POSITION PAPER

CONCERNING THE PENDING REVISION REGULATION (EU) 517/2014

by the association Refrigerants, Naturally e.V., supported by its member organisations

On 28 November 2019, the European Parliament declared that we are facing a climate emergency. One year later, on 2 December 2020, the General Secretary of the UN, Antonio Guterres, urged nations to dramatically scale up global ambitions on mitigating GHG emissions in his landmark speech on the State of the Planet[1]. Pointing out the dire current environmental and climate trends, he said, "humanity is waging war on nature" and that nature was already "striking back with growing force and fury." Consequently, he said that "making peace with nature is the defining task of the 21st century. It must be the top, top priority for everyone, everywhere." F-gases are super-potent GHG, and they are the cause for persistent, bioaccumulative and toxic environmental damages[2]. Natural refrigerants provide an environmentally friendly alternative avoiding this climate and ecological damage. As highlighted in a recent decision of the German high court and similar court decisions in other EU countries, we need to deploy climate and ecological sound alternatives now to avoid restricting available options of future generations[3]. Revising the Regulation (EU) 517/2014 represents a considerable opportunity for setting the framework for climate-friendly and ecologically sound alternatives. The accelerated phase out of HFCs and the phase-in of natural refrigerants results in significant climate and environmental benefits which need to be realised meeting the targets of the Paris Agreement, enhanced and ambitious mitigation reductions and safeguarding significant ecological co-benefits.

Accelerated F-gas phase down and limiting the impact of HFC emissions

Refrigerants, Naturally! request to accelerate the phase-down of synthetic refrigerants with a high global warming potential and the transition to the safe use of environmentally sound natural refrigerants.

Heat pumps, room air-conditioners, chillers, and refrigeration applications are appliances and systems where alternatives with low (Global Warming Potential) GWP natural refrigerants are available in the EU and internationally. We are requesting a ban of high GWP refrigerants for these appliances with a limit of GWP 5. A sectoral ban provides a clear signal to the market, it is administratively effective to implement and faces a minimal risk of circumvention. A ban is significant for heat pumps, air conditioners and specific refrigeration applications. Notably, the market for heat pumps will grow by four times in the next decade. Without a ban on (Hydrofluorocarbons) HFCs, many harmful refrigerants will be placed on the market in new equipment, with lifetimes of 7 to 20 years. Through a ban, the market can directly transit to natural refrigerants with significant climate and environmental benefits. Additional damage to the environment through the effects of the use of HFCs and their decaying by-products, particularly the formation of Per- and Polyfluoroalcyls (PFAS) (which includes Trifluoroacetic Acids /TFA) of these rapidly increasing market segments, particularly the emerging market for heat pumps, can be avoided. Several European heat pump manufacturers

[1] See here speech to the UN General Assembly by UN General Secretary, Antonio Guterres 12.12.2020 see here https://news.un.org/en/story/2020/12/1079032

[2] See here Kwiatwoski et. al.2021 https://pubs.acs.org/doi/10.1021/acs.estlett.1c00049

[3] See here BVerfG, Beschluss des Ersten Senats vom 24. März 2021- 1 BvR 2656/18 -, Rn. 1-270,´; https://www.bundesverfassungsgericht.de/SharedDocs/Entscheidungen/DE/2021/03/rs20210324_1bvr265618.html

are well advanced with the development of heat pumps using natural refrigerants, and many leading suppliers have introduced these on the market. A ban of HFCs in this segment will advance the EU market position of the most medium-sized European manufacturers as the global phase-down under the Kigali Agreement begin to come into force. The timing of such bans should allow the market to further develop and optimise their equipment with alternative refrigerants and ensure that production and installing resources can meet future market volume needs. For some applications (room air conditioners, air-to-water heat pumps), such alternatives are available today; for others, the industry would require a period to adjust for their market fully readies over, e.g., up to 3-5 years.

As a complementary action to the proposed sectoral ban on HFCs for room air conditioners, heat pumps and specific refrigeration applications, we recommend the phase-down of all F-gases covering all sectors to 95% by 2030. The benefits from avoiding addition warming through the future release of HFC based refrigerants as potent Greenhouse gas by far outweighs the costs of not doing so.

On the pathway to 2030, we recommend further strengthening the regulation of by-product emissions to produce HFCs (i.e., importers of HFC refrigerant should provide certificates on the destruction of high GWP by-products such as HFC-23 of the imported HFCs).

As requested also by other stakeholders in the industry, we support measures avoiding the circumvention of the F-gas regulation through illegal imports. Such measures should include reporting obligations on importers below the limit of 100 t CO2eq. We request the allocation of sufficient and adequate inspection resources in all Member States. The market surveillance needs to be harmonised and coordinated across the EU to safeguard the same effect across the EU. The use of non-refillable containers throughout the EU needs to be prohibited.

GWP values. Considering new scientific findings and the resulting significantly identified higher GWP values of most HFCs, we request rebasing the relevant GWP values according to the latest scientific findings[4]. **GWP 20.** Further, the phase-down of refrigerants should consider the GWP of a 20-year horizon instead of the current GWP 100 y horizon, given the increasing urgency of the global climate and the relative higher GWP 20 value of many HFCs[5].
Emissions trading. Due to the high GWP20 of HFCs and the different nature of refrigerants as greenhouse gases, any future emission trading between HFC refrigerants and CO2 and other Greenhouse gases should not be allowed. We request to consider this in the upcoming climate negotiations with the respective influence of the EU commission and its member states for the negotiation of Article 6 of the Paris Agreement.

