Focus on: Hydrofluorocarbons

Figure 1. Large air-conditioning unit containing hydrofluorocarbons (HFCs)

What are hydrofluorocarbons?

Hydrofluorocarbons (HFCs) are a type of fluorinated gas commonly used in refrigeration and air conditioning. HFCs became popular in recent decades as a replacement for chlorofluorocarbons, which were known to be depleting the Earth's ozone layer. With an increasing need for people to stay cool in a warming world, HFCs are the fastest growing category of greenhouse gas (GHG) emissions globally. And this class of short-lived "super pollutants" can be thousands of times more powerful at trapping heat in the atmosphere than carbon dioxide, giving HFCs a disproportionate impact on the global climate crisis.

In Washington, HFCs account for about 4% of the state's overall greenhouse gas emissions. HFCs are used as refrigerants, and also in aerosol propellants, foams, solvents, and fire retardants. Emissions occur as equipment ages and starts to leak, when it's improperly maintained, and during disposal.

How Washington is transitioning from HFCs

Ecology is reducing statewide HFC emissions from products and equipment under a state law passed in 2019 and amended in 2021.

Based on this law, Ecology adopted a rule In Nov.2023 supporting the transition away from using HFCs in products and equipment. The rule does this in two ways:

1. It prohibits the use of certain HFCs by setting maximum global warming potential (GWP)* limits on refrigerants and restricting certain high-GWP HFCs for use in new products and equipment.
2. It directed Ecology to set up a refrigerant management program that addresses high-GWP HFC emissions from large air conditioning and refrigeration equipment; requires refrigerant. wholesalers, distributors, and reclaimers to report high-GWP refrigerants to Ecology; and establishes service technician practices.

Additionally, the law prohibits the sale and purchase of small cans of high-GWP HFC refrigerants and nonessential consumer products (e.g., air horns, noisemakers) containing high-GWP HFC refrigerants.

*GWP measures how much heat a greenhouse gas traps in the atmosphere compared to carbon dioxide.

Reaching our reduction target

Reducing HFC emissions is key to achieving the state's overall goal of reducing GHG emissions to net zero by 2050. When combined with complementary federal laws, we project a 75% reduction in Washington HFC emissions by 2035.

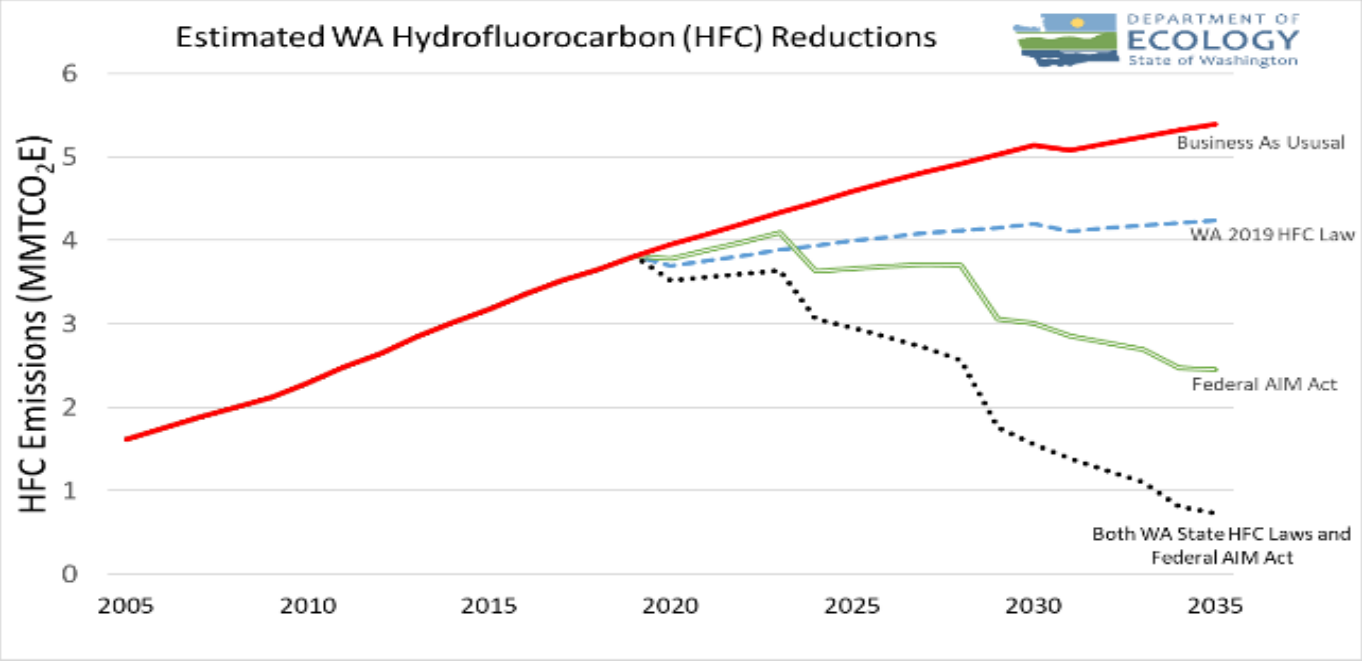

Figure 2: This graph shows projected HFC emission reductions in Washington through state and federal regulations. Emissions are measured in million metric tons of carbon dioxide equivalent ($MMTCO_2E$).

Related Information

- Hydrofluorocarbons rulemaking, Chapter 173-443 WAC
- Hydrofluorocarbons – Emissions Reduction, Chapter 70A.60 RCW

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