COMMITTEE ON
ENERGY & COMMERCE
CHAIRMAN FRANK PALLONE, JR.

MEMORANDUM

January 13, 2020

To: Subcommittee on Environment and Climate Change Members and Staff

Fr: Committee on Energy and Commerce Staff

Re: Legislative Hearing on "Promoting American Innovation and Jobs: Legislation to Phase Down the Use of Hydrofluorocarbons"

On **Tuesday, January 14, 2020, at 10:30 a.m. in room 2322 of the Rayburn House Office Building**, the Subcommittee on Environment and Climate Change will hold a legislative hearing entitled, "Promoting American Innovation and Jobs: Legislation to Phase Down the Use of Hydrofluorocarbons." The hearing will focus on H.R. 5544, the "American Innovation and Manufacturing Leadership Act".

I. BACKGROUND

Hydrofluorocarbons (HFCs) are a class of widely-used fluorocarbon chemicals. They are used primarily as refrigerants in the heating, ventilation, air conditioning, and refrigeration (HVACR) industry.[1] HFCs are commonly found in commercial and industrial refrigeration and air conditioners, for example. Lower amounts of HFCs are used and contained in other applications, such as aerosols and foams.[2] Much smaller amounts can also be found in fire suppressants and solvents.[3]

A global transition away from HFCs is beginning. American leadership in this transition could create approximately 33,000 new manufacturing jobs in the United States and add $12.5 billion per year to the U.S. economy.[4] The United States' share of the global market for

[1] United Nations Environment Programme, *Fact Sheet 2: Overview of HFC Market Sectors* (Apr. 20, 2015) (conf.montreal-protocol.org/meeting/workshops/hfc_management-02/presession/English/FS%202%20Overview%20of%20HFC%20Markets%20final.pdf).

[2] *Id.*

[3] *Id.*; *See, e.g.*, United Nations Environment Programme, *About Montreal Protocol* (unenvironment.org/ozonaction/who-we-are/about-montreal-protocol) (accessed Jan. 7, 2020).

[4] U.S. Chamber of Commerce, *The Kigali Amendment is a Win for the Environment and the U.S. Economy* (uschamber.com/series/above-the-fold/the-kigali-amendment-win-the-environment-and-the-us-economy) (May 8, 2018).

HVACR equipment could grow by 25 percent over current levels and improve the trade balance by increasing exports and reducing imports.[5]

A. Transition from Ozone-Depleting Substances to HFCs

HFCs gained widespread adoption in the 1990s as replacements for ozone-depleting substances (ODS), such as chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs).

The Montreal Protocol on Substances that Deplete the Ozone Layer – the first treaty to achieve universal ratification – regulates the production and consumption of nearly 100 chemicals, including CFCs and HCFCs.[6] Congress unanimously ratified the Montreal Protocol in 1988 during the Reagan Administration.[7] In 1990, Congress adopted Title VI of the Clean Air Act, entitled Stratospheric Ozone Protection, under which the U.S. Environmental Protection Agency (EPA) implements the Montreal Protocol.[8] Since then, the United States has led the world in the transition away from ODS.

According to EPA, the United States' success in meeting and exceeding its ODS reduction targets under the Montreal Protocol is the result of a "truly cooperative endeavor between [EPA] and other government agencies, industries, trade associations, and environmental organizations, which have all worked together to meet phaseout targets, develop transition plans away from ODS, and identify acceptable alternatives."[9] This successful transition away from ODS has come at a lower cost than originally anticipated.[10]

The transition away from ODS has been facilitated by an allowance allocation and trading program.[11] Allowances are based on past production and imports and are allocated to producers and importers.[12] In addition, EPA promulgated regulations under Title VI to govern the management of refrigerants. In the case of ODS, stationary refrigeration and air conditioning

---

[5] *Id.*

[6] United Nations Environment Programme, *About Montreal Protocol* (unenvironment.org/ozonaction/who-we-are/about-montreal-protocol) (accessed Jan. 7, 2020).

[7] Congress.gov, *Montreal Protocol on Substances That Deplete the Ozone Layer: Senate Consideration of Treaty Document 100-10* (congress.gov/treaty-document/100th-congress/10?s=1&r=25) (accessed Jan. 7, 2020).

