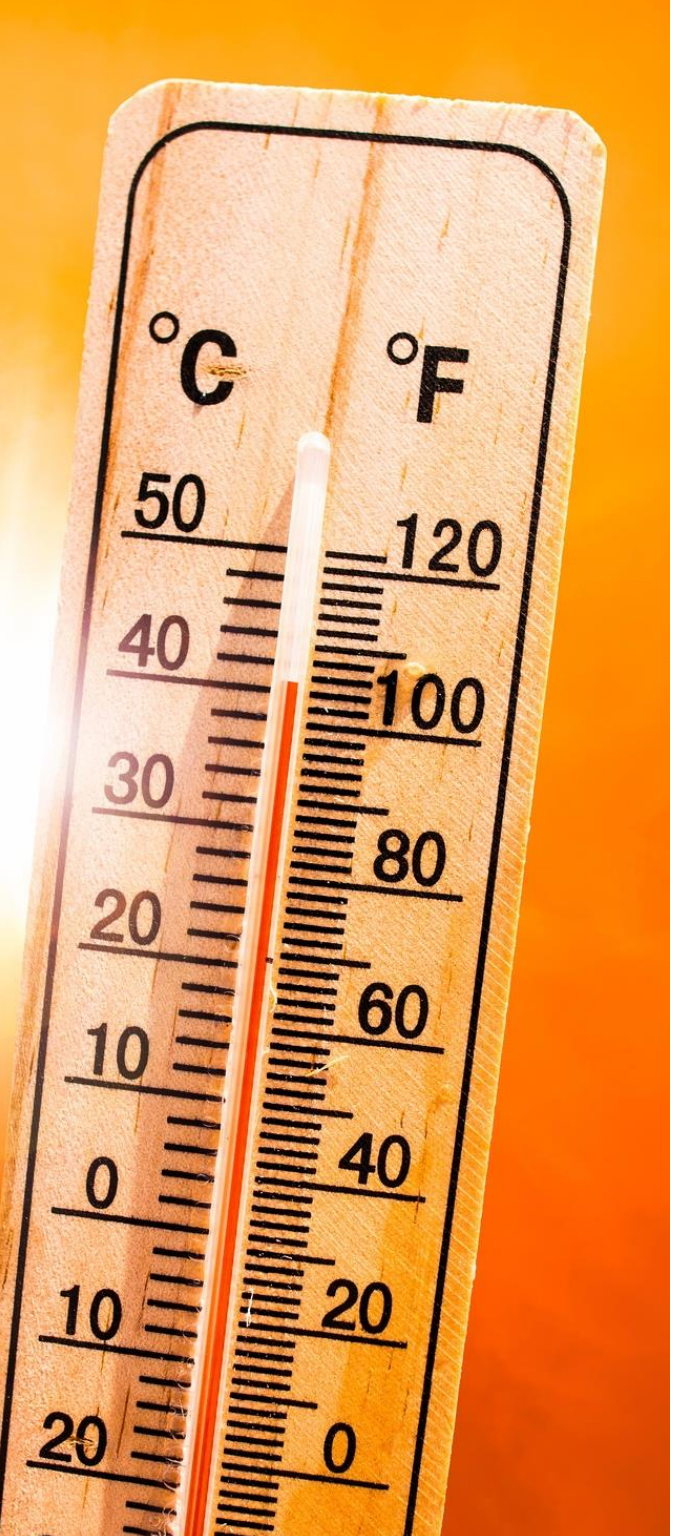
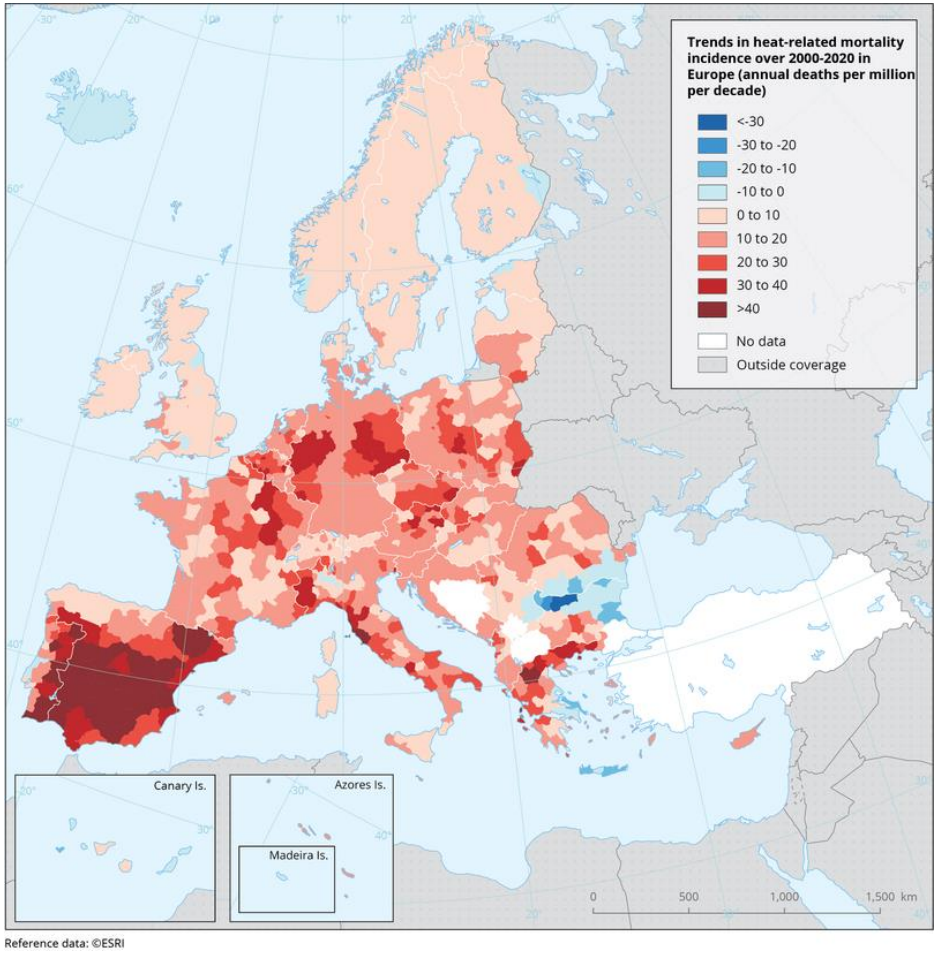


