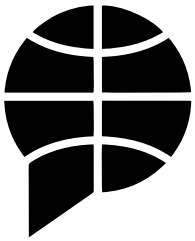
ENERGY POVERTY — BETWEEN THE ENERGY CRISIS AND ETS2



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ENERGY POVERTY

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BETWEEN THE ENERGY CRISIS AND ETS2

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List of abbreviations

ETS	Emissions Trading System
HBS	Household Budget Surveys
JRC	Joint Research Centre
SCF	Social Climate Fund
SCP	Social Climate Plan
SILC	Socioeconomic and Income Living Conditions

INTRODUCTION

Energy poverty has emerged as one of the major socio-economic challenges in Central Europe over the past few years. While the phenomenon was already present especially among specific vulnerable groups prior to 2021, the combination of an unprecedented energy crisis, high inflation, and rising living costs has significantly broadened the range of households at risk. In the Visegrád Four (V4) countries in particular, structural factors such as lower purchasing power, high dependence on fossil fuels for heating, and a comparatively inefficient housing stock have amplified the impacts of external shocks on household energy affordability.

The energy crisis fundamentally altered the economic environment in which households operate. Rapid increases in wholesale electricity and gas prices, triggered by global supply-demand imbalances and later amplified by Russia's aggression against Ukraine, translated—albeit with a delay and partially mitigated by state interventions—into substantially higher final energy prices for households. These price increases coincided with record inflation and declining real wages, placing additional strain on household budgets and limiting the capacity of households to respond through investments that would enhance their own energy efficiency and independence.

The forthcoming extension of emissions trading to the buildings and transport sectors (ETS2) will further affect household energy costs, particularly for those relying on fossil fuels for space and water heating. While ETS2 is designed to support decarbonisation and improve the efficiency of price signals, its social impacts will depend critically on national implementation choices and the effective use of compensatory instruments such as the Social Climate Fund.

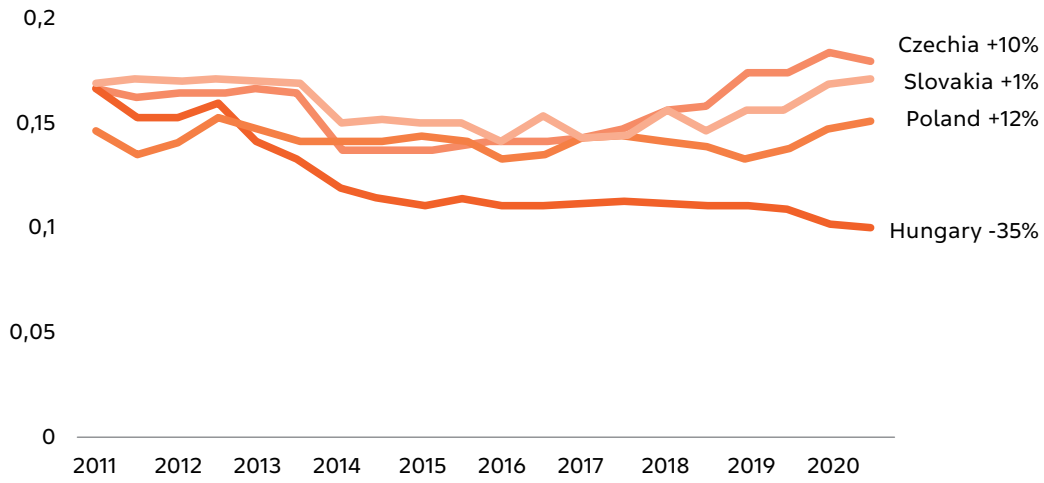
This paper examines energy poverty in the V4 countries at the intersection of these two dynamics: the aftermath of the recent energy crisis and the anticipated impacts of ETS2. It assesses how energy poverty has evolved in recent years using available objective and subjective indicators, identifies structural vulnerabilities specific to the V4 region, and analyses how future carbon pricing may interact with existing socio-economic conditions. The aim is to contribute to an evidence-based discussion on how climate policy can be designed and implemented in a way that is both socially fair and economically effective.

ENERGY CRISIS AND ITS IMPACT IN V4

Pre-crisis period

The past decade in the V4 region was characterized by relatively stable to falling energy prices for households. In the case of electricity, the increase was at most 12 percent between 2011 and 2020. In Hungary, electricity prices even fell by 35 percent thanks to state regulation (see Figure 1). The price of natural gas fell in all monitored countries, again most in Hungary (see Figure 2).[1]

Figure 1. Final electricity prices for households in the V4 countries between 2011 and 2020 (eur/kWh, all taxes and levies included)



Source: own chart based on Eurostat

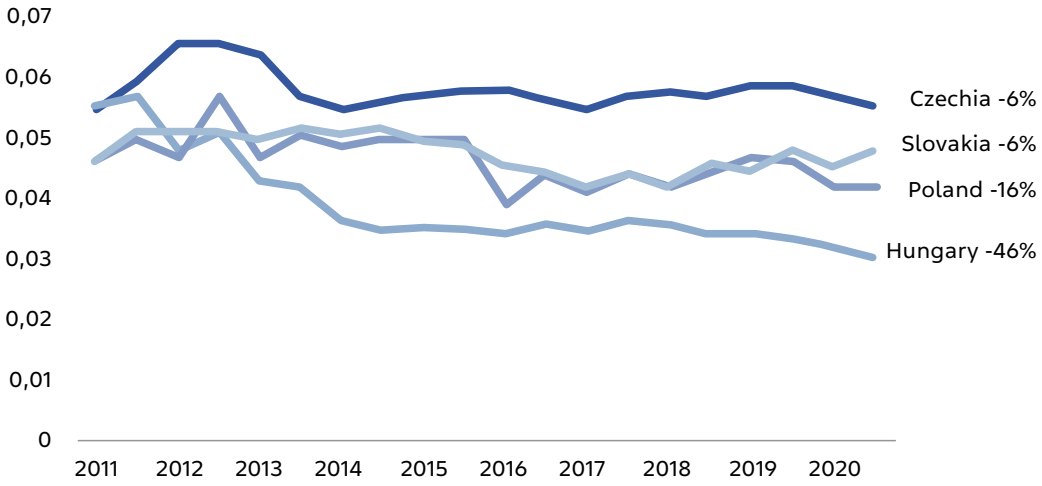
At the same time, average wages increased by tens of percent during the same period. Therefore, in 2020, the average household could purchase significantly more electricity and natural gas than in 2011.

Although a certain group, especially low-income households, was already at risk of energy poverty at that time, energy availability was increasing for most households.

1 Eurostat: Electricity prices for household consumers—bi-annual data (from 2007 onwards), https://ec.europa.eu/eurostat/databrowser/view/nrg_pc_204__custom_7886640/default/table

Eurostat: Gas prices for household consumers—bi-annual data (from 2007 onwards), https://ec.europa.eu/eurostat/databrowser/view/nrg_pc_202__custom_19635990/default/table

Figure 2. Final prices of natural gas for households in the V4 countries between 2011 and 2020 (eur/kWh, all taxes and levies included)



Source: own chart based on Eurostat

The crisis and its causes

In 2021, energy prices on global markets began to gradually increase. This was due to the gap between demand and supply, caused on the one hand by the exceptionally strong economic recovery after the COVID-19 pandemic and on the other hand by weak supply growth, which was influenced, among other things, by restrictions and unplanned outages of fossil infrastructure, either due to the postponement of maintenance work in light of the pandemic situation or by the occurrence of extreme weather events.[2]

In the case of Europe, the behavior of Russia's Gazprom also played a role, as, despite meeting its long-term contractual obligations, it limited short-term contracts and did not replenish its own storage reserves in the EU to the level of previous years. Since Russia was the largest importer of natural gas to the EU at that time, this behavior had a significant impact on the price of gas, which, given the pricing mechanism, subsequently affected the price of electricity as well.

