



STATE OF MAINE
GOVERNOR'S OFFICE OF POLICY INNOVATION AND THE FUTURE
181 STATE HOUSE STATION
AUGUSTA, MAINE
04333-0181

LD 226 AN ACT TO LIMIT THE USE OF HYDROFLUOROCARBONS TO FIGHT CLIMATE CHANGE

Testimony in Support

March 15, 2021

Good morning Senator Brenner, Representative Tucker, members of the Committee on Environment and Natural Resources. My name is Sarah Curran, and I am a Senior Policy Analyst with the Governor's Office of Policy Innovation and the Future. I am here today to testify in support of LD 226, "An Act to Limit the Use of Hydrofluorocarbons To Fight Climate Change."

LD 226 will phase down the use of hydrofluorocarbons (HFCs), a highly potent greenhouse gas and significant driver of climate change. These synthetic gases are most often used as a refrigerant in appliances and are known as "climate super-pollutants", with hundreds to thousands of times the heat-trapping power of carbon dioxide. HFCs in the atmosphere could lead to up to 0.9°F (0.5°C) of additional warming globally by the year 2100 on top of warming caused by other greenhouse gases.

On December 1st, the Maine Climate Council delivered [Maine Won't Wait \(PDF\)](#), the state's four-year Climate Action Plan to the Governor and the Legislature. *Maine Won't Wait* lists the key actions needed to put Maine on a trajectory to decrease greenhouse gas emissions by 45% by 2030 and 80% by 2050, and achieve carbon neutrality by 2045. The Plan calls for decisive steps to reduce emissions in the transportation sector, increase the number of heat pumps installed in Maine homes, for a doubling of our current home weatherization rates, and to transition to clean energy to curb harmful greenhouse gas emissions. The plan also recommends that the state adopt hydrofluorocarbons phase-down regulations in 2021 to be implemented by 2022.

HFCs are the fastest growing source of greenhouse gas emissions both nationally and globally and could double within 20 years if left unchecked. Addressing the significant climate impacts of HFCs is essential to meeting Maine's emission reduction goals.

The 2019 version of this bill, LD 2112, was amended by this Committee and unanimously voted ought to pass but unfortunately the legislation was never voted on because the legislative session was cut short by the COVID-19 pandemic, almost exactly a year ago. This year's amendment brings LD 226 into alignment with the amended version of last year's bill which received debate by this committee and valuable engagement and adjustments from stakeholders.

Safer alternatives to HFCs are available, and other states are taking similar actions. Last year, Maine, Massachusetts and Rhode Island announced multi-state action together, with the hope that similar regulations across the region can create a more certain business environment for manufacturers and businesses. At the federal level, the bipartisan American Manufacturing and Innovation Act was signed into law in late 2020, directing the US Environmental Protection Agency to adopt federal phase-down schedules.

Coupled with efficiency opportunities in refrigeration and cooling, phasing down the use of HFCs and replacing them with gases with lower heat-trapping power delivers significant climate and energy efficiency benefits. Refrigerant servicing companies will transition from using HFCs to using non-HFC alternatives and will receive training and instruction from the manufacturers. Impacts to businesses with equipment using HFCs will be minimal because retrofits will occur at the same time as normal servicing or other repairs.

For most consumers or small business owners the change will be negligible because new non-HFC alternatives will be required to utilize the HFC alternative, but for example, a homeowner purchasing a refrigerator or a restaurant replacing a compressor will only be required to utilize a product that does not contain HFCs when they purchase new equipment. With most manufacturers already making this transition, the burden for consumers and industry will be minimized. Importantly, state and federal phase-down requirements will ensure that new uses for HFCs are not generated and that the market transitions as quickly as possible.

HFCs are a very powerful climate pollutant, and LD 226 is an effective strategy to phase them down by limiting their use where safer alternatives are available. On behalf of the Governor's Office and the Maine Climate Council, I urge you to support the bill. Thank you for your consideration of LD 226.



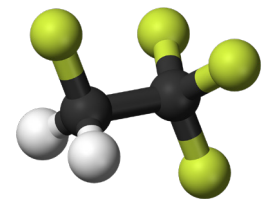
Hydrofluorocarbons (HFCs): Climate Super-Pollutants

What are HFCs?

