



**Identifying the gaps on
EU health and energy
policies to mitigate
Energy Poverty effects
on health**

**Review and
recommendations**

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February 2025



Funded by the Horizon 2020
Framework Programme of the
European Union



WELLBASED has been funded by the European Union's Horizon 2020 Programme under the Grant Agreement GA 945097. The contents of this publication are the sole responsibility of VIC and do not necessarily reflect the opinion of the European Union.

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Statement of originality

This deliverable contains original unpublished work except where clearly indicated otherwise. Acknowledgement of previously published material and of the work of others has been made through appropriate citation, quotation or both.



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List of acronyms

- DX.X: deliverable X.X
- EC: European Commission
- EP: Energy Poverty
- EPAH: Energy Poverty Advisory Hub
- EPHA: European Public Health Alliance
- EU: European Union



- HiAP: Health in All Policies
- NCDs: Non-communicable Diseases
- TX.X: Task X.X
- WHO: World Health Organisation
- WP: Work Package
- WUPs: WELLBASED Urban Programmes



Executive summary

The deliverable 5.5 (D5.5) aimed to equip decision makers at local, national and EU level with the knowledge built within WELLBASED and its policy implications to make better informed decisions about defining evidence-based urban policies to tackle Energy Poverty.

In the framework of this D5.5 and based on the health effects of energy poverty, which have been extensively documented throughout the project, a review of different EU policy instruments on health and energy is carried out. This analysis reveals gaps in addressing the intersection of energy poverty and health: energy policies often lack explicit consideration of their health effects and how to address them, while health policies inadequately address Energy Poverty as a social determinant of health. There is ample room for action by public authorities at all public levels to bridge these gaps.

The WELLBASED project plays a key role in addressing the gaps between energy and health policies by offering empirical evidence on Energy Poverty Indicators and shedding light on coping strategies. The findings emphasize the ongoing challenges of Energy Poverty, despite current policy efforts, and underscore the need for more impactful solutions. Additionally, WELLBASED presents integrated intervention models that tackle Energy Poverty while incorporating health-related considerations.

The WELLBASED project highlights the importance of local action and community engagement in addressing Energy Poverty, emphasizing place-based solutions tailored to the needs of the most vulnerable populations. The WELLBASED Urban Programmes follow a socioecological model of health determinants, recognizing the interconnected factors that influence health outcomes. This approach underscores the need for multi-level strategies that not only provide immediate relief but also drive systemic change by promoting healthier living conditions and long-term resilience. Moreover, integrating a rights-based approach to energy is essential to empower individuals and communities, shifting the narrative from assistance to entitlement. Recognizing access to energy as a fundamental right helps to combat stigma, promote social justice, and strengthen collective action.

Introduction: WELLBASED project and WELLBASED Urban Programmes (WUPs)

Horizon 2020 WELLBASED project aimed at designing, implementing, and evaluating a comprehensive urban programme: WELLBASED Urban Programmes (WUPs) that combine Energy Poverty and health action. The design of the programme was based on the social ecological model of health determinants (Dahlgren and Whitehead, 1991), to reduce Energy Poverty and its effects on the citizen's health and wellbeing. These programmes have been implemented and evaluated in six different pilot cities (Valencia – Spain, Heerlen – The Netherlands, Edirne – Turkey, Jelgava – Latvia, Obuda – Hungary, and Leeds – United Kingdom). WUPs contain interventions to act on health determinants at each Layer of the socio ecological model:

- Layer 1 Individual lifestyle factors, referring mainly to actions oriented to promote individual behavioral change related to energy efficiency.
- Layer 2 Social and community networks, including building a community of knowledge exchange and peer learning aimed at strengthening community support.
- Layer 3 Living and working conditions, which refers to practices aimed at improving access to those "services" necessary for decent work and living conditions.
- Layer 4 General socio-economic, cultural and environmental conditions, referring to practices aimed at coordination initiatives and defining public policies to address Energy Poverty.