In 2022, following the full-scale Russian invasion of Ukraine, Russian natural gas supplies to the EU continued to decline. Their volume gradually decreased by approximately 80 percent of the values from previous year. This contributed to a further increase in gas and electricity prices in Europe.[3]

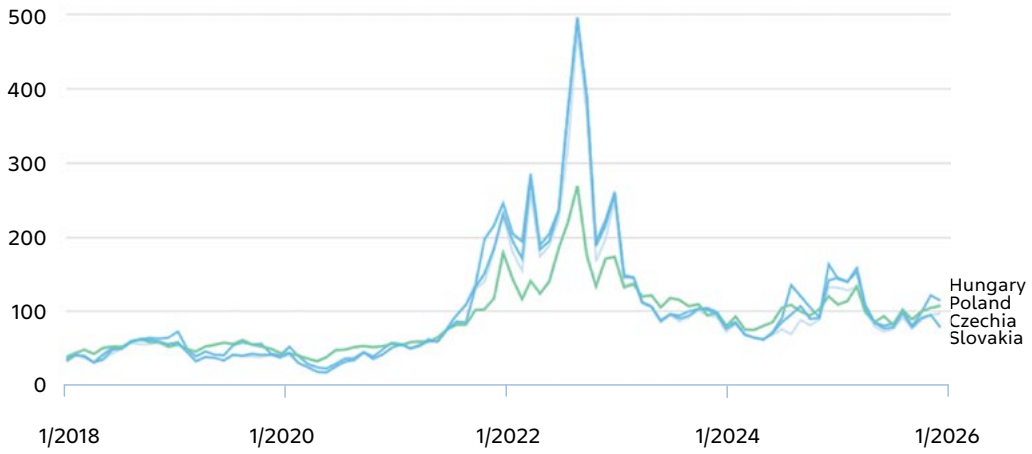
The outage of French nuclear power plants also had a significant impact—in the summer of 2022, more than half of French nuclear reactors were shut down. The cause was cooling problems due to the extreme drought, as well

2 IEA: What is behind soaring energy prices and what happens next? https://www.iea.org/commentaries/what-is-behind-soaring-energy-prices-and-what-happens-next

3 Bruegel: European natural gas imports https://www.bruegel.org/dataset/european-natural-gas-imports

as problems with corrosion and cracks in the primary circuit piping, the repairs of which required long-term shutdowns of these sources. France, which is otherwise the largest exporter of electricity in Europe, had to import electricity and meet part of its demand using already scarce natural gas, which further increased pressure on gas and electricity prices. Given the interconnectedness of the European market, high prices were also reflected in the rest of Europe, including the V4 countries (see figure 3).[4]

Figure 3. Average day-ahead spot prices in the V4 countries (eur/MWh)



Source: EMBER

Impact of the crisis on V4 households

Due to a combination of the above-mentioned causes, record high electricity and gas prices were recorded in Europe, reaching many times higher than those of the previous decade. These were subsequently reflected in prices for end customers, including households.

By contrast, emission allowances had a very limited impact—at the time of the highest price peaks, the price of allowances accounted for around 7 percent of the wholesale price of electricity on the market.

Final prices for households did not follow the increase in wholesale prices in real time. Their increase occurred with some delay and only to a limited extent. This was due to several factors, including the following:

- Form of supply contracts—some households had electricity and gas supply contracts in the form of long-term contracts with price fixing for a period of 12 to 36 months. The length of the fixing period then influenced

4 Ember: European electricity prices and costs, https://ember-energy.org/data/european-electricity-prices-and-costs/

the delay with which wholesale prices were reflected in the end prices for these households.

- Business strategies of energy suppliers—some energy suppliers conclude purchase contracts in advance or have purchase costs spread over time, which slows the transmission of changes in wholesale prices to prices for end customers.
- State interventions—in an effort to protect vulnerable consumers, states have adopted a number of measures to reduce the impacts of high prices.

Details on fiscal measures in response to the energy crisis are described in the V4ETTP working paper from 2023 (see also the table below).[5]

Table 1. Selected fiscal measures to support households in response to the energy crisis

	Reduced energy tax/VAT	Retail price regulation	Transfers to vulnerable groups
Czechia	Exempt VAT for electricity and gas for 2 months (XI–XII/ 2021) Reduced consumption tax for petrol (VI–IX/ 2022) and diesel fuel (VI/2022–VII/2023)	Price cap on electricity and gas (I–XII/2023) for 100% of consumption	Social benefits for housing costs, including energy costs
Hungary	No	Price cap on electricity and gas (VIII/ 2022–present) on a limited amount of consumption (with approx. 90% of house holds fit into the set limit) Price cap on petrol a diesel fuel (XII/ 2021–XII/2022)	No
Poland	Re duce d VAT for electricity, gas, heat, petrol and die sel (1I/2022–VII/2022)	Price cap on electricity and gas (1/2023–XII/2025) on a limited amount of consumption	Energy subsidies for most vulnerable 20% of house holds
Slovakia	No	Price cap on electricity and gas (I/2023–present)	One-time subsidy to families with children and 13th pension for seniors

Source: own chart

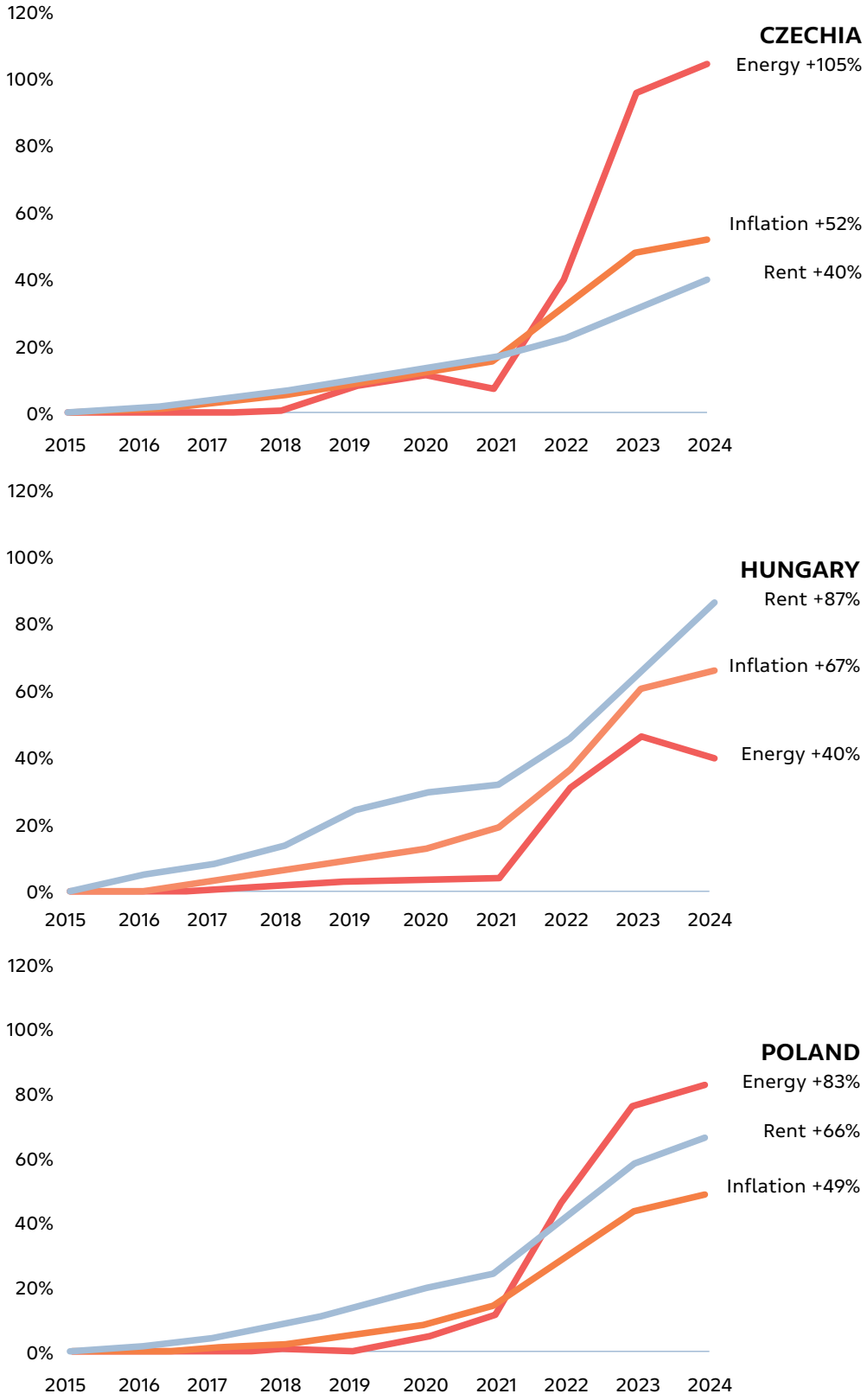
Despite these measures, energy prices for households have increased. Although this increase was still lower than the multiple increase in wholesale prices, it nevertheless contributed significantly to the growing burden on household budgets.

