Heat pumps are much more efficient than other forms of heating and are widely used: they extract energy from air or water and transfer it to heat homes and office buildings. Compared to direct heating with fossil fuels they are much more energy efficient.

Heat pumps use the refrigeration cycle. They rely on the specific properties of a refrigerant to provide a greater heat output than the energy used to run the heat pump.

WHY USE HEAT PUMPS?

Heat pumps can reduce energy use for heating by up to 60%.

Heat pumps deliver about 3 times the amount of energy as heat compared to the electricity they consume.

Heat pumps replace fossil fuel heating systems reducing carbon dioxide emissions.

WHY USE HFCs?

HFCs are used as the refrigerant in heat pumps

Adaptable to a wide range of systems

Safety properties allow efficient heat pump designs

Non or low flammability and low toxicity

Energy savings benefit an order of magnitude greater than emissions due to refrigerant loss

HEAT PUMPS AND HFCs

Heat pumps contribute to the increasing use of renewable energy, extracted from air, water or the ground. Increased use of renewable energy is a key objective in the EU.

Currently the majority of heat pumps use HFC-410A.

There are about 7 million heat pump systems working in Europe.

Yearly sales typically exceed 700,000 units

F-GAS REGULATION 517/2014 AND HEAT PUMPS CONTAINING HFCs

Measures in the F-Gas Regulation have the objective of reducing HFC emissions from heat pumps through leakage checking, recovery, and training and certification. While the HFCs used in heat pumps and, from 2017, for imported pre-charged heat pumps must be within the HFC quota system, there are no placing on the market restrictions for heat pumps. This recognises the valuable role of HFCs as refrigerant for heat pumps.

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