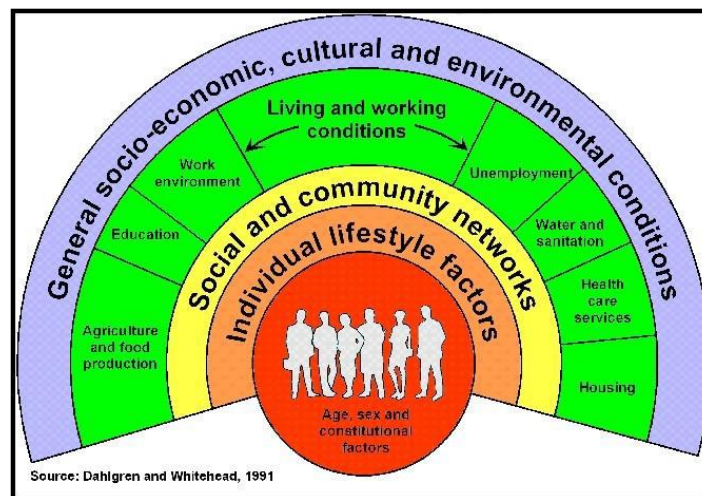


Figure 1. The four Layers of Social Ecological model

WELLBASED provides evidence of the positive impact of health promotion interventions in the fight against Energy Poverty (Stevens, M., Van Grieken, A. et al. 2024)



Energy Poverty is a complex Public Health problem affecting physical and mental health of most vulnerable groups

People in energy poverty often live in homes **with poor indoor air quality, damp, mold or lack of ventilation**, exposed to **extreme temperatures** that have these impacts:

- aggravate **respiratory diseases** (asthma, bronchitis and other chronic lung diseases) and favor the development of **respiratory infections**, especially in **children and older people**.
- Increased risk of **hypertension, heart attacks and strokes**, especially in older people or those with pre-existing conditions.
- Aggravate **musculoskeletal problems**, such as joint pain or arthritis, especially in older people.
- Financial difficulties, high worries about the lack of thermal comfort in the home and the feeling of inability to improve one's personal situation leads to **anxiety, depression and chronic stress**.
- **Social isolation and stigmatisation**.
- It affects the **quality of sleep** that impacts on mental health, cognitive performance and physical health (increased risk of cardiovascular and metabolic diseases).
- Nutrition and food security problems. Increased risk of **metabolic diseases such as type 2 diabetes, hypertension and heart disease**.
- High risk of **frailty and dependency for older adults**.

Energy poverty amplifies existing health and social inequalities. Lack of adequate access to energy for basic needs disproportionately affects the most vulnerable population groups, such as low-income families, older people, children, people with disabilities and marginalized communities.



1. Review of main EU health and energy policies: identifying the gaps to mitigate Energy Poverty effects on health

Historically, policy instruments designed to reduce Energy Poverty have not been connected to the health domain, i.e., they have not considered the health effects of Energy Poverty. On the other hand, health policy has also failed to consider the relevance of living in Energy Poverty in terms of health outcomes. However, as can be easily seen in the previous chapter, there is a strong link between these two dimensions.

There is a lack of integration between health and energy policies. Health and energy policies are often addressed separately, preventing a comprehensive approach to tackling the health effects of Energy Poverty. There is a lack of effective coordination between the two sectors, making it difficult to create comprehensive solutions for people affected by Energy Poverty.

To illustrate this independent, disconnected policy development between health and energy, an analysis of the main EU policies in the fields of energy and health is presented below, with the intention of highlighting the gaps in existing policies with respect to mitigating the effects on Energy Poverty on health. **We include in this analysis the contribution that WELLBASED project can provide to these instruments and policies.** The analysis is done at the current EU policies by January 2025.

The WELLBASED project is instrumental in bridging the identified gaps between energy and health policies by providing empirical evidence on Energy Poverty Indicators and insights into coping strategies. These findings underscore the persistent prevalence of Energy Poverty despite existing policy measures, highlighting the necessity for more effective interventions. WELLBASED also provides integrated intervention models against Energy Poverty which consider health aspects.

A. Energy Poverty policies through a health lens: identifying the gaps

The work of the European Public Health Alliance in its paper *Integrating Health for Effective Energy Poverty Policy* (EPHA, 2024) has been highly useful and inspiring to complete this section. There is a wide range of EU policy instruments aimed at energy issues. However, the health perspective does not play a central role in these policies, being limited to a nominal reference in some cases, as shown in Table 1. This is particularly striking given the profound interconnection between the fields of health and Energy Poverty.



