

Illegal Imports of HFCs into the EU: Why Now? & Actions to Identify, Detect, Prevent, Penalise, Prosecute

Why Now?

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Why Now?

The F-Gas Regulation (EU) No 517/2014 has been designed to promote a shift to lower GWP refrigerants particularly through the HFC phase-down and the service and equipment ban from 2020 for high GWP refrigerants. The phase-down mechanism gradually decreases the total placement of HFCs on the EU market in the EU (calculated in tonnes of CO₂ equivalent) encouraging the shift to lower GWP refrigerants which allows higher actual tonnes of HFC based refrigerants to be placed on the market compared to continuing with the status quo (Figure 1).

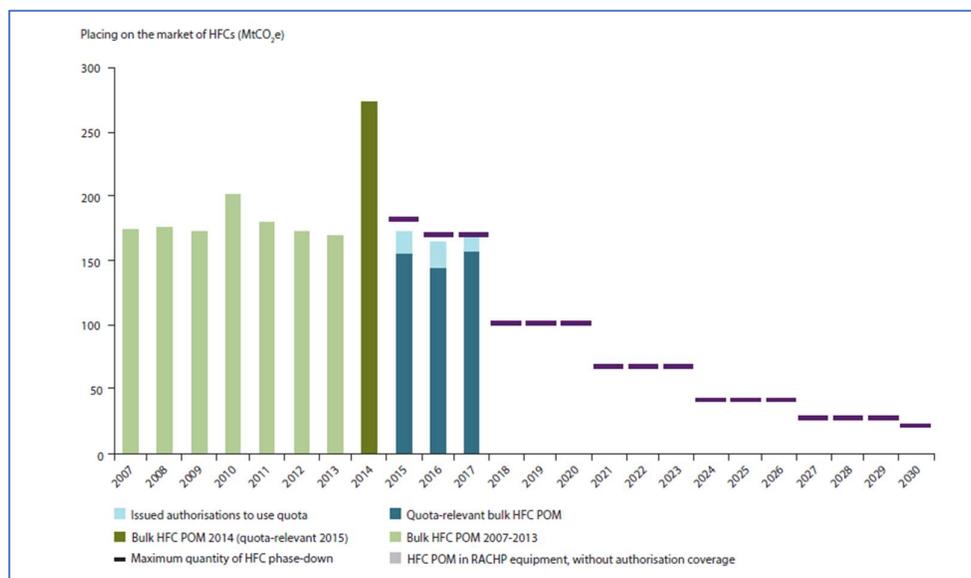


Figure 1: Progress of the EU phase down¹

The maximum quantity of HFCs under the phase-down had a steep decline from 2018, a 37% reduction compared to the baseline. Although the phase-down has been known at least since the publication of the Regulation in 2014, some users of HFCs have not prepared for its effect on the availability of higher GWP HFCs in particular. As is normal in any supply demand imbalance prices shift to reflect the market conditions, and the higher prices and scarcity of some HFCs has provided an opportunity for significant illegal imports.

It has been estimated that illegal imports were about 20% of the allowable quota in 2018, mainly the most widely used refrigerants R-134a, R-410A and R-404A. The Environmental Investigation Agency (EIA)² noted that reports about illegal trade began to emerge in 2016,

¹ EEA Report No 21/2018, [Fluorinated greenhouse gases in 2018](#)

² See the updated EIA report was presented by Fionnuala Walravens (EIA campaigner) at the 18th European Conference on Latest Technologies in Refrigeration and Air-conditioning (Milan) held on 9 June 2019. https://www.fluorocarbons.org/wp-content/uploads/2019/06/2019-06-26_EFCTC_EIA-analysis-of-Hydrofluorocarbon-HFC.pdf

and in 2017 suggested that about 9% of the allowable quota was illegally placed on the EU market.

Öko-Recherche monitors HFC price activity on behalf of the European Commission's directorate-general for climate action, DG Clima. At a recent F-gas stakeholder meeting in Brussels³, Öko-Recherche confirmed that 2018 was split into two parts, with strong price rises in the first half of the year with price decreases in Q3 and Q4. They reported further decreases in the first quarter of 2019 and noted that no refrigerant shortages are now being reported. According to the interviewed companies, different aspects might have affected refrigerant prices:

- Residual quota quantities (mainly 2018 Q4);
- Stockpiling in previous years;
- Increased care in handling refrigerants;
- Move to lower GWP alternatives;
- Illegal trade.