[8] U.S. Environmental Protection Agency, *Stratospheric Ozone Protection: 30 Years of Progress and Achievements* (Nov. 2017) (430-F-17-006).

[9] *Id.* at 9.

[10] *See* note 8 at 5.

[11] *See* note 8 at 10.

[12] *Id.*

appliances, along with motor vehicle air conditioning, account for approximately 60 percent of domestic ODS emissions.[13]

EPA's refrigerant management regulations establish requirements for the handling, recovery, and disposal of refrigerants, as well as the prevention and repair of leaks.[14] This framework has led to more than 168 million pounds of refrigerants being reclaimed from 2000 to 2016, which has avoided significant ODS emissions to the atmosphere.[15] In addition, EPA regulations have successfully facilitated transitions away from ODS in specific applications.[16]

B. Transition Away from HFCs

Like CFCs and HCFCs, HFCs are potent greenhouse gases, and HFC emissions are growing at a rate of eight percent per year.[17] A global transition away from HFCs, however, is now underway.[18] In 2016, the international community agreed to phase down the production and consumption of HFCs under the Montreal Protocol framework.[19] As the Department of State explains, this "creates market certainty and opens international markets to new technology that is better for the environment, without compromising performance."[20]

Just as with ODS, American companies are now developing innovative substitutes for HFCs and can lead the transition to environmentally-friendlier alternatives. For example, American companies have led the introduction of hydrofluoroolefins (HFOs) as substitutes for HFCs and made significant investments in domestic manufacturing of HFOs.[21] The success of the collaborative approach and collective actions taken under Title VI demonstrates that an orderly transition away from HFCs is possible and could benefit both the U.S. economy and American consumers.

---

[13] *See* note 8 at 11.

[14] *Id.*

[15] *Id.*

[16] *See* note 8 at 13.

[17] *See* note 1.

[18] *See* note 6.

[19] *See* note 8 at 3. The Kigali Amendment to the Montreal Protocol has been ratified by 91 countries. United Nations Environment Programme, *All Ratifications* (ozone.unep.org/all-ratifications) (accessed Jan. 9, 2020).

[20] U.S. Department of State, *The Montreal Protocol on Substances That Deplete the Ozone Layer* (state.gov/key-topics-office-of-environmental-quality-and-transboundary-issues/the-montreal-protocol-on-substances-that-deplete-the-ozone-layer/ (accessed Jan. 9, 2020).

[21] U.S. Chamber of Commerce, *The Kigali Amendment is a Win for the Environment and the U.S. Economy* (uschamber.com/series/above-the-fold/the-kigali-amendment-win-the-environment-and-the-us-economy) (May 8, 2018).

II. H.R. 5544, THE "AMERICAN INNOVATION AND MANUFACTURING LEADERSHIP ACT OF 2020"

Subcommittee Chairman Tonko (D-NY) joined Reps. Olson (R-TX), Peters (D-CA), and Stefanik (R-NY) in introducing H.R. 5544, the "American Innovation and Manufacturing Leadership Act of 2020". The bill would phase down the production and consumption of HFCs over 15 years, limiting the production and consumption of regulated HFCs to 15 percent of baseline levels beginning in 2036.

Section 2 defines numerous terms that appear in the text of the legislation.

Section 3 directs EPA to publish a list of HFCs that are subject to regulation under the legislation ("regulated substances") and includes an initial listing of such regulated substances. Section 3 further provides EPA with authority to add HFCs to the list of regulated substances, provided they meet specified requirements.

Section 4 requires persons who produce, import, export, reclaim, destroy, use and entirely consume (except for trace quantities) in the manufacture of other chemicals, or use as a process agent, a regulated substance, to report such action to the Administrator. This section also requires persons subject to these reporting requirements to provide the Administrator with specified data relevant to establishing the baseline for the phase down of production and consumption of regulated substances. EPA must promulgate regulations to implement this section within 270 days of enactment.

