

# SENATE BILL REPORT

## E2SHB 1050

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As of March 16, 2021

**Title:** An act relating to reducing greenhouse gas emissions from fluorinated gases.

**Brief Description:** Reducing greenhouse gas emissions from fluorinated gases.

**Sponsors:** House Committee on Appropriations (originally sponsored by Representatives Fitzgibbon, Ortiz-Self, Leavitt, Duerr, Chopp, Ramel, Peterson, Goodman, Ryu, Callan, Ramos, Ormsby, Pollet, Stonier, Fey, Macri and Bergquist).

**Brief History:** Passed House: 2/23/21, 56-40.

**Committee Activity:** Environment, Energy & Technology: 3/16/21.

### Brief Summary of Bill

- Authorizes the Department of Ecology (Ecology) to establish a maximum global warming potential (GWP) threshold for ozone depleting substance (ODS) substitutes used in new stationary air conditioning and stationary refrigeration, and directs Ecology to establish a GWP threshold for new ice rinks.
- Directs Ecology to establish a refrigerant management program to address refrigerant emissions from large air conditioning and refrigeration systems.
- Establishes other measures to reduce greenhouse gas emissions from ODS substitutes.

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### SENATE COMMITTEE ON ENVIRONMENT, ENERGY & TECHNOLOGY

**Staff:** Gregory Vogel (786-7413)

**Background:** Ozone-Depleting Substances and Hydrofluorocarbons. Hydrofluorocarbons (HFCs) are a category of gases used primarily as refrigerants in a variety of commercial and

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*This analysis was prepared by non-partisan legislative staff for the use of legislative members in their deliberations. This analysis is not part of the legislation nor does it constitute a statement of legislative intent.*

industrial applications. HFCs are among the greenhouse gases (GHGs) identified by the United States Environmental Protection Agency (EPA) and the Department of Ecology (Ecology) as a result of their capacity to trap heat in the Earth's atmosphere. According to the EPA, the global warming potential (GWP) of HFCs and other GHGs is measured as a function of how much of the gas is concentrated in the atmosphere, how long the gas stays in the atmosphere, and how strongly the particular gas affects global atmospheric temperatures. The GWP of GHGs are measured in terms of their equivalence to the emission of an identical volume of carbon dioxide over a 100-year timeframe—carbon dioxide equivalent or CO<sub>2</sub>e. In rules adopted by Ecology for measuring GHG emissions, the GWP of HFCs ranges from 12 to 14,800.

In 1987, the United States and other members of the United Nations committed, in an agreement known as the Montreal Protocol, to phase out the use of certain ozone-depleting substances (ODSs). The United States Congress subsequently amended the federal Clean Air Act in 1990 to provide authority to the EPA to restrict the use of ODSs and to require manufacturers to use HFCs or other non-ODS substitutes.

In 1994, the EPA promulgated regulations authorizing the use of certain HFCs as a substitute for ODSs in specified products. However, in 2015 the EPA promulgated new regulations that entirely prohibited certain HFCs and other ODS substitutes or restricted their use to specified circumstances. Products and uses covered by the HFC restrictions in the EPA's 2015 regulations include aerosol propellants, motor vehicle air conditioning systems, retail food refrigeration and vending machines, and foams. In August 2017, the District of Columbia Circuit Court of Appeals vacated the portion of the EPA's 2015 regulations that applied to HFCs on the basis that the EPA had exceeded the federal statutory authority granted to it in 1990 to regulate substitutes of ODSs.

In addition to federal Clean Air Act restrictions, since 1991, the state Clean Air Act has also restricted ODSs in a number of ways:

- persons that repair or dispose of certain equipment containing ODS refrigerants must use refrigerant extraction equipment to recover unused refrigerants that would otherwise be released into the atmosphere; this restriction does not apply to off-road commercial equipment;
- it is prohibited to willfully release ODS refrigerants from industrial, commercial, or motor vehicle air conditioning, commercial or industrial heating or refrigeration systems, and consumer appliances;
- it is prohibited to sell or purchase ODS refrigerants in containers designed for consumer recharge of motor vehicle air conditioning systems or consumer appliances, except the restriction does not apply to ODS refrigerants purchased for off-road commercial or agricultural equipment; and
- if alternatives are available, it is prohibited to sell or purchase nonessential consumer products, such as party streamers, tire inflators, air horns, noise makers, and cleaning sprays, that contain ODSs.

