovation of common boilers. For other citizens the support is only up to 25% of the investment.
- 100% co-financing of energy refurbishment of dwellings in multi-apartment buildings: Non-refundable financial incentives for joint ventures in buildings with three or more parts are now granted in addition to multi-dwelling buildings as well as multi-owner residential and commercial buildings. Incentives are thus aimed at individuals and all legal entities under private law. The purpose of the public call is to increase the energy efficiency of older buildings. Measures can be
 - thermal insulation of the façade, exterior wall / floor or wall against the ground,
 - thermal insulation of a flat roof, sloping roof or ceiling against a non-heated space / attic,
 - thermal insulation of ground in the ground or floor above a non-heated room / cellar,
 - optimization of the heating system,
 - installation of ventilation with the return of waste air heat.

A new program is about to be launched for tackling energy poverty. 5 million EUR from the Cohesion Funds are available for reducing energy poverty in 500 households. The measures are going to focus on energy retrofitting of dwellings (e.g. insulation of walls, floor and/or roof, replacement of windows, replacement of inefficient heating systems). It started at the Ministry for Infrastructure, but its implementation was passed to the Eco Fund. Although the program was included in the Operative program for Cohesion Funds and then



later also in the National Action Plan for Energy Efficiency in 2017, it is still not in the implementation phase, for the most part due to the inactivity of the Ministry for Infrastructure (for several years they did not prepare the program activities). The program should be completed by end of 2022.

Social services involvement in energy poverty

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 ZERO. The role of Social work centres is to promote the free-of-charge energy advising and to collect the households' applications. Households that receive social support and income support are eligible for the program.

Apart from that, monetary support schemes that the centres for social work provide are either general (e.g. child supplement) or aimed at specific situations (e.g. funeral support). Among the monetary support schemes, the ones that could be linked to energy poverty situations are:

- Extraordinary financial social assistance: a special form of financial social assistance for extraordinary expenses related to subsistence that cannot be covered by their own income;
- Security supplement: It covers the costs of living that incurred over a long period of time (costs of maintaining a home, replacing durable consumables, etc.) and are not costs to meet the minimum living needs.


Among subsidies, the following schemes are relevant for tackling energy poverty situations, but still not closely related: reduced payment for kindergarten, subsidies for meals for children, subsidy for rent. In the rights for parental care, the following could be related to energy poverty situations, but again not strictly linked to energy poverty: maternal or paternal leave, supplements for parenthood, supplements for large families, support in buying the highway vignette (transport poverty).

Other programs for reducing energy poverty

Caritas Slovenia [12]

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 (e.g. building insulation, replacement and optimization of the heating system, thermostatic valves, replacement of windows, sealing windows).

Apart from that, Caritas is occasionally also paying for basic bills of the family and helping to overcome emotional distress, difficulties in relationships, managing stress and setting your own boundaries.



Red cross Slovenia [13]

One of the fundamental tasks of the Slovenian Red Cross is to help the most deprived individuals and groups. Through social activity programs, the Slovenian Red Cross alleviates the plight of the unemployed, the homeless, the elderly, the sick, the lonely, and many individuals and families in need. Socially deprived individuals and families are assisted by the Red Cross of Slovenia on an ongoing and occasional basis, in particular with food packages, hygiene aids, clothing and footwear, furniture and household appliances. In addition, it provides for the implementation of neighbourhood assistance, organizes the operation of Red Cross stations, prepares meetings for the elderly, organizes and coordinates visits to sick persons, encourages the operation of self-help and personal development groups and intergenerational groups. Red Cross offers a possibility to support the purchase of household appliance.

Association of Friends of the Youth [14]

Slovenian Association of Friends of Youth (SAFY) is a non-governmental, voluntary, humanitarian and non-profit organisation. It runs program called 'Chain of Good People' that aims to provide as many programs as possible to families with young children across Slovenia, while at the same time raising public awareness and social networking to address the pressing problems that poverty brings with them, not only at the individual level, but at the level of the entire Slovenian and wider society. The purpose of the project is to build a healthy core of our society that will be able to catch even those who lose their footing for a moment, and will offer them a new opportunity to become an active member of our society again. When family is accepted into the program, it is often financially exhausted and cannot even cover the most essential living expenses. If necessary, the most urgent living expenses and debts are paid, together with an assessment of the financial situation and making a plan for how to proceed. For families whose financial or housing distress is particularly difficult, a charity fund is organised, and with the help of supporters and the public, dedicated funds are raised to cover debts or regulate the most urgent living conditions. Recently in media the organisation highlights situations of energy poverty, hence this scheme is relevant. It is partially a financial scheme, but not entirely.

