



EmpowerMed



ENERGY POVERTY RECOMMENDATIONS



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ABOUT THE PROJECT: [HTTPS://WWW.EMPOWERMED.EU/](https://www.empowermed.eu/)



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INTRODUCTION



The main objective of the Empowering women to take action against energy poverty – EMPOWERMED project was to explore the gender perspective of energy poverty policies and empower those at greater risk of energy poverty to take action and emancipate themselves from energy poverty whenever possible.

Policy recommendations to address energy poverty were developed based on practical measures to tackle energy poverty, with a specific focus on gender, summertime energy poverty, and health.

More and more European citizens are unable to pay the high costs of energy and housing. The right to energy and the right to decent housing are basic rights for all citizens, and promoting the “energy efficiency first” principle under the Fit for 55 package could be one of the much-needed steps to tackle energy poverty. The new Energy Efficiency Directive (EED) not only proposes the GHG target of –55 %, but also requires member states to almost double their annual energy savings commitments and address energy poverty, as well as to take additional measures to achieve up to 13% more energy savings than foreseen in existing EU legislation.

The rapidly changing context of energy poverty, from the Covid-19 emergency to the current energy crisis, has contributed significantly to the problem of energy poverty at the member states and EU level. **Energy poverty is no longer just a challenge for low-income households;** the energy crisis, housing crisis, unemployment, and cost-of-living increases are proving to be a challenge for middle-income households, who may soon find themselves at risk of energy poverty.

Citizens at risk of energy poverty, citizens living in social housing, and lower-middle-income households should be prioritized, and national-level measures should be created to help them. These measures should also be included in the ongoing revisions of National Energy and Climate Plans. Apart from the new financial instruments created under the EU ETS system, NextGenerationEU, the Just Transition Fund, and Recovery and the Resilience Fund should already be used to fund the energy poverty alleviation measures.

In the 2021–2022 period, the EmpowerMed project implemented a series of practical activities to tackle energy poverty in the Mediterranean, with a **focus on health and women**. Based on the lessons learned and experience gained during implementation, but also on the field research results, the EmpowerMed partners propose the following set of policy recommendations. The recommendations are structured into four parts: general recommendations on energy poverty, recommendations on energy poverty and gender, recommendations on summertime energy poverty, and recommendations on energy poverty and health.

MOVING BEYOND THE TRIAD OF “LOW INCOME - POOR ENERGY EFFICIENCY - HIGH EXPENDITURE”



1.1. Tackling energy poverty through integrated policies

To successfully tackle energy poverty, we must recognize that the causes of energy poverty go far beyond the “low income – poor energy efficiency – high expenditure” triad that has traditionally been seen as the framework for addressing energy poverty. European and national strategies fail to recognize that the drivers of energy poverty are more structural; they span, at least, across social, gender, labour, energy, climate, taxation, welfare, housing, and health policies. Sectoral mitigation policies (like the Energy Efficiency Directive), while a step in the right direction, are still insufficient, and the European Union is at a crossroads in the fight against energy poverty.



Many current policies could impact household resources and well-being and thus the extent of energy poverty levels. For example, carbon taxes applied indiscriminately on energy bills or consumer goods can severely affect household incomes and increase energy poverty. Social justice indicators should therefore be integrated into European and national energy strategies. There is still a great need to raise awareness about the issues related to gender and other social categories, as well as about intersectionality

linked to energy poverty. There is a major deficit in awareness and capacity building – including improved expertise in this area – about gender and energy poverty, especially among policymakers and decision-makers. There is a need for intersectional analysis and more disaggregated data so that we can gain a deeper understanding of how different social groups are affected by the energy transition and identify and overcome the challenges that limit the participation of distinct social groups in energy decision-making processes.

The isolated approach and lack of consultation between the parties involved lead to a dispersion of resources. The collaboration of actors is essential to learn from each other and share good practices among institutions that can tackle energy poverty. This collaboration should take place between private and public initiatives to tackle energy poverty (social services, human or women’s rights NGOs, social enterprises, energy companies, energy cooperatives, health professionals, housing companies, etc.). This collaboration will encourage the development of a more transparent ecosystem, the dissemination of comprehensive approaches, and the pooling of resources. National governments should encourage, fund, and give visibility to local grassroots social innovations and promote their collaboration on a broader scale. This will enable them to be scaled up through open innovation programmes and platforms.

