Photo by Dmitri Popov on Unsplash

MINIMUM ENERGY EFFICIENCY STANDARDS FOR A FAIR ENERGY TRANSITION

Policy Factsheet

KEY FINDINGS

- Energy poverty affects health. This is also a relevant problem in Germany.
- Tenants who live in buildings constructed before 1980 that have poor energy performance are particularly affected.
- Energy poverty has structural causes that cannot be adequately addressed by social policy measures alone.
- Minimum energy performance standards for rental buildings can help increase the rate of deep renovations, reduce energy poverty and mitigate health problems associated with poor housing conditions.
- The introduction of minimum standards for rental buildings should be accompanied by a financing model and complementary measures to achieve the desired effects and prevent the displacement of tenants.

10 PERCENT OF GERMAN HOUSEHOLDS ARE ENERGY POOR

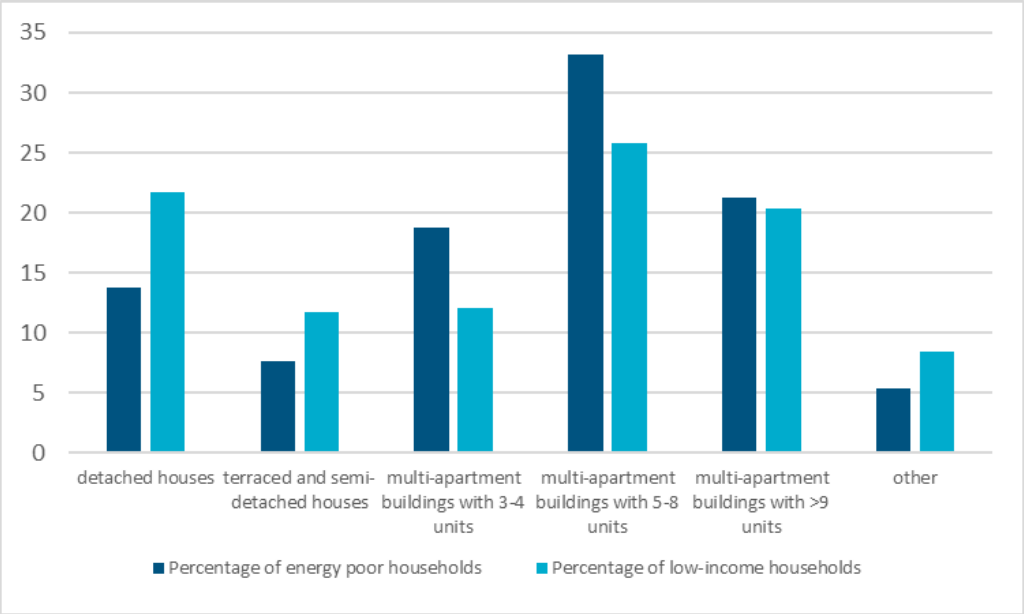
Energy poverty is a relevant problem in Germany. However, so far, there is no generally accepted definition of energy poverty in Germany. In general, a household is said to be in energy poverty when its members cannot afford to keep adequately warm. The combination of low incomes, energy prices and inefficient housing leads to energy poverty.

Depending on the calculation methodology chosen, the share of households affected by energy poverty lies between 7.7 and 25.1 percent [1]. Even based on a conservative estimate, it can be assumed that at least 10 percent of households in Germany are affected by energy poverty.

ENERGY POVERTY IS A TENANT ISSUE

Almost all households affected by energy poverty are tenant households. This is important because the investor-user dilemma creates a structural hurdle that limits investment in energy efficiency: The tenant pays the energy bill, whereas only the landlord can decide to implement energy efficiency measures [2]. Tenant households are therefore unable to control improvements in their own housing conditions.