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

2 Identifying households in energy poverty

2.1 Key energy poverty indicators

Along with the rest of Slovenia, energy poverty in Obalno-Kraška region is becoming an increasing problem as rising energy prices surpass the rise of income of the population. Thus, the expenditure for energy for households in the first income quintile² in 2015 represented 17.7% of all available resources of individual households. households' available income (in 2000: 13.1%) [15].

In the absence of adequate data on energy poverty for the regional and municipal level, only available indicators that show the regional and local picture are presented in this document. For creating a broader picture about the state of energy poverty in Slovenia, it is advisable to read the following reports:

- Primc, K., Slabe Erker, R., and Majcen, B. 2018. Energetska revščina v Sloveniji. Ljubljana, Inštitut za ekonomska raziskovanja. [16]
- Stegnar, G. et al. 2018. Podnebno ogledalo 2018: Ukrep v središču – Energetska revščina. Ljubljana, Inštitut "Jožef Stefan". [17]
- OpenExp. 2019. European Energy Poverty Index (EEPI): Assessing member states' progress in alleviating the domestic and transport energy poverty nexus. [18]

Extent of the housing stock [19]

In 2016, according to Statistical Office of Republic of Slovenia (SURS), there were 845,415 dwellings in Slovenia. In Obalno-kraška region there were 54,914 dwellings, and in 4 selected municipalities total of 43,118 dwellings. Regarding the number of apartments or dwellings per 1000 inhabitants, the region (487 dwellings per 1000 inhabitants) is above the national average (410). The numbers are especially high in Piran (582), Ankaran (580), and Izola (513) and can most likely be connected with the fact that in the region many people from other regions own a second home or the facilities are meant for tourism.


Average size of dwellings [19]

Average floor space of dwellings in Slovenia is 80 m². In Obalno-kraška region the average size of dwellings is slightly smaller (76 m²). Data for 4 selected municipalities shows that the dwellings there are even smaller than the regional average, with municipality of Izola with smallest average dwellings (67 m²), mainly because the coastal region historically had specific type of construction and buildings, the cities have old city centres with smaller dwelling units, also the region hosts many tourists and second homes.

Table 1: Average size of dwellings (in m²), data for 2016 [19]

	Municipality of Koper	Municipality of Izola	Municipality of Piran	Municipality of Ankaran	Obalno-kraška region	Slovenia
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² 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.



Average size of dwellings (in m2)	76	67	70	68	76	80
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Number of households and household members

Data for 2018 show, that Slovenia had population of 2,028,084, and 824,618 households. Average household had 2.46 members [20]. The smaller the household, the relatively higher are energy costs per person.

Table 2: Number of households in Slovenia and 4 municipalities, according to the number of household members, data for 2018 [21]


Households with:	Households - TOTAL	1 member	2 members	3 members	4 members	5 members	6 + members
SLOVENIA	824.618	269.898	209.573	152.959	122.195	43.327	26.666
Ankaran/Ancarano	1.409	544	360	244	157	66	38
Izola/Isola	7.066	2.692	1.830	1.285	924	220	115
Koper/Capodistria	20.400	6.555	5.088	3.881	3.018	1.059	799
Piran/Pirano	8.053	3.346	2.090	1.354	856	258	149

Age of building stock [22]

On the national level, 20.5% 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. After 2005 only 8% of apartments were built. With 64.4% of dwellings built before 1981, it means that most of the housing stock was built before the appropriate standards for energy efficiency were adopted. Almost 81% of apartments are older than 30 years. Thus most of the housing fund is energy inefficient and needs energy refurbishment.

Table 3: Year of construction of dwellings in Slovenia and in 4 municipalities, data for 2018 [22]

	SLOVENIA		Izola		Koper		Piran		Ankaran	
Period of construction	Number of dwellings	Share (%)	Number of dwellings	Share (%)	Number of dwellings	Share (%)	Number of dwellings	Share (%)	Number of dwellings	Share (%)
TOTAL	852181	100,0%	8311	100,0%	22846	100,0%	10372	100,0%	1870	100,0%
Before 1919	114845	13,5%	1903	22,9%	4997	21,9%	3393	32,7%	136	7,3%
1919-1945	56998	6,7%	301	3,6%	787	3,4%	303	2,9%	39	2,1%
1946-	79832	9,4%	232	2,8%	1612	7,1%	329	3,2%	71	3,8%



