ENERGY POVERTY ON THE AGENDA

TOOLKIT

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Analytica Skopje


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Purpose of the toolkit

The toolkit targets a broad group of stakeholders in North Macedonia working on energy, social, environmental, health, gender, climate, and related issues to inform them about the multidimensional aspects of energy poverty. Energy poverty affects at least one-third of the population in the country if the EU-SILC indicator about self-reporting inability to adequately warm the dwelling is followed. However, if energy poverty is understood more broadly in line with the recent studies, the share of the affected is much higher. Energy poverty is not the same phenomenon as income poverty measured by the Laeken indicator where the source for poverty calculations is incomes, and the poverty threshold is defined at 60% of median equivalized income. Energy poverty is a more complex issue that appears as a result of low incomes, but also the low energy efficiency of the dwellings, high energy prices, and the lack of systematic support to address this challenge.

The toolkit serves as a user-friendly, easy-to-read guide about key aspects of energy poverty with policy recommendations. It aims to put energy poverty on the agenda because it is a key issue North Macedonia is facing which will further increase in times of energy crisis and in the context of the energy transition. The EU-led energy transition aims to leave no one behind; therefore, it is high time to remove the stigma around recognizing energy poverty and consider the transition as an opportunity not only to fight climate change but rethink the current energy system, demand institutional good governance, and promote citizen-focused energy projects.

The toolkit was prepared as part of the project “Energy poverty on the agenda” implemented by Analytica in the period March-August 2023. It is structured in a way that discusses the various aspects of energy poverty and the issues it is closely related to, such as transport poverty and the use of fuelwood for coping with energy poverty. Then, it looks at issues such as drivers and consequences of energy poverty, as well rights, and new governance models within the energy transition to help alleviate energy poverty. It’s a starting point to strategically study energy poverty.

Methodology and methods

The toolkit builds on the newest academic and policy research on the topic supplemented by household interviews conducted in July 2023, as well as focus groups with CSOs working on the topic in April and June 2023.

The household interviews were collected online by using purposive sampling. 63 citizens responded, out of which 23 self-reports to be in energy poverty, however, if considered energy poverty as a broader issue, such as reducing other basic needs to able to pay the energy bills, the number of those who are energy-poor is higher. The questionnaire inspected various issues around energy poverty, including the newest developments about transport poverty, the lived experiences with coping with increased energy costs, as well as impacts on physical and mental health. The participants were also asked to evaluate the existing measures against energy poverty in North Macedonia and were able to discuss the drivers and consequences of energy poverty and propose measures to alleviate it. The value of citizen knowledge and participation is key to making the energy transition inclusive. The results from the interviews are not representative, but rather an in-depth understanding of the experiences of citizens and especially of those in energy poverty during the pandemic and energy crisis.

The focus groups were organized online with representatives of CSOs working on various aspects related to energy poverty, as well as members of the Climate Coalition "Together for Climate Action" of which Analytica is a member. The focus groups followed a methodology developed to reflect on the latest developments in the literature of energy poverty and offered an opportunity to the participants to give their reflections based on their experiences on the topic. 8 CSO representatives actively participated in the focus groups.

The secondary data used is academic and non-academic literature on energy poverty in Europe and North Macedonia specifically, including a PhD dissertation on energy poverty in North Macedonia. The toolkit also uses statistical data, policy documents, and media sources.

Introduction to energy poverty

There is no single definition of energy poverty. The most common academic is that energy poverty is the inability to attain a socially and materially necessitated level of domestic energy services [1]. This means that if a household is not able to get the needed level of energy services in the home – for cooking, cooling, heating, appliances, lighting, and hot water, is considered energy-poor. There is no single way of measuring energy poverty. Two of EU-SILC's indicators which are the most commonly used to measure energy poverty – are whether the household reports being able to heat the home adequately [2], and whether it reports having utility arrears [3].

Newer literature emphasizes that it is important to understand the lived experience of the energy poor [4], which means to be able to propose adequate measures against energy poverty, one has to understand what the energy poor are going through. For example, one might suggest that improving energy efficiency of the dwelling will lift households out of energy poverty. This is theoretically true, however, it is much more complex in real life, as households in energy poverty don't have funds for energy efficiency, and replacing one window wouldn't significantly change their situation.

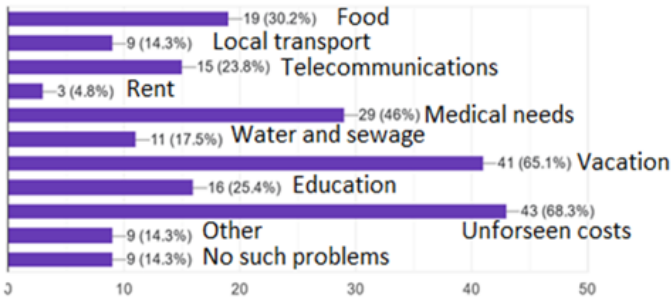
Furthermore, activists and academics have emphasized that the access to energy could be considered as a right. This notion of the 'right to energy' puts pressure on utilities and the role of the state to ensure citizens access to energy. Some suggestions include protection of vulnerable consumers through a ban on disconnections, social prices, and funded energy efficiency interventions [5]. In the same line, the focus is on demanding good governance because it's not people's fault that they are in energy poverty.

