



**“The Energy  
Poverty Phenomenon.  
Factors and approaches  
in developed and emerging  
countries”**

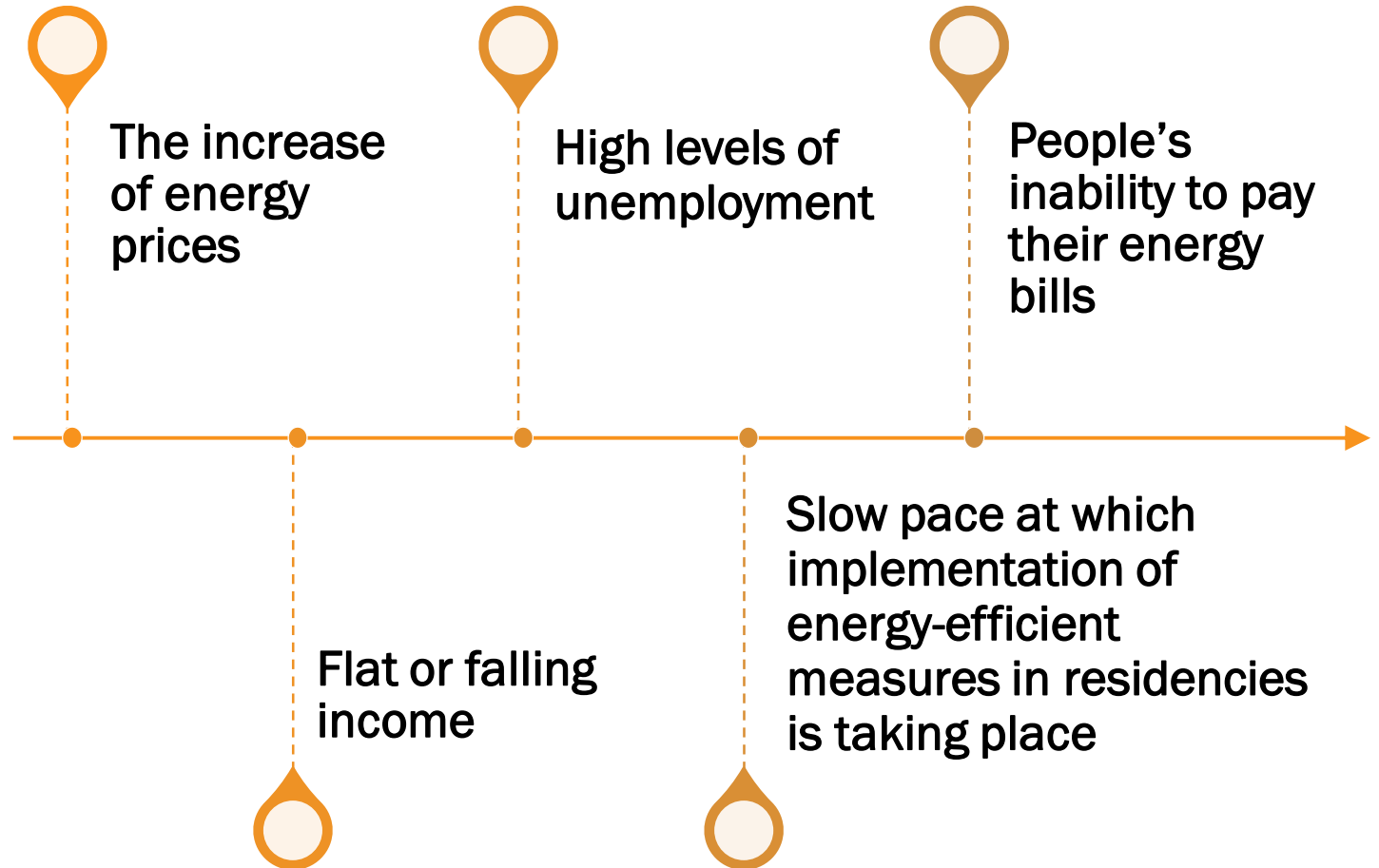
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Energy poverty is a pressing problem affected by the complicated interaction of multiple factors.





# Energy Poverty Facts

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- 📍 In **Developing Countries**, energy poverty is primarily experienced as lack of access to basic energy services.
- 📍 According to estimates published by the **International Energy Agency (IEA)**, more than **1.3 billion people** do not have access to electricity and consequently lack access to services and provisions that the rest of the population take for granted.

According to the **United Nations** statistics, **1 billion people** have access to energy services, but the services happen to be unreliable.

**The fact that approximately 20% of the global population is deprived of access to electricity, reflects the prevalence of energy poverty on global scale as well as the magnitude of the problems stemming from this situation.**



# Energy Poverty Facts

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📍 Across **Developed Countries**, among which Member States of the European Union, the concept of energy poverty is perceived differently. In developed countries energy poverty mainly suggests permanent or temporary inability to access energy services and provisions.

»» **EU:** It is estimated that more than **50 million households in the EU**, equating 10% of the population, struggle with the phenomenon and its implications according to the European Union's Energy Poverty Observatory (EPOV).

In 2019, **6.9% of the European Union (EU) population** said in an EU-wide survey **that they could not afford to heat their home sufficiently**. The situation in the EU Member States varies. The largest share of people who said that they could not afford to keep their home adequately warm was recorded in

»» Bulgaria (30.1%), Lithuania (26.7%), Cyprus (21.0%), Portugal (18.9%), Greece (17.9%) and Italy (11.1%).