Section 5(a) establishes the formulas for calculating the baselines for the phase down of the production and consumption of regulated substances, based principally on production and consumption of regulated substances in 2011, 2012, and 2013. Section 5(b) requires EPA to promulgate regulations establishing an allowance allocation and trading program to phase down production and consumption of regulated substances. It further requires EPA to establish annually a quantity of production allowances and consumption allowances that do not exceed specified percentages of the production and consumption baselines, respectively. The section then directs EPA to allocate production allowances and consumption allowances annually or for multiple years at a time. Beginning on January 1 of the year following promulgation of the regulations required by this subsection, Section 5(b) makes it unlawful for any person to engage in the production or consumption of HFCs without a corresponding allowance that authorizes such production or consumption.

Section 5(c) requires that regulations issued under Section 5(b) ensure that transfers of allowances will result in a greater reduction in production or consumption, as applicable, than would have occurred absent the transfers. It further limits transfers as allowed only between persons subject to the phase down of regulated substances.

Section 5(d) authorizes the EPA Administrator to consider petitions to accelerate the phase down schedule and sets out requirements for the petition and its consideration. An accelerated schedule would have to be applied uniformly to allocated production allowances and

consumption allowances. This section prohibits EPA from accelerating the phase down schedule prior to 2024.

Section 5(e) authorizes essential use exceptions to the phase down beginning in 2034, when production and consumption will be limited to 20 percent of respective baseline levels. Limited additional allowances in excess of the phase down limits may be allocated for up to five years if EPA finds that such excess allowances are exclusively for an application for which there is no substitute available and the available supply of the requisite regulated substance is insufficient.

Section 5(f) authorizes EPA to issue additional production allowances to produce, at a domestic facility, additional regulated substances solely for export and use in a foreign country. The legislation prohibits, beginning on January 1, 2033, any person from exporting a regulated substance to a foreign country not identified by EPA as having implemented a phase down of HFCs akin to this legislation.

Section 6 of the legislation requires EPA to promulgate regulations within 24 months of enactment to maximize reclaiming of regulated substances, minimize releases of regulated substances from equipment, and ensure safety of technicians and consumers. The section authorizes EPA to include in such regulations minimum standards and training requirements for technicians. The section directs EPA to consider using any authorities granted by the legislation to increase opportunities for reclaiming regulated substances. In addition, section 6 mandates that any regulated substance that is recovered be reclaimed before it can be sold or transferred to a new owner. Finally, the legislation clarifies that section 6 does not apply to a regulated substance or substitute thereof that is contained in a foam.

Section 7 grants EPA the authority to prohibit or restrict the use of a regulated substance in specific sectors or subsectors. It directs EPA to consider exercising this authority in accordance with codified negotiated rulemaking procedures found in the Negotiated Rulemaking Act of 1990. It allows any person to petition EPA to promulgate regulations pursuant to this section. Section 7 further directs EPA to evaluate the availability of substitutes to regulated substances.

Section 8 authorizes EPA to issue regulations as necessary to implement the legislation. It authorizes the EPA Administrator to delegate their authority under this legislation to any officer or employee of EPA. It also mandates that whenever the legislation requires or authorizes the EPA Administrator to act by regulation, the requirements of Section 307(d) of the Clean Air Act shall apply.

Section 9 applies four sections of the Clean Air Act to the bill as if it were included in title VI of the Act: Sections 113 (relating to federal enforcement), 114 (relating to inspections, monitoring, and entry), 304 (relating to citizen enforcement), and 307 (relating to administrative proceedings and judicial review).

III. WITNESSES

The following witnesses have been invited to testify:

Panel 1

Cynthia Newberg
Director, Stratospheric Protection Division, Office of Atmospheric Programs
U.S. Environmental Protection Agency, Office of Air and Radiation

Panel 2

Gary Bedard
President and Chief Operating Officer
Lennox International, Inc.
on behalf of the Alliance for Responsible Atmospheric Policy

David Doniger
Senior Strategic Director
Natural Resources Defense Council

John Galyen
President
Danfoss North America
on behalf of the Air-Conditioning, Heating, and Refrigeration Institute

Ben Lieberman
Senior Fellow
Competitive Enterprise Institute