In December 2020, the United States Congress enacted the American Innovation and Manufacturing Act of 2020 (AIM Act) establishing federal restrictions on HFCs. The AIM Act establishes a phase-down of the production and consumption of HFCs in the United States to 15 percent of baseline levels by 2036. To produce or consume regulated HFCs, persons must hold tradeable allowances that are to be assigned in an allocation process specified under EPA regulations to be finalized in 2021.

The AIM Act also authorizes the EPA to establish rules to restrict the use of HFCs in specific sectors or subsectors. States are preempted for five years under the AIM Act from regulating the use of HFCs in metered-dose inhalers, defense sprays, certain polyurethane foams for marine and trailer uses, certain semiconductor manufacturing, mission-critical military uses, and in onboard aerospace fire suppression.

Restrictions in State Law on Hydrofluorocarbons and other Ozone-Depleting Substance Substitutes. In 2019, the Legislature enacted restrictions in state law applicable to the HFC and ODS substitutes specified in the court-vacated 2015 EPA regulations, with the exception of restrictions in the EPA regulations on motor vehicle air conditioning. Under this law, persons may not sell, install, offer for lease, rent, or otherwise cause restricted equipment or products to enter commerce in Washington. The following effective dates between 2020 and 2024 were established for each of the types of products covered by the court-vacated EPA regulations:

- January 1, 2020—propellants, foam blowing agents such as polyurethane or spray foam, and supermarket systems, stand-alone systems, remote condensing units, and vending machines;
- January 1, 2021—refrigerated food processing and dispensing equipment, compact residential consumer refrigeration products, polystyrene extruded boardstock and billet, and rigid polyurethane low-pressure two-component spray foam;
- January 1, 2022—residential consumer refrigeration products, except compact and built-in residential consumer refrigeration products;
- January 1, 2023—built-in consumer refrigeration products and cold storage warehouses; and
- January 1, 2024—centrifugal chillers and positive displacement chillers.

For any restricted uses covered in the 2015 EPA regulation but not covered by the above list, the effective date of the restrictions is January 1, 2020, or the effective date of the EPA regulation, whichever comes later. The restrictions do not apply to products manufactured prior to the effective date of a restriction, except when products or equipment are retrofitted from using one refrigerant to another, the product or equipment may not use a restricted HFC. Manufacturers of products that contain or use ODS substitutes must disclose the use of the ODS substitutes in the form of:

- a label on the product or equipment that meets requirements established by Ecology by rule, and Ecology must recognize existing labeling requirements to the extent feasible, must consider labeling requirements of other state building codes and other safety standards, and may not require labeling of aircraft or aircraft components; and

- submitting information to Ecology about the use of ODS substitutes by December 2019, within 120 days of a restriction taking effect, and within 120 days of new products or equipment being introduced that are a product class that use HFCs.

In 2020, Ecology finalized adoption of rules to implement the 2019 legislation. In the 2020 HFC rule, Ecology modified the effective date of restrictions on HFCs in vending machines that had been established in the 2019 legislation.

Under the 2019 legislation, Ecology was also directed to complete a study and submit a report to the Legislature on HFCs, including recommendations for eliminating legacy uses of HFCs subject to the new restrictions in state law and of HFCs that are not subject to the new restrictions in state law.