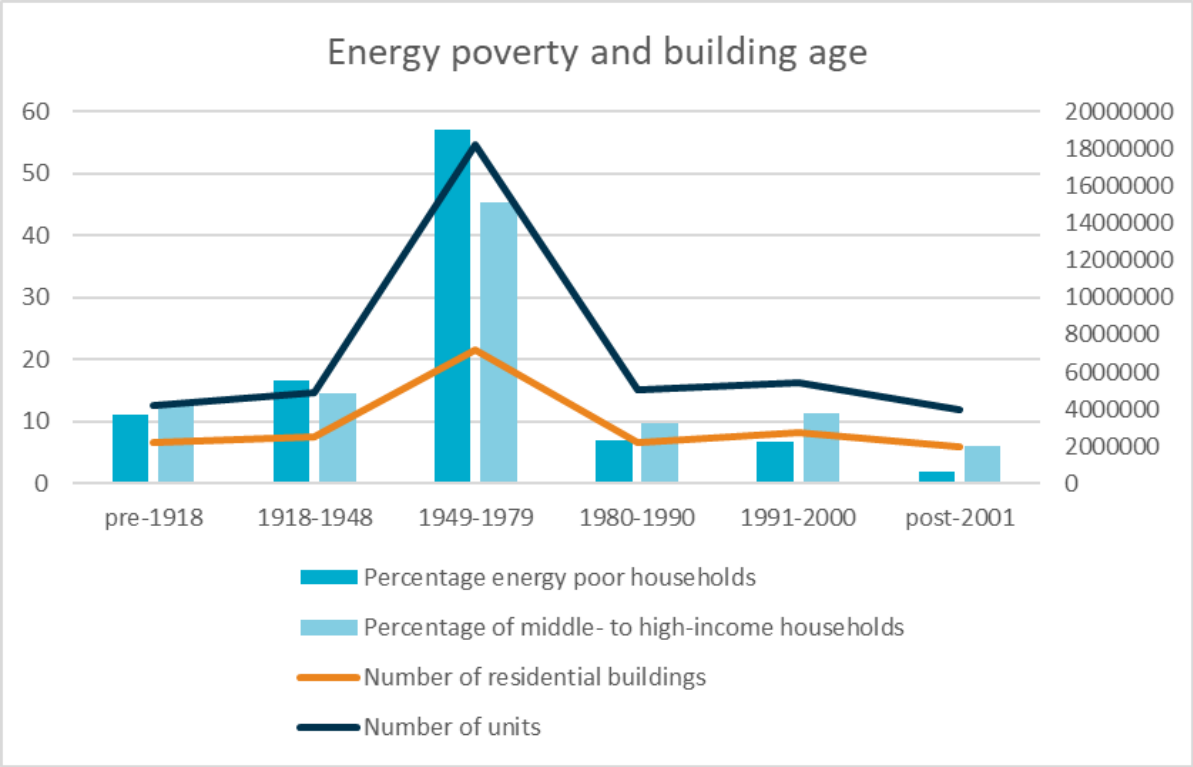
Figure 1 – Energy poverty by building type (Illustration: BPIE & RAP; Source: Schreiner 2015)



ENERGY POVERTY IS NOT THE SAME AS POVERTY

Although income poverty and energy poverty are in many cases related, they are separate and distinct problems. In Germany, more than 70 percent of all households affected by energy poverty live in apartment buildings. The proportion of households affected by income poverty in general is highest in multi-family houses with three to eight units (see Fig. 1).