1960										
1961-1970	122113	14,3%	705	8,5%	2918	12,8%	946	9,1%	155	8,3%
1971-1980	174693	20,5%	1330	16,0%	4352	19,0%	2215	21,4%	351	18,8%
1981-1990	139361	16,4%	1451	17,5%	3193	14,0%	1603	15,5%	495	26,5%
1991-2000	63134	7,4%	799	9,6%	1495	6,5%	681	6,6%	378	20,2%
2001-2005	32669	3,8%	652	7,8%	933	4,1%	409	3,9%	59	3,2%
2006-2010	- 44460	5,2%	465	5,6%	1654	7,2%	357	3,4%	160	8,6%
2011-2015	- 15620	1,8%	264	3,2%	707	3,1%	71	0,7%	15	0,8%
2016-2020	- 8456	1,0%	209	2,5%	198	0,9%	65	0,6%	11	0,6%


Ownership of apartments [23]

On national level, 80.8% 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 (11.5%) are apartments with another type of ownership or so-called user apartments (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 7.7% of rented apartments (included several types of renting: marketing, business, non-profit). Data for Obalno-Kraška region is slightly different, with lower share of proprietary apartments, as more dwelling are used for tourism.

Table 4: Ownership of occupied apartments in Slovenia and Obalno-Kraška region (in %), data for 2018 [23]

	SLOVENIA	Obalno-kraška region
	Share of apartments	Share of apartments
Proprietary (owner lives in the apartments)	80.8	76.3
Rented	7.7	8.1
Other type of ownership (users)	11.5	15.6

GDP per capita [24]



After the decline in GDP, which originated in the 2008 financial crisis, the GDP per capita is now growing. Obalno-Kraška region has second highest GDP per capita of all regions in Slovenia.

Table 5: GDP per capita (in EUR) in provided years for Slovenia and Obalno-Kraška region [24]

	2009	2012	2015	2018
Slovenia	17,758	17,626	18,830	22,083
Obalno-kraška region	19,176	17,840	18,795	22,627

Average income [25]

The average net salary in Slovenia in 2018 was 1092.74 EUR per month. Average salaries in Ankaran and Izola are just below the average salary on national level, while in Piran they are more than 100 EUR lower. On the other hand, in municipality of Koper, with highest population number out of 4 selected municipalities, the average net salary is above the national average.

Table 6: Average monthly net earnings in provided years (in EUR) for Slovenia and 4 municipalities [25]

	2009	2012	2015	2018
Slovenia	930.00	991.44	1013.23	1092.74
Ankaran	-	-	946.57	1073.09
Izola	884.55	946.66	973.99	1021.03
Koper	973.33	1016.36	1049.49	1122.34
Piran	908.52	943.01	920.28	961.93

Available assets of households [26]

In 2012, the largest share of the available assets of households presented income from employment (59.4%) and pensions with additions (25%). For households in the lowest two income categories (first two quintiles) the largest share of the assets were derived from pensions (in 1. quintile 62%, in 2. quintile 49.5%), for households in the higher income category, the income from employment is the main asset. First quintile also had a high share of social and family benefits (11.9%).

Table 7: Available assets of households, for average household (in EUR) in Slovenia, data for 2012 [26]

	1. quintile	2. quintile	3. quintile	4. quintile	5. quintile	Average
Available assets	6,048	11,911	17,627	25,939	45,313	21,375

Unemployment and employment rate [27]

Data on registered unemployment rate shows that unemployment is in decrease in last years. In 2016, 11.6% of active population in Slovenia was unemployed. grows every year. In municipalities of Ankaran (9%), Koper (9.8%), and Izola (10.4%) this rate was lower than the national average, whilst in Piran (11.9%) in was slightly higher.

Table 8: Registered unemployment rate according to the proportion of the active population (in %) in provided years, in Slovenia [27]

	2002	2013	2014	2015	2016
Slovenia	12.0	13.1	13.1	12.3	11.2

Poverty risk threshold [28]

The poverty line or poverty risk threshold is defined as 60% of median of equivalent available net income of all households. For household in Slovenia not to 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) in provided years, in Slovenia [28]

	2014	2015	2016	2017	2018
One-member household	7,146	7,399	7,396	7,628	7,946
Four-member household (2 adults + 2 children, younger than 14)	15,006	15,538	15,532	16,019	16,687
Two-member household (2 adults)	10,719	11,099	11,094	11,442	11,919

Poverty risk rate and number of people below the poverty line [29]

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 is decreasing in last years. The reason can be linked to the end of financial crisis that started in 2008.