Framing Summer Energy Poverty in the EU

Insights and Recommendations for a Resilient Future

Marine Cornelis, Next Energy Consumer
marine.cornelis@nextenergyconsumer.eu
June 2025

Why “Summer” Energy Poverty?



Heat-attributable mortality incidence (annual deaths/million/decade) for the general population, 2000-2020. Source: EEA, 2024

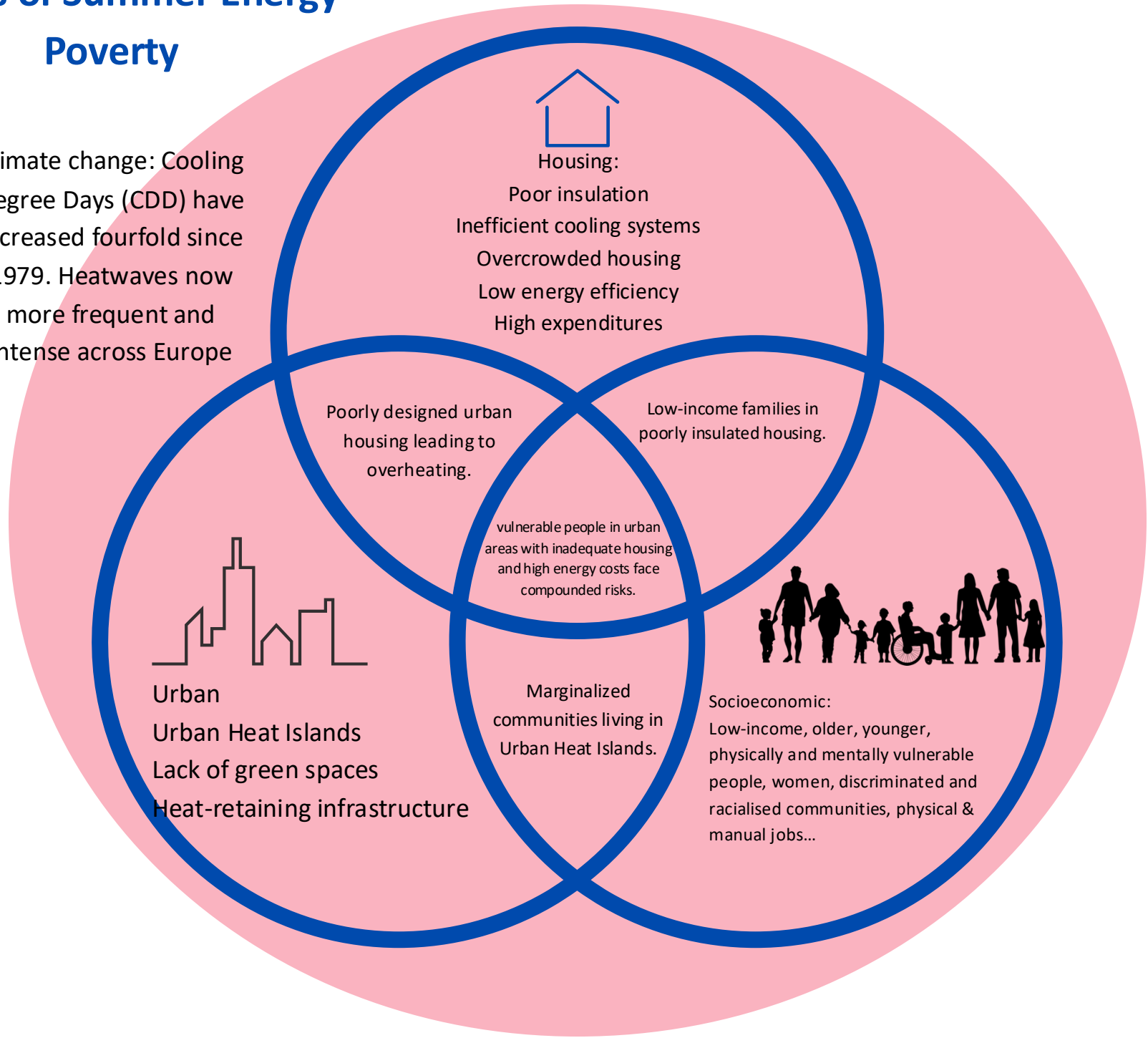
Summer energy poverty in Europe refers to the inability of households to maintain safe indoor temperatures during summer without financial strain. Key points include:

- SEPOV is part of EPOV: it shares similar causes such as inadequate housing, energy inefficiencies, and financial constraints
- But data are more fragmented:
  - Nearly 19% of EU households struggle to achieve comfortable indoor temperatures (Eurostat, 2012).
  - Approximately 48,000 heat-related deaths are projected in 2023.
  - Data on heat exposure or inadequate cooling are available in 3 countries: **Spain (33.7%) France (55%), Portugal (38.3%)**
- EU has integrated cooling in the EED and EPBD
- But issue is often overlooked in policy agendas, putting vulnerable people at risk.
- Solutions require cross-sectoral strategies, robust data collection, and equitable policies to enhance resilience.

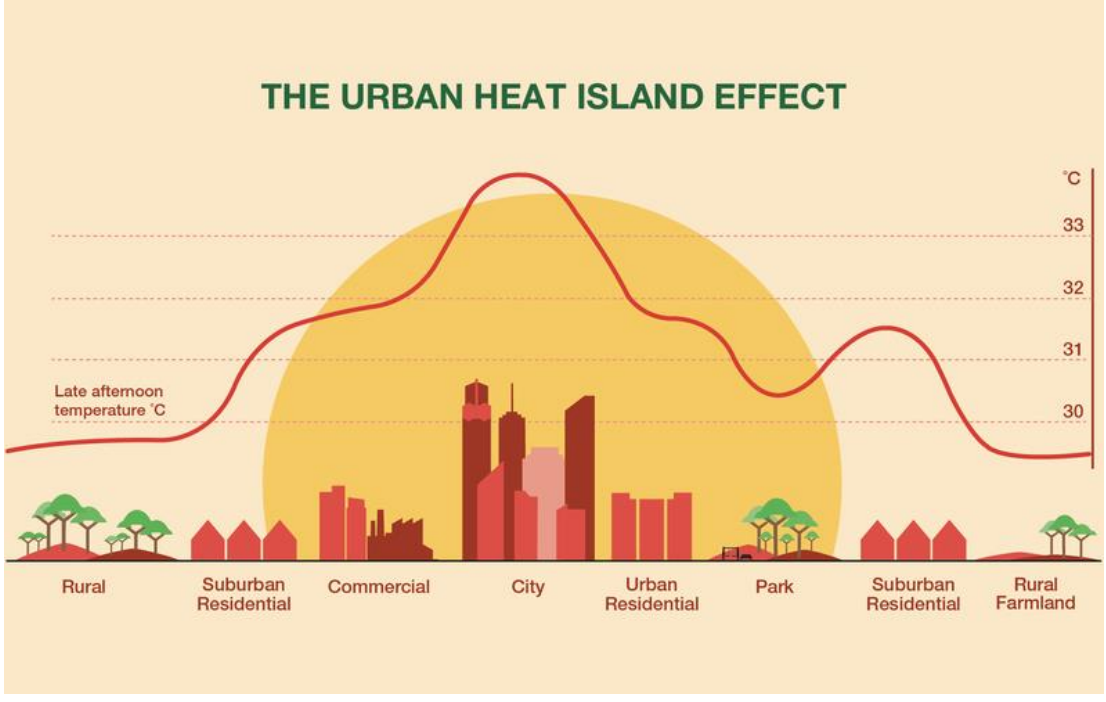
Integrating social fairness in adaptation and urban policies is essential for affordability, equitable cooling access, resilient infrastructure, and adequate funding.

