

Subcommittee on Environment and Climate Change
Hearing on
“Promoting American Innovation and Jobs:
Legislation to Phase Down the Use of Hydrofluorocarbons”
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The Honorable John Shimkus (R-IL)

1. Is it true that the replacements for HFCs are more expensive than their counterparts? If so, what impact will this have on the consumer?

RESPONSE:

Yes, a number of substitutes for HFCs are priced significantly higher than the HFCs they would replace. For example, HFC-134a, widely used in automotive air conditioners and residential refrigerators, is currently available from online refrigerant suppliers for about \$6.00 per pound wholesale, while its chief replacement, HFO-1234yf, sells for about \$50 per pound. HFO-1234yf is one of the new patented refrigerants developed in anticipation of restrictions on HFCs. Only two companies, Chemours and Honeywell, own the rights to produce it.

Note that this is the price without federal legislation restricting HFCs. If HR 5544 becomes law, it would strengthen the market position for HFO-1234yf and other patented replacements and likely spark a further jump in prices.

It should be noted that there are some substitute refrigerants that are not priced higher than HFCs, but they suffer from extreme flammability or other safety and performance drawbacks.

For consumers, higher refrigerant prices translate into an increase in the purchase price of new equipment as well as costlier repairs.

2. During the hearing, I quoted from a 2018 report from the Cesar Rodney Institute about the economic impact of ratifying the Kigali Amendment. Unfortunately, because my time was short, I was unable to focus very much on the points it made. Please provide your views on this report and highlight the most salient points the report makes and the Committee needs to know about domestic job creation, U.S. consumer price impacts, and other relevant issues regarding assumptions that are made.

RESPONSE:

Among other things, the Caesar Rodney Institute report, “The Economic Impact of Kigali Amendment Ratification,” provides insights into the opportunism behind the push to restrict

HFCs. The author of this report, David Stevenson, is a retired DuPont executive, and DuPont's spinoff Chemours is one of the two companies that have patented a number of HFC substitutes (the other being Honeywell). These companies, both directly and through their participation in several trade associations, have aggressively lobbied for HFC restrictions. Mr. Stevenson explains that such restrictions would create something close to a captive market for these patented substitutes, which already cost more than HFCs and would likely spike even higher should nationwide HFC restrictions become law. Indeed, both companies have repeatedly told investors that these patented HFC substitutes are a potential source of many billions of dollars in additional revenue. The paper also makes the point that these higher revenues would come at the expense of consumers and businesses, which it estimates at \$8 billion dollars per year.

The report also takes on the claims of increased domestic manufacturing jobs and exports resulting from HFC restrictions. These claims are greatly undercut by the reality that Chemours, Honeywell, and other corporations lobbying for these measures have been aggressively outsourcing these very same jobs and importing a growing amount of their products into the U.S. There is no rational reason to think the flow of goods will be transformed by this bill.

Mr. Stevenson also makes the key point that manufacturers of the new refrigerants and equipment are free to make and sell these products with or without enactment of the Kigali Amendment. Thus, even if there was merit to the claims that the new products will be in high demand and create American jobs, they would not justify government limits on the competing HFC technologies.

It should be noted that, although the paper focused on the Kigali Amendment to the Montreal Protocol, HR 5544 is essentially the legislative equivalent of the Kigali Amendment and would have very similar economic impacts.

3. What is the consumer impact of a national HFC phasedown on HFC-using equipment?

RESPONSE:

There are literally hundreds of millions of pieces of air conditioning and refrigeration equipment in the U.S. that are designed to use HFCs - nearly every vehicle air conditioner, most home air conditioners and refrigerators, and much of the refrigeration equipment in businesses like restaurants and convenience stores as well as most air conditioned commercial space. This equipment was designed to use HFCs as the refrigerant and cannot easily be retrofit to use something else. HR 5544 restricts future production of HFCs, which would drive up their price and lead to higher repair costs for this equipment. Beyond raising the price of HFCs, this bill also allows EPA to impose new procedures regarding the handling of HFCs in the repair process that may also add to costs.