Table 1. Analysis of major EU Energy Policies Addressing Energy Poverty and Associated Health Considerations

Policy/Directive	Description	Health Considerations	Identified Gaps
Energy Efficiency Directive (2012)	Aims to promote efficient energy use across sectors to reduce greenhouse gas emissions and improve economic competitiveness.	Article 24 suggests that expert networks on Energy Poverty should include health experts and considers health conditions as factors increasing Energy Poverty risk.	While health is acknowledged, the directive lacks specific measures to address health impacts directly related to energy efficiency improvements.
Energy Performance of Buildings Directive (EPBD) (2018)	Seeks to enhance the energy efficiency of buildings in the EU, contributing to climate goals.	Article 2 mentions indoor environmental quality, highlighting health and wellbeing concerns such as temperature, humidity, and ventilation.	Despite recognizing indoor environmental quality, the directive does not mandate specific actions to ensure health benefits from energy performance measures.
Regulation on the Governance of the Energy Union and Climate Action (2018)	Establishes a framework for the governance of the Energy Union and climate action, requiring Member States to develop integrated national energy and climate plans.	Does not explicitly address health impacts related to energy policies.	Lacks consideration of health implications in energy and climate planning, missing opportunities for integrated policy development.
Social Climate Fund (2021)	Proposed to support vulnerable households and micro-enterprises in transitioning towards climate neutrality, addressing energy and transport poverty.	Acknowledges the need to protect vulnerable populations during the green transition, which can have positive health implications.	Beyond the preambles, the proposal does not significantly address health impacts or integrate health-focused interventions within its framework.
Commission Recommendation on Energy Poverty (2023)	Provides guidance to Member States on defining and measuring Energy Poverty, encouraging the development of indicators and policies to address it.	Highlights the importance of including health and social workers among frontline workers in Energy Poverty programs.	As a recommendation, it lacks binding authority to ensure Member States incorporate comprehensive health considerations into their Energy Poverty strategies.



B. Health policies under the Energy Poverty lenses: identifying the gaps

Effects of exposure to Energy Poverty situation on health have been highlighted in the previous section related to the results of WELLBASED evaluation studies, in addition to all the existing scientific evidence. Nevertheless, some EU policies addressing health do not include Energy Poverty. Regarding the world challenges ahead, climate change will worsen health and living conditions of people in Energy Poverty increasing even more the current health inequalities, especially affecting those more vulnerable (older adults, children, young people, women). Energy Poverty can then become a major challenge for Public Health. How the Green Deal and just transition promoted by EU are implemented, and the impact of the related policies on energy and health, will influence key determinants of the future health of the most vulnerable.

Thus, in this section we explore the current gaps regarding Energy Poverty on EU health policies, summarised in Table 2. Basically, we can identify the following issues:

- **Limited focus on prevention:** European health policies often focus on curative health care, without sufficiently prioritising prevention of the effects of Energy Poverty. Even in the case of “curative health care”, the latter tends to be of poor quality for poor people and leads to increase inequalities.
- **Lack of specific data and monitoring:** Although the health impacts of Energy Poverty are scientifically proved, there is a lack of systematic data on the issue and a lack of monitoring mechanisms to assess the magnitude of the problem and the impact of interventions. This limits the ability to develop effective policies tailored to the needs of the population at risk.
- **Health inequalities not adequately addressed:** Energy Poverty contributes to health inequalities, but European policies do not always integrate the concept of social justice in relation to energy access and social determinants of health.
- **Lack of multidimensional approaches:** Many policies focus only on one-off aspects of the problem (e.g. improving household energy efficiency) without addressing the multiple dimensions of Energy Poverty, such as living conditions, access to health care, psychological wellbeing and financial security. The interactions between these factors are not sufficiently addressed.
- **Low funding for comprehensive programmes:** Programmes that address Energy Poverty from a comprehensive approach are often limited in funding and scope. Although European funds are available for tackling Energy Poverty, these resources are often not efficiently allocated to programmes that also include public health components, limiting their potential impact.
- **Inadequate awareness and training of health professionals:** Health professionals, especially those in primary care, are often not sufficiently trained or informed about the health effects of Energy Poverty. This results in late detection and limited interventions to address the impact of Energy Poverty on patients.
- **Citizens' lack of trust in institutions:** Lack of trust in institutions and public policies related to Energy Poverty and health is a major barrier. Many people affected by Energy Poverty do not seek



help because of mistrust of policies or fear of stigmatisation. Public policy needs to do more to improve public confidence in the measures that are implemented.