**Summary of Bill:** Establishing Maximum Global Warming Potential for Refrigerant Substitutes. Ecology is given authority or direction to adopt the following restrictions on ODS substitutes in specific end-uses:

- Ecology must prohibit the use in ice rinks of ODS substitutes that have a global warming potential (GWP) of greater than 750 in new equipment manufactured beginning January 1, 2022;
- Ecology may prohibit use of ODS substitutes that have a GWP of greater than 150 in stationary refrigeration equipment manufactured beginning January 1, 2025, but only if the State Building Code Council (SBCC) adopts three specified engineering standards into state building codes by January 1, 2023.
  1. If the SBCC adopts the three specified engineering standards into state building codes after January 1, 2023, the restrictions on stationary refrigeration equipment may begin no earlier than 24 months after the adoption of the standards;and
- Ecology may prohibit use of ODS substitutes with a GWP of greater than 750 in new stationary air conditioning equipment.
  1. These standards may apply beginning January 1, 2023, for room air conditioners and dehumidifiers, and January 1, 2026, for systems with variable refrigerant flow or volume.
  2. For other types of stationary air conditioning equipment, restrictions may apply beginning January 1, 2025, but only if the SBCC adopts four specified engineering standards into state building codes before January 1, 2023.
  3. If the SBCC adopts the four specified engineering standards into state building codes after January 1, 2023, the restrictions on stationary air conditioning equipment may begin no earlier than 24 months after the adoption of the standards.

When adopting rules to establish new restrictions on ODS substitutes in specific end-uses, Ecology may establish reporting, labeling, and recordkeeping requirements, as well as rules to grant variances from restrictions. To the extent practicable, rules must be harmonized with similar requirements established by Ecology for a refrigerant management program

and must be consistent with similar programs adopted in other states. Ecology must review the availability of equipment and appropriate training prior to adopting rules that establish GWP thresholds applicable to stationary air conditioning and refrigeration systems.

Refrigerant Management Program. Ecology is directed to adopt rules to establish a refrigerant management program (RMP) to reduce emissions of refrigerants, including ODSs and ODS substitutes, from activities and equipment responsible for significant emission volumes. The program must include larger stationary refrigeration systems and larger commercial air conditioning systems. Ecology must submit a report to the Legislature providing data on refrigerant leakage from existing stationary refrigeration and air-conditioning systems regulated under RMP rules. Ecology may not require compliance with RMP requirements prior to January 1, 2024, or prior to the adjournment of the legislative session following the report to the Legislature estimating refrigerant leakage.

When establishing the RMP, Ecology must:

- exempt equipment operations associated with de minimis emissions, or that have a de minimis charging capacity less than 50 pounds at a single facility, from registration, reporting, and leak detection requirements;
- exempt all non-ODS refrigerants with a GWP less than 150;
- require registration of stationary refrigeration and air conditioning systems larger than de minimis thresholds;
- phase in program registration requirements to prioritize systems with large charge capacities or emission potential;
- require refrigeration and air conditioning system owners or operators to conduct periodic leak-detection inspections and to inspect for leaks each time significant refrigerant amounts are added to the system;
- require leaking refrigeration or air conditioning systems to be repaired within specified amounts of time;
- require retrofit, replacement, or retirement of leaking systems incapable of repair;
- establish annual reporting requirements and record retention requirements; and
- apply leak rates and regulatory thresholds that achieve greater emission reductions than federal regulations and that reflect levels of achievable superior performance.

When establishing the program, Ecology may:

- scale program requirements based on equipment, facility, or operator size;
- establish delayed effective dates for persons and systems with lower refrigerant emissions;
- require leak-detection inspections to occur more frequently for larger refrigeration and air conditioning systems;
- exempt refrigeration systems with low-GWP refrigerants, or with automatic leak detection systems, from leak detection inspection requirements;
- establish service practices for refrigeration and air conditioning systems; and
- establish exemption application processes that authorize Ecology to grant exemptions on the basis of economic hardship, natural disaster, or after considering lifecycle

greenhouse gas (GHG) emissions associated with unrepaired leaks.

Owners or operators of refrigeration and air conditioning systems in the RMP must provide leak rate documentation to prospective purchasers of the system.

Ecology may collect annual fees from air conditioning and refrigeration system operators regulated in the RMP. A refrigerant emission management account (account) is created for the deposit of fees imposed under the RMP.

