



**COLORADO**  
Department of Public  
Health & Environment



April 13<sup>th</sup>, 2021

Administrator Michael S. Regan  
U.S. Environmental Protection Agency  
1301 Constitution Avenue NW  
Washington, DC 20004

CC: Cindy Newberg, Director, Stratospheric Protection Division

Petition to Reinstate HFC Prohibitions from SNAP Rules 20 & 21 Under the AIM Act

Dear Administrator Regan:

The Natural Resources Defense Council, the Colorado Department of Public Health & Environment, and the Institute for Governance & Sustainable Development respectfully request that the U.S. Environmental Protection Agency (EPA) prohibit use of the specific hydrofluorocarbons (HFCs) in the particular applications that whose status was deemed 'unacceptable' under the Significant New Alternatives Policy (SNAP) Program in 2015 and 2016 (SNAP Rules 20 and 21). We submit this petition under the newly-enacted American Innovation and Manufacturing Act of 2020 (the AIM Act) and request EPA's prompt action on it according to that statute's provisions.

The AIM Act is transformative piece of bipartisan legislation supported by environmentalists, industry, and U.S. Climate Alliance states alike that sets forth an economy-wide phasedown of HFCs by 85% over the next 15 years. The AIM Act also provides EPA with expansive authority to set additional requirements to reduce HFC use and emissions. One such provision authorizes EPA to promulgate end-use application prohibitions on certain HFCs. Subsection (i) of the AIM Act, called Technology Transitions, provides that EPA "*may by rule restrict, fully, partially, or on a graduated schedule, the use of a regulated substance in the sector or subsector in which the regulated substance is used.*" The AIM Act also invites third-party petitions to EPA in a variety of areas. Subsection (i) goes on to enumerate that "*a person may petition the Administrator to promulgate a rule under paragraph (1) for the restriction on use of a regulated substance in a sector or subsector....*" This petition is filed pursuant to that section.

We request EPA's timely action to reinstate the 2015 and 2016 requirements. HFCs are contributing significantly to the climate harms that we are already experiencing today and that will

worsen in the future. In 2019, the U.S emitted HFCs equivalent to more than 170 million metric tons of carbon dioxide – equal to the yearly greenhouse gas emissions from 44 coal-fired powerplants or 37 million cars. The AIM Act requires EPA to issue allocation and phase-down regulations within 270 days of enactment reducing the production and consumption (net imports plus new production, less any destruction) of HFCs on the law’s step-down schedule. Restoring the common-sense HFC prohibitions we seek in this petition will help reduce HFC market demand to stay in step with the declining supply of virgin HFCs, smoothing the transition into compliance without market disruption, creating new jobs and business opportunities in commercializing superior technology, and winning quick environmental benefits.

The prohibitions included in SNAP Rules 20 and 21 are based on EPA rulemakings in 2014-2016. In the intervening half-decade, many newer, climate-friendlier alternatives have been introduced or seen their market shares increase. We look forward to working with EPA as it takes quick action on this petition.

## **Background**

HFCs – manufactured chemicals used as replacements to ozone-depleting substances (ODSs) in a variety of applications – have high global warming potential (GWP). Pound for pound, the most common HFC, HFC-134a, warms the climate 1,300 times more than carbon dioxide.

EPA first proposed to prohibit certain HFC uses under the SNAP program in 2014. The SNAP program uses a comparative risk framework to evaluate alternatives to ODSs. In SNAP Rules 20 and 21, EPA prohibited the specified HFC applications on the grounds that newer, lower-risk alternatives had been EPA-approved and had been or were expected to be introduced into the market, making the high-GWP incumbent HFCs no longer the least-risk alternative to ODS use in those sectors.

The HFC prohibitions in these rules were a key part of EPA’s planning for compliance with the Kigali Amendment to the Montreal Protocol, the global pact to phase down HFCs. Under the Obama administration, the U.S. played a key role championing that agreement. The U.S. signed the Kigali Amendment in 2016 but has not yet formally ratified it. In January President Biden instructed the State Department to prepare a ratification package for submission to the Senate for advice and consent.

In 2017, the U.S. Court of Appeals for the D.C. Circuit partially vacated EPA SNAP Rules 20 and 21. The court upheld EPA’s determination that specified HFC uses should be deemed unacceptable on the grounds that better alternatives had been introduced, but, reading EPA’s authority under Clean Air Act Section 612 narrowly, held that EPA could not require users who had already adopted those HFCs to change substances again. In a subsequent case, the D.C. Circuit vacated EPA’s hasty-issued guidance providing that it would not “apply” any of the HFC prohibitions, even those that the previous court decision had approved.