For those purchasing new equipment, an HFC phasedown would hand the market over to costlier replacement refrigerants and equipment. Thus, HR 5544 would raise both the cost of repairing existing equipment and the purchase price of new equipment.

4. The United States Chamber of Commerce, in a report entitled: “Made in China 2025,” stated that China is calling “for [its] brands to control over 80 percent of [China’s] market for several consumer goods, including air conditioners.”
 - a. How does this claim square with the claims being made by the supporters of the bill that U.S. Heating and Air Conditioning manufacturers will be robustly exporting under this bill?

RESPONSE:

Claims made by industry proponents of HR 5544 that this bill would lead to increased exports of American-made products to China are faulty for a number of reasons. One reason is the fact that the Chinese government has been clear about its goal of serving the Chinese market with indigenous air conditioners and refrigerators, as is discussed in the Chamber of Commerce report.

Beyond China, the idea that passage of a bill restricting HFCs in the U.S. would increase exports to *any* nation defies logic. The opposite is more likely, given that the bill would raise the price of American-made air conditioning and refrigeration equipment and thus make these products less competitive globally. In addition, under the Kigali Amendment, developing nations (which includes China) demanded and received generous extensions of time to continue using HFCs beyond the deadlines for developed nations, thus a mandated switch to costlier non-HFC refrigerants by American manufacturers is especially unlikely to boost exports to these nations.

In truth, talk of increased exports by companies supporting this bill is simply an effort to divert attention away from the real aim to create a captive market in the U.S. for more expensive products.

It is also worth noting that “Made in China 2025” contradicts the rationale for the Chamber’s stated support for HFC restrictions, which is based in part on claims of increased exports that are at odds with the findings in its report.

5. What sectors that utilize HFCs do you consider important stakeholders that should not be overlooked in the drafting of this bill?

RESPONSE:

The companies making costlier refrigerants and equipment that stand to gain from HFC restrictions had been working with the Obama administration and lobbying Congress beginning in the years leading up to the 2016 Kigali Amendment. In contrast, the consumers and small business users of HFC-dependent equipment – especially vehicle and home air conditioner

owners as well as small business owners that rely on refrigeration – are either unaware of the issue or just beginning to take notice of it. This includes the million or more restaurants and other small businesses in the food sector. Even those small business-dominated sectors that are aware don't necessarily have the resources to match the multimillion dollar lobbying efforts on the part of proponents, which are led by some of the largest corporations in this sector.

Nonetheless, it would be wise for members to seek input from equipment users as well as equipment makers. Of course, this can be difficult in the case of homeowners and car owners since no lobbyist represents consumers directly, but there are entities that can provide relevant information. For example, the National Automobile Dealers Association (NADA) performs many vehicle air conditioner repairs and can provide information on the impact of HFC restrictions on repair costs.

6. Do you think certain uses of HFCs should be provided with an exemption from the phasedown schedule established in this bill? If yes, which ones?

RESPONSE:

Yes. At the very least, medical uses for HFCs should be exempted, specifically their use as propellants in metered dose inhalers relied upon by millions of asthmatic patients. Beyond specific exemptions at the outset, there should be a process for requesting exemptions if problems arise in moving away from HFCs. HFCs have a wide range of uses and have amassed a decades-long track record. In contrast, many replacements are relatively new and untested, and problems are bound to arise for at least some applications. Replacements may not perform as well as HFCs, may reduce energy efficiency, and may pose flammability risks that cannot be eliminated. HR 5544 would be greatly improved with provisions allowing continued use of HFCs in specific product categories where any problems arise. As it is, HR 5544 contains extremely limited exemption provisions that cannot be invoked before 2034.

At least as important as exemptions is eliminating the provision allowing the original deadlines in the bill to be accelerated, since an abrupt transition away from HFCs will impose far more costs and equipment problems than a gradual one.