Table 2. Analysis of EU Health Policies Addressing Energy Poverty and Associated Health Considerations

Policy/Initiative	Description	Energy Considerations	Poverty	Identified Gaps
EU Health Strategy (2008)	Focuses on disease prevention and health promotion across Member States.	Does not explicitly address Energy Poverty or its health implications. Energy Poverty is not sufficiently linked to environmental health policies.		Lacks integration of Energy Poverty as a determinant of health, missing opportunities for comprehensive health promotion.
EU4Health Programme (2021)	Aims to strengthen health systems and improve health outcomes in the EU.	Does not specifically include Energy Poverty in its objectives.		Overlooks the preventive health issues arising from lack of access to energy, limiting its effectiveness in addressing related health problems.
Healthier Together – EU Non-Communicable Diseases (NCD) Initiative (2022)	Targets prevention and management of NCDs across five strands: health determinants, cardiovascular diseases, diabetes, chronic respiratory diseases, mental health, and neurological disorders.	Energy Poverty negatively impacts all five strands but is not recognized as a health risk factor within the initiative.		Fails to consider Energy Poverty in prevention strategies, missing a critical determinant affecting NCD prevalence and management.
Europe’s Beating Cancer Plan (2021)	Addresses cancer prevention, treatment, and care.	Does not focus on social and environmental determinants like Energy Poverty.		Neglects factors such as inadequate living conditions that can increase cancer risk and hinder access to healthcare.
EU Strategy on Mental Health (2023)	Emphasizes addressing social determinants of mental health.	Does not specifically identify Energy Poverty as a key determinant.		Overlooks the impact of energy crises on mental health, especially among those already experiencing Energy Poverty.



EU Patients' Rights Directive (2011)	Ensures access to quality healthcare across the EU.	Does not address barriers to healthcare access caused by Energy Poverty.	Fails to consider how Energy Poverty limits individuals' ability to seek and receive adequate healthcare services.
Health Professional Education Programme (Ongoing)	Provides training for health professionals.	Does not include Energy Poverty as a health risk factor in curricula.	Limits health professionals' capacity to identify and address Energy Poverty, affecting early intervention and patient outcomes.

2. Conclusions on current EU energy and health policies with potential contributions from WELLBASED project

To sum up, the following gaps have been identified in the previous sections:

- In Energy Policies:** While there is a growing recognition of the intersection between energy efficiency and health, explicit integration of health considerations remains limited. Policies often acknowledge potential health benefits but lack specific measures or mandates to address health impacts directly related to energy efficiency improvements.
- In Health Policies:** There is a general lack of recognition of Energy Poverty as a significant social determinant of health. Current health policies and initiatives do not explicitly incorporate strategies to address the health impacts associated with Energy Poverty, leading to missed opportunities for comprehensive disease prevention and health promotion.

Next section addresses Policy Recommendations more in depth, providing actionable insights for enhancing the synergy between energy and health policies.



3. Bridging EU Energy and Health policies for action against Energy Poverty

We can draw some highlights from the previous section to narrow the gap between EU energy and health policies to address Energy Poverty.

Thus, to bridge EU energy and health policies for action against Energy Poverty, learnings from WELLBASED projects suggest:

- **For Energy Policies:** To incorporate explicit health objectives and actionable measures into energy efficiency and poverty alleviation programs. This includes developing and implementing specific actions that address health impacts directly related to energy efficiency improvements.
- **For Health Policies:** To explicitly recognize Energy Poverty as a critical social determinant of health and risk factor for physical and mental health. Integrate considerations of energy access, improvement of housing conditions, affordability and access to health services into health strategies, policies, and programs to address the root causes of health disparities.