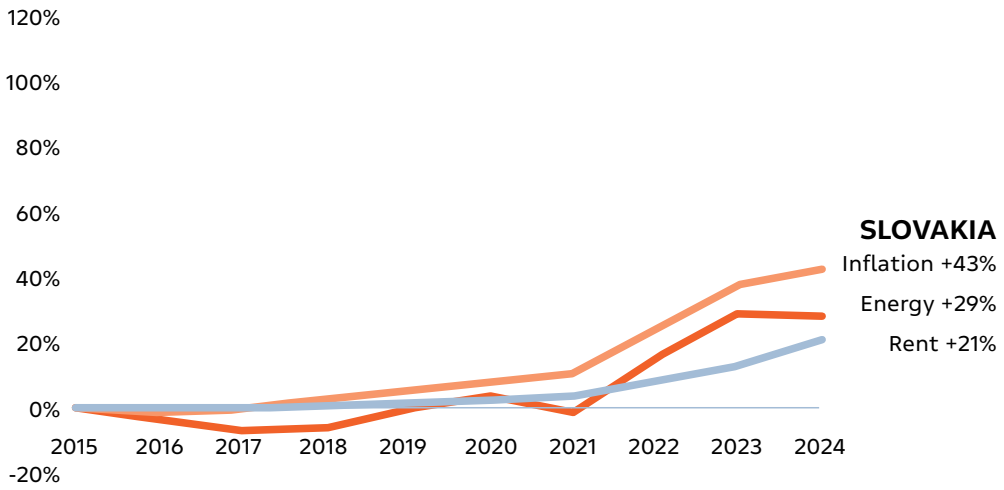
If we consider the price of all energy and fuels, such as electricity, natural gas and other fuels, there was an increase in the Harmonized Index of Consumer

5 AMO: V4 Fiscal Response to the Energy Crisis, https://rekk.hu/research-paper/146/v4-fiscal-response-to-the-energy-crisis

Prices for households in the V4 countries between 2015 and 2025 of 29 to 105 percent (see Figure 4).

Figure 4. Household costs for energy (Harmonized Index of Consumer Prices: electricity, gas, solid fuels and heat energy), rent, and inflation





Source: own figure based on Eurostat / Urban Journalism Network, Deník Referendum

High energy prices were not the only factor affecting household finances. The energy crisis caused increased costs across supply chains, which then translated into higher prices for most goods and services, contributing to record high inflation.

It should be said that rising prices for goods and services were not always due to high costs alone. The so-called "greedflation" effect, i.e. the deliberate increase in traders' margins, which exploits external factors as an excuse for disproportionate price increases, also played a role.[6]

While real wages for EU residents fell, corporate profits grew. For example, in 2023, the largest decline in real wages in EU countries was recorded in the Czech Republic (-5 percent), while real corporate profits there recorded more than 5 percent growth. In Slovakia, real corporate profits grew by almost 8 percent in the same year.[7]

Households therefore had to face increased costs not only in the area of energy purchases, but also for consumer goods. Increased inflation is subsequently reflected in interest rates and therefore in mortgage payments or rent.

Higher living costs for households also mean fewer resources to influence their situation through investment measures, e.g. improving the energy efficiency of buildings or installing their own renewable energy sources.

Unlike the previous period, energy poverty has begun to threaten not only low-income households, but also other groups of the population that were not previously at risk.

6 EUobserver: 'People buy spectacularly less': greedflation-hit Europe weighs costs ahead of elections, https://euobserver.com/green-economy/ar38c2ea21

7 European Trade Union: Real wages falling despite inflation-busting profits, https://www.etuc.org/en/pressrelease/real-wages-falling-despite-inflation-busting-profits

CURRENT STATE OF ENERGY POVERTY IN V4

The assessment of energy poverty across individual countries is complicated by the fact that there is no official standard and uniform definition of energy poverty at the EU level.[8]

At the same time, it is a phenomenon that can manifest itself in several different ways in practice, which can overlap across individual household groups.

The analysis prepared by the Joint Research Centre (JRC) of the European Commission introduces a set of indicators for assessing energy poverty, which are based on harmonised data available (at least theoretically) for all EU countries. It distinguishes between objective and subjective indicators.[9]

Objective indicators are represented by two indicators based on expenditures reported by households in the EU Household Budget Surveys (HBS). The low-expenditure **M2 indicator** classifies as energy poor all individuals with equivalent household energy expenditures below half the national median. The **2M indicator** classifies as energy poor all individuals with energy expenditures expressed as income shares that are above twice the national median.

Subjective indicators are based on self-reporting by households in the Socioeconomic and Income Living Conditions (SILC). The **adequately warm (AW) indicator** is based on the SILC question on the ability to keep the house adequately warm. The **utility bills** (**UB) indicator** classifies as energy poor those who are at least one month in arrears on utility bills in the past year, according to SILC reported answers.

A summary of all these indicators is provided in Table 2.

Unfortunately, for the objective indicators M2 and 2M, data are not available in a time series that would allow an evaluation of the development of recent years in light of the impacts of the energy crisis. Below are therefore estimates based on the tax-benefit microsimulation model for the EU for 2015, using country-specific income deciles based on equivalised household disposable income.

