

POLICY BRIEF

HOW HAVE HEAT PUMP USERS RESPONDED TO THE CURRENT ENERGY CRISIS?

The war in Ukraine has prompted significant psychological, social, and economic responses across Europe, particularly in the energy sector, where energy security has emerged as a central challenge and prices have surged. Disruptions to natural gas and oil supplies from Russia have driven governments to revise energy policies, while citizens have adapted their behaviour, spurring grassroots initiatives for renewable energy development. These efforts, which have included prosumer investments in photovoltaic systems and the adoption of alternative heating solutions such as heat pumps, signal a shift towards more localized energy sources. Decentralized renewable energy systems empower communities to take control of their energy consumption, fostering resilience – even against military threats – and independence from external energy suppliers. This shift promises not only a sustainable energy future but also a substantial reduction in electricity costs. Nevertheless, the ongoing crisis has exacerbated energy poverty for many households.

To explore these dynamics, our [research](#), supported by the International Visegrad Fund, focuses on the experiences of prosumers, heat pump users, and those facing energy poverty in the Visegrad Group (the Czech Republic, Hungary, Poland, and Slovakia). We conducted a series of focus groups and reported the results in a [policy report](#). In this policy brief, we present our aggregated findings on heat pump users and propose a series of recommendations for policymakers.

As anticipated, most heat pump users experienced substantial cost savings and greater efficiency, especially when their systems were integrated with solar energy and supported by appropriate tariffs and backup options. Overall, the use of heat pumps led to more convenient and consistent heating, allowing participants to enjoy a comfortable living environment and easing their heating cost concerns. Many participants, particularly in Hungary and Poland, felt that installing heat pumps and associated solar systems increased their energy independence and flexibility. They appreciated their reduced reliance on natural gas and electricity providers, especially during the energy crisis, and valued the stability and adaptability these systems offered amid sudden price fluctuations. Nevertheless, the environmental benefits of heat pumps have yet to gain widespread attention in the V4 as a motivating factor for investment in their adoption.

Heat pump users reported feeling more secure about their energy supply, especially when their systems were complemented with photovoltaic installations to power them. Despite their increased independence, however, they acknowledged a degree of vulnerability to local energy service providers due to a lack of reliable and affordable energy storage solutions, which would allow them to fully utilize self-generated electricity at their convenience. Without sufficient solar energy storage options, they remain reliant on grid supplies, making them vulnerable to regulatory changes and inadequate grid infrastructure, among other issues. As a result, having multiple energy sources (such as a natural gas boiler or fireplace) can help to reduce their exposure to these risks. A general distrust towards energy providers was apparent, exacerbated by recent experiences with ever-changing tariffs and inadequate grid systems. Participants expressed a strong desire for greater independence from utility companies and the state.

This policy brief was published under the auspices of the project “Civic energy self-defence in the shadow of the war in Ukraine: grassroots energy activities in the V4”, supported by the International Visegrad Fund under contract no. 22320072.

Respondents did not attribute changes in their behaviour to owning a heat pump per se, as most had begun using heat pumps after broader habit-changing events such as moving into a new home or undertaking a major renovation. Retrofitting older buildings with heat pumps is often economically impractical due to the high investment required. Many heat pumps are incompatible with standard radiators – the dominant heating system in existing buildings – and effective retrofitting requires replacing radiators with floor heating or other compatible systems, making it economically feasible only when combined with other improvements for the sake of comfort or personal preference.

The lack of financial mechanisms to support the purchase and use of heat pumps emerged as a primary barrier to their wider adoption. While some respondents praised heat pumps for their almost maintenance-free operation, others cited maintenance, repair costs, and high initial investment costs as obstacles to their broader uptake. In Hungary, the novelty of the technology and limited public familiarity also contributed to homeowners' low level of interest.

As in our discussions with prosumers (see our [policy report](#)), lack of information and difficulty navigating complex policies were reported as factors that discouraged further investment in other renewable energy sources, such as photovoltaic systems that could help power heat pumps. The prevailing view was that many people remain uninformed about the benefits of heat pumps.

Recommendations

- Government and local authorities should offer financial incentives, subsidies, or low-interest loans to reduce initial costs and make heat pumps more affordable.
- Public education campaigns and case studies showcasing the long-term benefits of heat pumps, including their positive impact on health (e.g. their role in reducing particulate matter and ensuring stable indoor temperatures) and the environment, could improve perceptions of heat pumps.
- Comprehensive information on the technology and minimum structural conditions required for effective heat pump operation is needed to support the technology's development and prevent inefficiencies and stranded assets.
- Clear, consumer-oriented guidelines on (virtual) electricity storage would provide greater stability for potential heat pump users and encourage investment in this technology.