The evidence available suggests illegal imports are continuing at a significant level undermining the objectives of the F-Gas Regulation to reduce emissions and promote a switch to lower GWP refrigerants.

In addition, the control of use (F-Gas Article 13) for refrigerants with a GWP >2500 from 1 January 2020 will inevitably lead to a reduction in legal supply of R-404A. While reclaimed and recycled R-404A can continue to be used, this measure may result in an increased supply of illegal R-404A.

The phase-down step from 2021 has the potential to further encourage illegal imports of R-134a, R-410A and R-404A used for servicing MAC and RACHP systems (Figure 2).



Figure 2: EU F-Gas regulation phase down mechanisms

³ EPEE F-Gas Round Table April 2019 https://www.epeeglobal.org/wp-content/uploads/EPEE-F-Gas-Industry-Roundtable_15-April-2019_Presentations.pdf

The Evidence for Illegal Imports

The Environmental Investigation Agency Investigations

The Environmental Investigation Agency has been instrumental in raising awareness of the illegal trade in HFCs through its report [“Doors wide open- Europe’s flourishing illegal trade in hydrofluorocarbons \(HFCs\)”](#) and the updated [report](#) was presented by Fionnuala Walravens (EIA campaigner) at the 18th European Conference on Latest Technologies in Refrigeration and Air-conditioning (Milan) held on 9 June 2019. The initial report had concluded that *“Information from industry stakeholders alongside media reports and trade data analysis suggests a growing prevalence of illegal HFC trade across the EU. HFCs are coming into Europe from China directly and via EU-border countries, in particular via Russia, Ukraine, Turkey and Albania. Customs data discrepancies indicate key entry points are likely Denmark, Greece, Latvia, Poland and Malta, however all member states need to take steps to examine customs data in relation to company data in the HFC Registry. Multiple industry sources reported that illegal refrigerants constituted 50-80% of the Greek, Bulgarian and Romanian markets. In Italy, ~5-10% of the mobile air-conditioning HFC market is estimated to be illegal while in Poland the number is estimated at 30%.”*

The EIA analysis in the updated report *“suggests that as much as 16.3million tonnes CO₂e of bulk HFCs was illegally placed on the EU market in 2018. This represents more than 16% of the quota and is in addition to illegal imports of HFC-containing equipment and illegal HFCs that are undoubtedly being smuggled under the radar of customs.”*

The EIA analysis is consistent with illegal imports being about 20% of the 2018 allowable quota.

Reports of Illegal Imports and Illegal Sales

There are regular reports of customs official and other agencies identifying and confiscating illegal HFCs. Illegal HFCs are being routinely offered for sale on internet platforms. The trading platforms Ebay and Ebay small advertisements are aware of this and delete unambiguous offers immediately, but the sellers disguise the offer with misleading images and banners. New offers appear every day.

Recent examples

In Lithuania, June 2019 sees 1,200 illegal refrigerant cylinders seized. Customs officials have recorded at least 12 attempts to illegally import smaller or larger quantities of gas from Belarus or Russia in June alone. <https://www.coolingpost.com/world-news/june-sees-1200-illegal-refrigerant-cylinders-seized-in-lithuania/>

AUTO BILD undercover investigation into illegal HFC-134a. AUTO BILD has published the report of its investigation into the availability of illegal HFC-134a in disposables in Germany. Initially advertised on eBay, with follow-up contact by WhatsApp, full 13.6 kg disposable cylinders of HFC-134a were available on this black market. Auto Bild Germany, 29th May 2019

In the Netherlands, the Human Environment and Transport Inspectorate (ILT) intercepted in late February an illegal shipment of HFC-134a in 123 cylinders each containing 13.6 kg thought to be intended for use in mobile air-conditioning. As well as being an illegal import due to no quota the HFC-134a was contained in prohibited disposable cylinders. Customs alerted ILT to the import. <https://www.ilent.nl/actueel/nieuws/2019/03/04/ilt-onderschept-illegale-handel-aircogassen>



In Poland, officers of the Tax Administration Chamber in Łódź discovered the illegal refrigerant during customs clearance of two consignments from Ukraine. The total weight of 25.5 tonnes included R-134a, R-404A and R-410A refrigerants in illegal disposable cylinders and was confirmed as being outside of the European quota system. It may be the largest seizure in Europe.