Table 10: Poverty risk rate and number of people below poverty line in provided years, in Slovenia [29]

	2014	2015	2016	2017	2018
Poverty risk rate (% people)					
Slovenia	14.5	14.3	13.9	13.3	13.3
Number of people below poverty line					
Slovenia	290,000	287,000	280,000	268,000	268,000

The poverty risk rate varies depending on the activity status of individuals. Risk of poverty

rate is much higher for specific groups of individuals or households. Most vulnerable groups include households without working members, with dependent children; households with partially working adults, with dependent children; and single-member households. Groups of persons with the highest poverty risk rate are presented in the table below.

Table 11: Persons with highest poverty risk rate, for provided years, in Slovenia [30]

	2017	2018
	% of persons below the poverty line	
Depending on the work intensity of the household		
Households without working members, with dependent children	70.5	67.1
Households without working members, without dependent children	34.9	37.9
Households with partially (<0.5) working adults, with dependent children	35.5	46.3
Depending on the type of household		
Single-member households	37.1	40.0
Single-parent households	30.0	24.7
Depending on most common activity status in the year before the survey		
Self-employed persons	26.6	23.9
Unemployed persons	41.8	45.7
Retired women	19.5	21.7
Others inactive (housewives, students, unable to work etc.)	18.9	19.6
Depending on age and gender		
Women over 59 years	19.5	21.2
Depending on the tenure of the household		
Tenants	32.9	31.7
Depending on education		
Persons with elementary education or less	27.2	28.7

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. There is no comprehensive statistics in this area, hence data will be obtained in further research with the local Centres for Social Work.



Energy consumption³

In 2018, Slovene households used a total of 44,610 TJ of energy. The number shows a steady decrease, as in 2016 households used 48,026 TJ of energy in total. There is a trend of increasing the use of electricity, slight decrease of the share of wood fuel in the fuel mix and steady decline in the use of heating oil, which in 2011 represented 19% of all energy used in households. This can be connected to the rise of heating oil prices in the previous period.

Table 12: Energy consumption in households (in TJ), for provided years, in Slovenia [31]

	2016	2017	2018
Total energy consumption in households	48,026	46,908	44,610

Table 13: Share of different energy sources used in households (in %), for provided years, in Slovenia [32]


Energy carrier	2016	2017	2018
Wood fuels (wood chips, wood waste, firewood, pellets, briquettes)	42.2	40.8	39.4
Electricity	24.4	25.6	27.2
Natural gas	10.0	10.6	10.4
Heating oil	9.7	9.0	9.0
District heating	7.2	7.1	7.0
Other	6.5	6.9	7

Share of the energy use in relation to the purpose of its use remains relatively constant in recent years. Most of the energy is consumed for heating space and water, a total over 75% of energy used in households, with a tendency of slight decrease of the share for space heating. On the other hand, share of energy used for lighting and electrical devices is increasing. As the highest share of energy used is for space heating, measures focusing on energy efficiency and alleviation of energy poverty should focus this area, where significant savings can be achieved with systematic and continuous programs for energy efficiency in residential buildings.

Table 14: Share of energy use in households by purpose (in %), for provided years, in Slovenia [33]

Purpose of energy use in households	2016	2017	2018
Space heating	64.9	63.6	61.2
Water heating	15.6	16.0	16.8

³ Unless specified otherwise, the section is based on [31] and [32].



Lighting and electrical devices	15.0	15.8	17.2
Cooking	4.1	4.2	4.3
Space cooling	0.4	0.5	0.5

Table 15: Purpose of electricity use in households (in %), for provided years, in Slovenia [34]

Purpose of electricity consumption in households	2016	2017	2018
Water heating	18.6	18.4	18.2
Space heating	10.6	10.1	8.8
Space cooling	1.8	1.8	2.0
Cooking	7.8	7.8	7.9
Lighting	5.8	5.5	5.3
Refrigerators and freezers	11.6	11.3	10.9
Washing and drying machines	5.2	5.0	4.0
Dishwashers	3.5	3.5	3.4
Computers and TVs	6.8	6.4	5.4
Other	28.3	30.3	34.1

Space heating systems in households [35]

In 2018 80.2% of households in Slovenia had central heating, 9.5% of them were connected to district heating and 10.3% of households used other kind of local heating systems.

Table 16: Type of space heating in households (in %), for provided years, in Slovenia [35]

Type of heating in households	2017	2018
Central heating	80.0	80.2
District heating	9.2	9.5
Local heating	10.8	10.3

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.