Changes to 2019 Hydrofluorocarbon Legislation. The following changes are made to statutory restrictions on HFCs in certain specified uses covered by legislation enacted in 2019:

- the statutory effective date of restrictions on high-GWP HFCs for use in vending machines is delayed until January 1, 2022, in alignment with Ecology rules adopted to implement the 2019 legislation;
- Ecology is no longer required to propose a draft rule to conform with any EPA approval of certain previously prohibited HFC blends for foam blowing and spray foam; and
- the disclosure requirements for restricted HFCs are modified to allow for the labeling disclosure of the compliance status of regulated products or equipment, instead of requiring a label that discloses the specific HFCs used in the product, and Ecology may also require alternative disclosure requirements if the inclusion of a label denoting the use of a specific HFC or the compliance status of the product is not feasible.

Application to Refrigerant Substitutes of Clean Air Act Provisions Addressing Ozone-Depleting Substances. The following provisions of the state Clean Air Act that currently apply to ODSs are also applied to ODS substitutes:

- the requirement that repair or disposal services of refrigeration equipment use refrigerant extraction equipment to recover unused refrigerants; this requirement is also newly applied to off-road commercial equipment for both ODSs and ODS substitutes;
- the requirement that Ecology provide assistance and information to persons interested in collecting, transporting, or recycling refrigerants;
- the prohibition on the willful release of refrigerants from air conditioning, heating, and refrigeration systems, and consumer appliances;
- the prohibition on non-essential consumer products containing ODSs is extended to HFCs with a GWP greater than 150;
- the prohibition on the sale of regulated refrigerants in containers designed for self-charge of a motor vehicle air conditioning system or consumer appliance is extended to ODS substitute refrigerants with a GWP greater than 150 and is also expanded to apply to off-road commercial and agricultural equipment for both ODS and ODS substitutes; and
- the scope of Ecology rulemaking authority applicable to the above requirements is



expanded to address ODS substitutes in addition to ODSs, and must include procedures under which regulated owners or operators of stationary refrigeration equipment and air conditioning equipment must provide Ecology with information related to their use of refrigerants.

Ecology is no longer prohibited, in enforcing refrigerant restrictions, from imposing penalties or fines in areas where equipment to collect or recycle refrigerants is not easily available.

Other Provisions Addressing Hydrofluorocarbons and Refrigerant Emissions. When assessing the energy conservation electric utilities must pursue under the 2006 Energy Independence Act, in addition to existing requirements to use the social cost of carbon as a cost-adder, qualifying utilities are encouraged to promote adoption of air conditioning systems with refrigerants not exceeding a GWP of 750 and to replace stationary refrigeration systems that contain ODSs or HFCs with a high GWP.

In the Department of Commerce (Commerce) September 2025 report to the Legislature related to the implementation of the State Energy Performance Standard Early Adoption Incentive Program, Commerce must include recommendations for aligning the incentive program with a goal of reducing GHG emissions from ODS substitutes.

The Department of Enterprise Services must establish a purchasing and procurement policy that provides a preference, in serving existing equipment, for reclaimed refrigerants that meet minimum quality standards established by the EPA.

SBCC must adopt rules that allow use of substitutes with lower GWPs than alternative substances to the maximum extent practicable, after soliciting stakeholder input on building occupant safety and reviewing applicable provisions of the fire code or best practices to reduce fire risk. SBCC may not prohibit use of a substitute allowed under EPA's program that reviews and approves substitutes for ODSs. SBCC may adopt rules that allow use of substitutes under consideration, but not yet approved by the EPA. SBCC rules that affect the design or installation of refrigeration or air conditioning systems must be consistent with a goal of minimizing system leakage of refrigerants. SBCC must solicit input from affected parties prior to adopting rules addressing substitutes, refrigerants, and refrigeration systems or air conditioning systems.