8 To date, only a recommendation has been issued in this matter, see https://eur-lex.europa.eu/eli/reco/2020/1563/oj/eng
At the national level, only Czechia has introduced an official definition of energy poverty among the V4 countries, see https://mpo.gov.cz/cz/energetika/uspory-energie/aktuality/definice-energeticke-chudoby---288070/

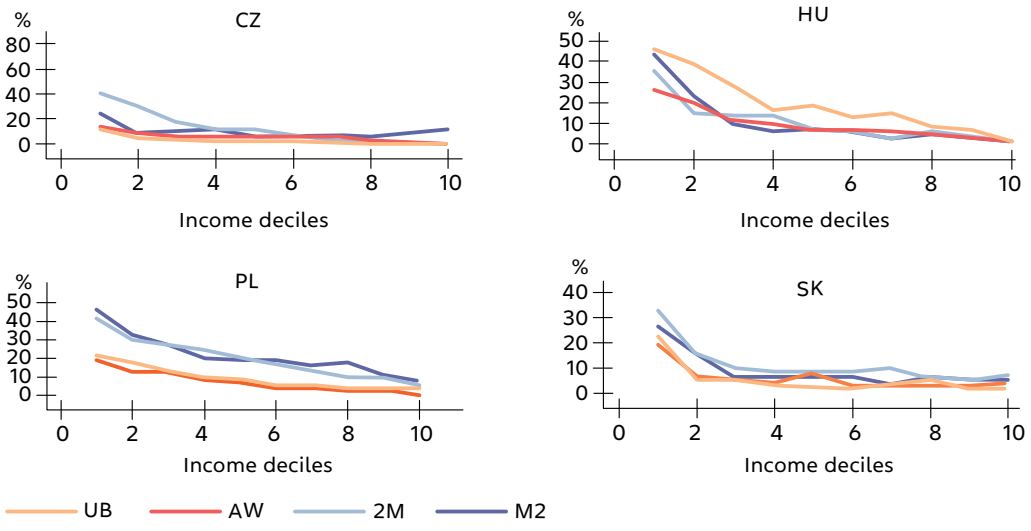
9 JRC: Who is "energy poor" in the EU?, https://publications.jrc.ec.europa.eu/repository/handle/JRC138418

Table 2. EU-level standard indicators based on EU HBS and SILC

Type	Name	Acronym	Description	Source
Objective	Low absolute energy expenditure	M2	M2-poor is whose equivalised energy expenditure on residential energy is below half the national median	EU HBS
	High income share of energy expenditure	2M	2M-poor is whose income share of residential energy expenditure is above twice the national median	
Subjective	Inability to keep home adequately warm	AW	AW-poor is who answers "yes" to the question "Can your household afford to keep its home adequately warm?"	EU SILC
	Arrears on utility bills	UB	UB-poor is who answers "yes, once or twice" to the question "In the past twelve months, has the household been in arrears, i.e., has been unable to pay the utility bills (heating, electricity, gas, water, etc.) of the main dwelling on time due to financial difficulties?"	

Source: JRC

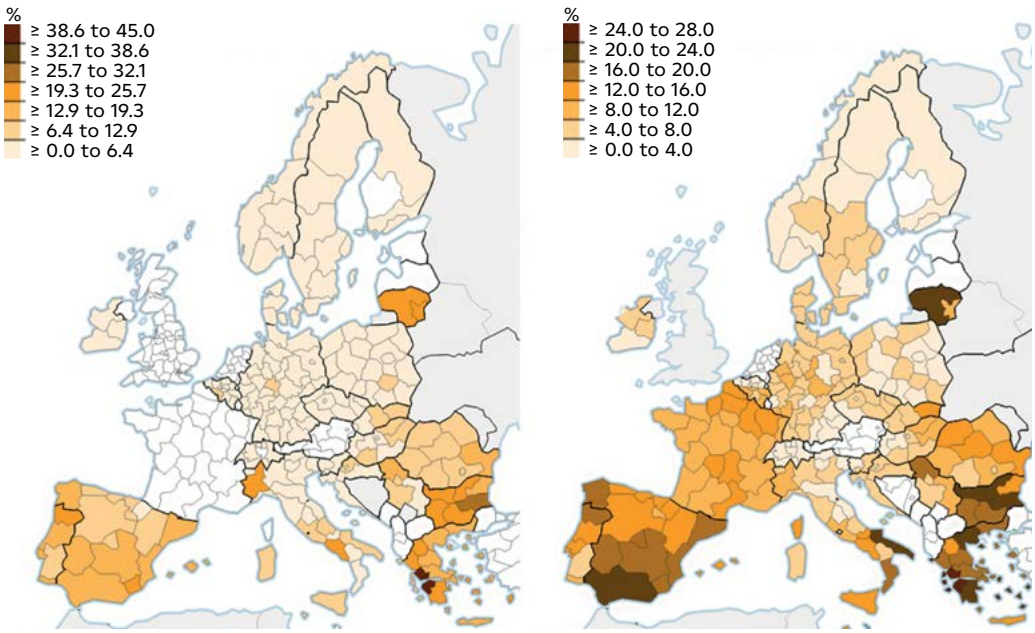
Figure 5. Energy poverty headcounts across country-specific income decile in V4 (not in the same scale)



Source: JRC

In the case of the subjective AW indicator, data are available for the years 2021 to 2024, which allows for gaining a certain idea of the impacts of the energy crisis (see the map graphs below).

Figure 6. Values of AW indicator in 2021 and 2024



Source: EU-SILC and JRC

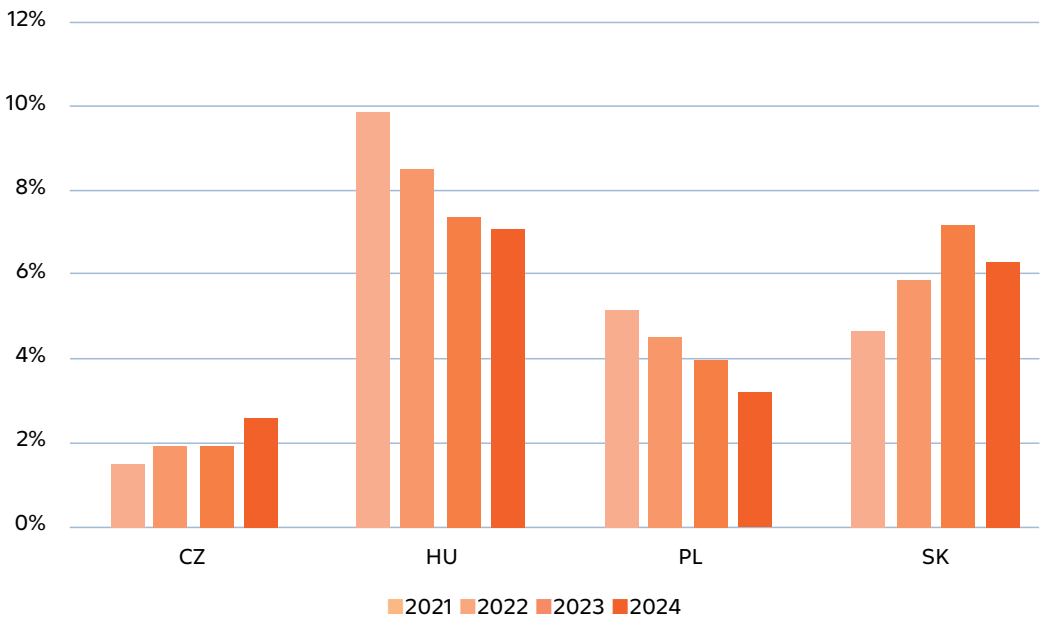
While in 2021 the AW indicator values ranged from 1.2% in the Nyugat-Dunántúl region (HU) to 10.7% in Észak-Magyarország (HU), in 2024 they ranged from 1.5% in the Mazowiecki regionalny region (PL) to 15.8% in the Východné Slovensko region (SK), with the map data clearly showing a deterioration in all monitored countries. In some Czech regions (Northeast and Central Moravia), according to this indicator, there was a fourfold increase in the share of households that cannot afford heating to an acceptable temperature. The worst situation in terms of the total share of households meeting this indicator was in eastern Slovakia and Hungary in 2024.

