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Eurovent feedback on F-Gas stakeholder workshop

In a nutshell

With this paper, Eurovent provides its feedback following the online stakeholder workshop for the revision of the F-Gas Regulation, held by DG CLIMA on 06 May 2021. In short, the proposed modelling presents a serious lack of granularity, does not consider the current state-of-the-art nor future technological trends, and does not consider the barriers related to safety standards, European Union legislation, and building codes. The potential future share of F-gases in new equipment must therefore be reassessed and the future policy options must be revised accordingly.

Background

Eurovent strongly supports the F-Gas Regulation and the climate and energy goals set under the European Green Deal, including the objective to reduce greenhouse gas emissions by at least 55% by 2030 and to reach climate neutrality by 2050. With this in mind, Eurovent would like to provide DG CLIMA and Öko-Recherche with additional feedback on the Briefing Paper presented during the online stakeholder workshop of 06 May 2021.

In order to secure and facilitate the decarbonisation through energy efficiency improvements Eurovent holds that the European Commission's energy efficiency first principle is always to be taken properly into account.

Assessment of the Briefing Paper

Eurovent would like to raise its concerns related to the modelling approach presented in the Briefing Paper. Very limited information on the modelling assumptions has been made available, including during the online workshop. Stakeholders have been given a very short timeframe for providing feedback based on this limited information.

The proposed modelling:

- Presents a serious lack of granularity in relation to the application segments
- Does not reflect the current state-of-the-art nor future technological trends, including the related R&D and products' time-to-market
- Does not take into account the barriers related to product safety standards, European Union Directives /Regulations, and building codes at the national, regional or local level

Any technical justification supporting the proposed policy options is missed.

Lack of granularity

The modelling presents a serious lack of granularity in relation to the application segments.

Commercial refrigeration: The proposed segmentation does not reflect the current state-of-the-art. For example, condensing units, indirect systems, plug-in and semi-plug-in systems, and professional refrigeration systems are not assessed.

Heat pumps: A clear definition of heat pumps is missed. It is not possible to understand if the proposed modelling refers to air-to-air, air-to-water, water-to-water heat pumps, etc. It is also impossible to understand which heating or cooling capacity was assessed, and what is meant by 'small' and 'large' heat pumps. Eurovent suggests a segmentation approach in line with current Ecodesign framework.

Split air conditioners: It seems that small air conditioners were not included in the proposed modelling.

Eurovent holds that such insufficient segmentation leads to premature and potentially misleading and unsubstantiated conclusions.

State-of-the-art and future technological trends in heating and air conditioning

The proposed modelling assesses the future share of F-Gases without considering the current state-of-the-art. No information is reported concerning the 2020 share of F-Gases, which undermines the basis for a reliable forecast of the potential future share of F-Gases. Any possible future technological trend must be put in relation with the current situation.

The table¹ below reports the 2020 sales of **chillers** [%] (cooling only mode and heating and cooling mode) in the EU27. It assesses the market by type of compressor and by refrigerant used. This table shows how unrealistic the proposed modelling is in relation to the 2020 figures.

EU27	Cooling only			Heating and cooling		
	Scroll	Screw	Others*	Scroll	Screw	Others*
R 410A	89,06%	0,41%	59,87%	78,74%	0,18%	28,55%
R 407C	3,91%	0,00%	0,00%	1,19%	0,00%	0,00%
R 134a	0,08%	49,99%	22,89%	0,31%	44,46%	38,59%
R 32	4,92%	0,03%	0,00%	19,21%	0,00%	32,83%
Others HFC	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
R 1234ze	0,01%	39,70%	9,98%	0,00%	39,89%	0,01%
Others HFO	0,00%	0,03%	0,00%	0,00%	0,00%	0,00%
R 513A	0,01%	9,82%	7,05%	0,00%	15,47%	0,00%
R 454B	1,09%	0,00%	0,00%	0,40%	0,00%	0,00%
R 452B	0,59%	0,00%	0,00%	0,12%	0,00%	0,00%
Others Blend	0,34%	0,03%	0,11%	0,02%	0,00%	0,00%
CO2	0,00%	0,00%	0,11%	0,00%	0,00%	0,01%
NH3	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
Hydrocarbon	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
Others Natural	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
Total	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%

* It includes magnetic bearing, reciprocating and hermetic rotary compressors.