<https://www.coolingpost.com/world-news/poland-stops-huge-shipment-of-illegal-refrigerant/>

In Bulgaria, about 1.1 tonnes of HFCs R-134a and R-404A in disposable cylinders were seized by customs officers in a truck at the border.

Source <https://www.coolingpost.com/world-news/bulgarian-customs-seize-over-a-tonne-of-illegal-hfcs/>

Identifying Illegal Imports

There are four applicable measures that characterise the illegal trade:

- The HFCs have been or are intended to be placed on the EU Market by an undertaking that does not have (adequate) quota under the EU F-Gas Regulation, and/or
- The HFCs (or other F-Gases) are packaged in non-refillable containers which are prohibited pursuant to article 11 and Annex III of the EU F-gas Regulation. Article 2 defines ‘a non-refillable container’ as a container which cannot be refilled without being adapted for that purpose or is placed on the market without provision having been made for its return for refilling, and/or
- The HFCs are packaged in non-EU approved cylinders in breach of the Transportable Pressure Equipment Directive (2010/35/EU),
- In addition, the REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals) Regulation requires companies importing into the EU chemical substances above 1 tonne per year, to register for the level of their imports.

Understanding the implications of each of these measures should enable industry to help prevent illegal trade by making sure they know their supply chain and alerting authorities or the EFCTC “Action line” if they suspect illegal trade may be occurring.

The Joint [AREA/ASERCOM/EFCTC/EPEE leaflet](#) provides detailed information on how to identify illegal HFCs and cylinders in the supply chain and offered on internet platforms.



EFCTC has written to car manufacturers for assistance in the fight against illegal HFCs. As part of the multi-level programme against illegal trade, the CEOs and senior Executives of EFCTC member companies have written to the CEOs of the major car companies in the European Union requesting them to make their dealerships aware of the situation regarding the illegal import of HFC-134a, a refrigerant that is used extensively for the servicing of the existing automobile fleet and providing information on how to identify illegal HFC-134a.

For further information see https://www.fluorocarbons.org/wp-content/uploads/2019/06/2019_06_05-Draft-Press-Release-on-Automobile-CEO-letter_Final.pdf

For customs officials and other agencies additional information is required to find and identify illegal HFCs. **Many illegal HFC shipments are in Non-ADR Compliant cylinders:**

- Arriving in 20ft sea containers at major ports and land borders in Central Europe. Illegal shipments are being intercepted (eg Poland, Netherlands, Spain, Bulgaria)
- May be distributed via Internet and Express Delivery Services.

EFCTC is preparing a guide for Customs on the recognition of drums/cylinders/containers and ADR labelling to help identify illegal HFCs.

Non-ADR Compliant cylinders: The non-compliant cylinders containing HFCs are shipped from non-EU countries in non-refillable single use cylinders that meet the US DOT requirements, but not the ADR 1.1.4.2. requirements for the transportation of pressurized/liquefied refrigerant gases. The cylinders typically have a capacity of 5 to 10 litres. Disposable cylinders have been banned in Europe since 2007. Multilateral Agreement M318 allows certain gases and liquids in refillable pressure receptacles approved by the US Department of Transportation to be carried from the location of the temporary storage to the end users under strict conditions. This is limited to refillable cylinders. In addition, transport should be as dangerous goods in ventilated vehicles.



Figure 3: Example of HFC containers

Bulk shipments of illegal HFCs also occur: The HFCs may be in ISO container with 16 to 20 tonne loads, or in ton containers with 0.7 to 1 tonne of HFC, transported in 20ft or 40 ft sea containers (Figure 3). These may be imported without a quota or false quota holder declaration, or falsely labelled with a different tariff code, or declared as in transit and then imported.

Smuggling Methods for ODSs and HFCs

Adapted from the chapter Illicit trade in ozone-depleting substances (ODS) from East Asia to the world of a United Nations Office on Drugs and Crime report (2013). [Source](#)

False Labelling: Smuggled in cylinders or packaging labelled as legal products.