Drivers of Summer Energy Poverty

Climate change: Cooling Degree Days (CDD) have increased fourfold since 1979. Heatwaves now more frequent and intense across Europe



Why is SEPOV predominantly an urban phenomenon?



Source: CoolLIFE, 2024

- Lack of green spaces create Urban heat islands (UHIs)
- It cause cities to experience temperatures 7-10°C higher than rural areas
- Urban apartments are 3 times more likely to overheat than detached houses
- AC can increase of UHI and grid pressure!
- "It's harder to escape the heat than the cold" (CoolLIFE, 2023).

It's not only about the possibility to actively cool one's home, but also to access a cool outdoor environment

Active and Passive Cooling are necessary

Active Cooling

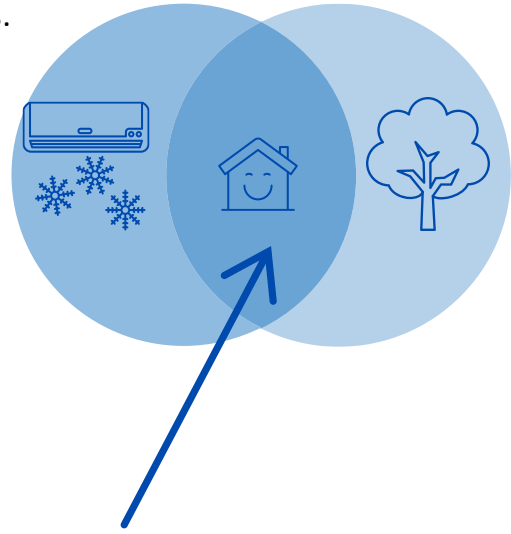
- Uses mechanical systems to cool indoor environments.
- E.g. Air conditioners, fans, or heat pumps.

Benefits:

- Provides rapid, reliable cooling during extreme heat.
- Essential for vulnerable people in heatwaves.
- Can be integrated with renewable energy sources for sustainability.

Limits:

- Not necessary affordable to buy and run nor energy-efficient.



Passive Cooling

- Uses natural processes and design strategies to maintain indoor temperatures without energy-intensive systems.
- E.g.: Nature-based solutions (e.g., green roofs, tree shading, urban greening); shading (e.g., window blinds, reflective paints); Insulation; Ventilation (e.g., cross-ventilation, night cooling).

Benefits:

- Reduces reliance on energy systems, lowering costs.
- Mitigates Urban Heat Islands (UHIs).
- Environmentally sustainable and accessible for all income groups

Limits:

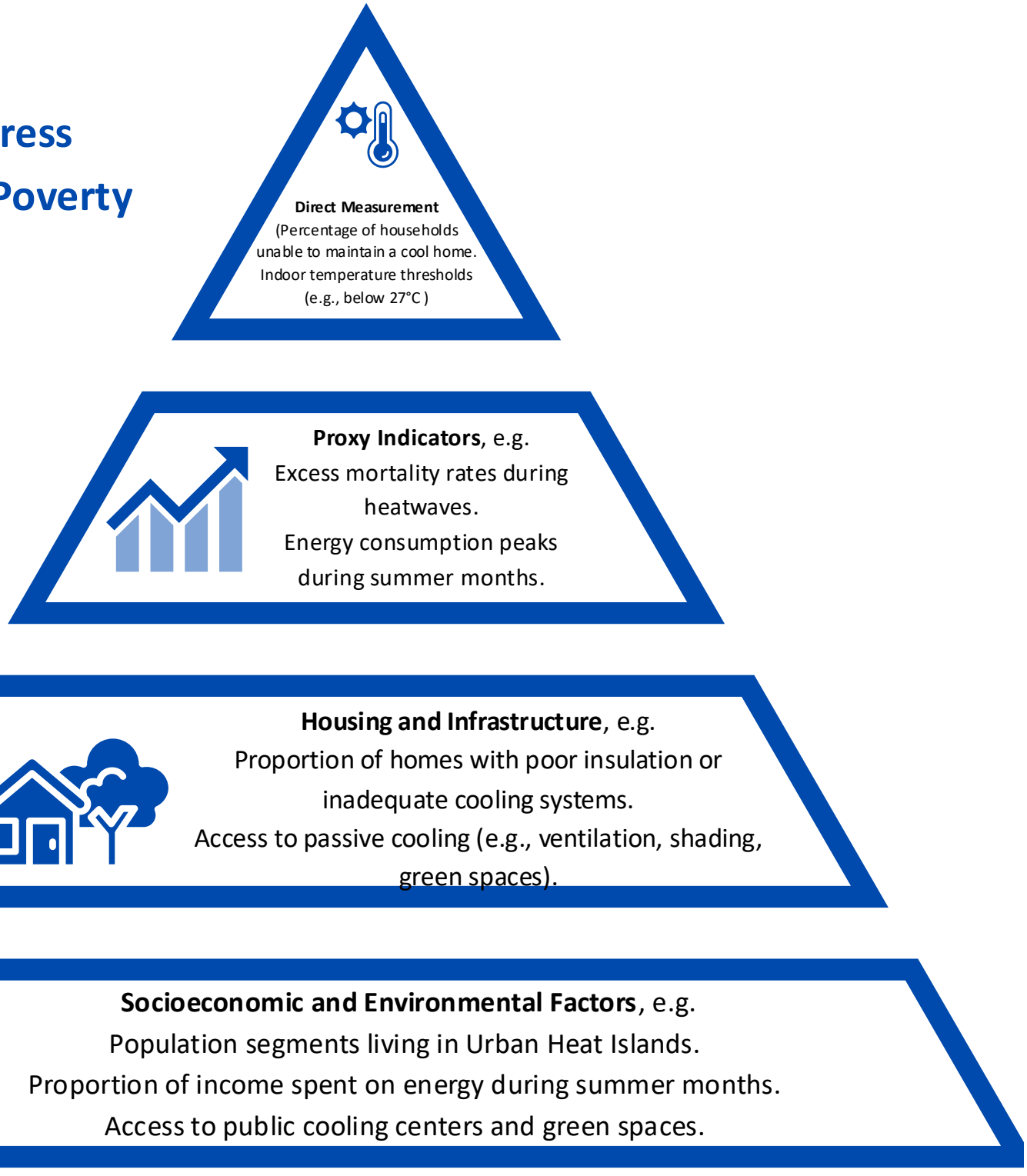
- Passive cooling may not suffice during prolonged heatwaves or in poorly insulated homes.
- Passive solutions are more affordable and long-term but may not be accessible to renters or those in urban heat islands..

Active and Passive Cooling are **complementary**:

- Combined approaches reduce costs, balance energy demands, limiting grid strain.
- Heat pumps and hybrid systems bridge gaps between passive and active methods.
- Policies need to boost the building's renovation with shading, insulation, and green roofs while encouraging the adoption of efficient cooling systems.
- Promote renewable-powered active cooling (e.g., solar-powered ACs).