Energy poverty in North Macedonia has been shaped after the end of communism. The process of liberalization of the energy sector and the removal of energy price subsidies after the end of the communist system, in an absence of suitable energy, housing, and social welfare policies contributed to energy poverty in North Macedonia [6]. There are three main energy poverty drivers in the country: widespread material deprivation, the inefficient housing stock of large size and individually owner-managed dwellings, and over-dependency on subsidized electricity and fuelwood used with inefficient heating devices [7].

Material deprivation

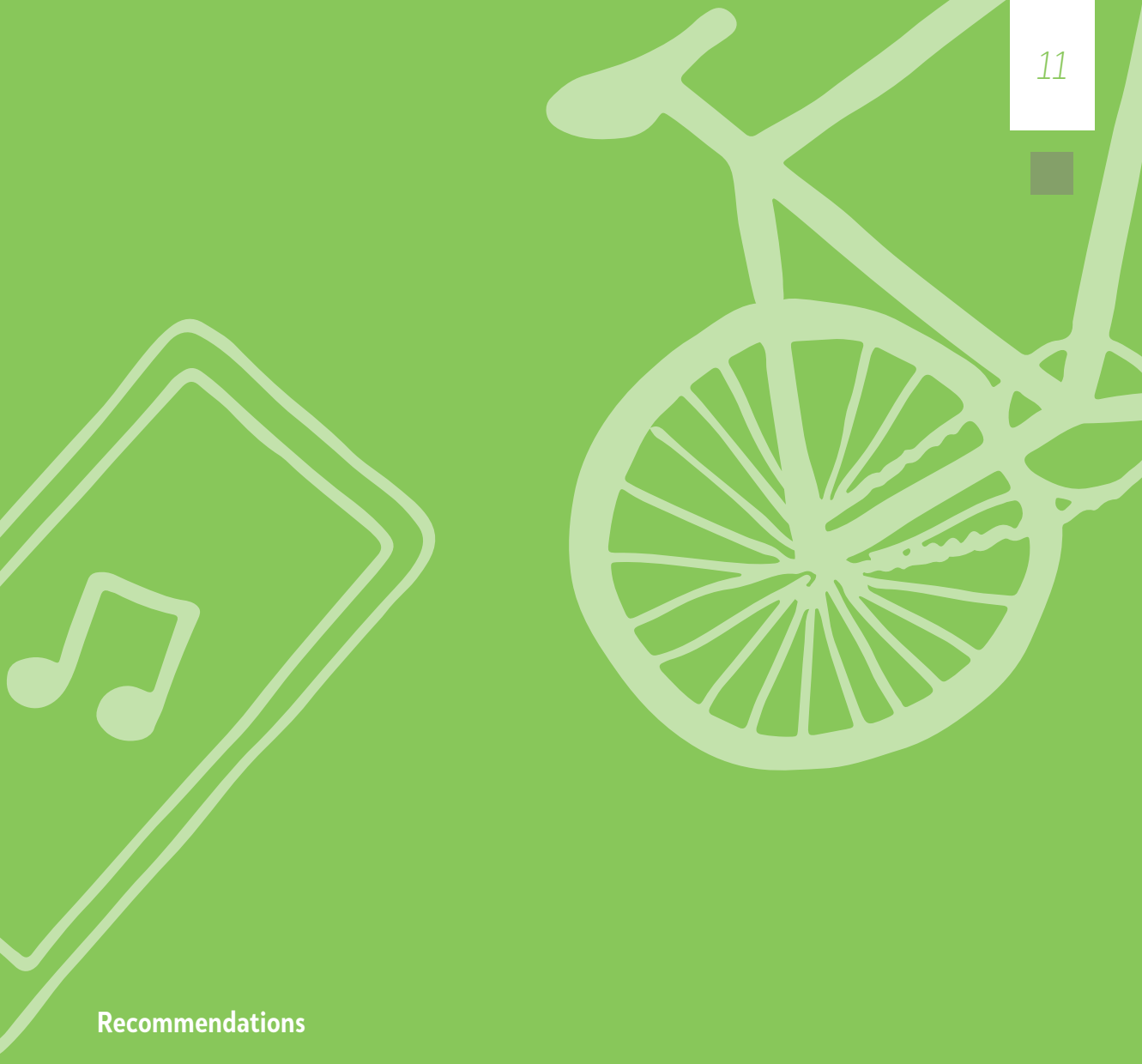
Energy poverty should be understood as an integral part of affording essential services. This is because in some cases individuals will report that they can adequately heat their home, but on the cost of minimizing other essential services, such as transport, communications, food, education, and similar [8]. In such cases, we can describe the situation as hidden energy poverty. Often households prioritize paying energy costs because they want to prevent being disconnected, or they minimize their heating needs, such as they heat one room [9].