Mis-declaration: Disguised by putting the names of other similar, legal chemicals on shipping documents and invoices. This method is often combined with “double-layering”; filling a shipping container with cylinders of illegal substances except for a layer of the legitimate chemical stated on the Bill of Lading next to the container door.

Concealment: Simply hidden in ships, cars, or trucks and moved across border. This method usually involves small quantities but is lucrative and the overall volume can be significant.

Measures and Actions to help prevent illegal trade in HFCs

Raising awareness

The whole supply chain is becoming aware of illegal imports. The challenge is to ensure there is a good understanding of its scale, importation and routes for importation and to the market, identification of illegal HFCs, and penalties. Measures to raise awareness by International/National Associations are:

- Press Releases
- Brochures /EPEE Illegal Trade leaflet
- EFCTC CEO letter to Automobile CEOs
- Institutions and Authorities
- EFCTC is undertaking a PR campaign directed towards end-users

The EFCTC Action Line

EFCTC is financing a Private Investigation Agency and asking for reports of potential illegal trade through an Illegal Import ACTION LINE <https://efctc.integrityline.org>

The Action Line permits any individual to report alleged suspect HFC offerings confidentially to a trusted and independent contractor. Through the Action Line powered by EQS, leading provider of digital compliance solutions, anyone can report a suspicious offering of HFCs. The reports and the sources of information received on the Action Line will remain confidential and are analysed by an independent consultancy. Where appropriate, the details, including names and quantities will be shared by them with EU agencies such as the anti-fraud unit OLAF and relevant Member State authorities. Member States and the European Commission are already taking action against the illegal trade of HFCs. Customs Agencies, in particular have, and are making, preparations to stop such shipments and some have already been seized. The Action Line is available in several languages including German, Italian, and Polish, with additional languages to be added based on demand from members. Individuals, companies and associations who believe that they have identified illegal trade in HFCs should report it using the following link: <https://efctc.integrityline.org/>

The EFCTC Action Line received nearly 100 reports of possible illegal trade in HFCs in its opening three months see <https://www.fluorocarbons.org/wp-content/uploads/2019/07/2019-07-01-EFCTC-Press-Release-100-reports-F.pdf>

Investigations

In addition to the thorough investigations by the Environmental Investigation Agency (EIA), EFCTC Member Companies are analysing import data to understand the pattern of imports and

The EFCTC financed Private Investigation Agency is carrying out its own investigations for illegal imports in bulk or as containers of disposable cylinders (DACs- disposable

Where appropriate the information is shared with OLAF (EU Anti-Fraud Office) or Member States agencies.

Targeted Actions by Customs

In the short term

- Stop the illegal imports from surrounding countries and into main EU harbours
- Identify false import declarations into the EU28 and in transit

In the medium term

- A solid electronic notification system is needed for customs to access the F -Gas Quota Database

Access to the F-Gas Quota Database is needed for Customs: The access to the F-Gas Quota Database is needed as there are over 1000 New Entrants having small HFC quotas and tracking to check if any quota holders have exceeded their quota for imports is required.

New Entrants with quotas below 10000 tonnes CO₂e (about 7 tonnes of R-134a) do not need an auditor for the annual reporting.

F-Gas Regulation: Companies reporting in 2018: From EEA Report No 21/2018, [Fluorinated greenhouse gases in 2018](#)

By 12 June 2018, 1 699 companies had reported on their F-gas activity during 2017, 33 % more than in the previous year. A further 983 companies reported no reportable activity during 2017 (nil report). As shown in Figure 4, companies are distributed across all EU Member States, the largest numbers are located in Poland, Italy, Germany, France, the United Kingdom and Spain. Polish companies contribute about one third to the observed rise of reporting companies. Of the 80 non-EU companies, most are Chinese that export gases or equipment to European subsidiaries and partners.