¹ Source: Eurovent Market Intelligence

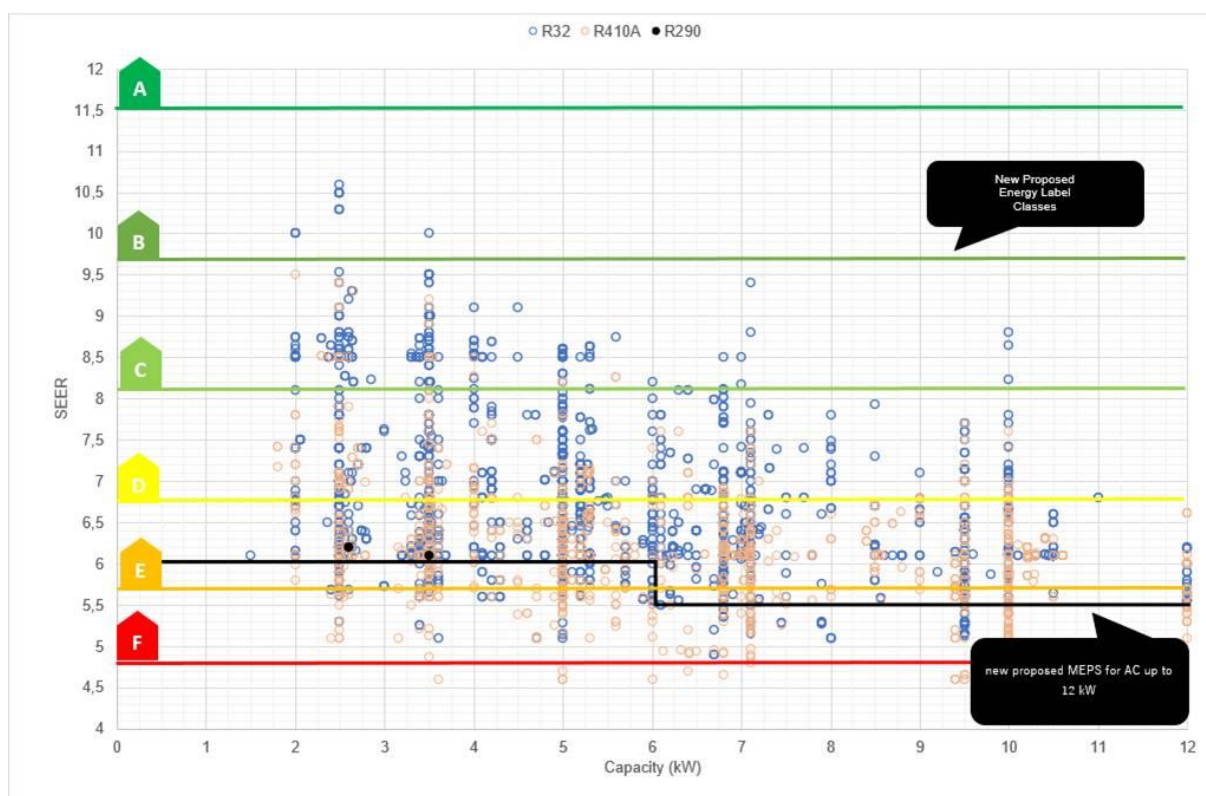
Screw chillers capacity range: 50-3.000kW