Figure 1: Are you facing difficulties in covering other basic expenses such as (select all that apply to your case)



Source: Survey: 'How do you manage energy costs in times of energy crisis?' conducted in July 2023

Based on the survey, the participants could select one or more options about whether they faced difficulties in satisfying their basic needs. The results show that citizens are the least able to cover unforeseen costs. This indicates that they have no savings to invest in energy efficiency or renewable energy. Being able to afford a vacation is also a challenge. Only 9 out of 63 citizens didn't face any issues regarding satisfying their basic needs. This number is much lower than those who self-reported to be in energy poverty (23) which supports the argument to look at energy poverty broadly and the trade-off households do between energy and other basic needs. Covering medical needs is also a challenge for many citizens and these health impacts can be prevented by investing in healthy homes and clean energy technologies.



Recommendations

- **Energy poverty should not be considered an issue faced by a small minority, such as social welfare recipients targeted only by financial support to pay their energy bills.**
- **An intersectoral body should be established to study and monitor energy poverty as well as propose measures that take into consideration the trade-offs between satisfying various essential needs.**

Transport poverty

Transport poverty is an emerging concept often closely discussed with energy poverty. According to the European Parliament, transport poverty refers to the lack of adequate transport services necessary to access general services and work, or to the inability to pay for these transport services [10]. Transport energy poverty is a subset of transport poverty that refers specifically to vulnerability to fuel price increases [11].

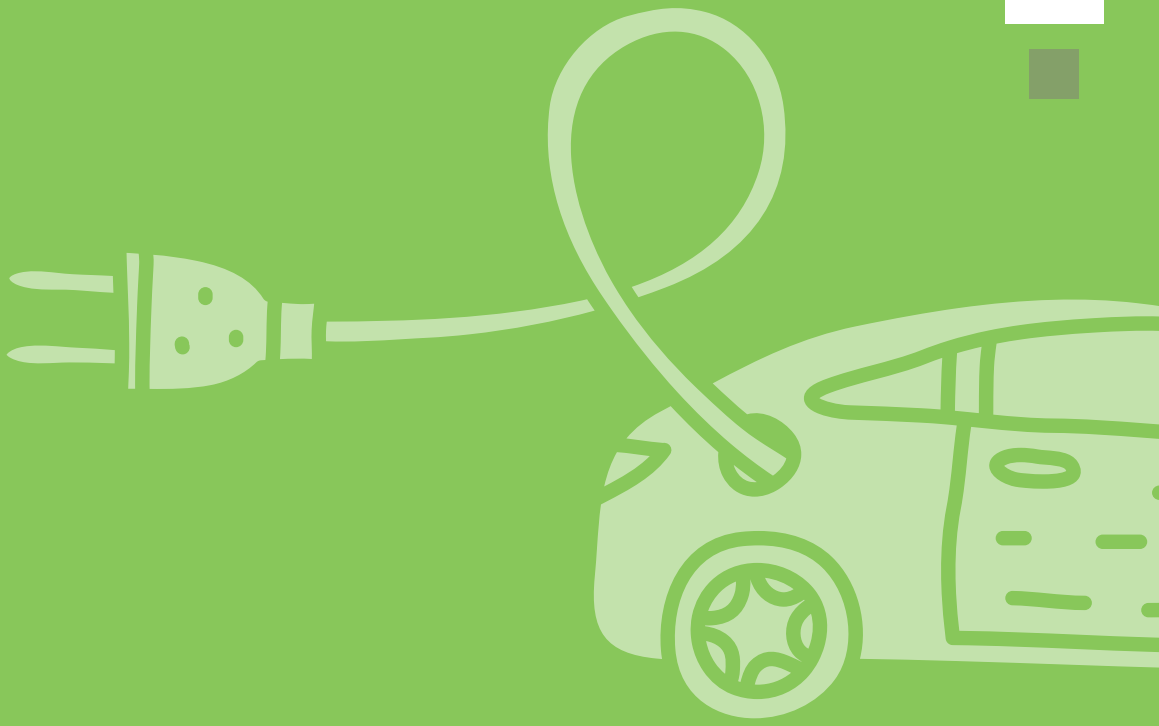
Transport poverty in North Macedonia is not as high as energy poverty, but it can be increasing as a result of increasing energy prices, fuel prices, material deprivation, and lack of investment in the public transport infrastructure. 15.6% of the population in North Macedonia could not afford a personal car in 2020 which is much higher than the European average of 5.9% [12].

Table 1: Overlap of reported energy and transport poverty

Number of persons who self-reported energy poverty only	Number of persons who self-reported transport poverty only	Number of persons who self-reported both energy and transport poverty
8	**12**	**15**

Source: Survey: 'How do you manage energy costs in times of energy crisis?' conducted in July 2023

According to the survey, more citizens are experiencing both energy and transport poverty, than only experiencing one of the issues. 15 respondents replied that they could not sufficiently warm their homes during the heating season and they found the local transport costs difficult to cover. This requires a common approach to alleviating both types of deprivation. Those who replied that they found the local transport costs difficult to cover, use a personal car as a main means of transport (14 respondents), public transport (7), or other means of transport (6). This means that the use of a personal car can be a financial burden, especially in terms of crisis. The use of personal cars on diesel is environmentally harmful.