7. Section 2 cites an opportunity to promote the furtherance of fluorocarbons and fluorinated products, even though public policy has cited the threat to global warming of such compounds.
 - a. How can the overarching purpose of this bill -- to empower the EPA to mandate HFC reduction -- be reconciled with Section 2, which promotes the lone manufacturer of HFC fluorinated alternatives that is seeking to grow its market share in the US and

beyond?

RESPONSE:

Supporters of HR 5544 have made claims of job creation and economic benefits that are entirely one-sided. For example, any projections of manufacturing job increases associated with HFC replacement equipment must be reduced by job losses resulting from HFC equipment being pushed out of the market by this bill.

Further, the increased cost of air conditioning and refrigeration will have a negative impact on consumers and small businesses, and this should also be taken into account when calculating the economic impacts of this bill. Environmental laws like HR 5544 that drive up product costs will no doubt be windfall for certain manufacturers, but they are absolutely not a “win-win” for everyone, as some proponents of this bill seem to suggest.

- b. In your view, what is the actual environmental impact of this legislation from a global perspective?

RESPONSE:

The environmental impact will be minor, especially in relation to the costs. Proponents of the bill cite an estimate from one published paper that worldwide restrictions on HFCs would reduce the earth’s future temperature by up to 0.5 degrees C by the year 2100, but that conclusion is considered an outlier within the climate change research community. More relevantly, EPA’s estimates of the emissions avoided via its rules restricting the use of HFCs (since vacated) provide a useful guide and suggest an impact on future temperatures from HR 5544 that is much lower.

It is also important to note that the largest greenhouse gas contribution from air conditioning and refrigeration equipment is the indirect carbon dioxide associated with the electricity needed to run the equipment and not the very small amount of refrigerants that leak out (though they are much more potent than carbon dioxide on a per molecule basis). Thus any diminution in equipment efficiency from restricting HFCs in favor of compounds that prove less efficient would be environmentally counterproductive.

An important policy takeaway in balancing the environmental and economic considerations is that there is very little to be gained environmentally by rushing the transition away from HFCs, while doing so greatly multiplies the costs.

8. I understand there are numerous supporters of restrictions on HFCs. But you suggest that there may be opposition out there. How is that?

RESPONSE:

There is a silent majority of Americans - homeowners, vehicle owners, and small business owners – that use HFC-dependent air conditioners and refrigerators. They would very likely object to the costs imposed on them by HR 5544 if they were aware of them. Their concerns should be taken into account and in fact should outweigh the self-interest of the manufacturers who want a captive market for pricier products.

9. How can witnesses say there is “widespread” industry support for this bill when a large sector of industry, commercial foodservice equipment manufacturers, not only have taken no position on the legislation, but since 2015, have proactively undertaken transitioning away from HFCs to meet customer demands – even after the EPA’s Rule 20 governing their equipment, was overturned by the courts?

RESPONSE:

This issue is a classic case of concentrated benefits and dispersed costs. Honeywell and Chemours stand to gain billions of dollars from HR 5544 and have undertaken very extensive lobbying efforts. Beyond their direct lobbying, these companies have also pressured trade associations to support the bill, even though doing so is far from a unanimous position among manufacturers. In particular, there are members of the commercial refrigeration sector that continue to have concerns with HR 5544, especially in its current form.

The ultimate costs of HFC restrictions are dispersed among many millions of homeowners, vehicle owners, and small business owners, most of whom are not even aware of this bill.

10. If the phasedown schedule accelerates past the establishment of sufficient codes and standards, how would this impact liability concerns for manufacturers and contractors?

RESPONSE:

Perhaps the most problematic provision in HR 5544 is the one allowing the initial targets and timetables for restricting HFCs to be accelerated. This provision can be invoked by EPA or by any party filing a lawsuit. This provision destroys any certainty and could lead to much greater compliance costs. For example, HR 5544 necessitates the use of flammable refrigerants, which raises a number of state and local building code issues that have yet to be resolved, and an accelerated phaseout of HFCs may not allow enough time to do so.

Overall, the more gradual the restrictions on HFCs, the less costly the transition.