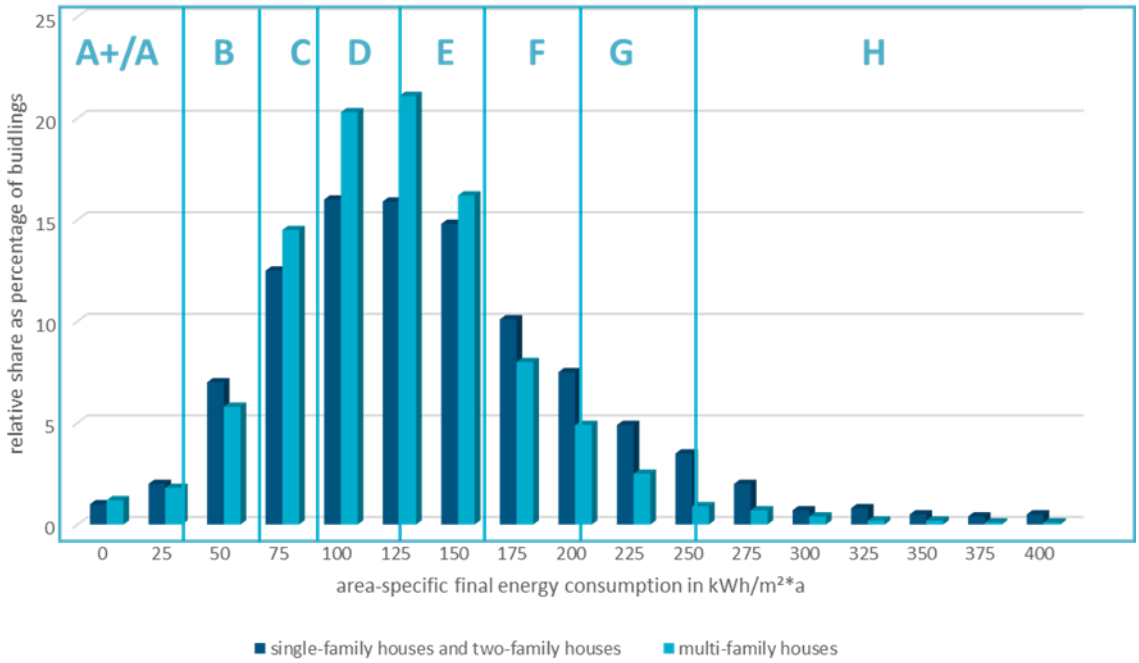
Figure 2 – Energy poverty in Germany by building age class (Illustration: BPIE & RAP; Source: dena 2018, Schreiner 2015)



To make matters worse, the buildings in question were often constructed in the post-war years between 1949 and 1979 and are characterised by particularly poor energy performance. Overall, 80 percent of German households affected by energy poverty live in buildings built before 1980 (see Fig.2)[1].

Energy poverty therefore has structural causes that can and should be addressed independently of income poverty.

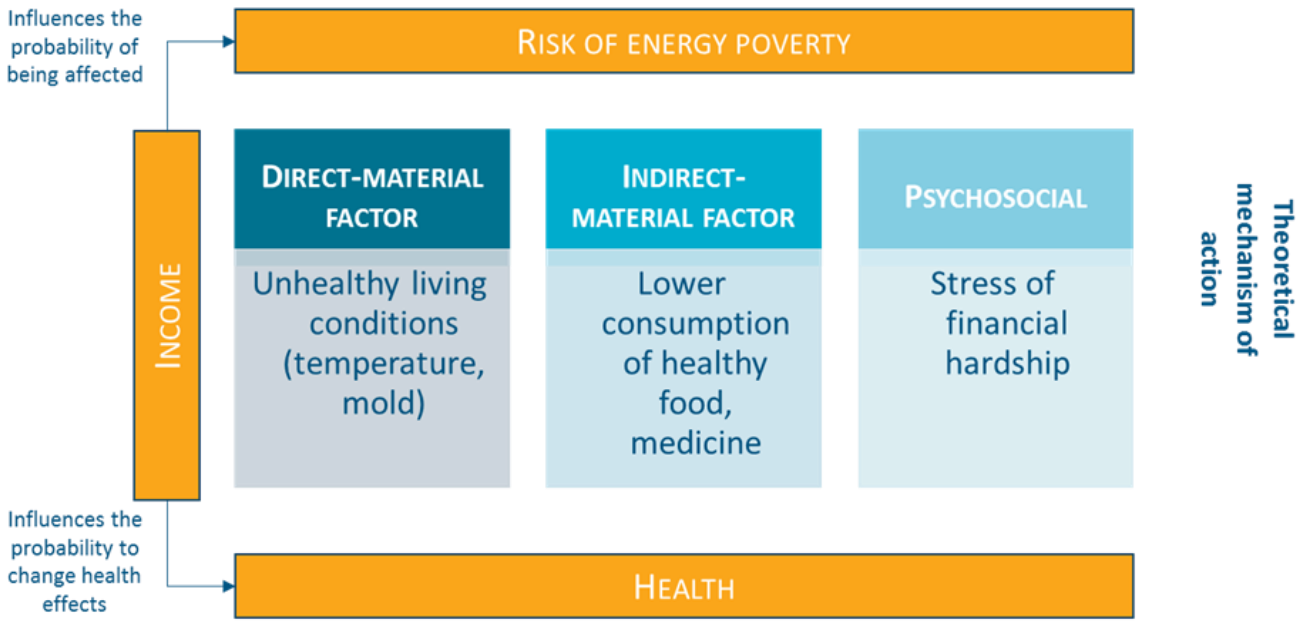
Figure 3 - Relative frequency of various energy performance classes in Germany, differentiated by single-family and two-family houses or multi-family houses (Illustration: BPIE & RAP; Source: dena 2016)