Recommendations:

- **The Energy Strategy should incorporate transport poverty as a challenge to be tackled in coordination with energy poverty and the reduction of CO2 emissions.**
- **The Ministry of Transport in cooperation with the relevant municipalities, should envisage environmentally friendly local transport infrastructure based on the use of electric buses, and metros where possible.**
- **Public transport utilities should give more affordable tickets to vulnerable groups such as pensioners, students, unemployed persons, families with multiple children, disabled persons, and others.**

Affording electricity

Trapped in a situation to either use 'user-friendly' electric appliances for heating or 'labor-intensive' fuelwood [13], households opt for electric resistive heating. Other than being used as a main source of heating, electricity is used as an additional source of heating to make up for the early turn off of the district heating, or the inability to heat multiple rooms with a single fuelwood stove [13]. Among the most common electric heating appliances are those which are highly inefficient, such as storage heaters as reported by the State Statistical Office [14].

Table 2: Type of heating of self-reported energy-poor respondents

Energy-poor users of electricity for heating	Energy-poor users of district heating for heating	Energy-poor users of fuelwood for heating	Energy-poor users of other sources for heating
9	7	5	2

Source: Survey: 'How do you manage energy costs in times of energy crisis?' conducted in July 2023

Most of the self-reported energy-poor individuals use electric heating. In times of increasing energy prices, the use of electricity heating in uninsulated or old dwellings can be very costly due to the high energy losses. Because electricity is the most relevant energy source in the household, its affordability is very important, not only for heating but for satisfying other energy services, such as the use of appliances, hot water, cooling, lighting, and cooking. 19 out of 63 respondents replied that they pay their electricity bills with difficulties, while 15 out of those 19 reported to be in energy poverty.

Recommendations:

- **Promote the use of heat pumps and inverter air conditioners in coordination with energy efficiency measures.**
- **Establish the Energy Efficiency Fund supporting households to renovate their dwellings by starting with those in rural areas, receivers of social welfare, families with multiple children, persons with disabilities, and others.**

Sustainable fuelwood use

The heat infrastructure or the lack of it determines the technologies used for heating and the aspects of energy poverty. That means that the lack of developed public heat infrastructure in North Macedonia has seemingly given households the freedom to choose their heating but from a limited market of technologies and appliances [13]. These technological limitations of fuelwood heating contribute to the under-heating of dwellings [13]. According to a UNDP-commissioned survey about heating in Skopje, around 71% of households using fuelwood, use a fuelwood stove [15] which is old, highly inefficient, and can heat one room only. Despite the lower technological sophistication of fuelwood heating and precisely for its cheap price, fuelwood is used by energy-poor households as a means to keep their energy costs low [16].

Because it is an affordable source of energy, out of the 23 respondents who self-report energy poverty, or the inability to heat the home adequately, only 5 use fuelwood. This can be explained by the fact that the cheap price of fuelwood and its other features, such as the ability to heat 1 room adequately and replace electricity for cooking and preparation of hot water, alleviates further material deprivation. However, this stimulates among fuelwood users an acceptance of life with minimal energy needs. This leads to increasing system detachment which is continued reliance on individual and informal arrangements of satisfying energy needs and avoiding seeking or demanding institutional support [16]. Fuelwood users should be recognized as a separate vulnerable category.

The matter of fuelwood dependence is also important because it has adverse health and environmental implications. The high reliance on fuelwood for heating even in urban areas contributes to air pollution [14]. Furthermore, the exposure of households to indoor and outdoor air pollution leads to 3365 premature deaths due to exposure to PM2.5 (fine particulate matter) [17].

Recommendations:

- **The Energy Strategy, the Renewable Energy Strategy, and the Renewable Energy and Climate Plan should recognize and explore the link between energy poverty, and fuelwood use, as well as the environmental and health implications resulting from these connections.**
- **The measures aimed at replacing fuelwood stoves should include a category to consider the income situation of the applicants, giving preference to income-poor households, pensioners, those with multiple children, and those living in rural areas.**
- **The Ministry of Health, the Ministry of Environment, and the Ministry of Economy should calculate the health cost savings resulting from reduced indoor and outdoor pollution, and rheumatism from fuelwood use and insufficiently heated spaces and allocate them to support the most vulnerable categories in phasing out fuelwood use.**

Comprehensive policies

The current policies in North Macedonia with relevance to energy poverty do not take into consideration the multidimensional complexity of the issue. There is a lack of communication between energy and social policies regarding energy poverty resulting in ineffective measures against energy poverty.

The most relevant measure against energy poverty is the Program for protection for vulnerable consumers to energy for 2023 offering monthly support of 200, 300, 600, or 800 denars to vulnerable consumers based on several parameters. It functions based on reimbursement after having the energy bills paid, as well as having applied for it [18].

That means that the focus of the measures is on the income criteria and household size, and many relevant challenges, such as housing quality, social risks, and the features of vulnerable groups, are disregarded. The financial support only mitigates the current experience of energy poverty but does not support or lift the household out of it.

The other relevant program is the Program for promotion of renewable energy and energy efficiency in households for 2023 which offers reimbursement for solar collectors, PVC windows, and photovoltaics [19]. The issue is that it is implemented on a first come -first served basis, which disregards the social dimension that energy-poor households cannot buy these appliances in advance without support. This kind of program only supports those who can already afford these technologies.