In the years following the 2017 court decision, more than a dozen U.S. states, coordinating through the U.S. Climate Alliance, adopted or proposed to adopt those regulations on a statewide basis. California acted first, backstopping a large portion of SNAP Rules 20 and 21 in

March 2018. Eight other states adopted similar legislation or final rules: Washington, Vermont, New Jersey, Colorado, Maryland, Delaware, Massachusetts, New York, and Virginia. Taking these state rules together, some 40% of the U.S. population and 50% of U.S. GDP is covered by a state SNAP regulation.

With the enactment of the AIM Act, it is appropriate to restore these common-sense regulations at the federal level.

### **Prohibitions Requested**

We request that EPA use its AIM Act subsection (i) authority to reinstate the HFC prohibitions contained within SNAP Rules 20 and 21. SNAP Rule 20 prohibited various high-GWP HFCs from use in aerosol propellant and foam applications, motor vehicle air conditioning, new and retrofit retail food applications, and vending machines. SNAP Rule 21 prohibited certain HFCs from building chillers, cold storage warehouses, refrigerated food processing and dispensing equipment, home refrigerators and freezers, and foam blowing. The detailed, unabridged list of prohibitions we request may be found in Annex A.

We request that EPA enter these prohibitions into force according to the following timeline. For all HFC uses that SNAP Rules 20 and 21 prohibited prior to January 1, 2023, we request a prohibition date of January 1, 2023, at the latest. While earlier is certainly technologically and economically feasible – again, roughly half the country is already complying or set to start complying soon – and we would support EPA requiring compliance with these measures sooner, we recognize that EPA has several timeline constraints that make January 1, 2023, a reasonable start date for its first tranche of new federal requirements if a faster timeline is not feasible.

For those requirements in SNAP Rules 20 and 21 that were set to enter force on or after January 1, 2023, we request EPA retain the same effective dates. These requirements apply to HFCs used in cold storage warehouses, building chillers, several space and aeronautical applications of foams, and vehicles exported to a limited number of countries with insufficient ability to service with alternative refrigerants. We see no reason to modify those compliance dates at this time.

We also request that EPA prohibit these HFC uses to at least the same degree as it had previously by establishing prohibitions based on the same definitions used in the SNAP program. Under SNAP, the term ‘use’ – the act that, in these cases, is to be prohibited – *“means any use of a substitute for a Class I or Class II ozone-depleting compound, including but not limited to use in a manufacturing process or product, in consumption by the end-user, or in intermediate uses, such as formulation or packaging for other subsequent uses.”* (40 CFR § 82.172) This definition continues to be appropriate and, at the very least, should not be weakened.

### **Benefits**

EPA projected SNAP Rules 20 and 21 would yield significant environmental benefits. Under those regulations, U.S. HFC emissions were set to fall by 67 million metric tons of carbon dioxide equivalent in 2025 and 103 million metric tons in 2030, equivalent to taking 27 coal plants offline or 22 million cars off the road by the end of this decade.

As EPA found in 2015 and 2016, substitutes to meet the needs of the end-uses for which we propose limitations are readily available and technologically achievable. Indeed, with the passage of time there are more alternatives available now than were known in 2015 and 2016. The SNAP program has approved several climate-friendlier alternatives for each of these applications and there is significant market penetration in all cases. In fact, every HFC prohibition that we request in this petition is already law in at least one state, except for the bans affecting non-compact refrigerators and freezers, cold storage warehouses, and building chillers, which are forthcoming.

As EPA found in 2015 and 2016, compliance with the requested HFC prohibitions is expected cost little. Major portions of the industry, as noted, have already transitioned. When the rules were originally promulgated, EPA's small business screening analysis showed no significant economic impact on a substantial number of small entities.

### **Other considerations**

The AIM Act, in section (i)(3)(A), calls on all petitioners to include in their petitions a request that EPA conduct a negotiated rulemaking before proposing regulations responsive to that petition. We thus duly request that EPA do so, but we note that EPA must, under section (i)(2)(A), make its own determination whether a negotiated rulemaking is appropriate. Given the extensive stakeholder involvement that has already occurred at both the federal and state levels, we would support EPA's conclusion that negotiated rulemaking would not be appropriate or efficient in this instance.

We look forward to working with EPA as it considers this petition. Please let us know what additional information or clarifications that may be needed.