By December 1, 2021, Ecology must provide recommendations to the Legislature for the design of a program to address end-of-life management and disposal of refrigerants. Ecology must review actions taken by other jurisdictions and solicit feedback from potentially impacted parties and the public when developing the recommendations. The recommendations must include specific design considerations regarding:

- the legal and financial obligations applicable to refrigerant manufacturers, importers, distributors, and retailers, and for owners, operators, and service technicians of refrigerant-using equipment;

- a funding mechanism for the program that will provide a financial incentive for recovery of refrigerants; and
- performance goals and operational standards for program activities.

Violations of restrictions on refrigerants are subject to penalties authorized under the Clean Air Act, and must be deposited in the account. When enforcing requirements on ODS substitutes and refrigerants, Ecology must adhere to existing provisions applicable to Ecology's enforcement of environmental laws that relate to site inspections, technical assistance visits, notices of correction, and issuance of civil penalties. Ecology may elect to cease or refrain from implementing ODS substitute or refrigerant program requirements if preempted by EPA requirements, or if the EPA adopts requirements substantially duplicative of a state ODS substitute or refrigerant requirements and that negate the additional emission-reduction benefits of any state ODS substitute or refrigerant requirements.

If any provisions of the act or its application to any person or circumstance is held invalid, the remainder of the act or the application of the provision to other persons or circumstances is not affected.

**Appropriation:** The bill contains a null and void clause requiring specific funding be provided in an omnibus appropriation act.

**Fiscal Note:** Available.

**Creates Committee/Commission/Task Force that includes Legislative members:** No.

**Effective Date:** The bill contains several effective dates. Please refer to the bill.

**Staff Summary of Public Testimony:** PRO: This bill is the next step in Washington's progress toward phasing down HFCs to lower GWP substitutes. HFCs are among the most powerful GHGs known to man, which is why they are effective refrigerants for A/C and refrigeration, but this also means when they escape in the atmosphere, they are 10 to 12,000 more times powerful than CO<sub>2</sub>. About 4 million metrics tons of annual GHG emissions come from HFCs.

HFC regulation is one of the quickest most cost effective methods to reduce GHGs. We also know cutting CO<sub>2</sub> emissions is not enough to mitigate global warming. The 2019 laws took an important step toward switching to safer alternatives for the environment. There are great alternatives that have been developed and there is an arms race going on for who can manufacture the least climate harmful refrigerants possible. We are confident in the trajectory of industry and the state to achieve these standards.

The bill will help to establish U.S. and state leadership in phasing down these super pollutants and this is an industry backed proposal. The industry has examined the costs of



switching to climate friendly refrigerants and found the costs were low.

There has also been significant investment in the development of HFC alternatives. American industry as a whole has invested more than a billion dollars to research, develop, and implement solutions to high-GWP HFCs. The bill provides regulatory certainty for manufacturers and operators and supports the significant investment in preferable alternatives to high-GWP HFCs.

There is amendment language being prepared to improve the provisions of the bill relating to building code adoption of standards to allow for substitutes with lower-GWP.

OTHER: We are supportive of some amendments to apply the de minimis exemption to each system and require Ecology recordkeeping requirements to be similar to federal requirements once they are implemented. We still believe the management program is not necessary as operators are already doing a lot of the requirements in the bill. As operators upgrade to new systems, the purpose of the program may be rendered obsolete.

It is hard to be supportive of a program that adds costs, but we appreciate the willingness by the sponsor to work on implementing this with contractors through compliance assistance, rather than penalties, and ensuring the implementation dates allow time for available equipment and training for use of the equipment.

**Persons Testifying:** PRO: Representative Joe Fitzgibbon, Prime Sponsor; Kathy Taylor, Department of Ecology; Kristen Taddonio, Institute for Governance and Sustainable Development; Kate White Tudor, Natural Resources Defense Council; Jessica Olson, Honeywell; Schuyler Pulleyn, The Chemours Company; Helen Walter-Terrinoni, The Air-Conditioning, Heating, and Refrigeration Institute; Andrew Klein, A S Klein Engineering, PLLC.

OTHER: Catherine Holm, Washington Food Industry Association; Carolyn Logue, Washington Air Conditioning Contractors Association.

**Persons Signed In To Testify But Not Testifying:** No one.