Standards. The European Commission requested in its decision from 14.11.2017 that in the European standardisation process, the development of the relevant European safety standards for A3 refrigerants (standardisation request M/555). The development of the safety standards aims at the broader use of low GWP refrigerants, including environmentally friendly natural refrigerants as F-gas alternatives. In the meantime, a revised version of the international safety standard IEC 60334-2-89 was internationally approved, allowing the broader use of natural A3 natural refrigerants in commercial refrigeration. However, the implementation of the corresponding European (harmonised) standard is still pending due to administrative issues within the European standardisation bodies. Therefore, to enable manufacturers to implement A3 refrigerants on time, the (harmonised) EN version of this standard should be made available as quickly as possible. International approval of the equivalent standard for room air conditioners and heat pumps, edition 7 of IEC 60335-2-40, is expected to be approved and published later this year. The timely adoption of

[4] See finding from Hodneborg et at, 2020, here https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2019RG000691
[5] See here report highlighting the benefits of low GWP refrigerants

EN 60335-2-40 is similarly essential to enable manufacturers of equipment to develop and implement negligible-GWP natural A3 refrigerants for placement on the EU market, including the need for a fast transition into a (harmonised) EN standard.
The latest revision of the horizontal safety standard for refrigeration, air conditioning and heat pump systems, EN 378, is now underway. A primary focus of this revision is the broader use of negligible-GWP natural A3 refrigerants (amongst others), particularly for equipment not explicitly covered through product standards. However, the process is slow and not expected for completion before 2024. The revision process of the EN 378 includes the work from TC 182 WG 12[6] under the above-mentioned M/555 with two Technical Specifications for flammable refrigerants. There should be strong encouragement from the EU commission for the relevant technical committee to accelerate this work.

Approval of these standards at the European (CEN and CENELEC) level is of critical importance. Due to the urgency of the climate crisis and the lengthy international and European standardisation processes, we are requesting that the EU commissions mandate the timely introduction of the latest international and European refrigeration, air conditioning and heat pump safety standards in the EU. The current standardisation process is out of pace with the timely requirements of climate action. We recommend considering the findings from the reports CLIMA.C.2/SER/2014/0019r about working processes and composition of standardisation groups.

Training and certification.

To accompany and enable market transitions toward natural refrigerants, the installers and technicians shall enhance their skill levels regarding handling all types of refrigerants. Therefore, the currently mandated certification for personnel as well as companies handling of F-gases, needs to be extended to all refrigerants (including HFCs, HFOs, ammonia, CO2, hydrocarbons) and include the design, installation, operation, maintenance, servicing, leak checking and dismantling of systems using all types of refrigerants. We recommend that the European and international competence standard EN 13313 (ISO 22712) as references for developing the training standards. Previously trained and certified technicians lack sufficient skills dealing with natural refrigerants which is a market barrier for the desired higher market penetration of natural refrigerants due to their superior climate, environment and (often) thermodynamic performances. The EU and their member states need to promote the training skills of all technicians, previously certified and new.

Cross-Reference to related EU Directives.

The handling of F-gases and environmentally and climate-friendly alternatives have relevance to related EU regulations. Therefore, we propose close coordination and harmonisation with the following rules:

The REACH regulation. Several EU member states are currently investigating the prohibition of PFAS chemicals[7]. The decaying products of many HFCs form TFAs that are part of PFAS and share the persistent, bioaccumulative and toxic properties of PFAS, subject to the investigation. Natural refrigerants do not cause such environmental damage.

[6] National Codes, Standards and Legislation of EU Member States with respect to F-Gas alternatives Project Deliverables 1 and 2. Report for European Commission, DG Clima. CLIMA.C.2/SER/2014/0019r
[7] See ECHA publication https://echa.europa.eu/documents/10162/31366392/pfas_webinar_slides_en.pdf/361234ba-5b0c-d5d0-df0d-4145c3e08c73

EU Taxonomy. The EU taxonomy rules in its "do-no-harm" regulations, among others, avoiding environmental damage. As investigated by the ECHA, PFAS (TFA) could cause significant ecological harm. We recommend referencing the possible results of the ECHA investigation on PFAS (TFA) under the EU Taxonomy.

Building regulations. Building regulations differ across EU member countries. Some member countries' building regulations act as severe barriers to the transition to climate-friendly refrigerants. This situation was identified in the report for DG Clima in 2015[8]. Building regulations in France, Spain and Italy pose a significant barrier. We understand that actions have taken place in these countries to ease the building regulations for class A2L (flammable) refrigerants. However, these outcomes are redundant as far as climate protection is concerned. Most A2L refrigerants still exhibit unacceptably high GWP. We are requesting that these countries rapidly implement measures to overcome the current prohibitions. All European member states have building regulations that allow the use of all flammable refrigerants but demonstrate an elevated level of safety (negligible risk when using flammable refrigerants). These restrictions unnecessarily prohibit the use of low GWP A3 refrigerants.

EU Green Public Procurement standards. We recommend including the increased use of natural refrigerants and the reduced use of HFCs as part of the EU public procurement standards.

Refrigerants, Naturally e.V. Secretariat c/o HEAT GmbH, Seilerbahnweg 14, D-61462 Koenigstein, Germany
Phone +49 6174 96947 16 Contact: info@refrigerantsnaturally.org