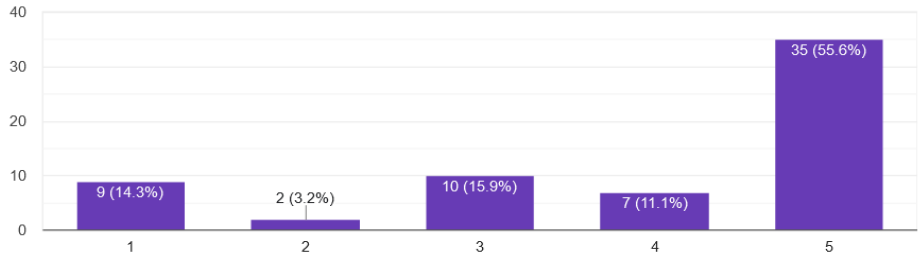
Recommendations:

- **Social measures should be linked to measures offering access to new technologies, appliances, and energy-saving programs, all of which should be subsidized for the energy-vulnerable.**
- **Energy/climate measures should include a social dimension/ criteria and direct support in the form of pre-payment rather than reimbursement.**

Consumer protection

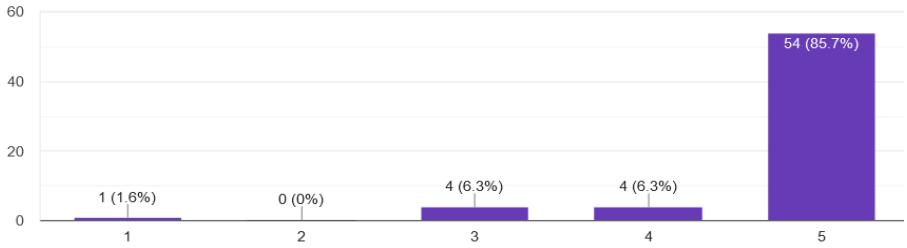
There is a discussion that citizens should not be considered simply payers of energy bills, but citizens who have multiple rights and functions [20]. As noted by the Ombudsperson, it often occurs that North Macedonian's citizens are being disconnected after one unpaid bill which causes them severe damage [21] as they are unable to perform their basic services at home. Due to unpaid bills, 71 839 consumers were disconnected in 2022 in North Macedonia [22] which is not a piece of negligible information.

Figure 2: Give a score from 1 (lowest priority) to 5 (highest priority) to the following proposed measures to improve access to basic household needs: prohibition of disconnection from electricity in winter



Source: Survey: 'How do you manage energy costs in times of energy crisis?' conducted in July 2023

Figure 3: Give a score from 1 (lowest priority) to 5 (highest priority) to the following proposed measures to improve access to basic household needs: greater protection of consumer rights



Source: Survey: 'How do you manage energy costs in times of energy crisis?' conducted in July 2023

According to the survey, the interviewed citizens, energy-poor, and non-energy-poor alike gave one of the highest priorities to improving consumer rights. A similar opinion is shared regarding the need to prohibit electricity disconnections in winter.

Recommendations:

- **The utilities should establish a step-wise procedure of disconnections starting with reminders.**
- **Electricity disconnections should be banned in winter for all consumers, and there should be a monitoring mechanism to ensure the correct application of this regulation.**

Citizens' assessment of existing measures

There are not many measures to alleviate energy poverty in North Macedonia. Other than the two programs addressing households mentioned earlier (Program for vulnerable consumers, and Program to support renewable and energy efficiency in households), there are some additional measures of the City of Skopje, and some municipalities. In general, there are subsidies for pellet stoves, PVC windows, solar collectors, photovoltaics, bicycles, and inverter air conditioners.

In the survey, citizens were interviewed to reflect on these measures. Many replies were negative criticizing the procedures and how the measures were implemented. Some mention that the first come – first served principle is not a way to reach those who are the most in need of these measures. Others mistrust the fairness of the process. For example:

R1: *"They can bring results if they are properly sized and distributed in an appropriate way (without connections and acquaintances)."*

R2: *"Subsidies are abused by the state authorities, notification of subsidies is hidden and the distribution of subsidies is closed for one day, so people who do not really have high incomes and need welfare, do not receive them...".*

R3: *"To establish criteria for granting subsidies and not to have a first-come, first-served system."*

R4: *"A control mechanism is missing to evaluate the actual results of these measures taken."*

This calls for a more comprehensive and systematic plan to alleviate energy poverty, and not arbitrary measures without proper research about how to target those who would benefit the most from these measures. The replies of citizens also show the high mistrust in the system. Trust is an important part of the ability to alleviate energy poverty [23].