Indicators to address Summer Energy Poverty (summary)

Certain indicators are already collected at EU level (e.g. EU-SILC, BSO on housing stock), other would need to be added or consolidated



Relevant practices to address Summer Energy Poverty - Local

Climate Adaptation Strategies

- Just Resilience Approach: Focuses on equity in climate adaptation, introduced in the EU Adaptation Strategy (2021).
- Covenant of Mayors: Covers 202.5 million people in EEA-38 countries; over 1,000 cities implement SECAPs addressing summer energy poverty.
- Nature-Based Solutions: Cities like Athens, Paris, and Bratislava leverage green infrastructure (e.g., urban forests, tree planting, and green roofs) for cooling.
- Mission on Adaptation to Climate Change: Supports regional/local adaptation planning with tailored strategies and technical assistance.

Energy Efficiency and Community Initiatives

- Local Energy Poverty Centres: Provide resources for improving home energy efficiency and integrating cooling solutions.
- Energy Communities: Facilitate collective investment in renewables and affordable cooling solutions for low-income areas.
- Inclusive Cooling Zones: Accessible shelters and shaded areas (e.g., Paris' "50°C Strategy") for vulnerable people.

Public and Social Housing

- Renovation Projects: Examples include Zaragoza's bioclimatic designs and Amsterdam's smart blue-green roofs for heat mitigation.
- Support Tools: France's "RITE" for assessing summer comfort and Renoptim initiative for sustainable retrofits in social housing.
- Funding for Housing: €200 million allocated for summer-proof renovations by 2024 in France.

Educational Campaigns and Stakeholder Engagement

- EPAH Coordination Groups: Facilitate municipal collaboration and stakeholder input for inclusive adaptation measures.
- Training and Awareness: Projects like Barcelona's CooltoRise educate residents on energy-saving and thermal comfort strategies

Innovative Funding Models

- Insurance Partnerships: Projects like PIISA promote nature-based solutions through climate risk insurance.
- Community Funds: AdaptCascais Fund in Portugal supports grassroots climate adaptation projects like reforestation.

Participatory Approaches

- Community Engagement: Barcelona, Dresden, and Prague involve marginalized communities in designing and implementing solutions.
- Crowdfunding: Ghent funds small-scale, community-driven projects like urban farming to enhance equity and resilience.

Challenges: Knowledge, Funding, and **Gentrification**

Recommendations to address Summer Energy Poverty

Define Relevant Indicators to measure SEPOV

At the EU level, SEPOV indicators should integrate with existing metrics, highlighting unique seasonal issues like cooling inadequacies in homes.

Enhance Data Collection and Mapping

Use existing socio-economic and climate data for better vulnerability analysis

Strengthen Monitoring, Evaluation, and Learning (MEL) Systems

e.g. Link climate, energy and health services with housing programs to address overheating risks & participatopry monitoring.

Improve Energy-Efficient Cooling Technologies and Flexible Energy Tariffs

Promote fair renewable tariffs to encourage off-peak cooling appliance use, reducing consumer costs and alleviating peak demand stress.

Support Nature-Based Solutions, Energy Efficiency & Passive Cooling

Promote building retrofits, green roofs, and urban greening initiatives

Foster Inclusive Urban Planning

Integrate climate justice in city design to mitigate Urban Heat Islands

Expand SEPOV Mitigation Funding

Leverage Social Climate Fund and other relevant Funds for cooling-focused solutions

Develop Skills and Public Awareness

Promote training and campaigns to equip professionals and citizens

Conclusion

Summer energy poverty is an equity, health, and climate resilience issue. While the EU policy framework acknowledges "cooling," **more data is needed** for effective **action**. Understanding its multifaceted nature can help incorporate cooling needs into housing standards, urban planning, and energy assistance, focusing on socio-economically vulnerable people.

Why act now?

- The EU now has a unique set of policies to address EPOV - their implementation have to offer solutions for all seasons
- Climate change accelerates risks

What can stakeholders do?

- EU Policymakers: Improve the governance and cohesion of SEPOV-related policies and funding
- National Policymakers: Implement EU framework, include cooling and summer-specific provisions
- Local Policymakers: Include Just Resilience principles in their local adaptation and energy poverty plans
- Businesses: Innovate affordable, sustainable cooling solutions
- NGOs: Advocate for vulnerable people
- Researchers: Continue collecting, and analysing evidence

Thank you!

European Commission: Directorate-General for Energy and Cornelis, M., *Framing summer energy poverty – Insights and recommendations for a resilient future – Final report*, Publications Office of the European Union, 2025, **https://data.europa.eu/doi/10.2833/3135617**

Marine Cornelis, Next Energy Consumer
marine.cornelis@nextenergyconsumer.eu