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Tackling fuel poverty with building renovation

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Abstract

In 2013 in the EU, 10.8% of the total population and 24.1% of people with low income were unable to keep their home adequately warm. As indicators of fuel poverty, these numbers reveal the severity of the problem at EU level. In order to tackle fuel poverty it is vital to define it, establish the appropriate measurements, and put in place sustainable and effective policies. To this end, this paper provides comprehensive information regarding the extent of fuel poverty in the EU, presents the various definitions used, assesses potential measures to alleviate its impact, and outlines the role of energy efficiency in buildings in tackling the problem.

Specifically, based on current approaches in defining and identifying energy/fuel poverty and on statistical data, the extent of the problem and its grave impacts in EU countries are assessed. Furthermore, measures taken to combat fuel poverty are analysed and we argue that the implementation of energy efficiency measures in fuel poor houses is the only sustainable solution to the problem. To this end, we analyse and present the social, environmental, and financial results of energy efficiency programs in fuel poor households.

Moreover, we study how fuel poverty measures are funded by presenting case studies from Greece and the UK. The results show that energy efficiency measures receive the lowest budget compared to fuel/heating support schemes despite that they additionally contribute to economic growth and social inclusion, and that financial tools such as EU cohesion funds are available.

The findings of our research offer insight into the fuel poverty problem and the role of energy efficiency in buildings as a sustainable solution that addresses the problem at its roots. A more accurate and consistent definition would allow us to determine the extent of the problem, while a long-term strategy would significantly contribute to alleviate it. Last but foremost, there is an imperative need of gradually shifting part of national and EU budget from income support schemes and fuel subsidies to more active and effective renovation measures.

Introduction

As part of the European Commission's *Europe 2020* strategy [1], at least 20 million people should be lifted out of the risk of poverty and exclusion by 2020 in the European Union (EU). However, a recent evaluation [2] on the progress of the strategy reveals that – mainly due to the economic crisis – the number of people in the EU at risk of poverty increased from 114 million prior to the crisis (2009) to 121 million in 2013.

Unfortunately, based on current estimations the future is not foreseen to be auspicious. Even though the EU GDP has been recovering recently, the economic crisis deepened the inequalities in the distribution of income. In 2012 the richest 20% of the EU population received more than 5 times as much income as the poorest 20%. Additionally, the strategy foresees that from 2012 to 2020 16 million people should enter the labour market; however, the unemployment rate is constantly increasing over the last five years, reaching 10.8% of the EU population in 2013, the highest rate since 2000. On top of these, the European population is ageing, leading to an

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Agenda

- Fuel poverty in Europe
- Analysing the solutions
- Budget allocation to fuel poverty measures
- Energy efficiency programmes for fuel poor households
- Conclusions – Recommendations

Fuel poverty in Europe

Fuel poverty

Fuel poor people:

- Need to spend more than 10% of their income on fuel to maintain an adequate level of warmth (UK 1991).
- "Have required fuel costs that are above average (the national median level) and were they to spend that amount, they would be left with a residual income below the official poverty line" (England 2013).
- Are unable to afford adequate warmth in a home (Ireland 2007).

Combating fuel poverty by implementing energy efficiency measures is vital in order to achieve Europe 2020 targets. Results:

- Avoiding illnesses
- Higher indoor thermal comfort
- Job creation
- Social inclusion
- Reduced energy costs
- Reduced CO_2 emissions

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Fuel poverty in the EU (2013)