Figure 1 shows changes of retail prices for households of individual energy products, and changes in households' incomes in Slovenia from 2011 to 2016. Rise of income does not lag behind rises of prices of energy products, except for electricity. Any increase in prices of energy is related to the deepening of the problem of energy poverty.

Figure 3: Average annual retail prices for energy and available income per person in Slovenia (index 2011 = 100) [16]

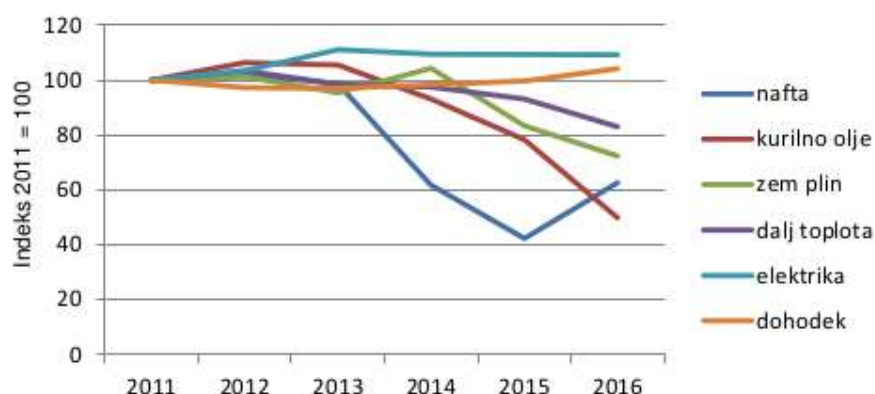


Table 17: Average price of natural gas and electricity for households, including all taxes, levies and charges (in EUR), for provided year, in Slovenia [36] [37]

	2016	2017	2018
Natural gas (EUR/Sm3)	0.0581	0.0539	0.0553
Electricity (EUR/kWh)	0.1601	0.1581	0.1585


2.2 Energy poverty issues in the pilot site

Energy poverty index

In the aspect of energy poverty in the EU countries, Slovenia is ranked in the lower half of the member states. Referring to the Energy Poverty Index Slovenia ranks below the average of the EU – at place 18 out of 28, and is found in company with countries, such as Malta, Romania, and Croatia, as seen in Table 18. Energy Poverty Index includes the proportion of the population from the Eurostat SILC database that is: a) unable to provide adequately heated housing; b) delays in utility payments; and c) lives in a dwelling with leaking roof, damp walls, foundations or floors, or broken window frames.

Table 18: Energy poverty index, 2015 [16]

Country	Index
Sweden	3.3
Finland	3.8
Luxembourg	4.7




Austria	5.1
Czech Republic	5.5
Slovakia	5.9
Netherlands	6.1
Germany	6.3
Estonia	6.3
Denmark	6.7
France	7.4
Belgium	8.4
Poland	9.0
UK	9.4
EU28	10.8
Spain	11.3
Ireland	11.7
Malta	12.1
Slovenia	13.9
Romania	14.1
Croatia	14.9
Hungary	16.0
Latvia	17.5
Italy	17.7
Portugal	20.9
Lithuania	21.9
Cyprus	25.8
Greece	28.9
Bulgaria	30.7

Share of available resources that households pay for energy

Focusing on the data for 2015, compared to 2008, the share of energy expenditure only in the first income quintile, from 15.1% to 17.7% of all available income [16]. For households in the second, third and fourth quintile, the share of expenditure for this purpose slightly decreased.

Table 18: Share of the available resources of households spent on energy in dwellings by income quintiles, (in %), for provided years, in Slovenia [16]

	2002	2008	2015	Difference between
--	------	------	------	--------------------



				2015 and 2008
1. quintile	13.1	15.1	17.7	2.6
2. quintile	9.3	10.2	10.1	-0.1
3. quintile	7.2	7.9	7.7	-0.2
4. quintile	6.1	6.0	5.9	-0.1
5. quintile	4.4	4.0	4.0	0.0

Housing conditions

Problems of poor housing and no proper heating are predominantly present in the first quintile. It is similar with the problem of too dark dwelling, while noise problems and environmental pollution are more equally distributed among the quintiles. Therefore we can state, that there is a connection between the level of household income and their housing conditions.

Table 19: Housing conditions according to household income, Slovenia, 2018 (in %) [38]

2018	Poor housing	No proper heating	Too dark dwelling	Noise problems	Environmental pollution
1. quintile	32	12	9	16	16
2. quintile	25	4	5	17	17
3. quintile	22	2	5	14	16
4. quintile	17	1	4	14	17
5. quintile	14	0	3	13	17

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. The share of those households has in total decreased from 2016 to 2018, but the problem is most persistent in the group of single member households, households with single person with dependent children, and even more in single female member households, especially in household below 60% of the median income. Data for most critical groups of households are presented in the table below.