ENERGY POVERTY HAS ADVERSE EFFECTS ON HEALTH

While the connection between energy poverty and health problems is well documented internationally, there are only a few studies on this subject in Germany. However, the results are clear. Households living in energy poverty are affected worst during the winter months. In the cold months of the year, apartments are often not heated sufficiently. Paired with poor building fabric - as explained above - low temperatures can trigger a wide spectrum of diseases: increased winter mortality, respiratory diseases (also due to increased mould formation), increased risk for heart attacks, stroke, thrombosis and falls [3] [4].

Figure 4 – Impact-pathway of energy poverty (Source: BPIE & RAP based on Reibling & Jutz 2017)

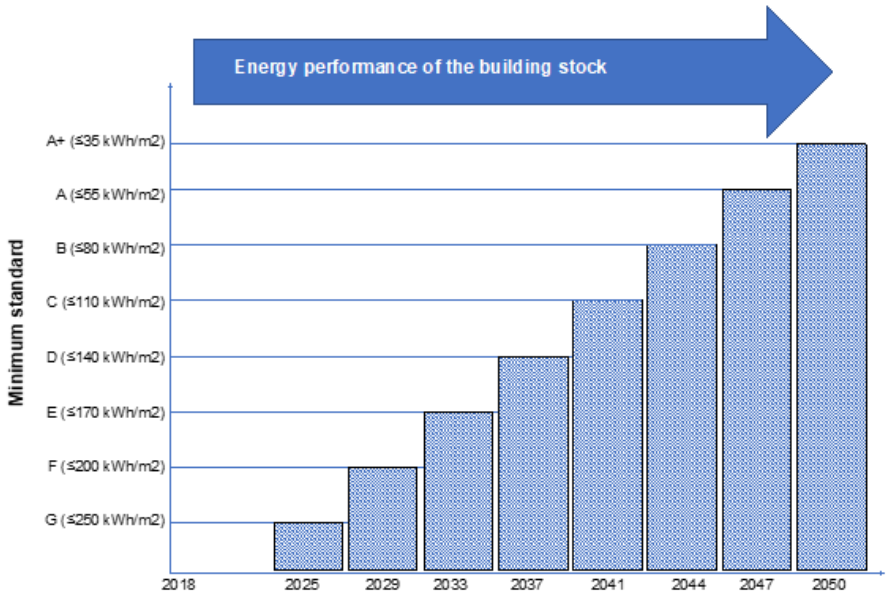


The negative effects of energy poverty on the mental health of people in lower income deciles are significant. Poor housing conditions have a negative impact on physical and mental health (direct-material mechanism). Poor housing conditions are also partly responsible for the health inequalities between income groups [5].