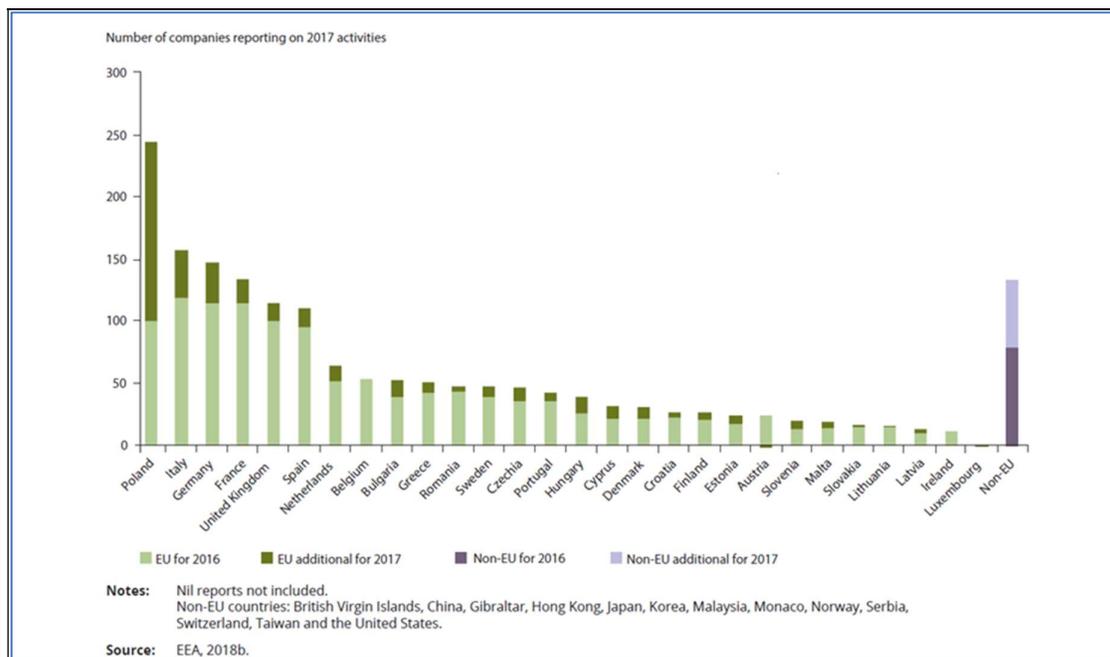


Figure 4: Reporting companies and new registrations in 2019 by Member States

ADR inspections are an effective tool in the disruption of distribution

EFCTC has called for cylinder regulations to be strictly enforced by competent authorities to control illegal trade in HFCs. See <https://www.fluorocarbons.org/wp-content/uploads/2019/06/2019-05-30-EFCTC-Press-Release-ADR-F.pdf>

Non-compliant cylinders containing illegal HFCs are shipped from non-EU countries in non-refillable single use cylinders (eg DOT 39) that meet the US DOT requirements, but not the ADR 1.1.4.2.⁴ requirements. The cylinders typically have a capacity of 5 to 10 litres and are transported in 20 ft sea containers. Furthermore, disposable cylinders have been banned in Europe since 2007. A Multilateral Agreement M318⁵ allows the transport of suitably labelled refillable cylinders. If refillable containers are transported from temporary storage (warehouse) to the end user and none of the ADR requirements (marking, labeling and etc.) are in place, then transport documents of such carriage must be signed with “Carriage in accordance with Multilateral Agreement M318 Part 1”.

Therefore, under Multilateral Agreement M318, certain gases and liquids in refillable pressure receptacles approved by the US Department of Transportation may be carried from the location of the temporary storage to the end users under strict conditions. Since the cylinders widely used for illegal trade are non-refillable, they clearly do not qualify under the exemption of M318. As the disposable cylinders containing HFCs are illegal within the

⁴ https://www.unece.org/trans/danger/publi/adr/adr_e.html

⁵ <https://www.unece.org/trans/danger/multi/multi.html>

EU they can be impounded by the authorities irrespective of their source. ADR inspections are an effective tool in the disruption of the distribution of illegal HFCs.

Small numbers of disposable cylinders may be advertised on internet sites, where their shipment to the purchaser is neutrally packed in an outer carton to disguise the HFCs. Their shipment may be via regular non-specialised transport and not as dangerous goods in ventilated vehicles. Transport in standard delivery vehicles potentially exposes the driver to suffocation in the event that the cylinder leaks.