Sincerely,

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Annex A

<b>HFC Uses Petitioned for Prohibition</b>		
<b>End-use</b>	<b>Substance</b>	<b>Effective Date</b>
<b>Aerosol Products</b>		
Propellants	HFC-125, HFC-134a, HFC-227ea and blends of HFC-227ea and HFC-134a	January 1, 2023*
<b>Foam Blowing Agents</b>		
Rigid Polyurethane (PU) and Polyisocyanurate Laminated Boardstock	HFC-134a, HFC-245fa, HFC-365mfc and blends thereof	January 1, 2023*
Rigid Polyurethane Slabstock and Other	HFC-134a, HFC-245fa, HFC-365mfc and blends thereof; Formacel TI, and Formacel Z-6	January 1, 2023*
Rigid Polyurethane Appliance Foam	HFC-134a, HFC-245fa, HFC-365mfc and blends thereof; Formacel TI, and Formacel Z-6	January 1, 2023*
Rigid Polyurethane Commercial Refrigeration and Sandwich Panels	HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof; Formacel TI, and Formacel Z-6	January 1, 2023*
Rigid Polyurethane Marine Flotation Foam	HFC-134a, HFC-245fa, HFC-365mfc and blends thereof; Formacel TI, and Formacel Z-6	January 1, 2023*
Rigid PU high-pressure two-component spray foam	HFC-134a, HFC-245fa, and blends thereof; blends of HFC-365mfc with at least four percent HFC-245fa, and commercial blends of HFC-365mfc with 7 to 13 percent HFC-227ea and the remainder HFC-365mfc; and Formacel TI	January 1, 2023* (January 1, 2025 for military or space- and aeronautics-related applications)

Rigid PU one-component foam sealants	HFC-134a, HFC-245fa, and blends thereof; blends of HFC-365mfc with at least four percent HFC-245fa, and commercial blends of HFC-365mfc with 7 to 13 percent HFC-227ea and the remainder HFC-365mfc; and Formacel TI	January 1, 2023*
Flexible Polyurethane	HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof	January 1, 2023*
Integral Skin Polyurethane	HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof; Formacel TI, and Formacel Z-6	January 1, 2023*
Flexible PU foam	Methylene chloride	January 1, 2023*
Polystyrene Extruded Sheet	HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof; Formacel TI, and Formacel Z-6	January 1, 2023*
Polystyrene Extruded Boardstock and Billet (XPS)	HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof; Formacel TI, Formacel B, and Formacel Z-6	January 1, 2023*
Polyolefin	HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof; Formacel TI, Formacel Z-6	January 1, 2023*
Phenolic Insulation Board and Bunstock	HFC-143a, HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof	January 1, 2023*

Rigid PU low-pressure two-component spray foam	HFC-134a, HFC-245fa, and blends thereof; blends of HFC-365mfc with at least four percent HFC-245fa, and commercial blends of HFC-365mfc with 7 to 13 percent HFC-227ea and the remainder HFC-365mfc; and Formacel TI	January 1, 2023* (January 1, 2025 for military or space- and aeronautics-related applications)
<b>Food Refrigeration Equipment</b>		
Supermarket Systems (New)	HFC-227ea, R-404A, R-407B, R-421B, R-422A, R-422C, R-422D, R-428A, R-434A, R-507A	January 1, 2023*
Supermarket Systems (Retrofit)	R-404A, R-407B, R-421B, R-422A, R-422C, R-422D, R-428A, R-434A, R-507A	January 1, 2023*
Remote Condensing Units (New)	HFC-227ea, R-404A, R-407B, R-421B, R-422A, R-422C, R-422D, R-428A, R-434A, R-507A	January 1, 2023*
Remote Condensing Units (Retrofit)	R-404A, R-407B, R-421B, R-422A, R-422C, R-422D, R-428A, R-434A, R-507A	January 1, 2023*
Stand-Alone Units (Retrofit)	R-404A, R-507A	January 1, 2023*
Stand-Alone Medium-Temperature Units with a compressor capacity <u>below</u> 2,200 Btu/hour and not containing a flooded evaporator (New)	FOR12A, FOR12B, HFC-134a, HFC-227ea, KDD6, R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407A, R-407B, R-407C, R-407F, R-410A, R-410B, R-417A, R-421A, R-421B, R-422A, R-422B, R-422C, R-422D, R-424A, R-426A, R-428A, R-434A, R-437A, R-438A, R-507A, RS-24 (2002 formulation), RS-44 (2003 formulation), SP34E, THR-03	January 1, 2023*

