



ECOS and EEB comments on the Ecodesign for Commercial Refrigeration – ongoing JRC technical study

January 2014

We welcome the opportunity to comment on the “Ecodesign for Commercial Refrigeration” JRC draft Background Document (Version 2) and would like to put forward our views below. The progress of the study is on track and the proposed timetable presented reasonable to regulate this product group, already in the policy funnel for a few years now. The expected energy savings from this product group should not be delayed any further.

Refrigerants

Considering the outcomes of the triologue discussion on the F-gas review, and specifically regarding the ban on centralised commercial refrigeration equipment with capacity of 40kW or more using HFCs from 2022, we propose the introduction of a bonus/malus scheme for incentivising the low GWP refrigerants use. We strongly believe that the revised F-Gas policy can be further supported by Ecodesign measures in this field, to stimulate sufficiently the uptake of low GWP refrigerants since:

- the 2022 date is set too far in the future and incentives' schemes should be already put in place to help achieving this target
- the F-gas ban concerns centralised systems over 40KW and does not address other systems (vending machines, small refrigeration appliances, plug in cabinets...)
- most importantly, the exemption stipulated under art 9.2 referring to possible F-gas exceptions, suggests that the Ecodesign Directive can continue to regulate refrigerants, for a period of up to 5 years after publication of these ecodesign requirements.

Consequently, **we call for the introduction of a bonus for refrigerants with GWP<150 and a malus for GWP>500**. The former value is in line with Ecodesign regulation EU 208/2012 on household refrigeration, whereas the latter value has been chosen based on the UNEP TEAP XXIV-7 report¹, which includes HFC/HFC mixtures that are suitable for use in commercial refrigeration. Based on this differentiation, traditional – climate damaging- refrigerants would be penalised, natural refrigerants would be promoted and intermediate mixtures would be treated in a neutral manner.

Moreover, the **review clause in a possible future regulation on commercial refrigeration should explicitly refer to refrigerants** and the possibility to set more stringent requirements as well as bonus/malus thresholds, in view of technical progress in the coming years.

¹ TEAP 2010 Progress Report, May 2010 Volume 1, Scoping study on alternatives to HCFC refrigerants under high ambient temperature conditions”, p3.

End of life (EoL)

We fully support the formulations concerning EoL of printed circuit boards; capacitors, LCD, switches and CFLs, which apart from easier recovery and recycling of such components it would also **allow for the further repairability and longevity** of certain products falling under the scope of this study. The same applies for the provision of technical evidence of manual removal and a standardised product information datasheet.

Concerning double regulation and overlap with the WEEE Directive, attention needs to be paid since not all products under this study are necessarily covered by WEEE. Except for vending machines, there is an exemption in the scope of WEEE concerning large fixed industrial appliances that could cover most of the commercial refrigeration products.

Some, other issues in the EoL section, which should be clarified in the report:

p.85 “it is difficult to estimate...further recycled or landfilled”: It is highly unlikely that a significant proportion of the units are sent to landfill as they will contain a notable amount of copper piping which has a high value. At least the refrigerant circuit will be dismantled even if remaining peripheral parts are landfilled.

p.89 “especially those of large appliances”: In fact all types of units are susceptible to leakage during transport and loading/unloading, irrespective of size. Data provided during the development of standard EN 50574 showed that up to 50% of the systems lose their refrigerant charge somewhere between removal from the use location to receipt at the recycling/scraping facility; this was only for small appliances.

p.92 “The lifetime can be extended via some strategies, such as”: The design of the cooling system and components should be also included in this section, such that the refrigerant could be easily replaced and the system potentially operated on lower GWP alternatives, as and when they become available.

p.94 “according to this analysis no requirement...circuit”: If one considers the high rate of complete system emission between terminating unit operation and arrival at recycler/shredder (at around 25-50%), assuming that it is sent to a shredder/recycler, the **EoL could be responsible for up to half of the refrigerant-related emissions over the lifetime**. It thus seems inappropriate to neglect this stage; at least a reference to this problem should be made.

Other aspects

Availability of data (e.g. vending machines): We fully support proposals being made on the basis of existing data, even though limited, as stated in the December stakeholder meeting, if certain manufacturers do not provide such data in due course.

Reference energy formula – C1: Attention should be paid to the C1 constant, which if equal to 0 could lead to favouring large appliances consuming more and disadvantaging the smaller appliances. We do not have concrete proposals at this stage concerning the value of this but it should be ensured that a realistic C1 is elaborated and energy consumption capped.

A way forward could be to use the collected data and then model a set of cabinets to establish the impact of size and other performance factors, in a steady state. This could then be

superimposed on the collected data and compared. Such an exercise could establish what is feasible for a cabinet with reasonable components and coefficient of performance.

Segmentation: We question why this is proposed for horizontal/vertical, if horizontal products are proven to be more efficient over the vertical ones. Having one approach for all cabinet types could inspire new concepts for efficient cabinet design, such as horizontal multi-decks and so on. It's worth recalling that some years ago, multi-deck (vertical) open-fronted freezer cabinets were fairly common in the UK, but eventually supermarkets have ceased to use them because of their colossal energy consumption!

Possible future policy options

We call for the introduction of an energy label, in line with the Eurovent voluntary initiative, since it would benefit end users with less expertise in the area and could be a driver for the uptake of more efficient models, for example in small business. Even in larger establishments, the principle of using an energy label to inform shop visitors could also be explored.

Regarding possible future Ecodesign requirements, **we call for the mandatory introduction of “low hanging fruits”, such as the uptake of LED’s & doors** (not only night curtains) **at Tier 1**. More time could be given for improving the efficiency of compressors and energy management devices at Tier 2, if they cannot be readily improved already from Tier 1.

END

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