In the case of the UB indicator, it is interesting that, according to the available data, there was a relative improvement in the situation between 2021 and 2024 in Poland and especially in Hungary, that is, a reduction in the number of households with arrears on utility bills (see Figure 7). This is probably due to state regulation of energy prices in Hungary and direct support for low-income households in Poland.

However, in general, as with the AW indicator, the situation remains worst in Hungary and Slovakia within the V4. In the Czech Republic, the share of households with arrears on utility bills is the lowest in comparison, but there was still an increase in the UB indicator value by 70 percent between 2021 and 2024. The incidence of energy poverty defined on the basis of a combination of subjective indicators (AW and UB) is shown in Figure X, developed as part of a thematic report by the consulting company Lane Clark & Peacock based on data from 2024.[10]

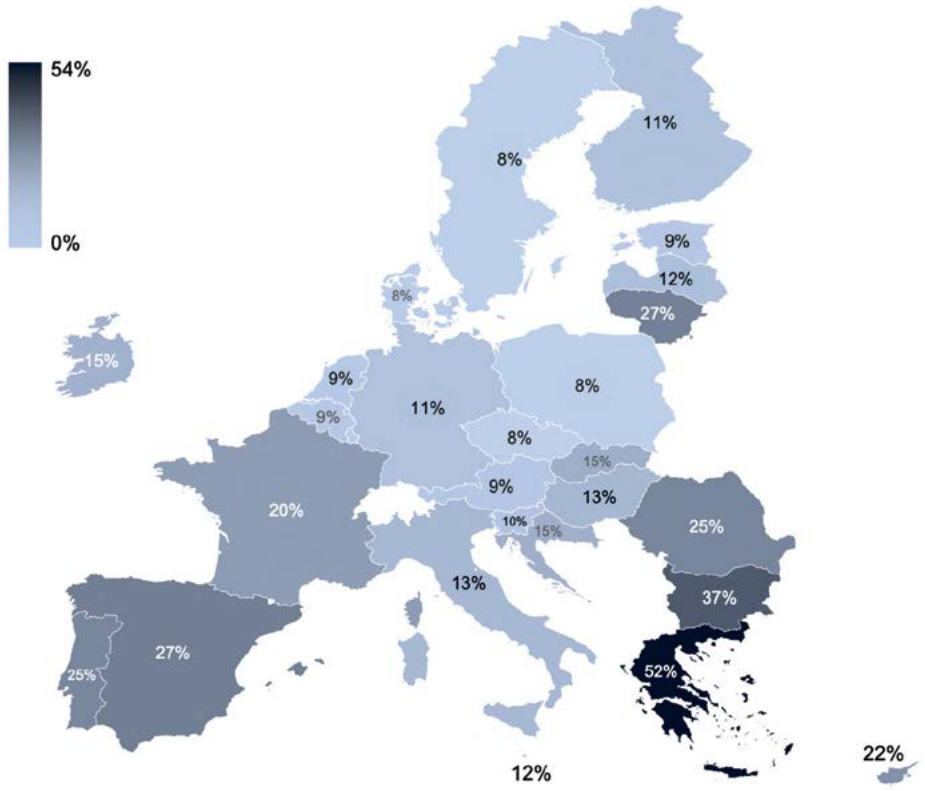
10 Lane Clark & Peacock: Green heat for all 3, https://www.coolproducts.eu/wp-content/uploads/2025/05/Green-Heat-For-All-3-Report.pdf

Figure 7. Values of UB indicator for V4 in 2021 to 2024



Source: own chart based od EU-SILC and JRC

Figure 8. Prevalence of energy poverty based on a combination of subjective (AW and UB) indicators

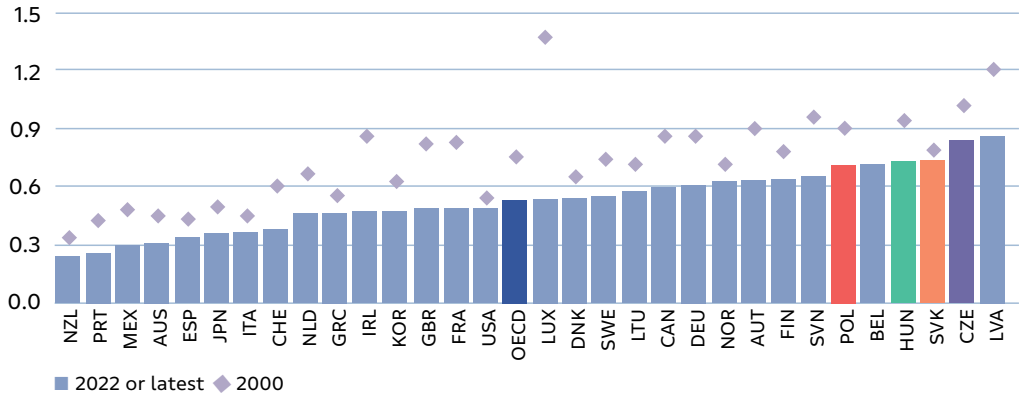


Source: LCP Delta

At first glance, according to this assessment, the situation in Central Europe—especially compared to the countries in the south or east of the EU—does not look very bad.

On the other hand, it is necessary to recognise that the purchasing power of the population of the V4 countries is still below the European average. Low-income groups in particular are therefore more sensitive to energy price fluctuations than those in other EU countries.

Figure 9. Total energy consumed per floor area (GJ/m²) in residential sector



Source: OECD

In general, a structural problem in the V4 countries is the state of the housing stock, or rather its low energy efficiency. In this respect, the V4 countries are among the worst-rated among OECD countries, with the improvements occurring relatively slowly compared to other countries.

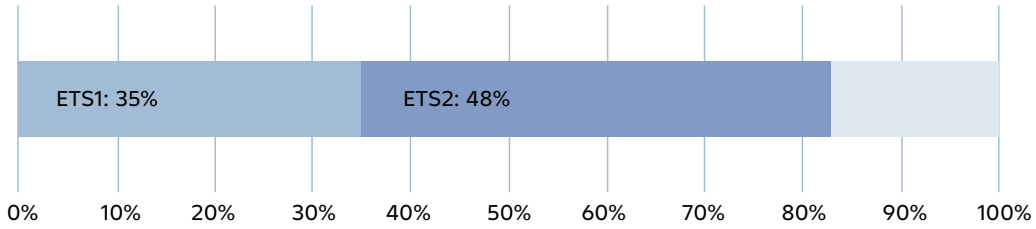
FUTURE OUTLOOK —IMPLEMENTATION OF ETS2

In the coming years, household budgets are expected to be affected by further price increases, this time in connection with the extension of the emissions trading system to transport and heating, the so-called ETS2.

From 2028, it will build on the existing EU Emissions Trading System (ETS), which covers emissions primarily from large power plants, heating plants, and industrial operations. Unlike the ETS, the ETS2 system will charge not for emissions reported by industrial and power plant operators themselves, but directly for fossil fuels used in transport and heating, such as gasoline, diesel, coal, and natural gas.

This should, among other things, lead to a certain levelling of the market, where, for example, end customers consuming heat from large heating plants already pay the price of carbon today, while buildings heated by local sources have not yet been subject to this charge. Overall, the ETS2 system should contribute to a higher coverage of European carbon emissions (see figure 10).