1.2. Better, fairer jobs through the energy transition

Precarious employment and low-quality jobs keep people and communities in vulnerable circumstances. **The energy transition offers an opportunity to respond to the climate emergency while creating more significant equity and social cohesion, primarily through job creation in sustainable sectors.** The energy transition will generate jobs in sectors related to housing renovation, the development of smart grids, renewable energy capacity and energy communities, decarbonisation, etc. Due to patriarchally structured societies and gender-specific barriers, these jobs are mainly held by healthy men with academic backgrounds. Employment policies should take into account lifelong learning to strengthen the position and economic participation of groups living in poverty, especially energy poverty, i.e. women, ethnic minorities, and people facing the consequences of chronic diseases.

To create quality jobs rooted in local realities and people's needs, it is essential to put social impact at the heart of businesses. For example, workplaces should be created gender- and family-friendly to allow people to combine paid work and unpaid care work, such as caring for children or other family members. Also, **women should be involved in STEM from an early age to combat gender-stereotypes and ensure a gender just transformation** of male-dominated sectors such as the energy industry. The energy transition, the transformation of the economy to a sustainable energy mix, is an opportunity to reduce Europe's growing inequalities in labour and income distribution. "Green" jobs should be inclusive, and policymakers must prioritise vulnerable people and communities so they can benefit from the Green Deal opportunities. This means learning from them and seeing them as part of the solution. The people and communities most affected by the energy transition must be provided with vocational training by competent authorities, such as employment agencies, in partnership with local businesses. In this way, they become part of the solution: they can maintain renovated buildings or renewable energy installations. This creates a virtuous circle: The energy transition meets communities' needs for renewable energy while stimulating

the local economy and job creation. As critical agents of change, women play a meaningful role along multiple segments of the energy value chain not only as energy users but also as business owners, technicians, and service providers.

1.3. Legally binding ban on disconnections in all member states

The **ban on disconnection for households affected by energy poverty should be included in the legislation** at the national level. Even though these provisions exist in some countries, they are either not embedded in legislation or are on a voluntary basis for energy companies. In Spain, for example, an agreement with the authorities was reached in 2021 which addresses two major outstanding issues: accumulated debt and future non-payments. Based on the agreement, multinational company Endesa is required to write off 100% of unpaid bills for vulnerable families between July 2015 and December 2018. The debt accumulated in 2019 and 2020, estimated at more than 21 million EUR, will be divided equally between the company and the administration. In total, it is estimated that Endesa will write off around 28 million euros (73% of the debt incurred by the families since the entry into force of Law 24/2015). This agreement closes the circle of Catalan Law 24/2015 that banned supply cuts to vulnerable households. Regarding future non-payments, the creation of a Solidarity Care Fund was agreed upon, which will allow those affected



to pay considerably less for their bills and thus avoid incurring new debts. Endesa and the administration will each contribute 50% to this fund.

In some countries, the law prohibits disconnection of vulnerable consumers, but the implementation of these measures is not closely monitored (e.g., Croatia). This means that before disconnection, energy companies have to check with social services on status of the consumer and the reasons for the debt so that disconnection cannot be implemented until social services allow it.

1.4. Financial support for vulnerable citizens

The issue of fair financing for renovation is not just about the availability of financing options. Access to finance for energy efficiency measures for the low-income groups is fundamental, but it is not the only issue. Member states need to develop financing of renovation measures and free renovation programmes in such a way that as many people as possible, including tenants and low-income homeowners, can benefit from them. Lower-income households and tenants often lack the capital for high upfront costs or the decision-making capacity, including the coordination of neighbours and local administration, to invest in building renovations. Coherence in the distribution of support measures must go beyond short-term market measures and direct financial interests of investors. To stimulate renovations and increase the rate and speed of the renovation local authorities could act as guarantors for the disbursement of funds.

Member states need to develop financing of renovation measures and free renovation programmes

In many situations, there are problems with delays in public funding or the inability of the multiapartment buildings to secure the loan or other financial instrument to co-finance the renovation. Local or public authorities acting as guarantors in the cases of funding grants could reduce credit risk for investors and stimulate long-term investment plans.