Inability to keep home adequately warm

- 10.8% of the total population
- 24.1% of people at risk of poverty

Living in dwellings with leakages & damp walls

- 15.7% of the total population
- 23.5% of people at risk of poverty

Arrears on utility bills

- 10.1% of the total population
- 22.9% of people at risk of poverty

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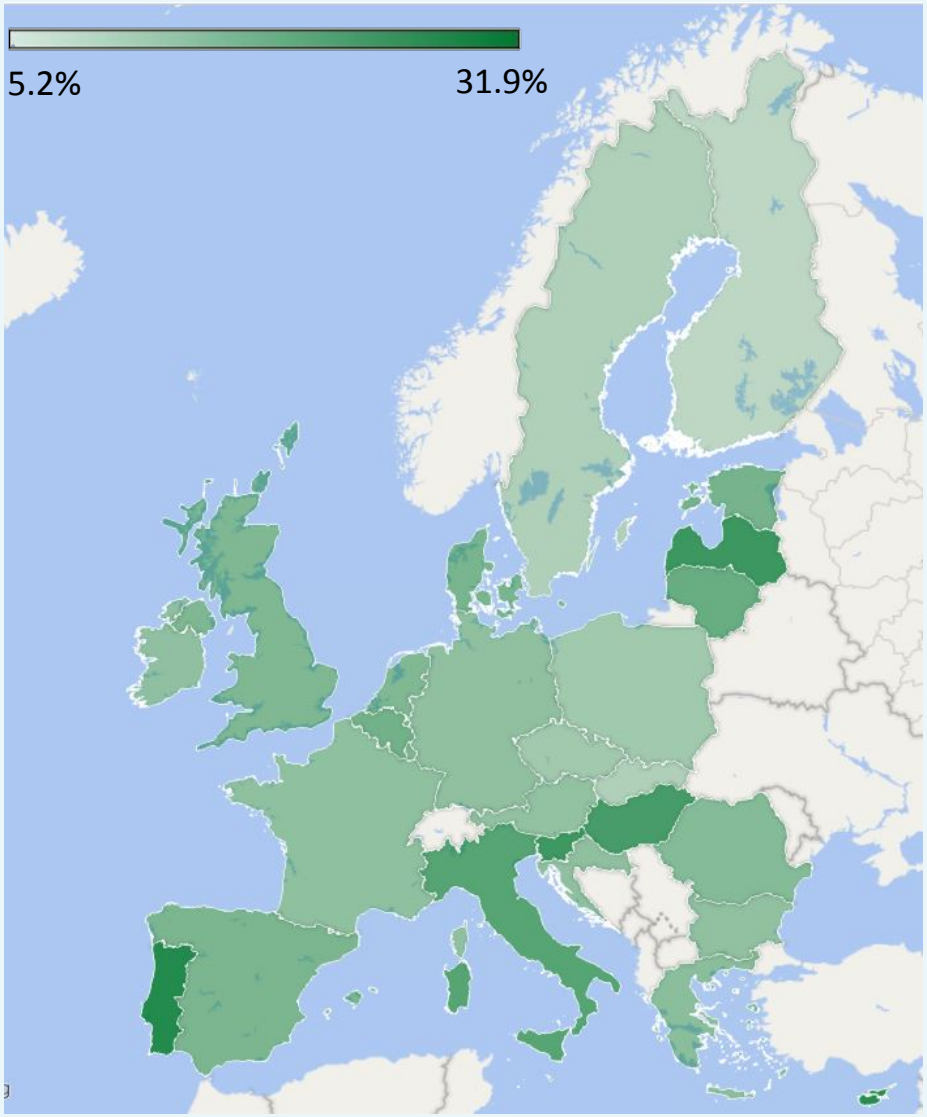
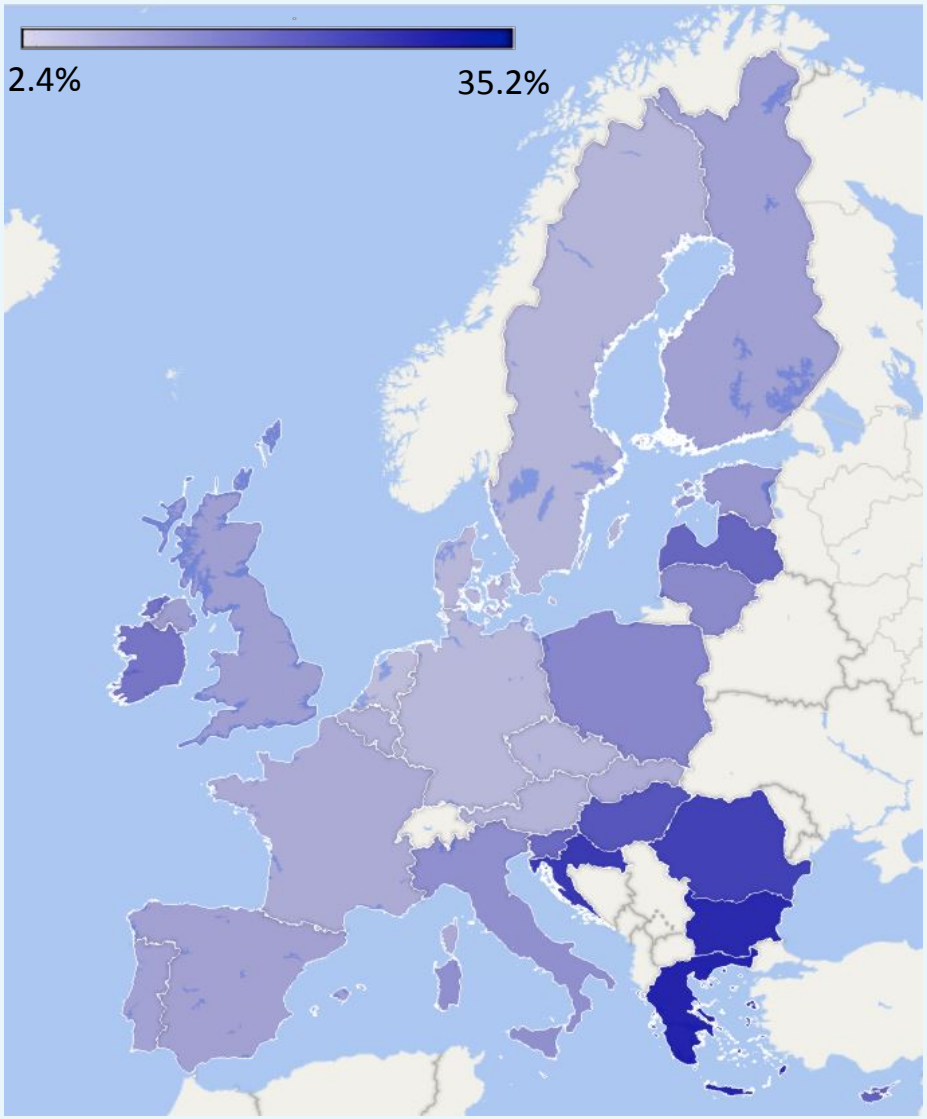
People living in a dwelling with leaking roof, damp wall, floors or foundation in the EU (2013)



Source: BPIE, based on Eurostat data

- Portugal (31.9%), Cyprus (31.1%) and Latvia (27.7%) show the highest percentages.
- In Slovakia, Sweden and Finland less than 9% of their population live in homes with these defects.