Enforcement Action Including Penalties

The F-Gas Regulation requires “Member States shall lay down the rules on penalties applicable to infringements of this Regulation and shall take all measures necessary to ensure that they are implemented. The penalties provided for must be effective, proportionate and dissuasive.” Industry has called for penalties to be set at a high level to ensure that illegal trade is discouraged, for the supplier and the purchaser of the HFCs.

EFCTC is developing a map of the relevant legislation and enforcement regimes and collecting statistics and details of prosecutions last three years to enable conclusions and recommendations for enhanced and effective penalties throughout the EU.

REACH Regulation 1907/2006 requires in Article 126: Penalties for non-compliance

“Member States shall lay down the provisions on penalties applicable for infringement of the provisions of this Regulation and shall take all measures necessary to ensure that they are implemented. The penalties provided for must be effective, proportionate and dissuasive. The Member States shall notify those provisions to the Commission no later than 1 December 2008 and shall notify it without delay of any subsequent amendment affecting them”.

Additional penalties and costs for businesses

Additional penalties could arise if the use of contaminated illegal refrigerants lead to health and safety impacts. Premature failure of equipment or poor operating performance due to servicing with contaminated refrigerants adds to operating costs for equipment owners. The loss of business due to participating in illegal activities is an additional risk.

Summary of Possible Actions to fight illegal trade

Figure 5 summarises some of the possible action to fight illegal trade.

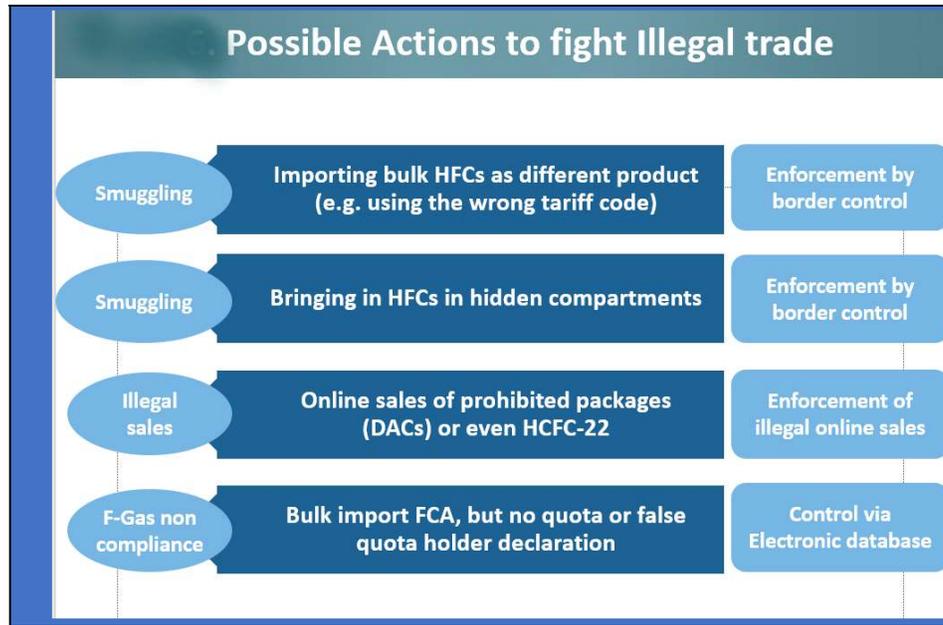


Figure 5: Actions to fight Illegal imports of HFCs

There are additional possible measures by the Commission and Member States to combat illegal trade:

- Greater transparency about legitimate source of HFCs would be achieved by the Commission publishing the names and locations of all F-Gas quota holders, which is not currently publicly available.
- A fund could be created for the destruction of confiscated HFCs in cases where the non-compliant undertaking cannot bear the cost.
- Member States could require customs to check systematically import declarations and verify if importer has (sufficient) quota.
- Member States should consider targeted inspections in vulnerable sectors, such as automotive AC repair shops, dairy farms.
- Member States can have spot checks for ADR compliance (non-refillable cylinders, cylinders without EC certificate).
- A knowledge network involving the Commission, OLAF, Member States authorities and the independent investigative services (employed by EFCTC) could share information, data, and results of investigations to further improve the targeting of actions.