DEEP RETROFITS TRIGGERED BY MINIMUM STANDARDS ADDRESS THREE PROBLEMS AT ONCE

Dynamic minimum standards for apartment buildings can trigger extensive renovations. If they are enhanced by requirements for indoor parameters, they can be an important instrument for combating energy poverty, alleviating negative health impacts and achieving climate protection targets in the building sector without crowding out tenants. Appropriate financing models can prevent rent increases, ensuring the renovations are carried out in a socially responsible manner. It is also important to improve data quality in order to design minimum standards for specific target groups. There is a growing number of countries around the world where minimum energy efficiency standards for buildings have already been adopted or are planned: Canada, the United Kingdom, France and the Netherlands, to name a few.

Figure 5 - Schematic illustration of minimum energy standards for rental buildings (Source: RAP & BPIE)



CHARACTERISTICS OF MINIMUM STANDARDS

Binding character

For example, it could be established by law that rental properties must meet a minimum standard as of a set date (e.g., 1 January 2021) for new leases. Subsequently, the minimum standard would be raised over time and adjusted, for example, in five-year increments. A socially responsible restructuring plan could also be drawn up and implemented for existing tenancies.

Financing

In order for the improved housing conditions and emission reductions to reach the desired target group - without imposing additional financial burdens on them - an appropriate financing mechanism must ensure that the total cost for tenants including rent, heating and warm water does not increase. For example, a combination of levies and subsidies is conceivable.

Health Effects

The subsidised renovation measures should specifically focus on those parameters that have an influence on the health of the residents - in particular indoor, air quality, light and noise.

Supporting Aspects

In order for minimum standards to be introduced, it is important to improve data quality and reduce the enforcement deficits when issuing energy performance certificates. Linking this to the individual renovation roadmap for each building would help to ensure deep renovations in the long term and avoid lock-in effects.

REFERENCES

[1] N. Schreiner, „Auf der Suche nach Energiearmut: Eine Potenzialanalyse des Low-Income-High-Cost Indikators für Deutschland.," SOEPpapers on Multidisciplinary Panel Data Research, Nr. 811, 2015.

[2] I. Hallof, Das Vermieter-Mieter-Dilemma bei der energetischen Gebäudesanierung: eine rechtliche und ökonomische Analyse, Berlin, Brüssel: Lexxion Verlagsgesellschaft, 2013.

[3] A. Tod und H. Thomson, „Health impact of old housing and energy poverty," in Energy Poverty Handbook, Brüssel, Europäische Union, 2016, pp. 39-54.

[4] H. Thomson, S. Thomas, E. Sellstrom und M. Petticrew, „Housing improvements for health and associated socio-economic outcomes.," Cochrane Database of Systematic Reviews. Issue 2, 2013.

[5] N. Reibling und R. Jutz, „Die Bedeutung von Wohnbedingungen für die soziale Ungleichheit im Gesundheitszustand," in Energie und soziale Ungleichheit, Wiesbaden, Springer VS, 2017, pp. 157-184.

[6] dena, „Der dena-Gebäudereport 2016. Statistiken und Analysen zur Energieeffizienz im Gebäudebestand," dena, Berlin, 2016.

[7] dena, „dena-Gebäudereport kompakt 2018," dena, Berlin, 2018.

RAP®

The Regulatory Assistance Project (RAP)® is an independent, non-partisan, non-governmental organization dedicated to accelerating the transition to a clean, reliable, and efficient energy future.

Rue de la Science / Wetenschapsstraat 23,
B-1040 Brussels
info@raponline.org
www.raponline.org

BPIE

The Buildings Performance Institute Europe is a European not-for-profit think-tank with a focus on independent analysis and knowledge dissemination, supporting evidence-based policy making in the field of energy performance in buildings. It delivers policy analysis, policy advice and implementation support.

Rue de la Science / Wetenschapsstraat 23,
B-1040 Brussels
info@bpie.eu
www.bpie.eu