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Before the Subcommittee on Environment and Climate Change
Energy and Commerce Committee
U.S. House of Representatives
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Thank you Chairman Tonko and Ranking Member Shimkus for the opportunity to testify today in favor of this bipartisan legislation to phase down harmful hydrofluorocarbons (HFCs) and help U.S. companies lead the world in replacing them with innovative, climate-friendlier alternatives. Thank you as well, Chairman Tonko and Representatives Olson, Peters, and Stefanik, for your bipartisan leadership in cosponsoring this legislation, the American Innovation and Manufacturing Leadership Act.

My name is David Doniger. I help lead climate and clean energy program of the Natural Resources Defense Council (NRDC). NRDC is a nonprofit organization of scientists, lawyers, engineers, and other specialists dedicated to protecting public health and the environment. Founded in 1970, NRDC has more than 3 million members and online activists. We work on a wide range of health and environmental issues in the United States and internationally from offices in New York, Washington, Los Angeles, San Francisco, Chicago, and Beijing.

I have led NRDC's work for more than 30 years to safeguard the ozone layer and the climate from the family of chemicals known as fluorocarbons. Under the 1987 Montreal Protocol and the 1990 Clean Air Act, we successfully phased out chlorofluorocarbons (CFCs) and many other chemicals that were depleting the stratospheric ozone layer that protects life on earth from dangerous ultraviolet radiation. If we had not eliminated CFCs and related chemicals, humanity would have suffered hundreds of millions of cases of skin cancer – millions of them fatal – as well as similar numbers of eye cataracts and immune disorders, and huge agricultural losses over this century.

You can see how bad it would have been in this one-minute NASA presentation called *The World Avoided*.[1] But thanks to bipartisan U.S. leadership in negotiating and implementing a world-wide CFC phase-out, the ozone layer will recover within the lifetime of my children.

[1] https://www.youtube.com/watch?v=wfnVz_0Pa3c

Every country in the world belongs to the Montreal Protocol, which was negotiated under President Ronald Reagan and has been supported by every president since. And it has been supported by both industry and environmentalists.

The phase-out of CFCs and related chemicals brought us another huge benefit: It is the most effective step we've taken so far to slow climate change. That's because in addition to their effect on the ozone layer, CFCs are also extremely long-lived and powerful greenhouse gases, some with more than 10,000 times the heat-trapping power, pound for pound, of carbon dioxide. It has been calculated that if we had let CFCs keep growing, the climate change impacts we are feeling now – heatwaves, droughts, wildfires, storms, flooding, sea-level rise – would have hit us *ten years ago.* Climate impacts would have been even worse today and in the future.

Hydrofluorocarbons (HFCs) were useful as one of the initial replacements for CFCs. They don't directly harm the ozone layer, because they do not contain chlorine. They have shorter lifetimes in the atmosphere than CFCs. As a result, they have lower heat-trapping power, and so they were a step in the right direction on climate change too.

But not enough, because HFCs themselves still have hundreds to thousands of times the heat-trapping power of carbon dioxide. And their use and emission has been growing, in both developed and developing countries, much more rapidly than carbon dioxide.

It has been calculated that if HFC use were allowed to keep growing, HFCs could add nearly another 0.5 degree centigrade (nearly a full degree Fahrenheit) to global average temperatures by 2100. In a world now on track for at least a 3°C rise and struggling to find the policies to hold warming to 1.5° or even 2°C, we cannot afford to add another half degree of new warming on top of everything else.

So that is the imperative for replacing HFCs with climate friendlier alternatives.

Fortunately, this is an area of consensus and cooperation between the industries that make and use these chemicals and the environmental community. Industry leaders – both within and outside of the fluorocarbon field – have pioneered a wide range of alternatives, some new and some old, that can do the jobs HFCs do effectively, safely, and economically with much less – and in many cases, nearly zero – impact on the climate.

Alternatives include compounds called hydrofluoroolefins (HFOs), with thousands of times less warming impact than CFCs and HFCs, some in the same ballpark as carbon dioxide. Other alternatives include carbon dioxide itself (now being widely adopted in supermarket cooling systems), hydrocarbons (used in home refrigerators in most of the world), ammonia (used for decades in industrial cooling applications), and more.

The transition to these alternatives has started, but – like the transition away from CFCs – we need the framework of an orderly phase-down under federal law.

That is why both industry and environmentalists are here today to testify in support of H.R. 5544. Together with its Senate companion S.2754, this is a bipartisan plan to phase down

HFCs in the same orderly manner we used to transition from CFCs under the Clean Air Act of 1990.

The bill does three main things:

- It sets a schedule for reducing production and import of HFCs binding on all U.S. chemical makers and importers and provides for acceleration when alternatives are available.
- It requires recovering reusable chemicals and reducing leaks during the service and disposal of equipment containing HFCs.
- It provides for transitioning from HFCs in particular end uses where safer alternatives are available.

These provisions are modeled on and integrated with the current Clean Air Act requirements applicable to this industry.

It is not that often that this committee hears support for the same bill from all sides – from NRDC on behalf of the environmental community, from the chemical makers and equipment manufacturers represented by the Alliance for Responsible Atmospheric Policy and the Air Conditioning, Heating, and Refrigeration Institute, and from the U.S. Chamber of Commerce and the National Association of Manufacturers.

NRDC appreciates the bipartisan support for these bills. Again, we applaud Reps. Tonko Olson, Peters, and Stefanik for their leadership here in the House. We note that the Senate companion bill currently has 32 co-sponsors, drawn equally from both parties.

I will close by returning to the Montreal Protocol, which as I said has enjoyed the backing of every U.S. president of both parties beginning with Ronald Reagan. In 2016, countries agreed to an amendment to phase down HFCs. That amendment has been ratified by 91 nations and came into force last January. To this point American industries have led in bringing new alternatives and the products that use them to the international marketplace. If we sustain that leadership, that will mean more manufacturing investment and jobs here in America, and a larger American share of the export market in these hundred billion dollar industries.

But American firms need the encouragement and certainty that this bill will provide to maintain and extend that leadership. Companies in Europe, Japan, China, and other countries are already at work to catch up. This legislation provides all the legal tools needed for our country and our industries to meet our obligations, exercise leadership, and reap commercial rewards.

All of us – environmentalists and industry alike – support enacting this legislation *now*, in order to keep U.S. leadership in all aspects of the transition from HFCs to climate friendlier alternatives. So it is critical that we do not wait.

I will be happy to answer your questions.