1.5. Support for social and communal housing

The social and solidarity economy is important for the housing renovation sector. This can mean, for example, encouraging private investment in quality affordable housing, developing public rent-affordability guarantees among private owners, or even promoting alternative housing ownership models such as cooperatives. This requires action at the level of neighbourhoods and multi-apartment buildings, not only at the level of individual units. Giving priority to these types of non-profit housing should discourage speculation, particularly with empty housing, limit rent increases and prevent evictions due to gentrification and housing partitioning. Owners should be supported to enter these forms of solidarity housing. They should be given priority access to public one-stop shops to support energy renovation in homes occupied by vulnerable people, reduce red tape, and ensure that renovation reaches those who need it most.



1.6. Private rental system

The private rental sector and private landlords are often not specifically targeted in energy-efficient renovation programs. In many countries, this poses a serious problem and leads to systemic injustices. In some cases, private renters do not see the benefit of additional investments in energy efficiency renovations, as they are not the ones sacrificing their quality of life, nor are they the ones paying high energy costs. It could be argued that they only see the downside in terms of high financial investments, but not the benefits of providing better living conditions for their tenants. Public

policies have yet to find a way to engage the private rental sector in the discussion on energy poverty alleviation by providing them with visible benefits. Renovation policies and strategies should go beyond immediate financial impacts and outcomes, recognise housing market mechanisms and externalities, and focus on improving people's quality of life. Upgrading the building stock should not lead to unaffordable housing, gentrification, and segregation – and public policies and energy efficiency measures implemented in the building sector should prevent this. Otherwise, implementing energy efficiency measures in the building sector would only create a vicious circle – forcing those in need to move to cheaper and once again energy inefficient buildings.

1.7. Protecting women from rising costs and pay gaps

In most societies, due to gender roles, women take on unpaid care work or work in underpaid (part-time) positions, resulting in the Gender Pay Gap and Gender Pension Gap. In addition to strengthening the economic participation of women (e.g., as employees or entrepreneurs in the energy sector), gender-budgeting indicators should be applied for grant funding. This would ensure that women with low income receive financial support for energy efficiency measures. **Gender budgeting** can be used as a tool to make energy poverty policies gender just and should therefore be applied more often to break down and identify the differentiated public revenue allocations and expenditures as they affect people in energy poverty. Additionally, more detailed plans are needed on how to ensure that the rent and other housing-related costs do not increase due to renovations, so that this burden does not disproportionately affect women.



1.8. Action to empower citizens to act

Direct, participatory democracy, open dialogue and transparent consultations would enhance trust, avoid greenwashing and encourage participation. **Organising participative processes and events between citizens, NGOs, local authorities, and energy companies** would enable citizens to participate more vocally in the decision-making process and influence the energy sector. Participatory processes should be organised in such a way as to also include vulnerable segments of the population, who usually feel disinclined to participate in such processes as they do not wish to expose their vulnerability. Stimulation of social entrepreneurship is needed to redistribute the revenue of the utility companies to vulnerable users through a support fund and the profits should be used to improve services and the network for all. Dedicated corporate departments dealing with vulnerable people and with people in different circumstances should be strengthened.

Rules for energy communities and cooperatives should be designed to make it easy for vulnerable citizens to join them, for instance through simplified membership rules, mandatory financial support for the vulnerable, or providing free or discounted energy to vulnerable people. Information and activities to promote citizen engagement should be encouraged. **Inclusion and recruitment of distinct social groups, easing of energy market regulations for such energy communities, as well as regulation of renewable technologies** (e.g. plug-in balcony PV modules) so that they can be used by everyone, should be promoted more widely. The focus should be on the citizens who are in need and who could benefit most from the energy produced by energy communities. Sustainable energy and citizen energy projects should be specifically accessible to women living in energy poverty, even if they are not involved in the project itself. Promotion of feminist energy communities (or women-led energy cooperatives) should be prioritized, considering that women are more vulnerable to the impacts of the climate and energy crisis.

Training on technical aspects of renewable energy, such as photovoltaic and solar panel installation, or the importance of citizen energy is a must for vulnerable citizens – especially women. Specific training for women should be incentivized and supported by local authorities, municipalities, and local government. Such training should be free and open to all who are interested in being empowered to produce their own energy.

1.9. Revision of NECPs as an opportunity for inclusive, gender-just energy poverty policy at the national level

Member states should develop an integrated approach to tackling energy poverty in line with the common EU strategic framework – the mid-2023 revision of NECPs in an opportunity for member states to step up and include energy poverty alleviation measures, indicators, and monitoring mechanisms in the document. Reporting on the implementation measures implemented so far, as well as the revision of the document, allows member states to thoroughly analyse the drivers of energy poverty and recognize that they go beyond poverty alone or the limiting combination of “low income – high expenditure – low energy efficiency” drivers, as well as to include other sectors in the development of new measures.

