NGO comments on Briefing Paper: HFC availability on the EU market

The Environmental Investigation Agency (EIA) submits on behalf of Climate Action Network Europe, Climate Advisers Network, Deutsche Umwelthilfe e.V. (DUH), ECODES, ECOS, European Environmental Bureau (EEB) and Associação Sistema Terrestre Sustentável (ZERO) the following comments and questions on the March 2020 draft technical paper produced by Őko-Recherche.

General Comment

Fast action on potent short-lived greenhouse gas emissions has never been more necessary. Rapid global warming is bringing us perilously close to reaching critical climate tipping points. The forthcoming review of the EU F-Gas Regulation should therefore be undertaken with a view to enabling the transition away from climate-damaging hydrofluorocarbons (HFCs) to be undertaken as quickly as possible. This means revising legislation to speed up the phase-down of HFCs alongside additional measures to support implementation.

Price development and availability

Higher prices for higher-GWP HFCs are a part of the phase-down strategy as they encourage the market to adopt better (and cheaper) alternatives. However, unless they are accompanied by sectoral bans and other clear market signals, businesses can be unprepared and the subsequent continued demand for HFCs can drive illegal trade.

At the top of the supply chain, prices are set by a small number of gas producing companies. In 2017 major producers significantly raised prices, leading to complaints that price hikes were "unjustifiable" and "in contravention of competition rules".[1] At the time some industry experts observed that availability of HFCs would be a bigger problem than high prices in 2018.[2] However concerns over availability appear to have been limited to only some stakeholders in late 2017 and early 2018; in 2018 prices started to fall and these price reductions have continued through 2019. According to the Őko-Recherche briefing, "almost no problems as regards the availability of HFC refrigerants occurred in 2019."

There are a number of potential explanations for these price developments and reported availability:

- The HFC-consuming industry has moved in a significant way to HFC-free and lower-GWP HFC alternatives, as intended;
- Illegal HFCs have entered the EU market, bringing down prices and increasing availability;
- Large HFC supplies were stockpiled in 2017;
- Smaller players have entered the market, bringing down prices through competition and allowing for better cross-market access to HFCs;
- Better leak reduction and increased reclamation has taken pressure off demand for virgin HFCs.

[1] https://www.coolingpost.com/world-news/refrigerant-price-increases-unjustified/

[2] https://www.coolingpost.com/world-news/r404a-will-be-scarce-and-more-expensive/ and Ref 4. In Oko-Recherche Briefing paper: HFC availability on the EU market.

The reality is likely a combination of some or all these elements but there is a lack of detailed information to understand the relative importance of each element. As a starting point, more information on the actual prices (in addition to the *relative* price changes) would enable a better examination of the price development along the supply chain. Without such information it is hard to interpret why the end user price development is so different to the development of average prices of service companies, OEMs, gas distributors and gas producers – even with higher prices at the end user. EIA's research on HFC prices has demonstrated significant regional variations in end user prices, for example in 2018, two Greek refrigerant suppliers were reporting prices of €30-40/kg for R410A and €20-35/kg for R134a at the same time as two Belgian refrigerant suppliers were reporting €50-70/kg for R410A and €35-70/kg for R134a. It would therefore be useful for the analysis to look at differences across Member States.

Taking each point in turn:

Switch to low-GWP alternatives: Additional information to assess the switch to low-GWP alternatives at the market level would be helpful to understand if the market is moving at the required pace to meet the HFC phase-down. This could entail market surveys of key sectors such as commercial refrigeration and single-split air-conditioning. For example, the HFC phase-down anticipated a very swift conversion to low-GWP alternatives (GWP <150) in new equipment and its schedule (the availability of quotas each year) was based on this swift conversion. By 2020, many sectors were to have fully converted to low-GWP alternatives and, therefore, actual conversion rates are good indicators of the degree to which the switch to low-GWP alternatives is responsible for upward or downward price developments. One approach would be to compare the pace of the anticipated transition in the modelling for the *Preparatory Study* and *Impact Assessment*, upon which the HFC phase-down schedule was based, to the actual pace of transition via market surveys or other means. For the two key sectors identified above, new equipment in both commercial refrigeration and single-split air-conditioning were expected to have fully converted to low-GWP alternatives by 2020 (*i.e.* this year). To the extent that mid-GWP HFCs or HFC blends have taken over the market instead in those sectors would indicate higher-than-anticipated demand, not lower. These comparisons would be most useful if done year on year.

Illegal Trade in HFCs: The continued strong availability of HFCs in 2018 and price reductions in 2018/19 suggest that illegal HFC imports have been increasing market supply. There is compelling information, from Member States, industry and NGOs like EIA, that demonstrates high levels of illegal trade since 2018.[3]

In response to concerns over illegal trade of HFCs the European Commission and Member States have been taking action to strengthen compliance with the Regulation, with some success; for example, there were 11 reported seizures in the second half of 2019 of around 54 tonnes of HFCs, a ten-fold increase compared to the same period in 2018.[4] This indicates increased enforcement effort on the part of customs, however there remains a serious lack of follow through in terms of prosecuting offenders and successful application of penalties that will deter future illegal trade. When information about penalties has been made public, they are often spot fines representing a paltry fraction of the potential profits to be made by the seized HFCs. The ongoing lack of severe penalties applied continues to incentivise illegal trade. Moreover, in terms of regulatory design to prevent illegal trade, the F-Gas Regulation leaves a lot to be desired. Member States and customs

