



PFAS in Refrigeration and Air Conditioning

Perfluoroalkyl & polyfluoroalkyl substances (PFAS) are a diverse group of synthetic compounds distinguished by their versatility, strength, and durability, setting them apart from other chemicals. There are perhaps as many as 700 commercially active substances that may be considered PFAS. However, not all PFAS compounds are the same - they contain unique properties and characteristics that yield distinct environmental and health profiles. PFAS compounds are highly differentiated, and while some may require limitations or prohibitions from certain uses, others have well-established profiles and do not pose unreasonable risks to human health or the environment when used appropriately.

Advanced solutions for the U.S. refrigeration and air conditioning industry depend on fluorinated gases, such as Hydrofluorocarbons (HFCs) and hydrofluoroolefins (HFOs), to enable heating, ventilation, air conditioning, and refrigeration (HVACR). The industry is dedicated to producing sustainable, effective, and efficient systems that meet critical societal needs such as:

- **Preserving** our agricultural produce, dairy, meat, and seafood—supporting American farmers and ranchers;
- **Protecting** the pharmaceutical cold chain, including vaccines;
- **Decarbonizing** large-scale heating solutions, such as heat pumps;
- **Supporting** global solutions for every air conditioning need—residential, commercial, and mobile.

Chemicals used by the HVACR industry are regulated by the U.S. Environmental Protection Agency (EPA) under the Montreal Protocol. Congress and many states have passed legislation and regulations requiring the phase-down of high-global warming potential (GWP) chemicals. Low-GWP substitutes, many of which fall under broad definitions of PFAS, are now at risk of harmful regulation, along with various fluoropolymer components. These substances are essential due to their unique chemical properties, and allow for the safest and most efficient means of AC and refrigeration. Moving away from HFOs would significantly increase CO₂ equivalent emissions due to lower efficiency alternatives. Additionally, these substances do not show the three characters of greatest concern regarding PFAS, as they are not persistent, bioaccumulative, and toxic. In fact the EPA's proposed Toxic Substances Control Act (TSCA) PFAS reporting rule does not include these gases.



U.S. REFRIGERATION AND AIR CONDITIONING MANUFACTURING ECONOMIC IMPACT*

In total, refrigeration and air conditioning manufacturing and related activity helps contribute **283,000 jobs** and nearly **\$40 billion** toward GDP.

DRIVING SCIENCE-BASED MANAGEMENT POLICIES

Creating regulations that treat all PFAS compounds the same, or impose blanket restrictions on uses, would have devastating economic and safety consequences for the U.S. refrigeration and air conditioning industry. Sustainable management of PFAS compounds enables continued economic advancement when using a **science- and risk-based approach** to effectively administer regulations that protect human health and the environment.

**Quantifying the Economic Contribution of Key Industries which use PFAS as Vital Inputs, Inforum, Feb. 6, 2023*