1.10. Change in criteria for financing EU projects

The inclusion of energy savings criteria in other criteria that EU project proposals should meet is not viewed favourably by many practitioners who deal with energy poverty in practice, as it can lead to misguided and ineffective actions. The requirements for energy savings risks reinforcing structural driving forces of energy poverty when interventions are insensitive to the difficulties faced by (vulnerable) people in dealing with increasingly complex energy markets based on profit maximisation and ‘energy as commodity’ principles. Instead, careful partnerships, respectful engagement, and impactful action should be promoted to demonstrate that more equitable, democratic forms of domestic energy provision are feasible and necessary to ensure European citizens’ right to energy.¹ Projects dealing with energy poverty need to carefully avoid further suppressing the demand of households whose energy service consumption is below the minimum level required for a dignified life. In fact, achieving energy savings and reducing carbon emissions through behaviour change can conflict with the everyday reality of energy-vulnerable households who often engage in very careful practices in domestic energy consumption that sometimes result in underconsumption. This calls for alternative assessment frameworks beyond ‘hard’ energy-saving metrics to be put in place to adequately measure the empowering effects of interventions.²

1 <https://www.empowermed.eu/wp-content/uploads/2020/07/D1.3-Report-on-previous-experiences-Final-for-Web.pdf>

2 <https://www.empowermed.eu/wp-content/uploads/2020/07/D1.3-Report-on-previous-experiences-Final-for-Web.pdf>



ENERGY POVERTY AND GENDER



The talents and resources of everyone, especially women, are needed in the global energy transition. However, women are still largely underrepresented in the energy sector. Unconscious gender bias and discrimination are being transferred from the fossil fuel sector into the renewable energy sector.

Energy access has multiple benefits for advancing gender equality. Women play a meaningful role as critical agents of change along multiple segments of the energy value chain as energy users, business owners, technicians, service providers, and policy makers.

Innovative, multidisciplinary, and participatory methods must be implemented to ensure that women affected by energy poverty have the tools to trigger a transformative change in domestic energy use practices and contribute to energy poverty alleviation.

1.11. Energy poverty definition that takes gender and intersectional aspects into account

An intersectional gender approach must be considered when defining energy poverty.¹ It could be explicitly said that factors such as income, gender, race, age, disability, and geographic location may influence a person's vulnerability to energy poverty and should therefore be considered when applying solutions. Within this framework, **it would be important to conduct an intersectional**

gender analysis that provides the necessary data and information to integrate a gender perspective into policies, programs, and projects and enables the development of interventions that address gender inequalities and meet the different needs of women and men in all their diversity. Therefore, the development of a gender-aware understanding of energy poverty and the awareness that energy poverty is a gender issue is much needed.

The EmpowerMed project uses the following definition developed by Bouzarovski and Peteova²: **energy poverty occurs when a household cannot achieve the minimum level of domestic energy consumption required for satisfying basic needs and for effective participation in society.** It is a distinct form of material deprivation with an explicit gender dimension and demonstrated impacts on physical and mental health. We urge member states to use this definition of energy poverty, which takes into account both the gender perspective and the health perspective, when developing their own definitions.

Energy poverty occurs when a household cannot achieve the minimum level of domestic energy consumption required for satisfying basic needs and for effective participation in society.

1 <https://www.empowermed.eu/wp-content/uploads/2021/05/2104.Empowermed-Energy-Poverty-and-gender.pdf>

2 Bouzarovski, S.; Petrova, S. A global perspective on domestic energy deprivation: Overcoming the energy poverty-fuel poverty binary. *Energy Res. Soc. Sci.* 2015, 10, 31-40.

1.12. Raising awareness about gender and intersectional aspects of energy poverty

Raising awareness of gender issues and issues related to other intersectional social categories, as well as energy poverty, remains very important. There is a major deficit in awareness and capacity building – including enhancing expertise in this area – regarding gender and energy poverty, especially among the policy- and decision-makers. There is a need to develop a gender-aware understanding of energy poverty, as well as the awareness that energy poverty is a gender issue.



