Why your next heating system will be a heat pump

Heat pumps are not a technology of the future. In new construction, they are already the standard in many European countries. The replacement market is not far behind. As Europe moves to decarbonize homes, heat pumps are our best bet, says Patrick Crombez of Daikin Europe.

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The EU pledges to "play a central role" in achieving net-zero greenhouse gas emissions by 2050. This was recently confirmed in Brussels [1], after wrapping up the COP25 talks in Madrid. The automotive industry, agriculture and travel industry have already made efforts to reduce or eliminate carbon emissions from energy sources. Next on the list of policy makers and regulators is housing.

Decarbonization of the home is next in the shift towards a sustainable economy.

On a national level, the Netherlands will kiss gas goodbye soon [2], the French government is stimulating [3] oil boiler replacements and Finland is aiming [4] to be carbon neutral by 2035. Lower Austria has outright prohibited [5] oil heating in new buildings.

The one thing they have in common is that they are all betting on heat pumps to replace fossil fuel heating systems. And they're right. Heat pumps are more than ready to take on the challenge of home decarbonization. They are not a technology of the future, but an established solution, ready to go mainstream.

Psychological challenges

In Sweden, heat pumps are the default heating system today. In new buildings in some other European countries, heat pumps are steadily reaching 50 percent market share.

In the replacement market, however, it seems that homeowners haven't quite caught on yet. And the main challenges for mainstream heat pump adoption in this market, seem psychological rather than technological.

Many people simply don't understand how a heat pump works.

Others are of the opinion that heat pumps are noisy, can't look nice or simply aren't there yet in terms of reliability. You can't entirely blame homeowners for entertaining assumptions about heat pumps that are no longer valid today, because the pace of innovation in heat pumps is indeed brisk.

For instance, heat pumps made huge strides in efficiency in the last decade. Air-to-water heat pumps in general tend to show a drop in efficiency when outdoor temperatures go down. At sub-zero temperatures, heat pumps traditionally needed a little help from the electricity grid to offer the required comfort. Of course, this threatens the cost-savings and reduction of emissions that heat pumps offer.

Newer generations of heat pumps are increasingly capable of high efficiencies, even at lower outdoor temperatures.

Beyond the choir

Another psychological barrier is the lack of knowledge among installers and architects. This will be a key challenge for the heat pump industry. We should go beyond preaching to the choir of installers and professionals who are already familiar with heat pumps. We should open conversations with installers who have mostly worked with fossil fuel boilers. They should feel comfortable recommending heat pumps in the replacement market. It helps, of course, that heat pumps have become easy to install, easy to use and that they look good too – consumers today expect great design.

The burden of starting that conversation is on the industry. If we succeed, it will greatly accelerate the adoption of heat pumps.

Of course, regulation can offer a nudge in the right direction here. The Netherlands is a prime example: it is already offering training on renewables for installers. This supports the shift towards renewable heating solutions.

In other markets, it's more a matter of removing incentives for fossil fuel that create a barrier for more sustainable alternatives to enter the market. In Belgium, for instance, the price of gas is low compared to the price of electricity.

The shift to heat pumps requires awareness and attention from all stakeholders.

Ambition

The ambition of the Heat Pump industry in this is quite clear: we want to see a heat pump in every European home. No new home should be built with a fossil fuel boiler and no old boiler should be replaced with a new boiler. Any lingering technological and psychological barriers, Daikin will take on through relentless innovation. ■

References

[1] https://www.bbc.com/news/world-europe-50778001

[2] https://energypost.eu/a-revolution-the-netherlands-kisses-gas-goodbye-but-will-it-help-the-climate/

[3] https://www.actu-environnement.com/ae/news/gouvernement-nouvelles-aides-remplacer-chaudieres-fioul-32758.php4

[4] https://www.theguardian.com/world/2019/jun/04/finland-pledges-to-become-carbon-neutral-by-2035

[5] https://www.expobiomasa.com/en/boilers-stoves-fireplaces/in-austria-the-35-percent-of-domestic-heating-uses-biomass-and-have-banned-the-use-of