The Foundation for the Economics of Sustainability

For the public record

June 15, 2021

Please accept these comments from the Foundation for the Economics of Sustainability (FEASTA) on the EPA's Proceeding on Phasedown of Hydrofluorocarbons: Establishing the Allowance Allocation and Trading Program under the American Innovation and Manufacturing Act (Docket EPA-HQ-OAR-2021-0044; 86 FR 27150). Two members of FEASTA's Board of Trustees reside in Massachusetts and Virginia.

FEASTA has been promoting carbon pricing design for over 15 years, including being an originator of the Cap & Share concept, also referred to as Cap & Dividend in the US. FEASTA also initiated the CapGlobalCarbon project at COP-21 in Paris.[1] We believe that lessons from carbon cap-and-permit systems are directly relevant to the hydrofluorocarbon (HFC) phase-down, even more relevant than lessons from the phase-out of ozone-depleting substances (ODS) that is discussed in the proposed rule. As noted in the proposed rule itself (27203), there is an important distinction between the *phaseout* of ODS, which involved very little trading of allocations and no new entrants, and a "long-term . . . phasedown." The longer production and consumption of a regulated substance is expected to continue, the more important it is to consider factors like fairness and efficiency in permit allocation. International experience with capping greenhouse gases (GHGs) holds lessons in the respect for HFC regulation.

Experience with carbon cap-and-permit systems has shown that ***auctions*** are the best way to allocate permits both fairly and efficiently.[2] They don't favor past polluters. They instantly provide a market price. By ensuring efficient initial allocation, they can also drastically reduce the need for subsequent trading. We are pleased to see that the proposed rule includes an option for auctioning of permits in future years of the HFC program (27203-04). The proposed rule itself explains what makes auctioning superior to other options. It would provide flexibility in allocation as marketplace conditions change. It would "allow the broadest participation in the HFC production and import market." It would impose costs on permit-holding, providing incentives for conservation and using reclaimed material and seeking substitutes. It would discourage "gaming" of the allocation system.

The problems with other options are readily apparent.

At the outset of the program, the burden of allocating permits will fall entirely on EPA's shoulders. As EPA clearly understands, the Agency does not have all the necessary information to make those allocations

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[1] https://www.feasta.org/; http://www.capglobalcarbon.org

[2] The Regional Greenhouse Gas Initiative (RGGI) and the European Emissions Trading System (ETS) are widely recognized as having had problems that stemmed from grandfathering (administrative allocation) of permits. In the EU's case, this provided billions of dollars in windfall profits to grandfathered companies, at consumers' expense. For an extensive discussion, see Environment California Research & Policy Center's *Cleaner, Cheaper, Smarter: The Case for Auctioning Pollution Allowances in a Global Warming Cap-and-Trade Program* (Summer 2007). Researchers have found that auctioning permits rather than grandfathering them reduces the social cost of a pollution permit system by 50% (Dallas Burtraw, "Carbon Emission Trading Costs and Allowance Allocations: Evaluating the Options," *Resources* 145 (Fall 2001) 13-16.)

fairly and efficiently. The proposed formula rewards past polluters, it throws obstacles in the way of competitors who may be able to use HFCs more economically and environmentally efficiently than incumbents, and it will result in "issuing production allowances to entities that are unable to use them," a situation that "EPA seeks to avoid" (27169) It places the burden on EPA to identify parties requiring allocation, and EPA recognizes that a special remedial mechanism, a set-aside pool, will be required to accommodate inevitable lapses (27176ff). Furthermore, by giving away the permits for free EPA will effectively be *subsidizing* the production and consumption of HFCs. (EPA very clearly understands that "the allowances have value" (27203).) This is antithetical to the environmental goals of the program. Furthermore, giving away valuable allocations for free incentivizes fraud, and requires EPA to set up an elaborate enforcement mechanism to combat it (27177-78). It is clear that EPA felt that the proposed non-market-based program was the easiest to set up in a short timeframe, but EPA will undoubtedly find that the program will be extremely difficult to administer and that many participants will be unhappy about burdensome requirements and intrusive enforcement mechanisms and a (justified) perception that the allocation will be suboptimal and will reward those most adept at gaming the system.

The regulated community might object to paying for allocations (via auction or similar) since that will involve new and unplanned costs. But in practice those costs will be built into the prices of products and passed along to the consumer. And since all HFC manufacturers will be in the same position, the new costs will not pose any competitive disadvantage among them. The new costs will make HFC-based products less competitive relative to non-HFC-based alternatives, but that is not a problem, it is a desirable environmental outcome.