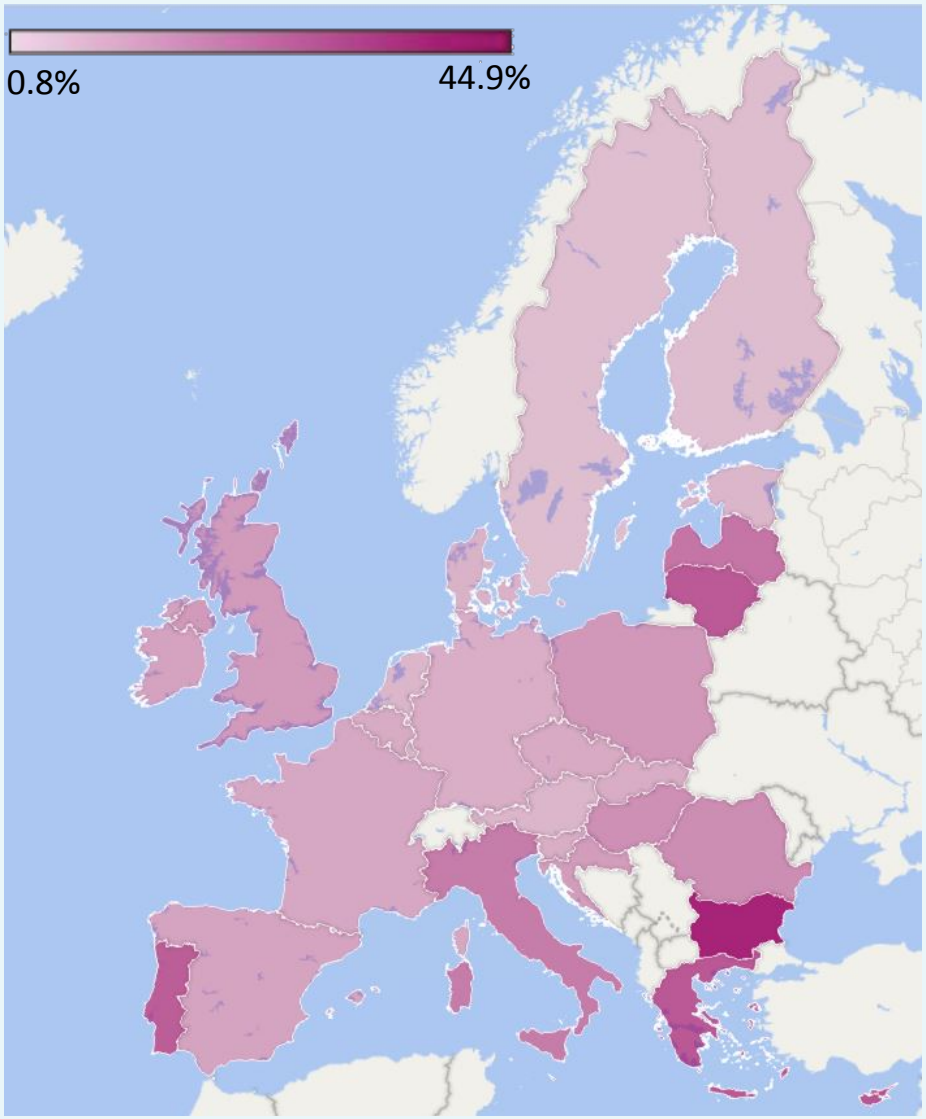
Arrears on utility bills in the EU (2013)



Source: BPIE, based on Eurostat data

- Greece (35.2%), Bulgaria (34%) and Croatia (30.4%) have the highest percentages of people falling behind on their payments.
- In Luxembourg, Germany, Denmark, and the Netherlands the payment of utility bills is a problem for only a small percentage of the total population (≤3.7%).