Table 20: Percentage of households which are unable to provide adequately warm home, for provided years, in Slovenia [39]

Share of households (%)	2016	2017	2018
Households below 60% of median income			
One person, under 65	20.9	13.4	14.8
One person, above 65	16.1	21.5	15.7
Single person with dependent children	13.3	18.5	13.2

Single female	17.6	20.5	17.4
Total	14.2	11.5	11.4
Households above 60% of median income			
One person, under 65	4.3	4.1	2.8
One person, above 65	5.2	4.5	4.1
Single person with dependent children	8.0	3.2	5.3
Single female	5.1	4.5	4.3
Total	3.3	2.8	2.0
All households			
One person, under 65	10.1	7.6	7.5
One person, above 65	9.2	10.7	8.9
Single person with dependent children	9.4	7.8	7.2
Single female	10.2	10.9	9.8
Total	4.8	3.9	3.3

Number of disconnections from the electricity grid in households due to failure to pay the bills [40]

In 2018, there were 6,014 disconnections from the electricity grid and 337 disconnections from the natural gas grid in Slovenia due to failure to pay the bills. Since the share of disconnections in the total number of households is low (0.7% for electricity disconnections and 0.4% for natural gas disconnections), the issue does not receive wider attention. On the other hand, in 2018 17 households were supplied through the emergency supply scheme with natural gas, and no households with electricity.

Table 21: Number of disconnections from the electricity and gas grid in households due to failure to pay the bills, for provided years, in Slovenia [40]

	2016	2017	2018
Electricity			
Number of disconnections	6,045	5,770	6,014
Share of disconnections in the total number of households (%)	0.7	0.7	0.7
Natural gas			
Number of disconnections	531	427	337
Share of disconnections in the total number of households (%)	0.4	0.4	0.4

Share of population living in dwellings with a leaking roof, damp walls, foundations, floor, or rotten window frames, floor [41]

According to Eurostat SILC research, there is relatively high proportion of population in Slovenia that lives in the apartment with a leaking roof, damp walls, foundations, floor, or rotten window frames, floor. In 2018, 22.7% of the population lived in such conditions (in 2011 it was 27%). The EU average in 2018 was 13.9% of population, which means Slovenia is well above the average, with only Cyprus (30.2), Portugal (26.9%) and Latvia (23.5%) with higher shares of population living in above mentioned dwellings. Finland ranks top, with 4.6%.

In Slovenia, among households below 60% of median income, this proportion is 33.9% share of households. The problem is most persistent in the group of single member households who are above 65 years old, households with single person with dependent children. Data for most critical groups of households are presented in the table below.

Table 22: Share of population living in dwellings with a leaking roof, damp walls, floors or foundations, or rotten window frames or floor, for provided years, in Slovenia [41]

Share of households (%)	2016	2017	2018
Households below 60% of median income			
One person, under 65	29.9	31.7	31.0
One person, above 65	36.8	37.4	38.0
Single person with dependent children	39.5	30.0	34.3
Single female	32.5	29.6	34.0
Single male	34.9	41.6	35.4
Total	36.9	32.2	33.9
Households above 60% of median income			
One person, under 65	15.2	19.8	17.4
One person, above 65	19.4	20.0	20.4
Single person with dependent children	30.5	26.6	28.8
Single female	18.4	19.5	18.9
Total	21.8	20.5	21.0
All households			
One person, under 65	20.3	24.3	22.7
One person, above 65	25.8	26.3	27.7
Single person with dependent children	32.8	27.6	30.2
Single female	24.1	23.6	25.2
Total	23.8	22.0	22.7

2.3 Site-specific energy poverty drivers




The Slovene pilot area is marked by some specificities, related to its climate and position:

- Mediterranean climate: Mild winters, hot summers.
- Poor insulation: due to mild winters, it is not traditional in the area to make insulation
- Old building stock: majority of the buildings is old and not regularly renovated
- No or no proper heating / cooling system: due the climate, heating and cooling systems are almost absent
- Difficult access to housing: this is a rather recent issue (the last decade or so), it was not a major issue in the past. It is mainly linked to demand for buildings for tourism and second homes. Socially weaker have significant difficulties with finding accessible housing (both the real-estate prices and rents are very high in the area).
- Electricity based heating: due to lack of central heating systems, heating is mainly organized with electric heaters or air-conditioners.
- Lack of data on energy poverty / gender / summer energy poverty: Information on energy poverty is not collected and especially the segmentation of the people affected by energy poverty is poor.
- Income indicators as main indicators of energy poverty: Receiving social support is a proxy for determining energy poverty.
- Relation between energy poverty and low resources / income: Most often there is a clear link between low income and energy poverty, hence using income indicators as proxy indicators for energy poverty is not entirely wrong. However, the criteria for receiving social support are rather strict and it can be assessed that the people who are just not able to receive social support might actually also be in trouble (e.g. low salaries, low pensions).
- The area is one of the better-off areas in Slovenia: The Primorska area is second most developed area of Slovenia. However, the gaps are large and vulnerable parts of society are not able to meet a decent living. Although it is an economically strong region, not all the people are equally included in sharing the benefits.
- Jobs available, but many of them are precarious (harbour, tourism): Unemployment in the region is not among the most problematic ones in Slovenia, on the contrary: it is lower than the average of Slovenia. However, many jobs have a precarious character and are poorly paid – harbour workers, tourism workers.
- Energy advisory exists: In the area there are 3 energy advisors that belong to the national energy advising network ENSVET. They can be engaged in tackling energy poverty through program ZERO and beyond.
- Home ownership rates are high: Most of the people are owners of their homes. This is especially true for the elderly generation. It is often a problem that the owned house is large (because some part of it used to be rented to tourists) and cannot be maintained with poor pensions.
- Old towns, where renovation of buildings is subject to cultural protection; also, many houses are made of stone. Renovation of the housing stock can be challenging in the area due to the described specificity.

2.4 Main energy poverty typologies and target groups in the pilot site

Given the objectives of EmpowerMed, households at risk of energy poverty, especially



women or women led households, are the main target group. However, in the Primorska pilot site this group will be segmented in order to give priority to the most vulnerable subgroups of this group:

- Elderly (pensioners), mainly women: When talking to local social actors, they highlighted the group of pensioners to be the most vulnerable and exposed to energy poverty, especially the elderly women. This group is also most vulnerable from the health perspective.
- Single parent households, mainly single mothers: Another group to be highlighted as particularly vulnerable are the single parents, mainly single mothers.
- Unemployed and employed, but at a risk of poverty, mainly women: Households with unemployed people are highly prone to energy poverty, but often also the households with employed people are in trouble as the low incomes do not suffice for securing basic energy services.

The activities of the project will target about 440 households in the pilot area, which, at the average number of 2.5 people per household, will reach to altogether about 1.100 people.

3 Assessing the needs of targeted vulnerable households

3.1 Needs of the target groups

Research of the needs of the target groups is at the time being still ongoing. Results will be added when they are available.

3.2 Criteria for prioritizing actions

The following criteria will be used to prioritize actions of EmpowerMed in Slovenian pilot area:

- Unemployment
- Risk of poverty
- Receiving of social support

Unemployment and employment rate

Data on registered unemployment rate shows that unemployment rate in the Obalno-Kraška region is lower than the national average. On the municipal level, the lowest rate is in Ankaran (9%), and the highest in Piran (11.9%).

Table 23: Registered employment and unemployment rates according to the proportion of the active population (in %), for Slovenia, Obalno-Kraška region and 4 municipalities, in 2016 [42]

	Slovenia	Obalno-kraška region	Koper	Izola	Piran	Ankaran
Unemployment rate (in %)	11.2	10.1	9.8	10.4	11.9	9
Employment rate (in %)	59.6	60.4	61.6	60.1	57.8	62.7