More specifically, we suggest:

Mainstreaming Health in Energy Transition policies

- **Define joint national energy efficiency and health plans:** Require national energy efficiency plans to include measures to specifically target improvement of health of vulnerable people affected by Energy Poverty.
- **Health impact assessment:** Include health impact assessment (both mental and physical health) as part of environmental impact assessments of energy policies and housing retrofits.

Establish common objectives between the health and energy sectors in European strategies to facilitate a more coherent and coordinated response .

- **Health and energy targets in the European Green Deal:** Ensure that EU policies under the European Green Deal include specific targets linking clean and affordable energy with public health, such as reducing respiratory and cardiovascular diseases through improved air quality and access to affordable energy.
- **Health targets as part of the energy transition:** Include health indicators (e.g. reduction of morbidity associated with Energy Poverty) as part of progress reports on EU energy transition targets.
- **Include Energy Poverty in EU public health targets:** European health policies, such as the Health 2020 Strategy or the new Health 2030 Strategy, can include specific targets to reduce the health effects of Energy Poverty as part of social welfare policies and universal access to health services.

Inclusion of Energy Poverty as a social determinant of health within European Public Health policies.



Develop Europe-wide awareness campaigns on the impact of Energy Poverty on health, targeting both citizens and policy makers, to increase awareness and coordinated action in this area.

Regarding funding, the document [Policy brief 5: Funding to fight against energy poverty through the health lense](#) addresses concrete policy recommendations that can inspire future action.

Conclusions

The findings of the WELLBASED project highlight the urgent need for integrated policy approaches to effectively address the intersection between energy poverty and health. Despite existing policy efforts, significant gaps remain in ensuring that energy policies consider health impacts and that health policies adequately recognize energy poverty as a key social determinant of health. This document provides actionable policy recommendations to bridge these gaps and support evidence-based urban policymaking at local, national, and EU levels.

The **WELLBASED Urban Programmes** have demonstrated the need and the impact of interventions based on the **socioecological model of health determinants**, which recognizes the multiple and interconnected levels influencing health outcomes—from individual behaviors to community, policy, and environmental factors. This comprehensive approach highlights the need for multi-level strategies that not only provide immediate relief to energy-poor households but also drive systemic change by promoting healthier living conditions, improving social support networks, and fostering long-term resilience against energy poverty.

Moving forward, sustained commitment from policymakers and stakeholders will be crucial to transforming these recommendations into impactful actions that promote social and environmental justice while improving public health outcomes, particularly for the most vulnerable communities.

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Annex I

This annex presents the five policy briefs that outline key policy recommendations derived from the project's findings, presented in Section 5 of this document. Each policy brief addresses a specific Action field of that section, containing a summary of the context, identified needs, challenges and the actionable solutions proposed to support evidence-based decision-making.

The recommendations are designed to enhance the effectiveness, sustainability, and scalability of innovative approaches within the project's scope. By providing concrete policy guidance, these briefs aim to facilitate informed policymaking and foster the adoption of best practices at local, national, and international levels.

After 4 years of gathering evidence on the ground, WELLBASED shares its learnings. They are designed to guide local and other policymakers in shaping comprehensive, impactful policies that promote a healthier, more equitable future for all: [Policy Recommendations: Tackling Energy Poverty as a Public Health Priority](#)

Links for each of the Action Fields policy briefs:

[Policy brief 1: Local action programs to fight against energy poverty through the health lense](#)

How to design effective urban programs to fight against energy poverty through health lenses

[Policy brief 2: Collaborative governance with a Health in All Policies approach](#)

Suggestions on how to promote collaborative frameworks for multilayer and multidimensional action at local level to ensure urban programs implementation from a HiAP (Health in All Policies) approach.

[Policy brief 3: Capacity-building pathways](#)

Pathways to increase capacity of stakeholders to identify and address the health implications of energy poverty

[Policy brief 4: Monitoring and evaluation around the health-energy poverty-nexus](#)

Advice for decision-makers and practitioners on how to improve monitoring and evaluation to track energy poverty and health indicators

[Policy brief 5: Funding to fight against energy poverty through the health lense](#)

How to adjust and optimise funding streams to tackle energy poverty considering health

Additional briefs on sections “Tips for interventions” and “Lessons learnt for future research projects” will be available in March 2025.



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