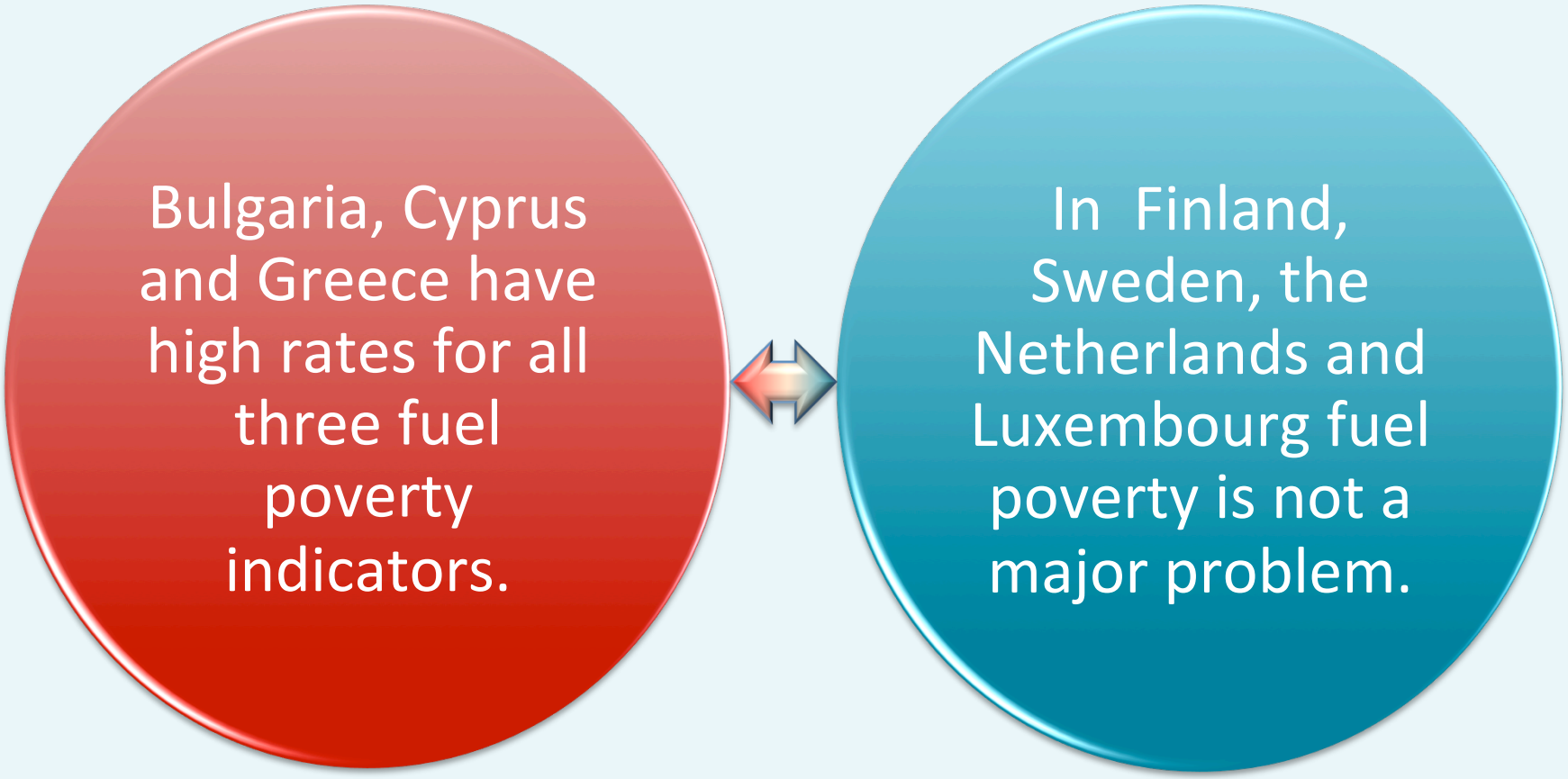
Inability to keep home adequately warm in the EU (2013)



Source: BPIE, based on Eurostat data

- Bulgaria (44.9%) and Cyprus (30.5%) are the countries with the highest rates of people who are not able to keep their homes adequately warm, followed by Greece (29.5%), Lithuania (29.2%), Portugal (27.9%) and Malta (23.4%).
- In colder Northern countries the percentages are low: Sweden (0.8%), Finland (1.2%), Luxembourg (1.6%), Austria (2.7%) and the Netherlands (2.8%).

The three fuel poverty indicators in the EU (2013)



Analysing the solutions

Analysing solutions

Cause of fuel poverty	Solution
Low household income	Income increase / Income support schemes
High cost of energy	Fuel prices regulation / Fuel subsidies
Low energy efficiency of the property	Deep energy retrofits in dwellings

Trend in the EU

Source: Eurostat

From 2007-2013

- Mean equivalised net income: +11.5%
- Electricity prices: +27.5%
- Gas prices: +27.4%
- Energy consumption in dwellings: -8.5% (2007-2011)

Trends - Conclusions

Energy prices have significantly increased

+

The household net income has not grown at the same pace

+

Energy consumption per dwelling has only slightly decreased

→

Europe is moving deeper into fuel poverty

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Energy price regulation & direct financial support to fuel poor people