<p>Stand-Alone Medium-Temperature Units with a compressor capacity <u>equal to or greater than</u> 2,200 Btu/hour and Stand-Alone Medium-Temperature Units containing a flooded evaporator (New)</p>	<p>FOR12A, FOR12B, HFC-134a, HFC-227ea, KDD6, R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407A, R-407B, R-407C, R-407F, R-410A, R-410B, R-417A, R-421A, R-421B, R-422A, R-422B, R-422C, R-422D, R-424A, R-426A, R-428A, R-434A, R-437A, R-438A, R-507A, RS-24 (2002 formulation), RS-44 (2003 formulation), SP34E, THR-03</p>	<p>January 1, 2023*</p>
<p>Stand-Alone Low-Temperature Units (New)</p>	<p>HFC-227ea, KDD6, R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407A, R-407B, R-407C, R-407F, R-410A, R-410B, R-417A, R-421A, R-421B, R-422A, R-422B, R-422C, R-422D, R-424A, R-428A, R-434A, R-437A, R-438A, R-507A, RS-44 (2003 formulation)</p>	<p>January 1, 2023*</p>
<p>Vending Machines (New)</p>	<p>FOR12A, FOR12B, HFC-134a, KDD6, R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407C, R-410A, R-410B, R-417A, R-421A, R-422B, R-422C, R-422D, R-426A, R-437A, R-438A, R-507A, RS-24 (2002 formulation), SP34E</p>	<p>January 1, 2023*</p>
<p>Vending Machines (Retrofit)</p>	<p>R-404A, R-507A</p>	<p>January 1, 2023*</p>

Retail food refrigeration – refrigerated food processing and dispensing equipment (new)	HFC-227ea, KDD6, R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407A, R-407B, R-407C, R-407F, R-410A, R-410B, R-417A, R-421A, R-421B, R-422A, R-422B, R-422C, R-422D, R-424A, R-428A, R-434A, R-437A, R-438A, R-507A, RS-44 (2003 formulation)	January 1, 2023*
Household refrigerators and freezers - non-compact or built-in appliances (new)	FOR12A, FOR12B, HFC-134a, KDD6, R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407C, R-407F, R-410A, R-410B, R-417A, R-421A, R-421B, R-422A, R-422B, R-422C, R-422D, R-424A, R-426A, R-428A, R-434A, R-437A, R-438A, R-507A, RS-24 (2002 formulation), RS-44 (2003 formulation), SP34E, and THR-03	January 1, 2023*
Household refrigerators and freezers—compact (new)	FOR12A, FOR12B, HFC-134a, KDD6, R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407C, R-407F, R-410A, R-410B, R-417A, R-421A, R-421B, R-422A, R-422B, R-422C, R-422D, R-424A, R-426A, R-428A, R-434A, R-437A, R-438A, R-507A, RS-24 (2002 formulation), RS-44 (2003 formulation), SP34E, and THR-03	January 1, 2023*

Household refrigerators and freezers—built in appliances (new)	FOR12A, FOR12B, HFC-134a, KDD6, R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407C, R-407F, R-410A, R-410B, R-417A, R-421A, R-421B, R-422A, R-422B, R-422C, R-422D, R-424A, R-426A, R-428A, R-434A, R-437A, R-438A, R-507A, RS-24 (2002 formulation), RS-44 (2003 formulation), SP34E, and THR-03+B34	January 1, 2023*
Cold storage warehouses (new)	HFC-227ea, R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407A, R-407B, R-410A, R-410B, R-417A, R-421A, R-421B, R-422A, R-422B, R-422C, R-422D, R-423A, R-424A, R-428A, R-434A, R-438A, R-507A, and RS-44 (2003 composition)	January 1, 2023*
<b>Stationary Air Conditioning Equipment</b>		
Centrifugal chillers (new)	FOR12A, FOR12B, HFC-134a, HFC-227ea, HFC-236fa, HFC-245fa, R-125/134a/600a (28.1/70/1.9), R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407C, R-410A, R-410B, R-417A, R-421A, R-422B, R-422C, R-422D, R-423A, R-424A, R-434A, R-438A, R-507A, RS-44 (2003 composition), and THR-03	January 1, 2024 (except for those approved under narrowed use limits in SNAP Rule 21)

Positive displacement chillers (new)	FOR12A, FOR12B, HFC-134a, HFC-227ea, KDD6, R-125/134a/600a (28.1/70/1.9), R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407C, R-410A, R-410B, R-417A, R-421A, R-422B, R-422C, R-422D, R-424A, R-434A, R-437A, R-438A, R-507A, RS-44 (2003 composition), SP34E, and THR-03	January 1, 2024 (except for those approved under narrowed use limits in SNAP Rule 21)
<b>Motor Vehicle Air Conditioning Equipment</b>		
New Light-Duty Systems	HFC-134a, R-406A, R-414A (HCFC Blend Xi, GHG-X4), R-414B (HCFC Blend Omicron), HCFC Blend Delta (Free Zone), Freeze 12, GHG-X5, HCFC Blend Lambda (GHG-HP), R-416A (FRIGC FR-12, HCFC Blend Beta), SP34E, R-426A (RS-24, new formulation)	January 1, 2023* (except for exports to certain countries with limited servicing infrastructure until model year 2025)

\*January 1, 2023, if an earlier reinstatement of these prohibitions is not feasible.