Scroll chillers capacity range: 0-1.200kW

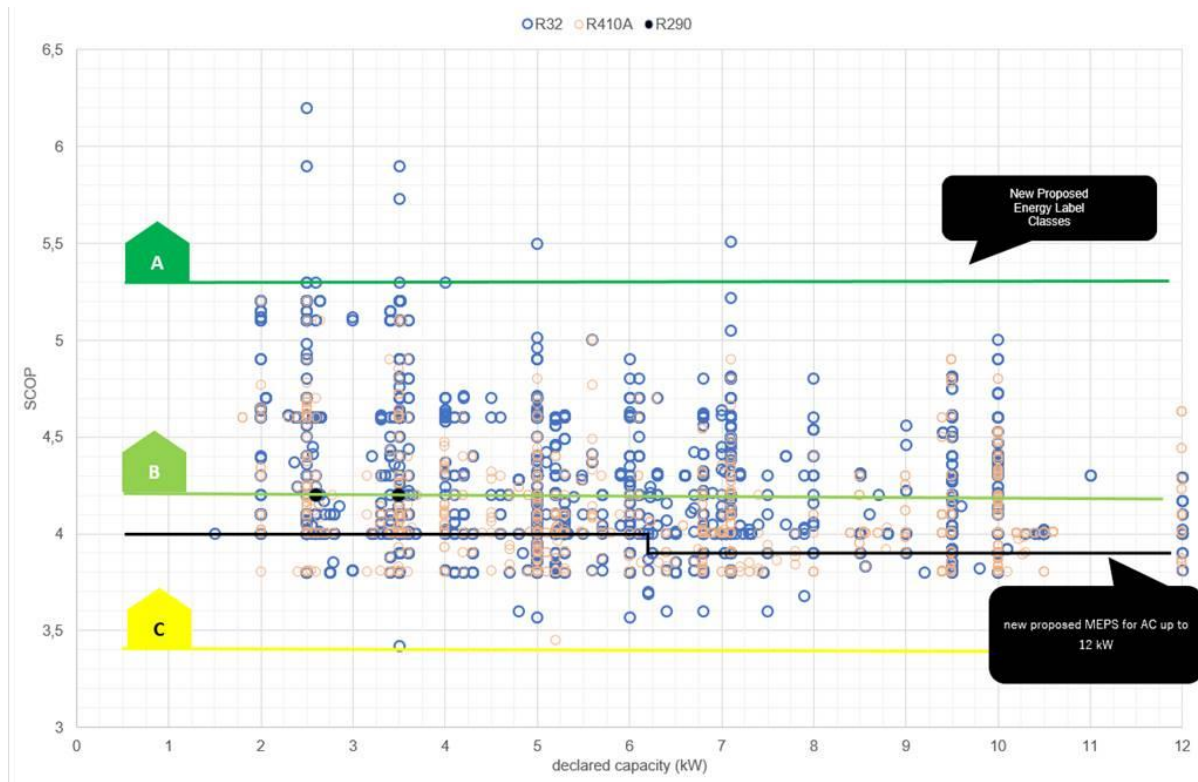
Others chillers capacity range: 0—3.000 kW (cooling only) and 0-100 kW (heating and cooling)

Concerning **split air conditioners**, Eurovent suggests to carefully look at the preparatory study for the review of the DG ENER Lot 10 Regulations. Specifically, we would suggest looking into the proposed policy options for fixed air-conditioners with a cooling capacity below 12kW using refrigerants with a GWP<150.

The graphs below² show a mapping of the current split air-conditioning landscape (SEER and SCOP assessment). Based on more than 3.500 certified data points, it is possible to conclude that R290 models have a very limited market share (just two certified models) and that such models, which are currently labelled A++ and A+ for cooling and heating, will be labelled E and C respectively according to the newly proposed energy labels. This is a further evidence on how unrealistic the proposed modelling is.



² Source: Eurovent Certita Certification 2021 database



The same kind of assessment can be done for other products included in the proposed modelling (e.g. rooftop units) and would show the same result.

Given these figures, the forecasts proposed in the Briefing Paper are totally unfeasible, which notably foresees:

- 80% of non-fluorinated refrigerants for chillers using centrifugal compressors as of 2025
- 90% of hydrocarbons for small heat pumps as of 2025
- 45% of hydrocarbons for rooftop units as of 2025
- 100% of hydrocarbons for large split air conditioners and VRFs as of 2030

The Consultant is advised to consider the Ecodesign preparatory studies (Task 2) of the different products covered by the F-Gas Regulation to obtain additional insight on the current state-of-the-art. The availability of critical components suitable for A2L and A3 refrigerants should also be properly taken into account when assessing the maximum substitution scenario.

Eurovent holds that the proposed scenario is unrealistic and not feasible and thus it has to be reconsidered in light of the current state-of-the-art. Otherwise, it could lead to premature and potentially misleading and unsubstantiated conclusions.

Barriers related to product safety standards, European Union Directives/Regulations, and national, regional, local building codes

The proposed modelling seems not to consider the current barriers related to safety standards, European Union Directives/Regulations (e.g., General Product Safety Directive, Low Voltage Directive, ATEX Workplace Directive, Machinery Directive, Pressure Equipment Directive, etc.), and national, regional and local building codes.

One has to consider that the current products' safety standards as well as national, regional and local building codes put in place very severe restrictions in the use of A2L and/or A3 refrigerants.

Moreover, the National building codes must be taken into proper consideration. Just as an example, in France the current CH35 (Arrêté du 10 mai 2019 modifiant l'arrêté du 25 juin 1980) and the GH37 (Arrêté du 10 mai 2019 modifiant l'arrêté du 30 décembre 2011), covering public and high-rise buildings respectively, represent barriers to the uptake/use of A2L and A3 refrigerants.

A notable exception is for centralised commercial refrigeration systems using CO₂ and integral units using A3 refrigerants within the limits of the related product safety standards (e.g. IEC 60335-2-89), which do not suffer from the same barriers.