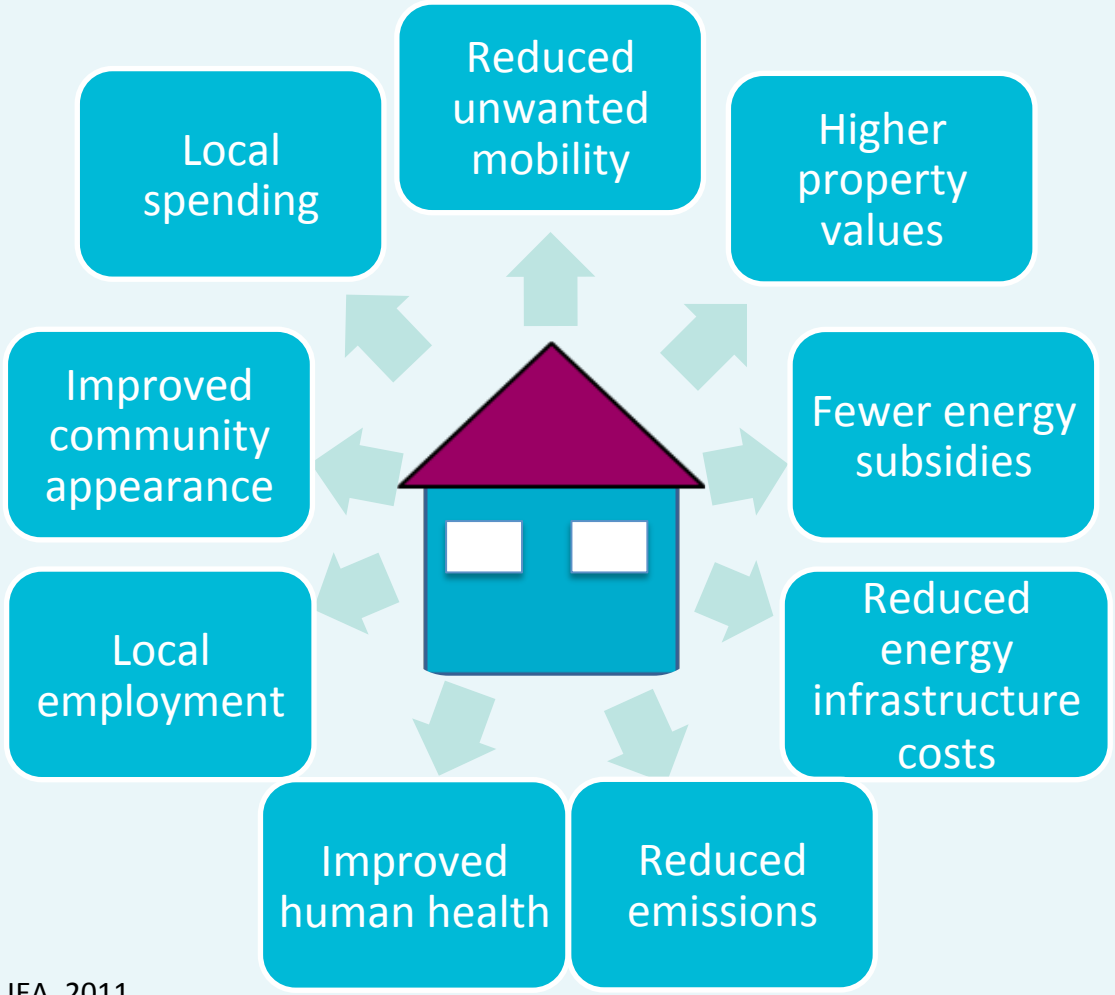
Are strongly dependent on many economic factors

Need continuous and even increased funding from the public budgets

Do not generate added value or economic growth

Deep energy retrofits in fuel poor homes

The only sustainable way to address the cause of fuel poverty



Source: IEA, 2011

Budget allocation to fuel poverty measures

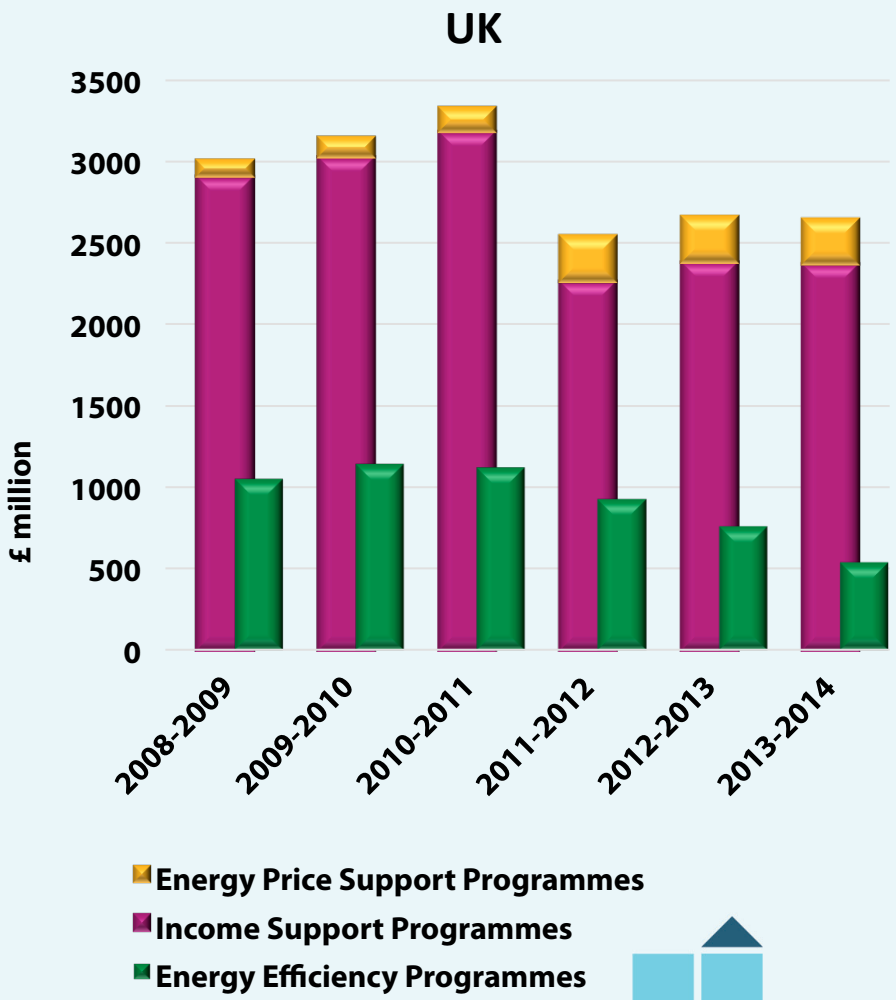
Budget allocation to fuel poverty measures

In **UK** from the "winter fuel payments", the main income support programme only 12% of the recipients are thought to be fuel poor.