The Broad Impact of Illegal HFC Imports on the F-Gas Regulation

For some Member States with external land borders, such as Poland, illegal imports are estimated to account for 40% of demand. Where HFC taxes apply, there is an impact on tax revenue generated by Member States, as illegal imports will not be subject to applicable taxes. This unfair situation will reduce demand for legally sourced HFCs that would be subject to tax.

Industry strives to ensure that the F-gas Regulation 517/2014 objectives and measures are delivered through significant investment in new refrigerants and equipment designs, training and certification for service engineers and a robust supply chain. There is considerable impact of Illegal HFC imports on the whole refrigeration and air-conditioning industry and its supply chain, in particular for those companies that have invested to supply refrigerants, equipment and services within the constraints set out in the Regulation.

Areas of the F-Gas Regulation that are being affected

F-Gas Compliance Behaviour

Cap and Suppliers' Quotas

Driving availability of and switch to lower GWP refrigerants

Use Bans on High GWP refrigerants >2500 GWP

Equipment suppliers' technical approvals and service engineers' knowledge support the switch to lower GWP refrigerants by retrofit or new equipment installation

Service and Maintenance. Leak repair and log books

Trained and certificated service engineers operate to a high standard to repair leaks, record refrigerant use, and source if reclaimed or recycled, and refrigerant recovery. A professional service that incurs costs to operate.

Impact of Illegal HFC Imports

Exceeds cap resulting in higher emissions, slows change to lower GWP refrigerants

Sidesteps use bans. Undercuts legitimate service companies. Delays decisions on retrofit or equipment replacement

Avoids leak repair and refrigerant recording. Illegal top-ups. Poor service practice leading to higher emissions. Less incentive to recycle refrigerant. Undercuts legitimate service companies. May use contaminated refrigerant leading to equipment failures, with refrigerant requiring destruction. Possible safety risks from poor quality cylinders or refrigerants.

Refrigerant recovery and return

Distribution and supply chain provide HFCs and lower GWP refrigerants in returnable cylinders, provide recovery cylinders for recovered refrigerants and cylinder management and return services.

Avoids legitimate supply chain, avoids costs, undercuts professional supply chain, no route for cylinder return for recovery of residual refrigerant leading to higher emissions

Refrigerant Reclaim and Destruction

Refrigerant reclaimers restore used refrigerant to required specification. Reclaimed HFCs such as R-404A have a value and can be used after the High GWP service ban. If not reclaimable, refrigerant is sent for destruction.

Reduces demand for reclaimed refrigerant. Contaminated illegal refrigerant may prevent reclaim resulting in higher levels of destruction. Adds costs to the legitimate supply chain.

A brief History of illegal trade in ODSs and HFCs

The successive phase-outs of CFCs and HCFCs and the phase-down of HFCs has inevitably resulted in illegal trade activity regionally and globally. The exact scale of the illegal trade can only ever be estimated based on activity and intelligence from the market and illegal trade interceptions. The main opportunity for illegal trade occurs when regulations to restrict supply are implemented nationally or regionally and the substance is freely available in other parts of the world. For example, the European Union's phase-out of CFCs prompted illegal trade in ODS and the main focus of the illegal trade was CFC-12. During the first phase of illegal trade of ODS in the mid-1990s, it was estimated that up to 38,000 tons of CFCs were being traded illegally every year, equivalent to 20% of legal commerce. In 2006 it was estimated by UNEP that up to 14,000 tonnes of CFCs, were being smuggled into developing countries every year and now there is now a growing illegal trade in HCFCs.

The Montreal Protocol put in place a licensing system for ODS to further regulate trade. Significant efforts were also undertaken to train customs officials and environment officials in combating ODS smuggling. UNEP OzonAction provides materials that are intended to support customs and enforcement officers in their work to implement national licensing systems for ODS, and future commitments on HFCs under the Montreal Protocol due to the adoption of the Kigali Amendment, to detect and prevent illegal trade in these chemicals, and to facilitate legal trade. The phase-down of HFCs in the EU is reducing supply and inevitably leading to some illegal trade facilitated by the legitimate availability of HFCs outside the EU.

However irrespective of the level of illegal trade, the Montreal Protocol has proven to be a success and highly regarded for its effective implementation. Similarly, the F-Gas Regulation is already successful in driving innovation, change to lower GWP substances and improving containment.

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