Figure 10. Share of charged greenhouse gas emissions in the EU



Source: own chart based on Fact on Climate Change, EEA and Eurostat

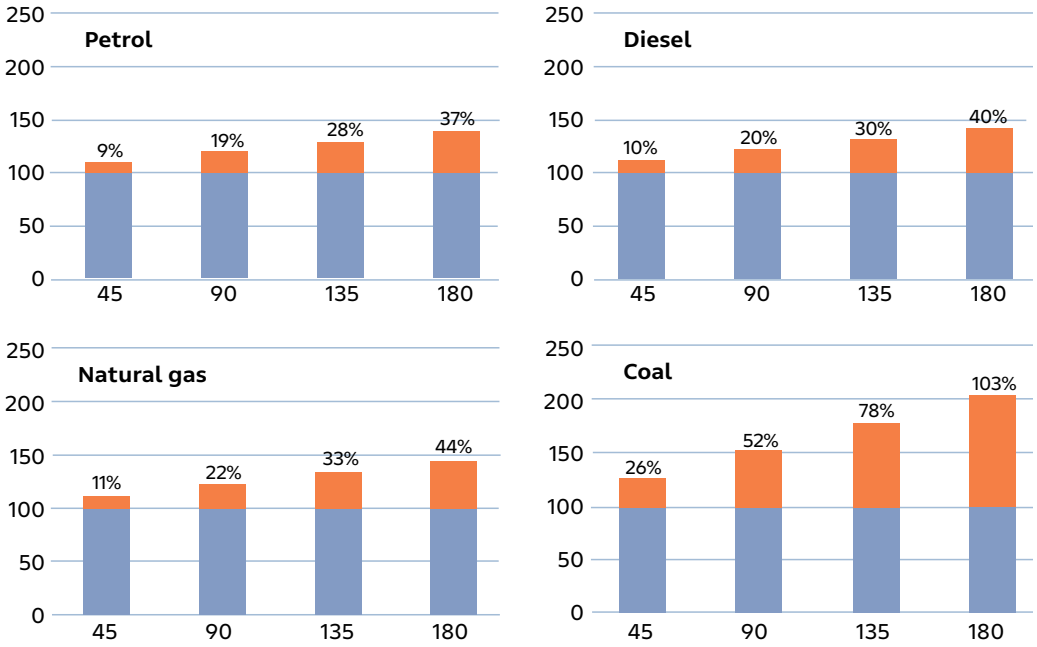
In the case of ETS2, the purchase of emission allowances will be ensured by energy and fuel suppliers, mainly due to the lower administrative complexity compared to the method of purchasing allowances under ETS1.

The figure below shows how the price of fuels will increase due to the price of emission allowances for various scenarios, assuming an emission allowance price of EUR 45 to EUR 180 per allowance or tonne of CO_2.

As can be seen from the graph, the price of the allowance will have the least impact on the price of fuel for transportation, where even at a price of EUR 90/tCO_2 (i.e. approximately the current price of an allowance in the ETS1 system), this price should not increase above 20 percent of the current price of fuel.[11]

11 Which corresponds, for example, to the upper limit of reducing consumption using eco-driving techniques, see Odyssee-Mure: Eco-driving initiatives—the key for sustainable and energy-efficient use of motorized vehicles, https://www.odyssee-mure.eu/publications/policy-brief/eco-driving-fuel-reduction.html

Figure 11. Fuel price increase due to the price of emission allowances for various scenarios



Source: own figure based on Fact on climate change

On the other hand, the price of the allowance—with regard to the calculation method, which is derived from the amount of carbon emissions resulting from the combustion of the given fuel—will be most significantly reflected in the price of coal, which at a price of EUR 90 per allowance would increase by approximately 50 percent. The impact on the price of natural gas is similar to that on the price of petrol or diesel.

The European Commission is at the same time expected to take a number of measures to ensure that, at least in the first years of the implementation of ETS2, the price of an allowance does not exceed EUR 45.[12]

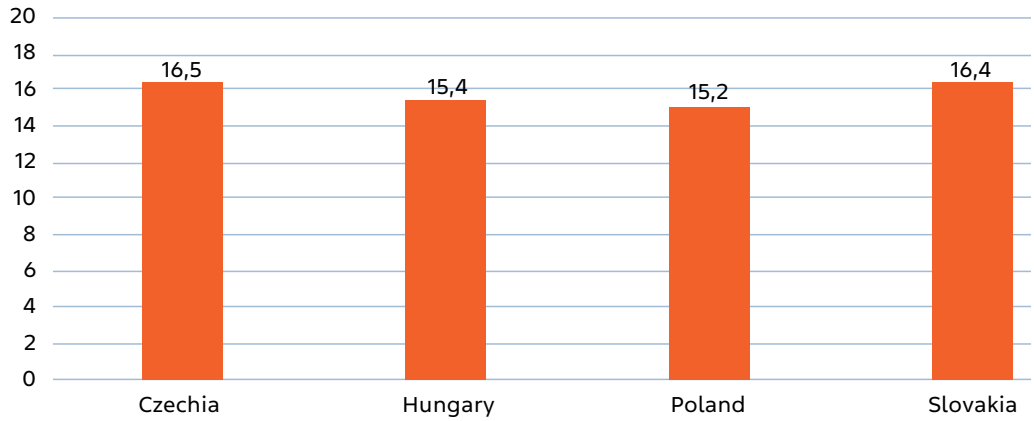
In this context, it is necessary to mention that the final prices of fuels are also influenced by the business strategies of suppliers, who may also include a certain "risk premium" in these prices, taking into account the changing price of an allowance on the market.

Direct impacts on households will be determined, in addition to the price of the allowance, primarily by the actual level of consumption and its structure with regard to the energy and fuels used. If we compare household consumption in the V4 countries, we find that despite slightly different climatic

12 European Commission: Commission proposes targeted adjustments to the Market Stability Reserve Decision to support a smoother start for ETS2, https://climate.ec.europa.eu/news-other-reads/news/commission-proposes-targeted-adjustments-market-stability-reserve-decision-support-smoother-start-2025-11-27_en

conditions, it is very similar[13] and on average ranges from 15.2 to 16.5 MWh per year across individual countries.[14]

Figure 12. Annual energy consumption of an average household in the V4 countries in MWh, 2023



Source: own figure based on Eurostat

What differs significantly, however, is the way in which this consumption is covered. From the perspective of ETS2, the share of solid fossil fuels and natural gas is particularly important, because in the case of electricity, the price of emission allowances is already included in the price of the commodity, as is the case with most heat supplies from district heating systems. Biomass and other renewable sources are not inherently affected by emissions pricing, as they are perceived as emission-free or emission-neutral from the perspective of emissions trading.