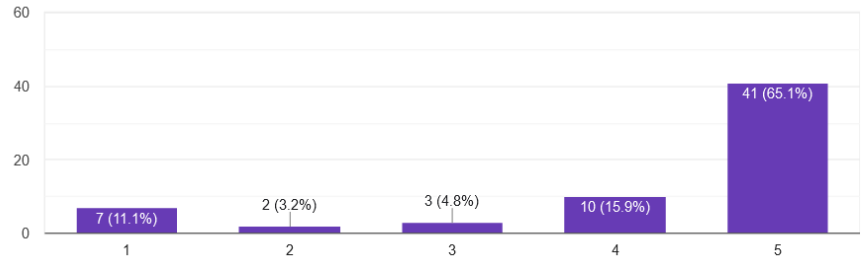
Recommendations:

- **Establish a systematic and sustainable program to alleviate energy poverty by making sure the proposed measures target the relevant groups and are transparent.**
- **Evaluate the current subsidies to improve their target, and replace the first come-first served criteria with social criteria, such as low-income citizens, rural citizens, single parents, those living in large houses, and similar.**

Institutional drivers of energy poverty

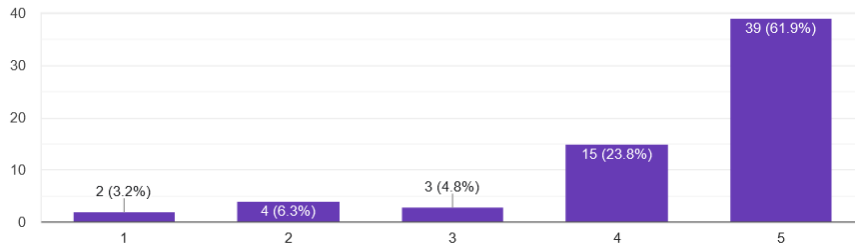
How institutions treat citizens over access to affordable energy, and how citizens are (dis)empowered by that relationship can be an important aspect of understanding energy poverty [21]. Hidden institutional energy poverty drivers in North Macedonia are energy monopolies and the weak social welfare system because their performance (or lack of it) can endanger citizens' access to energy [21]. According to the Ombudsman, human rights in North Macedonia are endangered as a result of energy disconnections and weak social welfare protection [21].

Figure 4: Rate the following statements from 1 (strongly disagree) to 5 (strongly agree): Citizens cannot afford the costs of basic needs due to monopoly in the energy sector



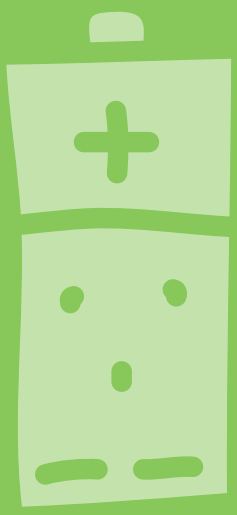
Source: Survey: 'How do you manage energy costs in times of energy crisis?' conducted in July 2023

Figure 5: Rate the following statements from 1 (strongly disagree) to 5 (strongly agree): Citizens cannot afford the costs of basic needs due to weak/inadequate social system



Source: Survey: 'How do you manage energy costs in times of energy crisis?' conducted in July 2023

The surveyed citizens agree that the monopoly in the energy system and the weak social welfare system contribute to the lowered protection of citizens' ability to cover their basic needs.



Recommendations:

- **Ensure that the energy transition is not only a mere process of decarbonization but a socially just and democratic process in which the monopoly of the electricity sector is being transformed through opportunities for prosumer activity.**
- **Increase the amount of social welfare support.**

Cold at work

Although energy poverty is an issue usually confined to the household, the recent energy crisis has significantly affected the private and public sectors too. In many cases, companies were not able to pay their energy bills [24]. Living and working in underheated spaces has adverse health impacts on the person, such as rheumatism [25], as well as on their productivity.

The survey confirmed that many of the respondents had to work in cold environments. Those who reported that were cold at work mostly work in an office, but some work in the service sector where one usually cannot work from home. The employees who were cold at work, are working in the private, public, and civil sectors which is an argument to include these sectors in the renovation plans. When asked if it was sufficiently warm at their workplace in the winter of 2022/23, some replied:

R1: *"It wasn't sufficiently warm, we were freezing.".*
R2: *"No, but I had to work.".*
R3: *"We used one instead of two rooms to avoid (higher) electricity costs."*
R4: *"No, and I couldn't work from home."*

If the workplace context is removed, the replies from the respondents look like they are typical energy-poor individuals. In some cases, there was an overlap between reported energy poverty at home and at the workplace, which again supports the understanding of energy poverty as a multidimensional phenomenon.

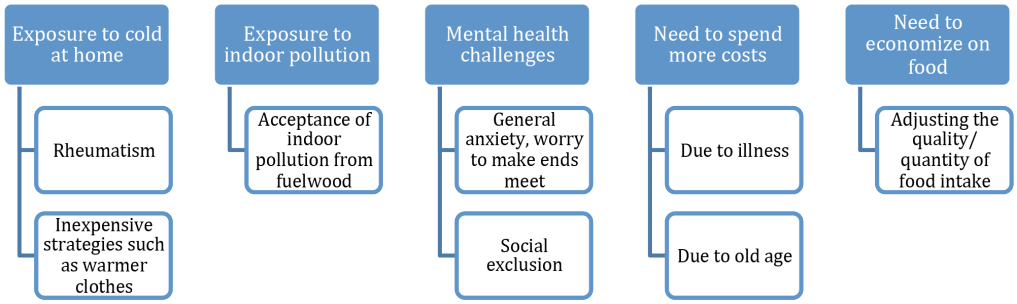
Recommendations:

- **All buildings - public, private, and residential which do not meet the energy efficiency standards, should be part of a plan for deep renovation, supported by the Energy Efficiency Fund.**
- **Employers and workers should be part of the discussion of enabling and working, respectively in a healthy, and sufficient warm or cool environment.**
- **No worker should be forced to work in an underheated workspace (below 19 degrees C).**

Health aspects of energy poverty

Experiencing energy poverty comes with health impacts. As shown in the figure below, the links to health are multifaceted and complex. Spending time in underheated environments has adverse impacts on the physical health. To save finances, households reduce the heating and wear warmer clothes inside [9]. Furthermore, the use of outdated and polluting fuels such as fuelwood, exposes the users to indoor air pollution. Because of their dependence on fuelwood, households accept the adverse physical health impacts because they are not able to afford cleaner sources of heating [16]. Additionally, persons with illness have higher energy needs and therefore as exposed to higher energy costs, making them more likely to experience energy poverty. The need to prioritize heating can impact the food intake or the 'eat or heat' dilemma. Lastly, energy poverty can adversely affect mental health, such as anxiety and social exclusion [26, 27].

Figure 6: The lived experience of energy vulnerable households: impacts on health and due to health conditions



Source: [9, 13, 16]

The pandemic and the energy crisis were two distinct but especially unpredictable periods with energy cost implications. This was confirmed by the majority of interviewed citizens who reported experiencing stress regarding the coverage of their basic needs.

Recommendations:

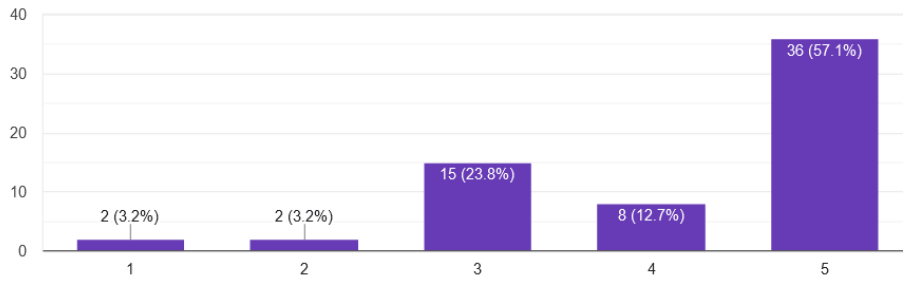
- ◊ **Electricity disconnections should be forbidden during the heating season, and in times of crisis (pandemic, energy crisis, or similar).**
- ◊ **Programs for mental health support should be connected to the programs to alleviate energy poverty to recognize the link and multiply their impacts.**

Ombudsperson

The Ombudsman in North Macedonia is described as a special professional independent body not belonging to any branch; it is tasked to protect citizens' rights. In the context of an inclusive energy transition, the Ombudsperson appears as an emerging stakeholder able to detect injustices affecting citizens with their access to energy. Over the years, the Macedonian Ombudsman has been vocal about the electricity and district heating monopolies not respecting the legislation [28]. One example is the evidence of collective electricity disconnections detected in multiple annual reports described as a misuse of the electricity utility's monopoly position which affects human rights [21]. Over the years in neighborhoods with a high concentration of non-payers of electricity, the electricity utility would disconnect not only the consumers who were not paying but also those paying because the utility was afraid of physical injury potentially inflicted by dissatisfied consumers if it were to disconnect consumers on the spot [21].

The Ombudsman has also criticized the social protection system as it doesn't respond to the needs of the citizens at risk and as a result, mentioned a case of a family in a bad illegal dwelling that was affected by fire killing three children in 2018 [21]. The Ombudsman has stated that social welfare does not help the affected out of poverty and does not enable them a normal life as they can barely pay for food and clothes, let alone for electricity and district heat [21]. The Ombudsperson also explains that the increase in the electricity price ***"is a heavy burden to the already low budget and living standard of the citizen."*** [29]. According to the interviewed citizens, there is a high consensus about strengthening the role of the Ombudsperson to enforce its recommendations.

Figure 7: Give a score from 1 (lowest priority) to 5 (highest priority) to the following proposed measures to improve access to basic household needs: strengthening the role of the Ombudsman



Source: Survey: 'How do you manage energy costs in times of energy crisis?' conducted in July 2023

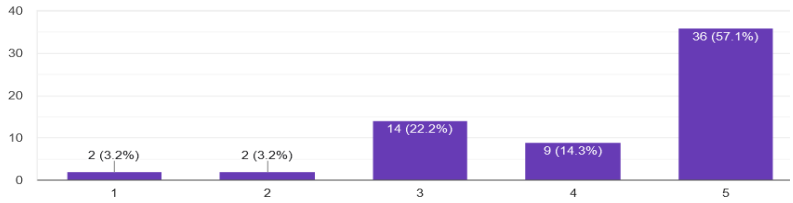
Recommendations:

- **Develop a monitoring system for the implementation of the Ombudsperson's recommendations.**
- **Give high priority to Ombudsperson's findings, and recommendations and make sure they are considered when creating policies that impact energy poverty.**