It is impossible to set ambitious targets at the EU level without first solving the abovementioned barriers. Once eliminated, manufacturers would still need additional time for product design and manufacturing in line with the new requirements. This usually takes at least 5-7 years.

The proposed modelling approach could only be considered in a framework where these safety barriers do not exist anymore and the different measures across Europe have been fully harmonised.

In the light of these barriers, Eurovent strongly suggests reconsidering the proposed maximum substitution scenario. Otherwise, it could lead to premature and potentially misleading and unsubstantiated conclusions.

EU's climate ambition is a key goal

Eurovent would like to stress that the ambitions of the F-Gas Regulation need to be geared towards the EU's climate targets and the European Green Deal objectives. Energy efficiency improvements and the decarbonisation of heating are key to secure and facilitate the green transition. This must be taken properly into account.

Moreover, the policy options considered for the revision of the F-Gas Regulation must be compatible and aligned with the ambitions of any other relevant EU policy initiative, including under Ecodesign. Unrealistic conclusions based on unknown modelling assumptions must be avoided.

Conclusion

Eurovent would like to reiterate its full support for the F-Gas Regulation and also confirm its support to DG CLIMA as well as to the consultants in charge of the review study.

According to the presented remarks, it is not possible to comment on the proposed policy options. The proposed modelling assumptions are not based on technically strong enough evidence or justification, and thus we invite the consultant to reassess the potential future share of F-gases in new equipment and revise the future policy options accordingly.

Delivery annotation

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	Ms Barbara Gschrey, Öko-Recherche, b.gschrey@oekorecherche.de
Concerns	Review of the F-Gas Regulation
Other comments of relevance	Feedback following the online stakeholder workshop organised by DG CLIMA on 06 May 2021

Eurovent and transparency

When assessing position papers, are you aware whom you are dealing with?

Eurovent's structure rests upon democratic decision-making procedures between its members and their representatives. The more than 1.000 organisations within the Eurovent network count on us to represent their needs in a fair and transparent manner. Accordingly, we can answer policy makers' questions regarding our representativeness and decisions-making processes as follows:

1. Who receives which number of votes? At Eurovent, the number of votes is never determined by organisation sizes, country sizes, or membership fee levels. SMEs and large multinationals receive the same number of votes within our technical working groups: 2 votes if belonging to a national Member Association, 1 vote if not. In our General Assembly and Eurovent Commission ('steering committee'), our national Member Associations receive two votes per country.	2. Who has the final decision-making power? The Eurovent Commission acts as the association's 'steering committee'. It defines the overall association roadmap, makes decisions on horizontal topics, and mediates in case manufacturers cannot agree within technical working groups. The Commission consists of national Member Associations, receiving two votes per country independent from its size or economic weight.
3. How European is the association? More than 90 per cent of manufacturers within Eurovent manufacture in and come from Europe. They employ around 150.000 people in Europe largely within the secondary sector. Our structure as an umbrella enables us to consolidate manufacturers' positions across the industry, ensuring a broad and credible representation.	4. How representative is the organisation? Eurovent represents more than 1.000 companies of all sizes spread widely across 20+ European countries, which are treated equally. As each country receives the same number of votes, there is no 'leading' country. Our national Member Associations ensure a wide-ranging national outreach also to remote locations.

Check on us in the [European Union Transparency Register](#) under identification no. 89424237848-89.

We are Europe's Industry Association for Indoor Climate (HVAC), Process Cooling, and Food Cold Chain Technologies – thinking 'Beyond HVACR'

Eurovent is Europe's Industry Association for Indoor Climate (HVAC), Process Cooling, and Food Cold Chain Technologies. Its members from throughout Europe represent more than 1.000 companies, the majority small and medium-sized manufacturers. Based on objective and verifiable data, these account for a combined annual turnover of more than 30bn EUR, employing around 150.000 people within the association's geographic area. This makes Eurovent one of the largest cross-regional industry committees of its kind. The organisation's activities are based on highly valued democratic decision-making principles, ensuring a level playing field for the entire industry independent from organisation sizes or membership fees.

Eurovent's roots date back to 1958. Over the years, the Brussels-based organisation has become a well-respected and known stakeholder that builds bridges between the manufacturers it represents, associations, legislators and standardisation bodies on a national, regional and international level. While Eurovent strongly supports energy efficient and sustainable technologies, it advocates a holistic approach that also integrates health, life and work quality as well as safety aspects. Eurovent holds in-depth relations with partner associations around the globe. It is a founding member of the ICARHMA network, supporter of REHVA, and contributor to various EU and UN initiatives.