1.13. Collecting sex-disaggregated data with and intersectional perspective (race, age, class, ability...) on energy poverty

Apart from scarce case studies and small samples, the **EU does not have available data disaggregated by sex, age and disability related to energy use** and specifically to energy poverty. Absence of sex-disaggregated data is likely to reinforce existing inequalities and the vicious cycle between lack of data and no remedial action. Good data is the basis of policy making and allows for benchmarking and tracking of progress. It would be appropriate to also promote analysis of sex-disaggregated data with an intersectional perspective.

1.14. Engendering energy poverty indicators

In light of above mentioned gender analysis, the development of gender and intersectionality sensitive indicators of energy poverty would be an important step in making energy poverty policies more gender-sensitive. It would also serve to design targets for action. The revision of National Energy and Climate Plans of the EU member states could be a good opportunity to develop engendered energy poverty indicators.

1.15. Prioritising women in training and jobs related to renovation and renewables

Consideration should be given to creating priority opportunities for women to take equal part in construction jobs, as well as in jobs related to the deployment of renewable sources of energy. Also, training and building skills and qualifications should be considered carefully where the inclusion of women can be prioritized. **The lack of women in the energy sector can be traced back to the education system and the lack of women enrolled in the STEM programmes.** So one of the measures to increase the number of women in the energy sector and “green jobs” sector should be to provide more opportunities for women, especially those from lower income backgrounds, to enrol in STEM fields from an early age. Combating gender stereotypes at all levels, including education, is key to challenging social norms and ensure women’s engagement in traditionally male-dominated sectors, such as the energy industry. This could then trigger a spillover effect and increase the number of women in the energy sector.

SUMMERTIME ENERGY POVERTY



Energy poverty is deeply rooted in our current economic and societal set-up, but until now the discussion of energy poverty has usually referred to winter energy poverty and the inability to keep homes adequately warm.¹ With the new climate crisis and extreme temperatures during the summer, we need to look at a broader context when discussing energy poverty and include summer energy poverty – and the inability to keep homes adequately cool – in the debate.

Some of the areas most affected by summer energy poverty – coastal urban areas in South-eastern Europe and the Mediterranean – are ‘hotspots’ of tourism, and tensions between the demand of locals and tourists for housing lead to housing unaffordability. These tensions make it difficult for low-income households to find adequate dwellings. Tackling summer energy poverty means challenging current housing policies and strategies for the development of tourism in certain areas to ensure that tourism expansion and energy efficiency upgrades to the buildings do not increase structural injustices, which can lead to unaffordable housing, gentrification, and segregation.

Renovation policies and strategies must go beyond immediate financial impacts and outcomes, acknowledge housing market mechanisms and externalities, and focus on improving the wellbeing and livelihood of citizens living in specific areas. **The local authorities’ role in area development, urbanization, renovation, and implementation of other adaptation**

1 Section is based on https://www.empowermed.eu/wp-content/uploads/2022/12/Summer-EP_short-intro_final.pdf

2 <https://www.empowermed.eu/wp-content/uploads/2020/07/D1.3-Report-on-previous-experiences-Final-for-Web.pdf>

measures is key to alleviate energy poverty.

South-eastern Europe and Mediterranean coastal urban areas are also affected by precarious, seasonal, low-quality jobs due to tourism and, in some cases, fisheries and harbours. Labour policies must be redesigned to eliminate or at least drastically reduce low-quality and precarious jobs, while focusing on quality employment with decent income. Labour policies must proactively target the most vulnerable people and communities. **Above-the-average incidence of energy poverty in the Mediterranean requires special attention** to regional vulnerability factors and to solutions suited for the socio-environmental realities of coastal areas.²

1.16. Summer energy poverty needs to be emphasized in the debate on energy poverty

Summer energy poverty still receives little attention, although many researchers argue for a year-round conceptualization of the issue that includes all household energy services. The first challenge is to understand and analyse the summer energy poverty phenomenon. Collecting data on summer energy poverty, energy needs and actual final energy demand for space cooling in residential buildings, availability of cooling systems in residential buildings, and health impacts of summer energy poverty is a much needed first step. While statistical services monitor winter energy poverty, few data is available on summer energy poverty. Better data availability can help us better

understand the problem. **An enhanced, broader understanding of energy poverty will lead to a better assessment of the problem** and allow for better solutions for the people affected. It is also important to monitor trends, so data collection should be organized not only on an ad hoc basis, but in a way that allows monitoring of trends in summer energy poverty. It would also be important to explore how best to integrate aspects of summertime energy poverty into energy poverty definitions.