In **Greece** €650 million were allocated to oil subsidies and €548 million to the main programme supporting energy efficiency improvements in households (2010-2014).

In **Ireland** in 2013, the one week extension of the Fuel Allowance (€20/week) season cost €8 million!

Even though energy efficiency measures have proven to be the most sustainable solution to the fuel poverty problem they receive lower funding compared to income and fuel price support schemes.



Source: "National fuel poverty budgets", Association for the Conservation of Energy

Energy efficiency programmes for fuel poor households

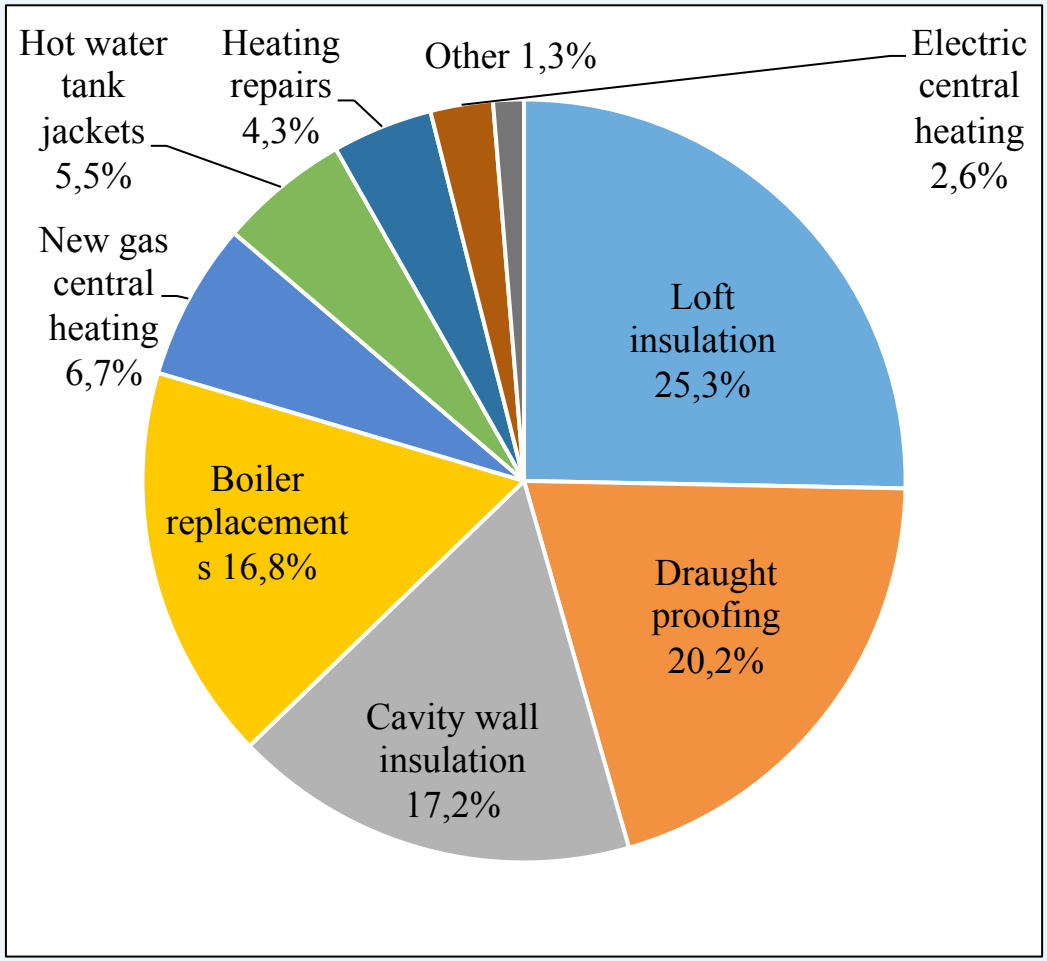
Energy efficiency programmes for fuel poor households

Warm Front Scheme (UK- England)

- **Duration:** 2000 - 2012
- **Investment:** £2.8 billion
- **Benefited households:** 2.3 million
- **Beneficiaries:** those qualified for Cold Weather Payments and live in low efficient houses
- **Social benefits:**
  - Decreased levels of anxiety & depression
  - Reduced number of winter deaths
  - Positive impacts in mental health

Energy efficiency programmes for fuel poor households

Warm Front Scheme (UK- England)



- Improvements worth up to £3,500 (or £6,000 oil central heating).