Energy communities

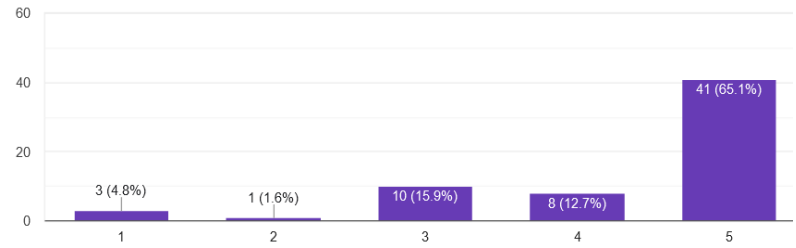
Energy communities, formalized in EU legislation as renewable energy communities aim to support prosumerism [30]. Research suggests that although energy communities envisage reducing energy poverty, this effort is still theoretical [31]. Therefore, there is a need to adapt this idea of energy communities to the understanding of energy poverty to be able to achieve the joint goal of reducing energy poverty and fostering citizens involvement in renewable energy projects. In North Macedonia, there are two novelties in this regard, citizens can become prosumers and install photovoltaics, and that energy communities (cooperatives) can be founded. Both initiatives are new and have not been linked yet to efforts to reduce energy poverty. The interviewed citizens have favorable opinion about both investments in energy communities, and citizens-prosumers. However, they had some suggestions regarding reducing the bureaucracy surrounding the installation of photovoltaics.

Figure 8: Give a score from 1 (lowest priority) to 5 (highest priority) to the following proposed measures to improve access to basic household needs: support of collective initiatives and energy cooperatives (communities) of citizens

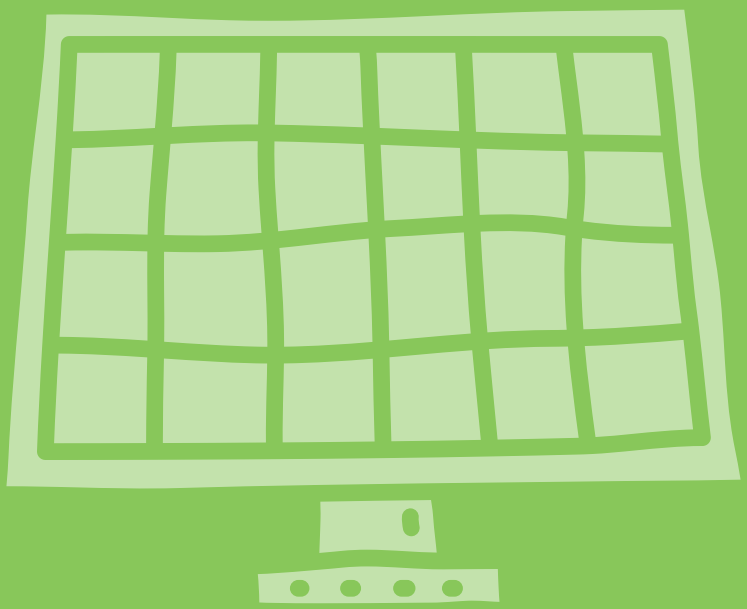


Source: Survey: 'How do you manage energy costs in times of energy crisis?' conducted in July 2023

Figure 9: Give a score from 1 (lowest priority) to 5 (highest priority) to the following proposed measures to improve access to basic household needs: reducing the barriers to using photovoltaics and their subsidy



Source: Survey: 'How do you manage energy costs in times of energy crisis?' conducted in July 2023



Recommendations:

- **Connect the Law on cooperatives, and the opportunity to install photovoltaics as a natural person with the efforts to reduce energy poverty by allocating financial support to be a prosumer to those who are in energy poverty.**

Gender and hidden energy poverty

Gender and energy poverty are connected as more women experience energy poverty, but also their experience is linked to their disadvantaged socio-economic position in society. For example, cooking, cleaning, and washing are more common responsibilities of women, and women use electricity during the cheap electricity tariff to reduce costs which can increase their workload [32]. Women are more often involved in unpaid domestic work, and have less time for earning a living due to their involvement in caring responsibilities [33]. Additionally, usually women earn less than men, and more women than men are single parents dealing with financial difficulties [34]. Women live longer than men, so many one-person households are women living alone on a small pension [34].

Not only do these socio-economic factors impact female energy poverty, but how women experience and deal with energy poverty differs. As those who are the most often responsible for household obligations, women often bear the emotional labor of living in energy poverty meaning a continuous need to reflect upon, monitor, and minimize energy consumption that can be a mentally draining activity [35]. Based on the survey, more women than men reported hidden energy poverty or that they had to reduce their consumption on other basic needs to be able to afford their energy needs, although more men than women reported that they cannot adequately heat their homes. This shows that women more often cope with hidden energy poverty by restricting other basic needs than men. This can be more taxing for women and their mental health, as well as can make their energy vulnerability less visible and easy to uncover.

Table 3: Self-reported and hidden energy poverty by gender

Gender	Self-reported energy poverty	Hidden energy poverty
Men	15	13
Women	8	20

Source: Survey: 'How do you manage energy costs in times of energy crisis?' conducted in July 2023

Recommendations:

- **Policies against energy poverty should recognize and co-tackle gender inequality.**
- **Single female pensioners and single mothers should receive targeted support to reduce their energy costs and use clean and modern energy sources.**

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