Poverty risk rate and number of people below the poverty line

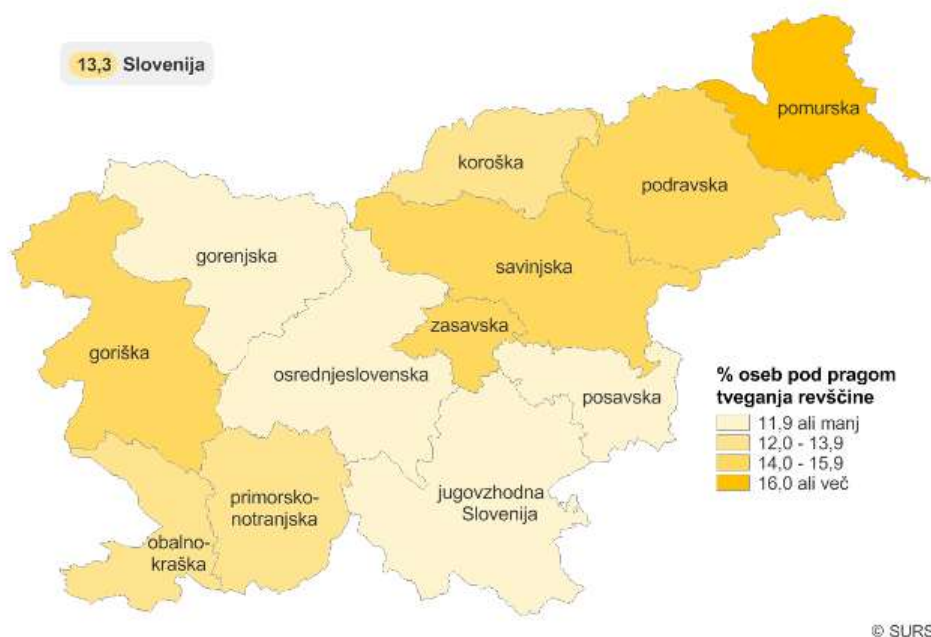
Poverty risk rate represents the percentage of people living below the poverty line. People below the poverty line are those living in households with available income below 60% of median equivalent available income in the country. Risk of poverty rate in Obalno-Kraška region is lower than the national average.

Table 25: Poverty risk rate and number of people below poverty line, for provided years, in Slovenia and Obalno-Kraška region [29]

	2014	2015	2016	2017	2018
Poverty risk rate (% of people)					

Slovenia	14.5	14.3	13.9	13.3	13.3
Obalno-kraška region	15.1	13.7	8.7	10.7	12.3
Number of people below poverty line					
Slovenia	290,000	287,000	280,000	268,000	268,000
Obalno-kraška region	15,000	12,000	6,000	8,000	9,000

Figure 4: Poverty risk rate in 12 statistical regions in Slovenia, 2018



Recipients of social support

There is no comprehensive statistics in this area, hence data will be obtained in further research with the local Centres for Social Work. Latest available information is from 2017, when about 3% of inhabitants were recipients of regular social support (the situation was the same in all three coastal municipalities), which in absolute terms represents about 2,000 people and their dependent members of the family. All three municipalities detected a trend of growing demand for social support in recent years (e.g. in Piran the number of recipients grew by 14% from 2015 to 2017).



4 Accessing target groups and engaging relevant local actors

4.1 Ways for approaching and recruiting the households

The main way to reach households will be communication through the centres for social support and other social actors, such as pensioners networks or Red Cross. The listed actors will reach out to households in different manners. The centres for social work and other social actors work directly with households affected by energy poverty, so they will reach out in direct contact/meetings with the households, but also with leaflets and placards. The other actors will reach out to households through meetings and presentations for households and through notifications for their members, after initial contacts also through snowballing.

So far the following manners of dissemination have been agreed upon with the local actors:

- Centers for social work: Three activities are planned with them:
 - presenting the action to the entire staff of Centers for social work in three municipalities
 - staff will promote activities in their direct meetings with users of the Centers (also by using leaflets)
 - Focus and Ecofund will run information desks at Centers for certain periods of time (once a week for several hours during the opening hours of Centers)

4.2 Key stakeholders and actors


Stakeholders and actors are all organizations and institutions that can support the campaign for recruitment and involvement of household affected by energy poverty or provide any other kind of support for the implementation of EmpowerMed project.

Identified stakeholders and actors in the pilot area:

- Municipalities (Koper, Ankaran, Izola and Piran),
- Centres for Social Work (Koper, Izola, Piran),
- local and regional social organizations (Caritas and Red Cross),
- People's University,
- local pensioners' associations,
- Youth and other civil society centres (Pina, Rotunda),
- other stakeholders on regional level (Employment offices,...).

4.3 Key actions against energy poverty in the pilot region by EmpowerMed

It will address the specifics of the coastal areas in several manners: the energy advisors of the national program will be additionally trained to work on cooling aspects in households, on detecting health impacts of energy poverty and on simple measures that



households can implement by themselves. As elderly women tend to be most affected, the project will build cooperation with pensioners networks to reach out to them. The project will, in task 3.4, provide support to households that wish to access free subsidies for energy efficiency measures (insulation, change of heating system...), given by the government, as demand for subsidies is evaluated to be low because of inability of households to handle the administration.

Because the Slovenian government is running a national program for visits for households in energy poverty, the project will not dedicate funds for visit implementation, but will rather focus on identification and reach out to the affected households. Namely, the national program is faced with the challenge of insufficient interest for visits, which the project will address through its activities.



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