11. Chemical recyclers have in the past paid a premium to recycle the chemicals that preceded HFCs, but increasingly that process has become cost inefficient. Can you explain why this could be important for the environmental impact of this bill if a similar situation were to occur with HFCs?

RESPONSE:

Refrigerant reclamation has been a major disappointment over the decades-long history of refrigerant restrictions under the 1987 Montreal Protocol and 1990 Clean Act Amendments. Only a small percentage of refrigerants produced are reclaimed. There is little reason to believe reclamation will fare any better if HR 5544 is passed. Among the challenges is the fact that HFC restrictions are contributing to the proliferation of different refrigerants in use, and accidental commingling of refrigerants has proven very damaging to reclamation efforts. It is also worth noting that reclamation is energy intensive and thus may undercut the climate change rationale behind this bill.

12. Is private industry already making the transition away from HFCs without federal direction?

RESPONSE:

It is important to note that many manufacturers have moved away from HFCs for at least some of their products. Most notably, the auto industry is well on its way towards the use of substitutes in new vehicle air conditioners. However, even companies making the transition do not necessarily support across-the-board HFC restrictions that harm the owners of existing equipment by raising repair costs. Many also acknowledge that the switch away from HFCs is more difficult for some equipment categories than for others.

These moves away from HFCs ahead of any federal restrictions like HR 5544 are often held up as evidence that compliance will be easy, but in truth they really call into question the need for federal measures in the first place.

13. The witnesses representing the Heating, Venting, Air Conditioning, and Refrigeration (HVACR) sector – whether equipment or refrigerant makers – argue this bill is necessary to assure continued investment in and competitiveness of U.S. companies and their workers.
 - a. If this bill, or something like it, does not become law; what will it mean for the domestic HVACR sector? Why?

RESPONSE:

There is no downside to not passing this bill. Suggestions by supporters of HR 5544 to the contrary, manufacturers who wish to invest in the new refrigerants and equipment designed to run on them are free to do so with or without a bill. The only thing HR 5544 does is restrict competition with cheaper HFC technologies and thereby create a seller's market for the replacements.

Similarly, even without a bill, consumers who want to buy the supposedly environmentally-friendlier new air conditioners and refrigerators can do so. But with a bill, they will have no choice and will face higher prices as a result of the reduced competition with cheaper HFCs.

- b. Do you agree with the notion that each moment of delay adversely impacts domestic investment decisions by these companies?

RESPONSE:

Supporters of the bill talk a lot about the urgent need for "investment certainty," but that is really just a euphemism for securing a captive U.S. market in which consumers have no choice but to spend more on air conditioning and refrigeration. Companies have every right to invest all they want in replacements, and many are already doing so, but they don't have a right to a Congressionally-created captive market from which to gouge American consumers.

- c. If not, would ratification of the Kigali Amendment be a better first step and then implementing legislation thereafter to know what areas of domestic law should be covered to make sure our nation can fully comply?

RESPONSE:

The Kigali Amendment would impose the same costs as its legislative equivalent, so it is difficult to say that it is preferable to HR 5544. However, given President Trump's decision not to submit the Kigali Amendment to the Senate, the Constitutionally-proper response by Congress would be to accept this verdict and not to try to do an end-run around the Constitution via legislation.

14. This legislation would put the Administrator of the Environmental Protection Agency in charge of managing international cooperation on the issue.

- a. Is this the typical way the United States engages in international agreements?

RESPONSE:

No. The Environmental Protection Agency would be undertaking duties clearly within the jurisdiction of the State Department. That is why this attempt to enact a treaty measure in the form of a bill poses several concerns, especially given that HR 5544 not only mirrors the Kigali

Amendment's substantive provisions but also tries to link up with it procedurally.

- b. Do you believe the legislation inserts the Environmental Protection Agency into an appropriate role?

RESPONSE:

No. The State Department, not EPA, has the lead role in implementing treaties, including environmental treaty provisions like the Kigali Amendment.