Hydrofluorocarbons (HFCs) are a climate “super-pollutant”: greenhouse gases with hundreds to thousands of times the heat-trapping power of carbon dioxide (CO₂). HFCs are synthetic gases used in air conditioning systems, aerosol propellants, foam blowing agents, solvents, and flame retardants. These gases were first developed as alternatives to ozone-depleting chemicals, but after their rollout it was learned that their release to the atmosphere during manufacturing processes and leakage during use, servicing, and retirement/replacement of equipment poses a grave threat to our climate.

The Problem

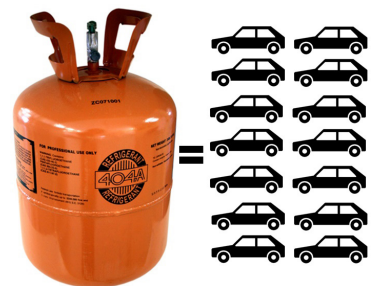
- When we say that HFCs can have 1,000 times the “global warming potential” of CO₂, it means that one pound of some kinds of HFCs can have the same heat-trapping power as 1,000 pounds of CO₂
- HFCs are the fastest growing source of greenhouse gas emissions both nationally and globally and could double within 20 years if left unchecked
- The climate forcing of HFCs in the atmosphere could lead to up to 0.9°F (0.5°C) of additional warming globally by 2100 on top of warming caused by other greenhouse gases



HFC-134a, a commonly used HFC gas. One pound of HFC-134a has heat-trapping potential equivalent to more than 1,500 pounds of CO₂. LD 226 as amended would prohibit the use of this climate super pollutant in most applications.

LD 226: Reducing HFCs to Fight Climate Change

- LD 226 will reduce the use of high-global warming potential HFCs in Maine by replacing them with climate-friendly alternatives where available
- The 2019 version of this bill, LD 2112, was amended by the Committee and unanimously voted ought to pass. This year’s amendment brings LD 226 into alignment with the amended version of last year’s bill with a few updates
- Sets a reasonable and orderly timetable for the transition to climate-friendly alternatives beginning in 2022
- Primary end-uses affected are air conditioning, refrigeration, foams, and aerosol propellants



one tank R-404A = annual fuel for 14 cars

Economic Impacts

- As amended, LD 226 will align Maine with rules being developed by other US Climate Alliance states, creating consistency for manufacturers and businesses
- The bipartisan American Manufacturing and Innovation Act was signed into law in late 2020, directing the US Environmental Protection Agency to phase down HFCs
- HFC phase-downs and replacements with US technology are predicted to produce 33,000 new jobs in the US and \$12.5 billion in positive economic impacts

HFC R-404A, a common refrigerant, has a global warming potential of 3,900, or nearly 4,000 times that of CO₂. The warming potential from the release of one 30-lb. tank of R-404A is equivalent to driving more than 14 additional cars each year. LD 226 would prohibit the use of this climate super-pollutant in all but spacecraft uses (Image modified from California Air Resources Board.)

Read the text of the LD 226, An Act To Limit the Use of Hydrofluorocarbons to Fight Climate Change, as amended [here \(link\)](#) or on the Committee On Environment and Natural Resources webpage.

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Hydrofluorocarbons (HFCs): Climate Super-Pollutants

LD 226 Timeline for End Use Prohibitions

Date	End Use (see legislation for HFCs prohibited by end use)
January 1, 2022	Aerosol propellants in new products New compact household refrigerators and freezers New household refrigerators and freezers New and retrofitted supermarket systems New and retrofitted remote condensing units Retrofitted stand-alone units New low- and medium-temperature units New refrigerated food processing and dispensing equipment New and retrofitted vending machines New rigid polyurethane and polyisocyanurate laminated boardstock New flexible polyurethane New integral skin polyurethane New polystyrene extruded sheet New phenolic insulation board and new phenolic insulation bunstock New rigid polyurethane slabstock and other new rigid polyurethane New rigid polyurethane appliance foam New rigid polyurethane in commercial refrigeration and new rigid polyurethane sandwich panels New polyolefin New rigid polyurethane marine floatation foam New polystyrene extruded boardstock and billet New rigid polyurethane low- and high-pressure 2-component spray foam New rigid polyurethane one-component foam sealants
January 1, 2023	New cold storage warehouses New built-in household refrigerators and freezers
January 1, 2024	New centrifugal chillers New positive displacement chillers
January 1, 2025	New foams, excluding rigid polyurethane one-component foam sealants, when used in space-related and aeronautics-related applications New rigid polyurethane high-pressure 2-component spray foams and new rigid polyurethane low-pressure 2-component spray foams, when used in military or space-related and aeronautics-related applications

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