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Illegal refrigerant imports could be as much as one third of EU market

Brussels, 26 June 2020 – Europe's climate goals are being undermined by a thriving black market for hydrofluorocarbons (HFCs). The exact size of the market is unknown, but a new database created by Oxera Consulting LLP shines a strong light on the issue. Oxera's assessment of HFC trade flow data, analysed by the European FluoroCarbons Technical Committee (EFCTC), indicates that this illegal trade could represent up to 34 million tonnes CO₂ equivalent (eqT) – or 33% of the legally allowed quota in 2018.

A significant quantity of HFCs – common refrigerants used in everything from commercial chillers to automotive air conditioning systems – are entering the European market through covert, illegal supply routes that circumvent the EU's F-gas regulation. These rules, which entered into effect in 2015 to help phase down the consumption of HFCs with a high Global Warming Potential (GWP) via a quota system. They are in force at all entry points to the EU and should be controlling the F-gases placed on the European market.

The European Green Deal leads Europe towards climate neutrality with one of the most ambitious environmental legislations in the world. Such an ambitious legislation should be matched by ambitious enforcement; through controlled EU borders and enforced existing regulations.

However, regulatory enforcement of the F-gas regulation is inadequate as black-market operators continue to bring non-quota HFCs to Europe. This illicit activity funds organized crime and negatively impacts European businesses across the supply chain, many of whom are small and medium-sized companies that are unwittingly distributing and using illegally imported products or suffering huge losses when undercut by those who do.

Because of the illegal nature of the issue, calculating just how much uncontrolled trade occurs has been challenging, with the size of the black market the subject of continued speculation. An earlier [report](#) from the Environmental Investigations Agency (EIA) estimated illegal imports of HFCs in 2018 to be responsible for 16.3 million CO₂eqT. However, based on the research from data analytics consultancy Oxera, the EFCTC estimates the figure to be far higher.

Oxera gathered and compared publicly available data from EU statistics agency Eurostat and the United Nations' trading statistics database Comtrade, as well as Chinese export data. Based on these data, EFCTC concludes that the volume of HFC refrigerants entering the EU market illegally in 2018 could be as high as **34 million CO₂eqT** – double previous worst-case figures. This number:

- Is equivalent to each of the 1.2 million inhabitants of Brussels taking a transatlantic flight every day for a month
- Is equivalent to adding 25 million new cars to European roads (more than the total number of cars in use in Spain in 2018)
- represents 33% of the 2018 legal quota (101.2 million tonnes CO₂e). This means that the illegal imports could represent as much as 25% of the combined market of legal and illegal supply (34 of 135.2 million tonnes CO₂e).
- Is the equivalent of a developed country's annual CO₂ impact. The figure would come in as the EU's 20th largest, higher than the yearly footprint of countries such as Croatia, Estonia and

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Cyprus, if the global warming potential of illegal HFCs were measured alongside the 27 EU Member States.

"While we have no way of knowing the exact size of the HFC black market since illegal trade is not reported officially anywhere, this new analysis reveals a robust indication of the scale of the problem. Illegal HFC trade could be even more alarming than previous worst-case estimates," said Daniel Martinez-Valle, CEO of Orbia, parent company of EFCTC member Koura Global. "With a further reduction of the quota coming up in January 2021, we are calling for a better enforcement of the F-gas regulation to help stem the flow of illegal imports into Europe."

While the scale of the problem is clearly significant, EFCTC believes it can be fixed through stricter enforcement at the EU and Member State level, tighter border controls, cooperation and use of common infrastructure to support better tracking and tracing of HFC imports, and greater awareness of the issue across the entire supply chain.

The analysis revealed two major trade flows that could be hiding illegal imports:

Firstly, Oxera data revealed a **gap of 19 million CO₂eqT in 2018 between the reported exports from China to the EU and the official EU reports on imports from China**. This discrepancy could be feeding a thriving black market in HFCs and coincides with a tightening of the allowable HFC quota in 2018.

Secondly, Oxera identified a 40% increase in HFC exports from China to EU neighbouring countries¹ between 2016 and 2018, accelerating steeply in 2018 at the same time as the quota was tightened. An analysis by EFCTC has shown that market growth does not account for this spectacular increase in imports² There is a **15 million CO₂eqT excess in exports above those justified by market dynamics**.

Investigations into the trade routes of illegal imports of HFCs by the agency Kroll and public authorities have shown that HFCs frequently travel through these neighbouring countries on their way into the EU (read more [here](#)).

Data investigations agency Kroll is in contact with member state authorities to build hard evidence of illegal HFC trade. Their research revealed shipments arrive through various ways including misdirected transshipments, quota abuse, open smuggling, and counterfeit products. Combined, Kroll has been able to build evidence of a total of at least 3,000 tonnes of HFCs (or 4.7 million CO₂eqT).

The new EFCTC analysis based on the database created by Oxera is the first to also quantify the impact of potential imports from the EU's neighbouring countries, which explains why previous figures could have gravely underestimated the size of the issue.

"The discrepancy between Chinese export numbers and Eurostat's recorded imports and the substantial increase in HFC imports into neighbouring countries are stark. Illegal HFC trade could be

¹ Albania, Armenia, Bosnia and Herzegovina, Georgia, Kazakhstan Macedonia, Moldova, Montenegro, Russian Federation, Serbia, Switzerland, Turkey, Ukraine

² An analysis by the EFCTC of the growth rate in HFC-use in Turkey as documented by the United Nations Industrial Development Organization (UNIDO) survey on Alternatives to ODSs in Turkey shows only a 6.3% year over year growth from 2012 to 2018 (in CO₂eqT). EFCTC have calculated that if the other NCs follow a similar domestic growth rate as the transition to HFCs in Turkey, the excess in imports from China into Neighbouring countries above those justified by domestic market dynamics in these countries is 15 M CO₂eqT.

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one of the reasons for the differences in the data,” says Matthew Shepherd, Principal at Oxera Consulting LLP.

“Every new investigation enhances our understanding of the prevalence of illegal HFCs. This growing problem needs to be addressed immediately, through stricter enforcement, seamless coordination amongst member states and reporting of suspected illegal activity within the value chain,” says Daniel Martinez-Valle. “Some Small and Medium-Sized Enterprises (SMEs) have reported losing up to 80% of their business while watching illegal activity and organized crime stealing their livelihoods right in front of their eyes. EFCTC will continue raising awareness and collaborating with authorities to help eradicate the black market for HFCs.”

For more information and to learn more about what you can do to eradicate this problem, please visit www.stopillegalcooling.eu. To report suspicious activity visit the EFCTC [Action Line](#).

About EFCTC

The European FluoroCarbons Technical Committee is a sector group of the European Chemical Industry Council (Cefic) and is represented by the companies Arkema, Chemours, Daikin Chemical, Honeywell and Koura. Its main objectives are to provide up to date information about applications, safety, health and environmental effects for HFCs (hydrofluorocarbons), HFOs (hydrofluoro-olefins), and the relevant European and international legislation.

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