*Source: Eurostat*

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# Energy Poverty Facts

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»» **USA:** Nearly **one third of households** in the United States have struggled to pay their energy bills (*source: US Energy Information Administration*).

The differences were minor in terms of geography, but racial minorities were hit hardest.

📍 About **one in five households** had to reduce food, medicine and other necessities to pay an energy bill. Of the 25 million households that reported forgoing food and medicine to pay energy bills, **7 million faced that decision nearly every month.**

📍 Seven million households (6% of the national total) reported the **inability to use heating equipment because of financial constraints** at some point, and 6 million (5%) households reported the loss of **air conditioning.**



# Principal Elements of Energy Poverty Frameworks

## Recognition of the energy poverty phenomenon

### Developing Countries:

The phenomenon was mentioned in some documents during the early 1970s. The debate was on the **technological expansion** and how can this support the countries. In recent years, the debate for energy poverty mitigation in developing countries focuses more on **governance challenges**.

**Developed Countries:** The first ‘energy poverty’ mentions date back to the **late 1970s and 1980s**. Primarily the mentions were connected to the rising energy costs and ‘the right to fuel’. **The first commonly accepted definition of energy poverty** was introduced by Brenda Boardman in the United Kingdom in 1991.

It was based on calculating heating expenses of households and suggested that **households spending more than 10% of their income on such expenses should be considered energy poor**. Since then, a better and wider understanding of the phenomenon is available.



# Principal Elements of Energy Poverty Frameworks

## Expression of interest to investigate the energy poverty phenomenon Developing Countries

**The lack of access to services such as space cooling and heating and to other facilities for cooking, lighting and electric appliances.**

### **Driving forces:**

Detrimental impacts on health, gender inequality, education and economic development more generally.

### **Policies to be considered:**

Examine transitions to 'contemporary' energy fuels, consider investments for the expansion of power grids and/or micro-scale renewables, develop strategies for income support.



# Principal Elements of Energy Poverty Frameworks

## Expression of interest to investigate the energy poverty phenomenon Developed Countries

**Inadequate heating in homes, and recently the inadequate cooling while the recent years other energy services have been included as the lighting, use of home facilities/appliances, IT).**

**Driving forces:** Long and short-term mental and physical health, inadequate participation in society. The direct health effects of energy poverty can be divided into increased morbidity rates and a higher risk of mortality. Cold temperatures double the risk of respiratory problems in children (Source: Marmot Review Team, 2011).

**Policies to be considered:** Income support/job security, lower energy costs provisions, investments in energy efficiency and RES, support **prosumerism** and the wider expansion of energy communities, citizens' education, awareness campaigns.





# Energy & Structural Vulnerability

## What is Energy Vulnerability?

A broader and **more dynamic conceptualisation** of Energy Poverty. It refers to the susceptibility of a household to experience Energy Poverty in case there are **changes in the internal conditions** such as a loss of employment or in the **external conditions** such as an economic crisis.

In such conditions (internal or external) Energy Poverty can be considered as a **temporary result** of deprivation, meaning that households can enter and exit the condition at specific moments.

(Tirado Herrero et al., 2016)

## What is Structural Vulnerability?

This term refers to the **political and socio-economic conditions of the countries** which determine the degree of protection that states provide to its population in the case of changes in the internal or external conditions that may drive households into Energy Poverty.

(Recalde et al., 2019)

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# Energy Poverty Indicators

## European Energy Poverty Observatory (EPOV)

The intention is that these indicators could be used to give a snapshot of energy poverty issues, which can then be explored in more detail in research and action projects.

EPOV provides **four different primary indicators for energy poverty:**

- **Arrears on utility bills** - Share of (sub)population having arrears on utility bills.
- **Low absolute energy expenditure** - Share of households whose absolute energy expenditure is below half the national median.
- **High share of energy expenditure in income** - The indicator presents the proportion of households whose share of energy expenditure in income is more than twice the national median share.
- **Inability to keep home adequately warm** - Share of (sub)population not able to keep their home adequately warm.

*<https://www.energypoverty.eu/indicators-data>*

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# Energy Poverty Indicators

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## European Energy Poverty Observatory (EPOV)

**Secondary Indicators:** *EPOV gathers data on a number of secondary indicators that are relevant in the context of energy poverty, but not directly indicators of energy poverty itself. Indicators include e.g., energy prices and housing-related data.*

- **Fuel oil prices:** Average household prices per kWh generated from fuel oil.
- **Household electricity prices:** Electricity prices for household consumers, band DC 2500-5000 kWh/yr consumption, all taxes and levies included,
- **Number of rooms per person:** Average number of rooms per person in owned or rented dwellings.
- **Dwellings with energy label A:** Share of dwellings with an energy label A.
- **Excess winter mortality/deaths:** Share of excess winter mortality/deaths.
- **Presence of leak, damp, rot:** Share of population with leak, damp or rot in their dwelling.

<https://www.energypoverty.eu/indicators-data>



# Considerations

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- ▶▶▶ Energy Poverty is not equally distributed socially and geographically in regions.
- ▶▶▶ Energy Poverty is experienced - above-average rates - by the elderly, families with children (especially single parent families), people with disabilities or long-term illnesses, unemployed, and people in poorly paid jobs.
- ▶▶▶ All citizens of this world are vulnerable to Energy Poverty due to the unforeseen **internal conditions and external conditions.**
- ▶▶▶ All countries should consider the examination of national energy poverty levels (obvious or hidden), including the development of an action plan for energy poverty mitigation, as part of the national social policy!



Thank you!

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