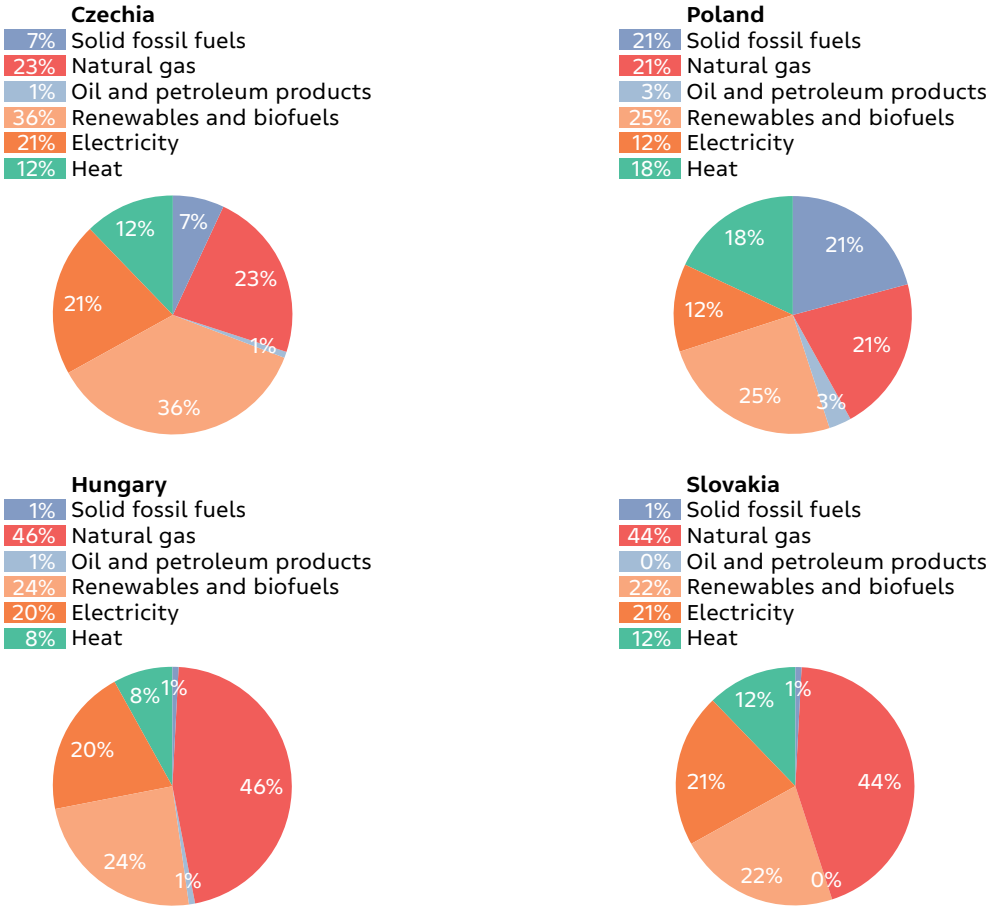
Looking at the structure of fuel consumption in households in the V4 countries, it is clear that Polish households account for the largest share of solid fuel use. More than a fifth of the energy consumption of these households is covered by coal combustion. The introduction of ETS2 will therefore have a particularly noticeable impact in this case.

A noticeable impact can also be expected in countries with a high share of natural gas use, such as Hungary and Slovakia. Households there consume on average twice as much of this fuel as those in the Czech Republic or Poland.

13 Another thing is energy consumption per capita, which differs by more than a third across the V4 countries, but this is mainly due to the structure of national economies, or rather the share and consumption of (especially heavy) industry.

14 Complete energy balaces: https://ec.europa.eu/eurostat/databrowser/view/nrg_bal_c__custom_16647750/default/table?lang=en
Private households by household composition, number of children and age of youngest child: https://ec.europa.eu/eurostat/databrowser/view/lfst_hhnhtych/default/table?lang=en

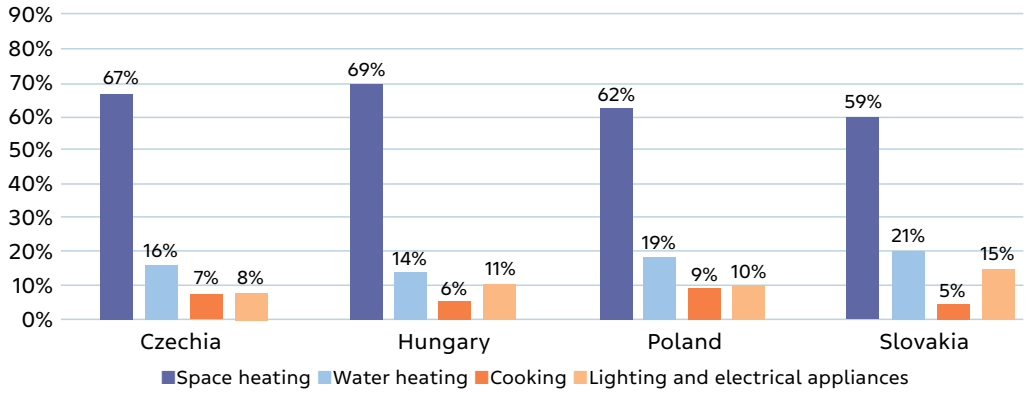
Figure 13. Energy consumption in households by fuel



Source: own figure based on Eurostat

Households spend the most energy on space and water heating. These two items together account for 80–83 percent of the energy consumed in V4 households (see figure 14).

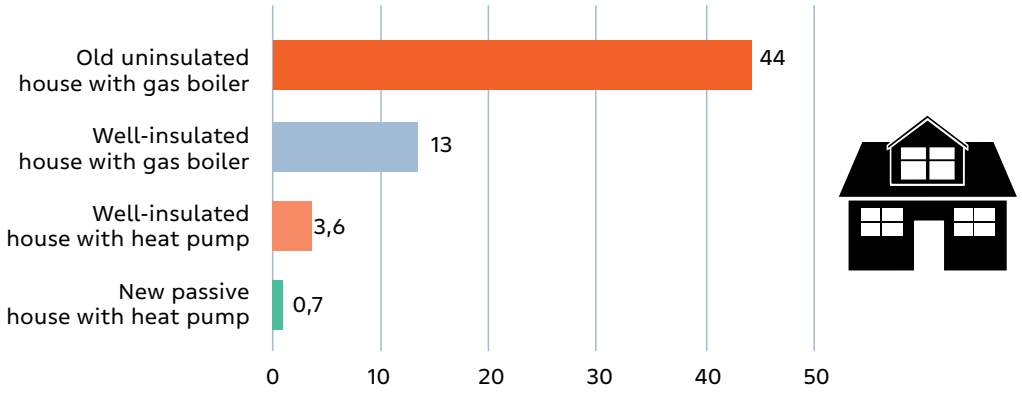
Figure 14. Energy consumption in households by use



Source: own figure based on Eurostat

At the same time, space heating offers the greatest potential for energy savings. Although it may not seem so at first glance, the difference in energy consumption between an old uninsulated house with a gas or coal boiler and a well-insulated house with a heat pump can be more than tenfold (see figure 15).

Figure 15. Energy saving potential in space heating, MWh/year



Source: own chart based on Facts on climate change

The problem in increasing energy efficiency in households is mainly the high level of initial investment associated with insulation (of the ceiling and external walls, replacement of windows, doors, etc.) and replacement of the heat source (the purchase and installation of a suitably sized heat pump or biomass boiler).

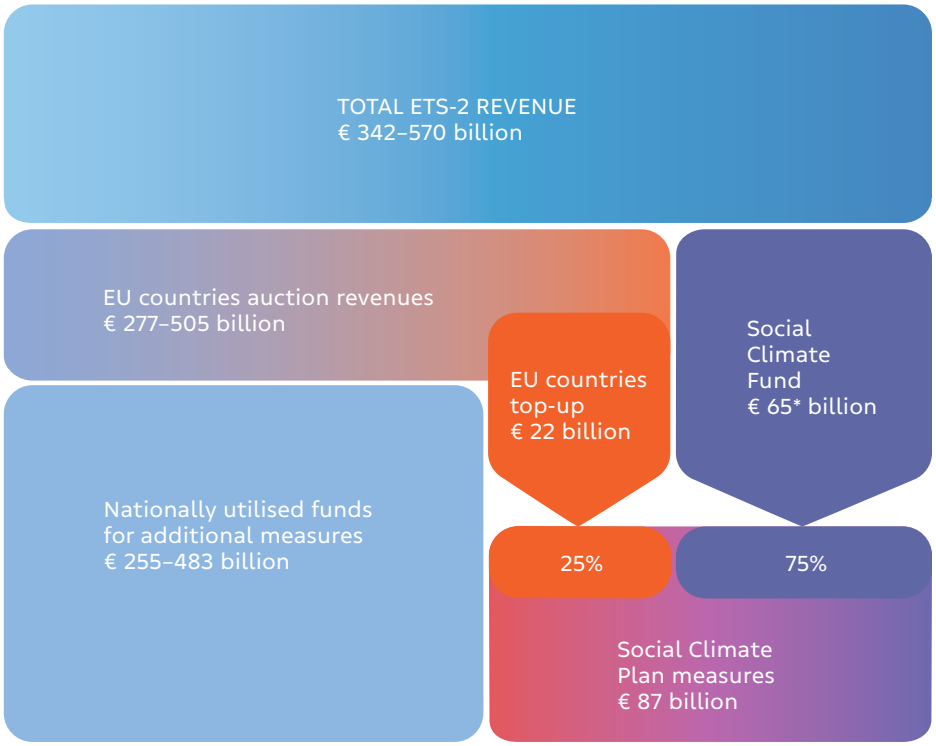
What is often forgotten in public debates about ETS2 is the fact that the funds collected through carbon pricing can be used to support investments in energy-saving measures, whether through the Social Climate Fund (SCF) or through national utilised funds for additional measures (see figure 16).