April 13, 2021

Administrator Michael S. Regan April 13, 2021  
Environmental Protection Agency  
1200 Pennsylvania Avenue, N.W.  
Washington, DC 20460

*Re: Support for Technology Transition Petitions - The American Innovation and Manufacturing Act (AIM Act)*

Dear Administrator Regan:

The Natural Resources Defense Council (NRDC), the Environmental Investigation Agency (EIA), the Air-Conditioning, Heating and Refrigeration Institute (AHRI), and the Association of Home Appliance Manufacturers (AHAM) filed five separate petitions today asking the Environmental Protection Agency (EPA) to use its authority under subsection (i) of the AIM Act to transition an array of industries away from the most-potent hydrofluorocarbons (HFCs). Collectively, the petitions cover large HFC sectors like car and stationary air conditioning, commercial refrigeration, insulation foams, and aerosol products.

NRDC is a petitioner in two of these petitions. We broadly support the other three petitions, to the extent that the requests are in alignment.

**Petition 1.** NRDC, joined by the State of Colorado and the Institute for Governance and Sustainable Development (IGSD), submitted a petition requesting the reinstatement of EPA's rules under the Significant New Alternatives Policy program (SNAP Rules 20 & 21). Those rules, promulgated in 2015 and 2016, addressed HFC use in car air conditioning, insulation foams, aerosol products, refrigeration and building chillers. The AIM Act clarifies EPA's authority to reissue those rules in response to a 2017 court decision that partially vacated them.

**Petition 2.** In a similar vein, AHRI – the trade group representing equipment manufacturers – filed a petition to promptly establish the fraction of the SNAP rules that applies to commercial refrigeration, including standalone systems, remote refrigeration units, and supermarkets. AHRI's petition also covers smaller refrigeration applications that were not originally addressed in the SNAP rules, such as transport refrigeration and ice makers. NRDC supports the components of this petition that do not conflict with the requests of petition 3, to which NRDC is a co-signer. For the end-uses covered by both petitions, we strongly urge EPA to adopt the more effective and ambitious measures covered in petition 3.

The three additional petitions seek to apply nationwide restrictions recently adopted in California.

**Petition 3.** NRDC joined EIA as a co-petitioner, in a request to nationalize the complete set of HFC regulations recently adopted by the California Air Resources Board (CARB). The



restrictions are established based on a maximum allowable global warming potential (GWP) value for refrigerants used in air conditioning equipment and heat pumps. For stationary refrigeration, the petition also requests strengthened requirements compared to the original limits set in SNAP rules 20 and 21. We strongly encourage EPA to establish the restrictions outlined in EIA's petition, including the strengthened requirements for commercial and industrial process refrigeration.

**Petition 4.** AHRI submitted a second petition that requests EPA to nationalize the components of California's new HFC regulations that apply to air conditioning equipment. The measures would reduce the global warming potential (GWP) of the refrigerants used in these applications by 75%. AHRI's petition aligns with that of EIA for these applications and NRDC is in strong support of establishing these measures nationwide.

**Petition 5.** NRDC also supports AHAM's petition calling for climate-friendlier alternatives in window and portable air-conditioners, and dehumidifiers. We encourage EPA to adopt those requirements as proposed.

Collectively, the petitions demonstrate the breadth of agreement among environmental and industry groups. These are necessary, common-sense measures that will reduce the U.S.'s reliance on HFCs and prepare the market to comply with the forthcoming phasedown. All the applications covered by the five petitions are on track to transition toward climate-friendlier alternatives. Once implemented, the application-specific bans will create a predictable framework for a harmonious transition that complements the implementation of the AIM Act.

Given the degree of alignment already manifest, and the urgency of action to put these HFC limitations in effect, we believe EPA should conclude that regulatory negotiation is not necessary and would actually hinder prompt action.

We urge EPA to promptly grant the petitions and establish ambitious regulations that will help these industries transition beyond high-GWP HFCs.

Sincerely,

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