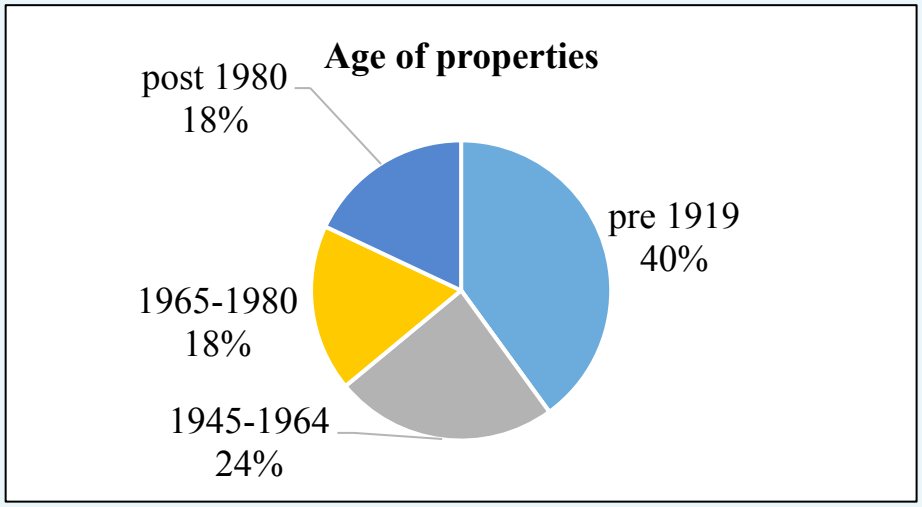
Energy efficiency programmes for fuel poor households

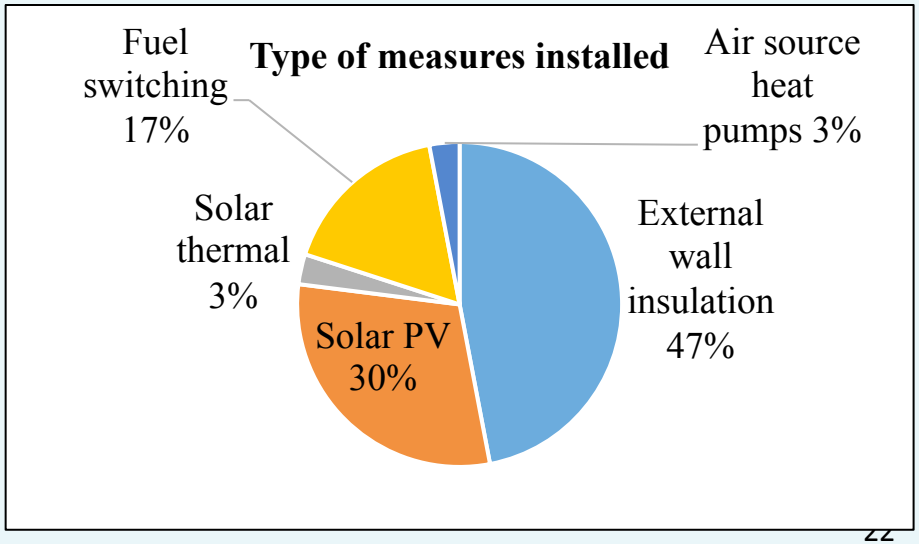
Arbed 1 (UK – Wales)

- **Duration:** 2009 – 2012 (& 2012- 2015)
- **Investment:** £36.6 million (leveraging £32 million)
- **Benefited households:** 7,500
- **Social benefits:**
  - Increase in the comfort levels
  - Job creation

Energy efficiency programmes for fuel poor households

Arbed 1 (UK – Wales)



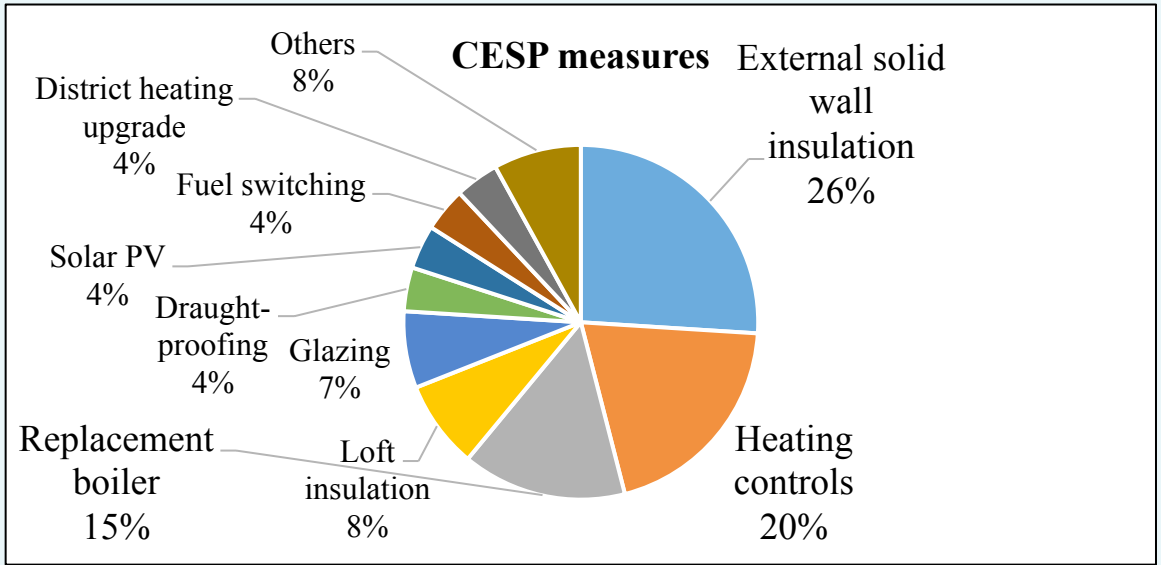


- Before the programme, 88% of the benefited properties were classified in the second-worst F energy performance category, whereas after the improvements **91% were categorised in the C class**