Turning to the options discussed for future years (27203-04): EPA's own explanation of option #1 makes it clear why the ODS phaseout is not a good model to use for the HFC phasedown. Option #1, extending the initial allocations out into the future indefinitely, would lock in subsidies to past polluters indefinitely, year after year. EPA correctly points out that Option #2, which is similar to Option #1 but involves periodic reapportionment, would be better in some respects but would also create a perverse "use-it-or-lose-it" incentive. Option #3, which involves charging a fee for allowances, is still better; how good it is depends on what kind of fee is established. The optimal fee would be to *the market value of the allowance*, and that would make Option #3 almost indistinguishable from Option #4, which allocates via auction. EPA's description of Option #4 makes clear many of the advantages of an auction system discussed above, and, tellingly, identifies no disadvantages. Since Option #4 is clearly superior to the other options, there is little point in entertaining Option #5, an amalgamation.

The proposed rule asks for "advance input on how best to structure such an auction program" (27203-04). EPA rightly points out that the Agency does have a wealth of experience in environmental auction programs to draw from; administrative capacity and expertise will not be a concern. In broad strokes, a variant of the familiar ascending clock model is very well suited to auctioning pollution permits to a regulated community. This is explained in a blog post on the Feasta website in the context of allocating carbon permits[3]:. The same arguments presented there apply for HFC production and consumption permits. Important advantages include the ascending clock model's simplicity and its resistance to gaming. Both of these factors directly address EPA's concern that the HFC auction be designed "so as not to discourage participation by small businesses and businesses that are socially and economically disadvantaged" (27204). Larger and better-capitalized businesses will derive no great advantage in the auction from hiring consultants and advisors.

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[3] https://www.feasta.org/2021/03/29/auctioning-carbon-permits-a-primer-for-the-u-s-a/

Regardless of which option EPA uses, one complication is the AIM Act's requirement that EPA issue "the full quantity of allowances necessary, based on projected, current, and historical trends" for six specific end uses. One way to incorporate that requirement into an auction regime would be to hold seven separate auctions. The main auction would be open to any legitimate manufacturer who can make use of the allocations. In the six supplementary auctions, only manufacturers registered in those six particular sectors would be eligible to participate. Another way, perhaps slightly less elegant, would be to subsidize the six sectors by giving players in those sectors (or other parties that need a leg up) "vouchers" entitling them to purchase allocations at a discount off the nominal price they bid. EPA should recognize that if participants in these sectors purchase less HFC than the Agency has projected they will need, it might not mean that the participants require help obtaining more HFCs. It might mean that market mechanisms are working correctly, and the sectors are being weaned off HFCs even faster than anticipated.

In a worst-case scenario—in which one big player or several try to corner the market on allocations by bidding up the price far beyond market value, EPA would be well within its rights to invalidate the auction (EPA's power to do this is clearly implied in the definition of "allowance" on page 27207) and impose new restraints, like (for example): no one may seek a quantity of allowances more than 10% greater than the quantity they purchased at the last auction.

We applaud EPA for (as it appears) limiting permit-holding to legitimate manufacturers who can make use of HFCs, and requiring EPA approval of permit transfers. This will help prevent the sorts of gaming seen in carbon permitting regimes that allow third parties to buy and sell permits (where speculative gains made by profiteers in secondary markets are passed on to permit-redeemers, and ultimately to consumers). The only legitimate reason to have secondary markets in regulatory permits (the "trade" in cap-and-trade) is to efficiently allocate permits. If the permits are initially allocated by auction, they will be very efficiently allocated from the start, and little trading will be necessary.

One issue that does not appear to be discussed in the proposed rule is the possibility of *banking* allocations from year to year. If manufacturers know that they will lose any allocations that are not used by the end of the year, they may be tempted to accelerate their use of HFCs, which would be counterproductive. Better would be to allow manufacturers to carry over allocations from year to year (within limits). EPA would then be able to reduce the cap in the subsequent year by the number of allocations carried over, providing accelerated environmental benefits.

In the world of carbon pricing, there is a general consensus that *upstream* regulation (assigning permits to companies that introduce fossil fuels into the economy) is easier to administer and easier to comply with than midstream or downstream allocation (assigning permits to refiners or end users or consumers).[4] Regardless of which of EPA's contemplated options for HFC allocation is selected, EPA would do well to consider whether it would be possible to regulate any further upstream than already envisioned. This would directly address the "challenge EPA sees" in "identifying all of the end users" as required under the current system" (27174). Any concerns about ensuring that adequate quantities of HFCs flow to the six special sectors could be met using a separate mechanism (e.g., subsidies for purchase of HFCs from the regulated manufacturers). EPA can also plan ahead by considering how an

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[4] See, for example: Tim Hargrave, *U.S. Carbon Emissions Trading: Description of an Upstream Approach*. Center for Clean Air Policy (March 1998), http://ccap.org/assets/US-Carbon-Emissions-Trading-Description-of-an-Upstream-Approach_CCAP-March1998.pdf.

upstream system for regulating HFCs could eventually be merged into a comprehensive system encompassing additional sources of greenhouse gas gases such as transportation fuels.

