

European Heat Pump Association AISBL

EHPA Position Paper on the REACH restriction proposal of all per- and polyfluoroalkyl substances (PFAS)

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Introduction

EHPA, representing the heat pump technologies value chain, has been following the discussion related to a REACH restriction proposal to limit the risks to the environment and human health from the manufacture and use of all per- and polyfluoroalkyl substances (PFAS).

In this paper, EHPA shares its position that including F-Gases in a PFAS restriction proposal is not needed since F-Gases are already regulated by the F-gas Regulation. In addition, further limits on F-gases could lead to a contradictory effect on the European and climate and energy goals.

1) F-gases are already successfully addressed by the F-gas Regulation.

The heat-pump industry is ready and willing to follow many of the (already dynamic) EU regulations that contribute to improving the quality of the product at the right pace and has already taken all the steps necessary. The F-gas Regulation is already taking care of a phase down of GWP while at the same time obtaining the energy and climate targets. The F-gas Regulation ensures that the market as a whole is moving towards lower GWP refrigerants by limiting the total amount of the F-gases that can be sold in the EU from 2015 onwards and by phasing them down in steps to one-fifth of 2014 sales in 2030.

Since F-gases are successfully addressed by the F-gas Regulation, there is no need to include F-gases in a PFAS restriction proposal. This would create overlapping or double legislation by governing things that are already covered in other pieces of legislation that is proven to be successful.

2) Adding restrictions in F-gases in REACH has a contradictory effect on the EU's energy and climate targets

Achieving carbon neutrality by 2050 as laid down in the European Green Deal is the overall target. The heating & cooling sector can make an important contribution to achieving climate neutrality in Europe by 2050. In terms of emissions related to energy production and consumption, which represent nearly 80% of the EU's total greenhouse gas emissions, the sector has a key role to play in contributing to the reduction of energy demand, enabling the transition to renewable energies and facilitating sector integration.

Adding restrictions on F-gases in REACH will de facto slow down the deployment of heat pump technologies even though the massive heat pump deployment is crucial to achieve the EU's energy and climate targets. In its EU Strategy for Energy System Integration, the EC aims at a 40% electrification of heating in residential buildings and 65% electrification of heating in the service sector by 2030. Assuming that the "energy efficiency first" principle is applied, most of these buildings should be equipped with one or several heat pumps. This implies a quadrupling of the current amount of heat pumps by 2030 to achieve our energy and climate targets.¹

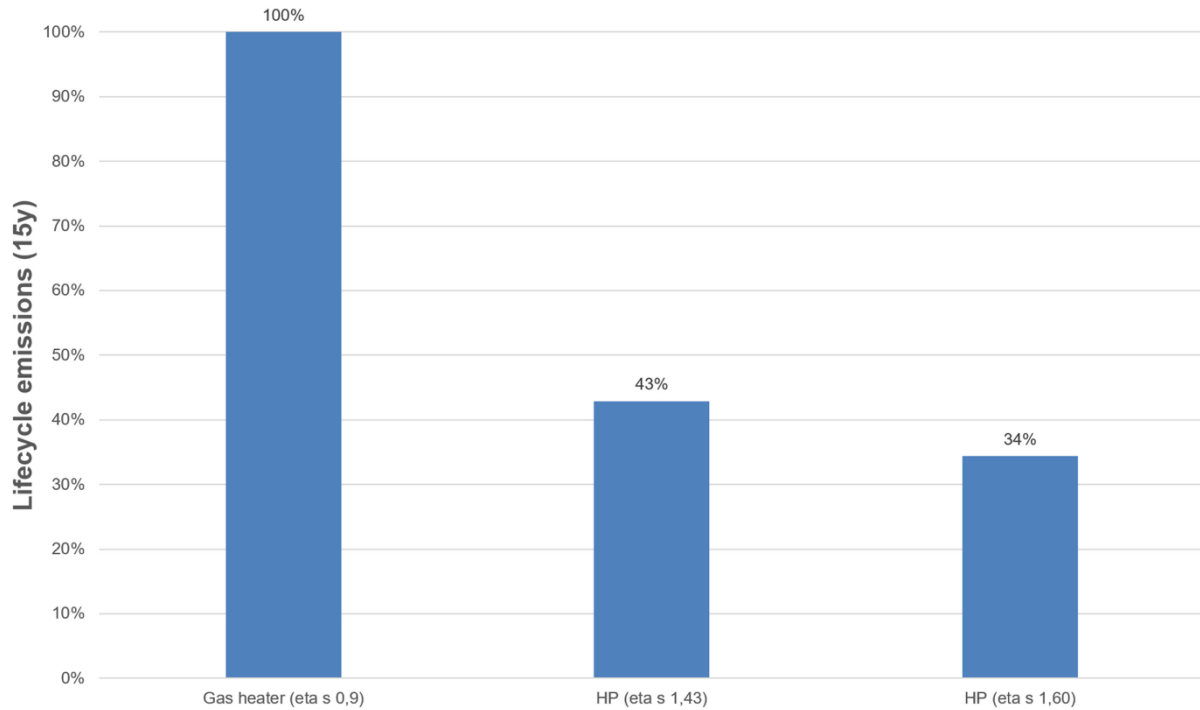
This should not be compromised by adding restrictions on F-gases in REACH which limit the availability and potential of efficient heating and cooling technologies supplied by renewable energies that are key to achieve carbon neutrality. Due to the resulting limited availability of heat pumps on the market, more investors will invest in traditional heating systems using fossil fuel, creating a contradictory effect on the energy and climate targets. Over its use phase, emissions from a heat pump, even containing refrigerants with a certain GWP, are much lower than emissions from any traditional heating system using fossil fuel (see Annex 1). A heat pump replacing a traditional heating system using fossil fuel saves at least 50% of CO₂ emissions.²

¹ With an estimated building stock of 120 million buildings, the number of needed appliances will be around 48 million units, higher, if the deployment of more than one unit in multi-family and commercial buildings is considered. The installed base in heating heat pumps is estimated to reach about 13,5 million units at the end of 2020.

² Even in the case of a direct boiler replacement. If the building is renovated at the same time, the emission savings are higher.

Annex 1: GHG equivalent lifecycle emissions of different heating systems

GHG equivalent emissions of different heating systems



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This graph shows the comparison of greenhouse gas (GHG) equivalent emissions over a 15 year lifecycle for a fossil gas heater, a heat pump with an efficiency (eta s) of 1.43 and a heat pump with an efficiency (eta s) of 1.6. It is obvious that heat pump technology (even containing refrigerants with a certain GWP) reduces GHG equivalent emissions by more than half compared to a gas heater. The savings will improve with improving efficiency and an increasing share of renewable energy in electricity generation.

³ Assumptions: Emission factor electricity: 275g/kWh el; Emission factor gas: 242 g/kWh thermal, Primary energy factor 2,1; Thermal capacity: 9kW; operating hours: 2000