1.17. Climate adaptation plans to embrace summer energy poverty

The Sustainable Energy and Climate Action Plan (SECAP) and other types of climate adaptation and mitigation plans being developed at the local level should specifically mention summer energy poverty. The Covenant of Mayors should include in their guidelines specific recommendations for local authorities to develop measures to tackle the issue. Heat wave scenarios and extreme weather response measures have

a huge impact on the wellbeing as well as on the infrastructure of certain areas. **The climate crisis affects urban and transport planning and increases the need for cooling for both public and private buildings.** The need for building design and building refurbishment should be based on the implications of projected climatic scenarios for increases in cooling demand rather than on past climate data. Adaptation plans need to be specifically adjusted for the most vulnerable and well embedded in the EU climate policy as well as in national and local climate strategies.

1.18. Spatial and urban interventions should address the pressing issue of summer energy poverty

Urban-scale interventions aimed at mitigating heat islands in urban areas are important, such as the incorporation of green areas and urban shading systems. Because a common coping strategy for people affected by overheated dwellings is to spend more time in cooler places away from home, such as a friend's house, an air-conditioned shopping centre or library, or an outdoor park, urban interventions can play a role in tackling summer energy poverty. Urban interventions strategies range from the use of vegetation (for shading and evapotranspiration) in parks, streets, private gardens, green roofs, or green facades, to urban planning measures (building density and geometry), the use of water bodies for cooling, and the use of high albedo materials for making roofs and pavements (also pervious pavements). Green vegetation appears to be the most effective measure, and creating more green public spaces comes at a relatively low cost and is widely accepted by citizens. Ensuring access to green space for all communities is vital.

It is important to emphasize, however, that ensuring that people affected by summer energy poverty have access to parks or climate shelters (such as cooled libraries) is not a substitute for having a home with healthy indoor thermal comfort. Instead, people's homes should provide sufficient shelter.

1.19. More green areas in cities

The increasing occurrence of heat waves and a high number of tropical days and nights



in summer affect the health and wellbeing of citizens living in energy poor households. Energy inefficient buildings combined with an inability to afford the costs of high energy prices lead to low comfort in energy poor households. High temperatures cause overheating and dehydration, in correlation with cardiovascular diseases, and can cause death. Green areas prevent the formation of heat islands and can reduce temperature and overheating. Local urban development plans should be changed and investments in the creation of green areas in urban zones



should be increased. Tree planting should be incentivised, as well as the placement of shades in front of buildings and on balconies and windows.

1.20. Employing accessible low-tech solutions and passive cooling

Thermal retrofitting strategies for reducing winter heating demand can lead to enhanced resilience to summer heat, so they are the first step in the right direction. However, additional measures are needed to ensure reduced levels of overheating. Inhabitants' practices significantly influence resilience and the reduction of overheating.

In spite of being a solution when nothing else is possible and health or critical wellbeing impacts are at stake, increased use of domestic air conditioning as the key cooling measure is concerning not only because it amplifies pressure on electricity grids during summer (which could become unmanageable in combination with the cooling demands from non-domestic buildings, such as hotels and offices), but also because it creates tensions with the goals for climate protection. It can also become a source of potential financial vulnerability for households. While policymakers should encourage further efficiency improvements in air conditioning,

they should first focus on cooling measures that do not require air conditioning, such as nature-based and passive-cooling solutions.

Passive cooling includes any natural or passive techniques that can help maintain indoor thermal comfort while requiring minimal or zero energy input. They can focus on:

- **preventing solar heat gains:** (vegetation) shading, (vegetation or water) roof, improving glazing properties, painting exterior surfaces white;
- **modulating heat through utilisation of buildings' thermal mass:** an effective measure to reduce temperature fluctuations during the day, but a slower reduction of air temperature during the night; and
- **dissipating heat:** natural ventilation, use of the ground as a heat sink (earth to air heat exchangers), and evaporative cooling (direct and indirect).
- **Passive cooling techniques and systems** can also be used to improve the outdoor urban environment and combat heat islands. Expected energy savings may reach 70% compared to a conventional air-conditioned building while substantial improvements have been measured in outdoor areas. It is important to highlight that technical interventions must be accompanied by clear strategies to enable inhabitants to control indoor temperatures (e.g. using natural ventilation).
- **Cooling solutions should be resident-centred** rather than focused solely on technology. Passive and technical solutions to reduce cooling energy demand in buildings that allow occupants to interact with buildings stems to adapt to the indoor environment, must be taken into consideration. Occupants and their profiles must be considered when selecting the most appropriate interventions.