One final advantage of auctioning HFC allocations is that it will raise revenue that can be used for public purposes. When auctioned carbon permits generate revenue, the typical approach is to spend those funds on sectoral improvements, including research & development of new technologies, etc. However, FEASTA promotes the idea of returning the revenues back to households, in order to assist families in meeting the increasing costs of the regulated products. Producers of HFCs will build the costs of the permits into their prices, and it will ultimately be consumers who will bear the financial burden of the program. This is a good thing, in that it will provide a price signal that will get households to seek alternatives to products that contain HFCs. But it has a downside, which is that it drains resources from households just as they need to manage that transition. If the EPA refunds the auction money to residents on an equitable basis, the program would retain the upside (price signals) while eliminating the downside. The amount of revenue raised and distributed by the HFC program would be relatively small compared with the amount distributed by a general carbon cap-and-dividend program, but it could be a pioneering step toward establishing distribution channels that could eventually be used by a general carbon cap-and-dividend program in the U.S.[5]

Second, there is the issue of equity and climate justice. We were pleased to see EPA's inclusion of environmental justice concerns in the proposed rule (27157-60). An equal per capita dividend addresses the presumed regressive impacts of allocation pricing on low-income households and helps ensure that vulnerable populations are not put at risk by the policy. A climate dividend could eventually become part of a basic income, addressing economic inequality, unemployment, and social justice. We encourage EPA to include mention of climate dividends as an option when conducting outreach with disadvantaged communities.

Third, and by no means the least important, there is the matter of principle. In his book of the same name, author Peter Barnes posed the question, "*Who owns the sky?"* The answer is that we all do. If companies are going to purchase permits to pollute a resource that belongs to all of us in common, that money belongs to all of us. Though too infrequently applied in practice, this principle has deep and respectable roots in the work of thinkers like John Locke and Thomas Paine, and it deserves to be given consideration by policymakers today, as urged by writers like Barnes and economist David Ellerman.[6] If it is objected that government needs the money for programs that benefit the public, the answer is that government has other ways of raising money, including the power of taxation (including taxing the dividend). But the public itself has a first claim on the revenue from exploitation of a common resource.

Fourth, there is the question of public support. Providing dividends can be a way of raising public awareness and support for an HFC or GHG pricing system. See, for example, how Alaska's decision to pay an annual dividend to residents out of a portion of invested Permanent Fund oil revenues—justified on a similar principle, the idea that Alaska's oil reserves belong to the public and the public should be

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[5] For an evaluation of possible modes of distribution, see Allen H. Lerman's 2018 Paying Dividends to American Residents from Carbon Fee Revenue.

[6] See: Peter Barnes, *Who Owns the Sky?* (Island Press, 2001); David Ellerman, "Rethinking Common Versus Private Property," *American Journal of Economics and Sociology* 75/2 (2016): 319–345; Brent Ranalli, *Common Wealth Dividends: History and Theory* (Palgrave Macmillan, 2021).

compensated for their drawdown—has created broad-based support for the Permanent Fund for decades.

In sum: Designers of an HFC cap-and-permit system should look to the carbon market design literature rather than the ODS model. Many lessons have been learned in the 30 years since the 1990 Clean Air Act Amendments were implemented, lessons that matter even more in a *phasedown* (HFCs and other greenhouse gases) than they do in a *phaseout* (ODSs). Efficiency, fairness, and ease of administration and participation all point toward *auctioning* as the optimal way to perform allocations. This is evident in EPA's own assessment of the available options. An auction regime can be designed to be simple and resistant to gaming, fair to smaller and disadvantaged players, and compliant with special provisions of the AIM Act. Feasta urges EPA to return funds from a GHG price on HFCs back to the people as a climate dividend, to ensure that the program complies with environmental justice objectives, to promote citizen interest and stewardship, and to pave the way for an eventual more general GHG-based carbon dividend program.

Thank you for your consideration.

***Feasta (the Foundation for the Economics of Sustainability**) is an ecological economics think tank, based in Ireland and with international membership. The word 'Feasta' means 'in the future' in the Irish language.*

Feasta's aims are to identify the characteristics - economic, cultural and environmental - of a truly sustainable society, articulate how the necessary transition can be effected and promote the implementation of the measures required for this purpose. It is a member of Stop Climate Chaos and the global Wellbeing Economy Alliance.

http://www.feasta.org