The point is that unless ETS2 is fully implemented and a national Social Climate Plan (SCP) is approved, these funds cannot be used to benefit the population of a given country. The V4 countries are among the few countries where little progress has been made in this area, or where ETS2 has not yet been fully implemented into national legislation (see Figure 17).

The original deadline for submitting national SCPs was the end of June 2025. SCPs have so far only been developed in Czechia and Slovakia. However, they have not yet been approved by governments and therefore have not been officially submitted.[15]

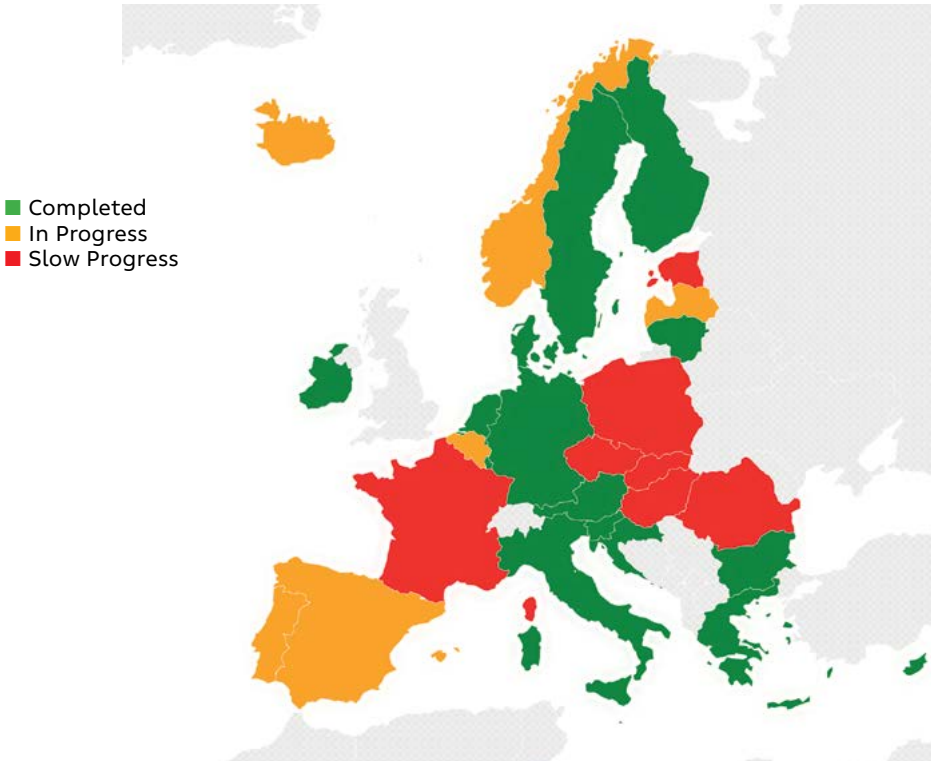
15 European Commission: Social Climate Fund national plans: https://employment-social-affairs.ec.europa.eu/policies-and-activities/funding/social-climate-fund/social-climate-fund-national-plans_en

Figure 16. ETS2 revenue mechanism



Source: Breugel

Figure 17. ETS2 implementation status, end of 2025



Source: ETS2 tracker

One of the main reasons why the ETS2 implementation process is proceeding so slowly is the fact that the topic has become a subject of political contestation. This was especially noticeable in the period leading up to the parliamentary elections in the Czech Republic in autumn 2025, when the ETS agenda was ostentatiously rejected by both the then-governing and opposition parties, citing the possible negative impact on Czech households. In addition to the evergreen Green Deal topic, the ETS2 topic appeared among disinformation narratives in the Czech public debate at that time.[16]

It can also be assumed that the topic of ETS2 will be one of the central issues of the pre-election campaign before the upcoming parliamentary elections in Hungary.

The topic of emission allowances and the approach to decarbonising the European economy generally represents one of the main cleavages that Russian state propaganda is trying to exploit with the aim of undermining the West.[17]

16 Čeští elfové: Dezinformace, propaganda a manipulativní kampaně na sociálních sítích, https://cesti-elfove.cz/wp-content/uploads/SM_2025_07b.pdf

17 EUvsDisinfo: Weaponising climate change to undermine the West, https://euvsdisinfo.eu/weaponising-climate-change-to-undermine-the-west/

POLICY RECOMMENDATIONS

Based on the analysis presented in this paper, several key policy recommendations emerge for addressing energy poverty in the V4 countries in the context of both recent market developments and the forthcoming implementation of ETS2.

First, policy responses should prioritise structural solutions over permanent price interventions. While temporary price caps and subsidies played an important role in cushioning households during the acute phase of the energy crisis, they are fiscally costly and do not address the underlying causes of energy poverty. Long-term resilience can only be achieved through systematic improvements in energy efficiency, particularly in the residential sector, where space and water heating account for the majority of energy consumption.

Second, national Social Climate Plans should be finalised and submitted without further delay. Access to revenues from ETS2 via the Social Climate Fund is conditional on the approval of these plans. Delays in their preparation risk depriving vulnerable households of targeted support precisely at the moment when additional carbon costs begin to materialise. The V4 countries should treat SCPs as strategic instruments that integrate social policy, housing policy, and climate objectives rather than as a formal compliance exercise.

Third, support measures should be tightly targeted at vulnerable and low-income households. Given limited fiscal space and lower average purchasing power in the V4 region, blanket compensation schemes are neither efficient nor equitable. Targeted income support, combined with grants or zero-interest financing for building renovation and heating system replacement, offers a more effective way to reduce energy poverty while preserving incentives for energy savings.

Fourth, investment in residential energy efficiency must be scaled up significantly. The analysis shows that differences in energy consumption between inefficient and efficient dwellings can be several-fold. Public support should therefore focus on reducing upfront investment barriers, particularly for households that lack access to credit financing.

Fifth, communication and public engagement around ETS2 need to be improved. Misrepresentation of ETS2 as a purely punitive measure risks undermining public trust and slowing down necessary reforms. Governments should clearly communicate the expected cost impacts alongside the resulting long-term energy bill savings. In addition, ETS2 revenues can be recycled back to households to further reduce energy bills in the medium and long term through additional energy efficiency investments.

In conclusion, energy poverty in the V4 countries cannot be addressed through short-term crisis management alone. The combination of targeted social support, accelerated investment in energy efficiency, and timely implementation of ETS2-related instruments offers a pathway to reduce vulnerability and align climate policy with broader economic and social objectives.