[3] See EIA (2019) Doors Wide Open. Europe's Flourishing Illegal Trade in HFCs. https://reports.eia-international.org/doorswideopen/; See also Cooling Post (April 2020). Illegal HFC still entering the EU. Detailing Kroll investigations leading to illegal imports of HFCs equivalent to 4.7 $MtCO_2e$. https://www.coolingpost.com/world-news/illegal-hfc-still-entering-the-eu/

[4] Reported seizures by Cooling Post, EFCTC, UNEP, Coowor, Cci Dialog and Refrigerant HQ

authorities are severely disadvantaged because the tools required to address illegal trade were omitted from the F-Gas Regulation. This includes an HFC licensing system that would allow Member States and customs authorities real-time-per-shipment tracking of imports and exports against quota allocation. Moreover, because of loopholes, such as the definition of non-refillable containers, the 100 tCO_2e threshold and an ill-conceived HFC quota allocation system that lacks transparency, many small-time illegal traders have emerged, further exacerbating efforts by Member States and customs authorities. For these reasons, the illegal trade in HFCs is likely a significant source of ongoing HFC availability and price reductions.

Stockpiling

It is clear from HFC reported data and customs data that stockpiling took place in 2017 in preparation for the 2018 quota cut. According to EIA's analysis of EU customs data, bulk HFC imports to the EU were 21% higher in 2017 than in 2016 on a tonnage basis and 18.3% higher on a CO_2e basis.[5] EEA reported data also shows stockpiling, although to a lesser extent; 2017 bulk imports were 15.6% higher on a tonnage basis and 8.6% higher on a CO_2e basis.[6] Stockpiling is therefore likely to have contributed to some extent to price declines and improved availability of HFCs.

Changing Market structure

The briefing notes that the adoption of the HFC quota system has enabled a proliferation of market players from just over 100 actors to approximately 2,500 actors, and that increased competition from lots of smaller players could have contributed to lower prices since 2018. However, EEA data for 2017 (the period of rapid HFC price hikes) shows a significant number of actors (1,728) were already reporting F-gas activity.[7] The impact of the significantly increased number of market players is more likely due to new entrants exploiting the opportunity of being registered in the HFC Registry to flout quota limits and illegally import HFCs. It is worth noting that the new-entrants reserve comprises only 11% of all available HFC quotas in any given year and many new entrants are actually subsidiaries of the major market actors, such as Daikin. Thus while in the abstract the notion of a proliferation of market players may appear to be a logical leap, the reality is that their actual ability to influence price developments is likely limited, especially since the HFC quotas in the new-entrants reserve once divided among the new entrants are small.

Better leak reduction and increased reclamation has taken pressure off demand for virgin HFCs.

Additional information to examine efforts to reduce leakage is needed to understand if better leak management is working to increase the availability of HFCs. The briefing notes that HFC reclamation has tripled since 2015 to reach 4% of the EU virgin HFC supply in 2018 (measured in CO_2e). Although it is positive to see reclamation increasing, the 2018 rate is just a quarter of the 16% annual reclamation rates assumed in the European Commission 2012 impact assessment.[8] Such low reclamation levels place extra pressure on HFC supply and further drive demand. Therefore it does not seem that increased reclamation would be having an impact on prices and availability to any large extent, although the impact of the Article 13 prohibition on maintaining and servicing refrigeration equipment with HFCs with a GWP ≥2500 is not discussed in the briefing.

Article 9 requires Member States to encourage the development of producer responsibility schemes for the recovery of F-gases and their recycling, reclamation or destruction and Member States are required to provide information to the Commission on the actions undertaken in this regard.

[5] EIA (2019) Doors Wide Open. See Table 3 on page 10.

[6] EEA (2018) Fluorinated greenhouse gases 2018 Data reported by companies on the production, import, export and destruction of fluorinated greenhouse gases in the European Union, 2007-2017

[7] Annex 5, Table A5.25. EEA (2019) Fluorinated greenhouse gases 2019. Data reported by companies on the production, import, export, destruction and feedstock use of fluorinated greenhouse gases in the European Union, 2007-2018

[8] European Commission, Impact Assessment: Review of Regulation (EC) No 842/2006 on certain fluorinated greenhouse gases (Commission Staff Working Paper), SWD(2012)0364, p. 159.

Therefore, an analysis and summary of actions taken by Member States on producer responsibility schemes would be useful to better inform the impact of reclamation on HFC availability and potential in the future.

Conclusions

Price developments of HFCs and their alternatives are an important element of the HFC phase-down. We appreciate the ongoing monitoring of refrigerant prices and agree it should continue, particularly with the 2021 phase-down step fast approaching. Additional information on actual prices at each level of the supply chain and Member State variations would be helpful to better understand the implications of the price development.

The conclusion that there is good availability of HFCs indicates that the phase-down can be accelerated in future years. However, if a significant proportion of the available HFCs are currently sourced from illegal imports this would increase pressure on the demand for HFCs and potentially lead to additional price hikes and illegal trade. For this reason, a strengthened phase-down schedule needs to be supported by other measures to accelerate the market transition to HFC alternatives and to reduce demand for HFCs, including new placing on the market restrictions in sector yet to be covered (e.g. heat pumps, industrial refrigeration), additional requirements to ensure recovery and reclamation of refrigerants and additional measures to address the illegal trade in HFCs.

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