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Goodbye gas: heat pumps will be the cheapest green heating option for consumers

The urgency of the challenge to mitigate the climate crisis will force all of us to change how we heat our homes: away from polluting sources like gas to greener and more efficient alternatives. According to a [new study](#) released by BEUC (The European Consumer Organisation) today, heat pumps will be the cheapest green heating option for consumers. They will be both more affordable and convenient for consumers than hydrogen, which is the only other non-fossil fuel solution.

The study - '[Goodbye gas: why your next boiler should be a heat pump](#)' - looked at the cost of heating the two most typical homes (house/apartment) in Italy, Czech Republic, Poland and Spain with electric heat pumps, hybrid electric/hydrogen heat pumps and hydrogen boilers from 2025-2040.¹

The result? Electric heat pumps emerged as the cheapest green heating option in all four countries in terms of the 'total cost of ownership',² with heat pump-powered district heating a strong option for high density urban areas.³

BEUC Director General Monique Goyens commented:

"Millions of consumers in Europe today rely on fossil fuels like gas to heat their homes. The problem is that these are heavily polluting. The climate crisis means we'll have no other choice than to find greener and more efficient alternatives to heat our homes. Fossil fuels also expose consumers to volatile energy prices, as they are experiencing the hard way at the moment.

"The good news is that the solutions are out there. Our research shows that for consumers across Europe, electrification – whether by a heat pump or district heating in cities – combined with energy efficiency improvements, will be much cheaper and convenient than hydrogen. Making homes more energy efficient will help consumers save considerably - be it by insulating walls in Poland or installing blinds on windows in Spain. What's more, moving away from the volatility of gas prices will offer consumers more stability and predictability in their energy bills.

"But let's face it, the transition to heat pumps is still too difficult. Consumers face big upfront investment costs and issues with installation. As such, it is crucial that public authorities provide financial support to allow consumers to invest in a heat pump and

energy efficiency improvements in their homes. It's just as vital that consumers aren't pushed into investing in expensive experiments, like hydrogen. Authorities must instead allocate public money to proven technologies instead of over-hyped and unproven ones like hydrogen".

Main findings:

1. **Electric heat pumps are the cheapest green heating option for consumers.** Renewable district heating is also competitive in urban areas. Hydrogen boilers and hybrid heat pumps (hydrogen/electric) are the most expensive option and hydrogen will be more expensive than gas is today
2. **In cold climates, major home energy efficiency improvements deliver big financial benefits,** helping to reducing energy bills. This applies in all four countries, helping to keep homes warm in winter. In warm climates, shading (e.g. the use of blinds) can cut consumption and improve comfort
3. **'Smart heating'** (e.g. when it's cheaper at off-peak times) **with heat pumps will reduce consumers' heating costs by up to 25%** compared to gas. This is because using electricity smartly reduces the need for investments in electricity grids. The savings could help reduce grid charges on energy bills
4. **If national governments roll out ambitious home renovation programmes,** allowing many consumers to improve the energy efficiency of their homes, this could also mean **lower grid tariffs (and energy bills)** for all if savings are passed on to consumers
5. **But to be able to reap the benefits of lower energy bills, consumers will need financial support** to help purchase a heat pump and pay for energy efficiency improvements.

More information

Read the [executive summary](#)

Read the full report - '[Goodbye gas: why your next boiler should be a heat pump](#). A comparative study of green heating options for consumers, 2025-2040'.

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¹ This period was chosen as it is when residential heating legislation currently being revised or due to be will enter into force. 15-20 years is also the average lifetime of a heating appliance.

² Includes: cost of energy generation, cost of operating and upgrading energy networks, building insulation and purchasing/installing the appliances.

³ District heating distributes heat through pipes to multiple buildings, meaning consumers do not need to have their own individual heating systems. District heating powered by heat pumps is a promising option: it offers extra efficiency gains although is still in the early stages of development.