Empowering vulnerable people to participate in the energy transition is gaining traction, but their participation in renewable energy communities still needs better support.

1.21. Engaging renewable energy sources to tackle summer energy poverty

Leveraging the potential of renewable energy sources in the fight against summer energy poverty is a win-win-win solution. A wide range of renewable cooling solutions is available, so the integration of renewables to combat summer energy poverty must be widespread. There is also a need to encourage the participation of vulnerable people in the general deployment of renewables.

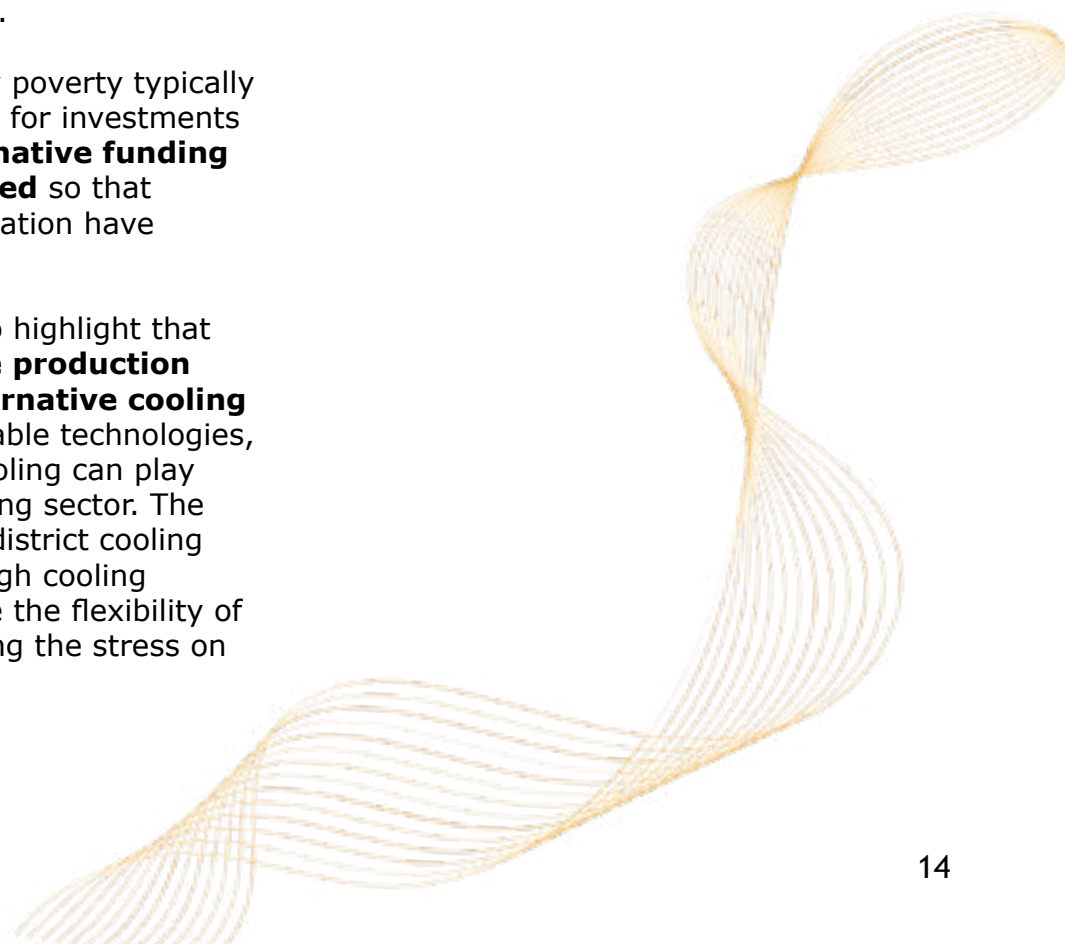
Empowering vulnerable people to participate in the energy transition is gaining traction, but their participation in renewable energy communities still needs better support.

Enabling flexible membership rules to make renewable energy communities accessible to all, supporting renewable energy communities by easing energy market regulations so that these energy actors could align their energy transition mission with a social purpose.

Engaging with vulnerable households and stimulating local partnerships are some of the possible measures to make renewables work for a just energy transition that leaves no one behind. The use of accessible renewable technologies (e.g. plug-in balcony PV modules) should be facilitated by paving the regulatory pathway for them.