Energy efficiency programmes for fuel poor households

Energy Saving Obligations (UK – England, Scotland, Wales)

- Energy suppliers are obliged to meet CO_2 reduction targets through supporting households to implement energy saving measures
- **CERT** (Carbon Emission Reduction Target, 2009-2012)
- **CESP** (Community Energy Saving Programme, 2008-2012)
- Cost: £200 million (i.e. £8 per household)
- Number of benefited properties: 154,364
- Number of measures installed: 293,922



Conclusions – Recommendations

Conclusions

Between 50 and 125 million people, cannot afford having a comfortable indoor environment.

Many MS recognise the fuel poverty problem, even though there is no single definition.

Social tariffs and heating subsidies address only partially the problem.

Energy efficiency improvements are sustainable solutions that address the problem at its roots.

Conclusions

ec-linc
Energy Check for Low Income Households

ACHIEVE

EPEE
European Fuel Poverty and Energy Efficiency

FinSH

ELIH MED
Energy Efficiency in Low Income Housing in the Mediterranean

Kirklees COUNCIL
warmzone

Renovation Programme of 800,000 Social Housing Dwellings

the warm front team
A GOVERNMENT FUNDED INITIATIVE

Warmer Homes Scheme

ERDF Thermal Renovation of Block of Flats for Low Income Families

MFB Renovation Programme through the Jessica Holding Fund

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Policy recommendations

Dedicated national programmes addressing the fuel poverty problem

- England: fuel poverty strategy requires a minimum standard of energy efficiency (Band C) for as many fuel poor homes as reasonably practicable by 2030.

Need for a long-term strategy for fuel poverty alleviation in the EU

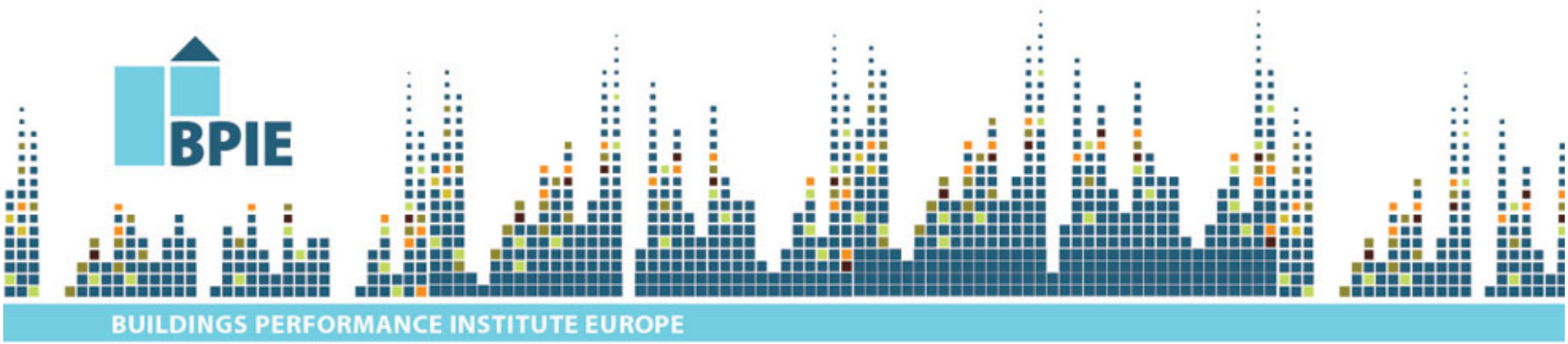
A higher allocation of EU Funds to renovation programmes targeting fuel poor people

Shift budget from price control mechanisms and fuel subsidies to renovation measures

A more accurate definition of societal groups that cannot afford sufficient energy to satisfy their basic needs

Improvement of statistical data collection by providing more evidence on the scale and impact of fuel poverty in the EU

Thank you!



Energy efficiency programmes for fuel poor households

Name	Warm Front Scheme	Kirklees Warm Zones	Warmer Homes Scheme	Renovation Programme of 800,000 Social Housing Dwellings	ERDF Thermal Renovation of Block of Flats for Low Income Families	Buildings Renovation Programme through the Jessica Holding Fund
Country	UK	UK	Ireland	France	Romania	Lithuania
Duration	2000-2012	2007-2010	2000-2013	2009-2013	2013-ongoing (Expected results)	2009-ongoing (Expected results)
Investment	£2.84 billion	£24.30 million	€82 million	€233.7 million	€304 million	€227 million
Number of benefited households	2,324,500	70,645	95,000	58,800	65,000	1000 multi-apartment buildings (by 2015)
Social benefits	❖ Decreased levels of anxiety & depression ❖ Reduced number of winter deaths ❖ Positive impacts in mental health	£248.8 million net social benefit (job creation, house value, savings to National Health Service)	Improvements in health problems (heart attacks, arthritis, headaches, mental disability)	7,225 additional jobs	5,000 jobs are estimated to be created and maintained	❖ Improved thermal comfort levels ❖ Higher percentage of people involved in community activities ❖ Improved quality of life