As people affected by energy poverty typically do not have sufficient means for investments in renewable systems, **alternative funding schemes must be developed** so that vulnerable parts of the population have access to renewables.

Finally, it is also important to highlight that **decentralized, small-scale production sites are emerging as alternative cooling providers**. Among the available technologies, renewables based district cooling can play a vital role in the space cooling sector. The installation of decentralized district cooling plants in urban areas with high cooling demand density can increase the flexibility of the cooling supply by reducing the stress on the electricity systems.



ENERGY POVERTY AND HEALTH NEXUS



Despite the relatively small body of evidence, it is becoming increasingly clear that energy poverty has adverse effects on people's health. Yet the human health dimension of energy use (not just energy poverty) is still largely absent from EU projects. According to data collected by the EmpowerMed project, **citizens who are affected by energy poverty are more likely to report suffering from a long-term illness or health problem** than people not affected by energy poverty (54% vs. 37%). The most common chronic health issue is high blood pressure, followed by migraine, depression, and feelings of anxiety. Available data indicate that there is a strong correlation between energy poverty and the assessment of health: people who are affected by energy poverty rate their health worse than people who are not affected by energy poverty.

1.22. Involvement of frontline workers to act against energy poverty

An increasing number of stakeholders are involved in energy poverty mitigation strategies, but many lack the expertise and access to human, material, and financial resources to understand and address the phenomenon's complexity. To improve their capacities, more skills need to be built within the entities that potentially come into contact with people affected by energy poverty. For example, frontline staff of energy suppliers and health or social workers need a broader knowledge of the dimensions of energy poverty to move beyond the traditional silo approach. They also need social and behavioural skills, i.e. how to deal with citizens in need and refer them to support measures or funding sources. In addition, they need immediate education on how to identify and provide support to vulnerable citizens.

1.23. More research on the connection between energy poverty and health

Data on the relationship between energy poverty and health, specifically the influence of energy poverty on mental health, is still insufficient. Initiatives such as <https://www.urban-health.eu> that seek to connect research data on the impacts of energy poverty and health are urgently needed. Health aspects should also be included in the energy poverty criteria, considering that there is a strong correlation between people with disabilities and energy poverty, as people with disabilities use more energy for specialised medical equipment needed to maintain quality of life. In addition, health workers should be included in climate projects, as there is a strong correlation between climate impacts and public health, and interdisciplinary research exploring these impacts is insufficient.

1.24. Recognising and acting on the mental health dimensions of energy poverty

Depression and anxiety are among the most commonly reported health issues related to energy poverty. Insecurity caused by poor living conditions, fear of high energy costs, and generally low quality of life affect the development of various health issues. Mental health and its correlation to energy poverty should be destigmatized. The Mental Health Advocacy Platform released a statement in late 2021 addressing the challenges faced by mental health in the post-pandemic environment. In their statement, they call for the creation of an intersectional long-term Mental Health Strategy. The statement clearly identifies women and girls, children, ethnic minorities,

people with disabilities, the elderly, and citizens with difficult socioeconomic realities as groups disproportionately at risk of being impacted by mental health issues. Among other things, they promote the idea of a mental health campaign that addresses “the socioeconomic determinants of mental health, with particular attention to those who face multiple and intersecting forms of discrimination, including on the basis of ethnicity, religion, sexual orientation, and gender identity, migration status, age or disability.”

1.25. Better air quality in households

Old and energy-inefficient furnaces, stoves, and air conditioners cause poor air quality that adversely affects health in general. According to the data from the EmpowerMed project, **11% of interviewees in Albania and 15% of interviewees in Croatia reported suffering from chronic bronchitis**, and 6% (Albania) and 9% (Croatia) reported suffering from asthma. Subsidies for new stoves and furnaces should be considered as possible solutions to poor air quality. Mandatory and free chimney sweep inspections and mandatory and free annual replacement of air conditioning filters should be available to households at risk of energy poverty.

1.26. Health workers' attention to energy poor households

Health workers should be trained to understand the correlation between the living conditions and health of citizens living in energy poor households. Based on the understanding of energy poverty, physicians and health workers should be trained to know where people affected by energy poverty can find further support and help, with a recommendation from the physician to improve living conditions in the household from a health perspective, if necessary. The recommendations made by health workers could be included in the criteria for renovation schemes. For example, citizens with recommendations should receive additional points or priority for renovation.

