

Position on the review of ENTR Lot 1 (Professional Refrigeration) after the stakeholder meeting of 13 January 2022

14 February 2022

EXECUTIVE SUMMARY AND RECOMMENDATIONS

The European Commission is reviewing Ecodesign Regulation (No) EU 2015/1095 and Energy Labelling Regulation (EU) No 2015/1094 on professional refrigeration (ENTR Lot 1). EPEE, the voice of the air conditioning, heat pump, and refrigeration industry in Europe, supports the EU ecodesign and energy labelling policies, and agrees with the need to keep the legislation up-to-date and in line with the latest technological developments.

This paper provides the EPEE position on the most recent proposals from the Commission on the review of the requirements for professional refrigeration. This document is divided into two parts. In the first chapter, we explain our views on the energy labelling proposals under ENTR Lot 1. The second part focusses on the ecodesign proposals for professional refrigeration. Both policies were presented and discussed at the stakeholder meeting of 13 January 2022, which is also taken into consideration in our position.

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Introduction

EPEE, the voice of the air conditioning, heat pump, and refrigeration industry in Europe, welcomes the opportunity to provide comments to the Commission's proposals for reviewing Ecodesign Regulation (No) EU 2015/1095 and Energy Labelling Regulation (EU) No 2015/1094 on professional refrigeration (ENTR Lot 1). EPEE fully appreciates that our earlier comments have been adopted by the consultants in the final report.

Nonetheless, we believe that certain aspects could be further optimised. Please see our recommendations below. Our paper is split into two different parts: the first chapter deals with energy labelling, and the second chapter focusses on ecodesign.

Chapter I: Energy labelling

1. No energy label for condensing units

EPEE urges to reconsider the proposal for the introduction of an energy label for condensing units.

- A condensing unit is an incomplete system. The end-user might want to use a small evaporator to ensure a low level of humidity in a cold room, or a large evaporator to ensure a high level of humidity, depending on the produce to be kept fresh. The same condensing unit in these different uses will have very different energy efficiencies.
- The end-user often needs a replacement for a broken-down condensing unit rather urgently and the installer will most likely select whichever condensing unit is available at the distributor being the most adequate for the required capacity and in an acceptable price range.
- The energy labelling classes proposed are too narrow – they would be conflicting with the verification tolerance of 10 %.
- Theoretically, the top 2 classes have to be left empty, which would even worsen the impact concerning the verification tolerances.

Chapter II: Ecodesign

1. Exclude Walk-in Cold Rooms from the scope of ecodesign requirements

EPEE recommends to exclude Walk-in Cold Rooms (WICRs) from the scope of ecodesign requirements. The reason is that the WCIR technical systems are complex. Several different trades are involved to such an extent that the last contractor connecting the condensing unit

to the evaporator (as being the finally responsible) would need to be able to evaluate the whole work in order to establish the energy performance.

Moreover, it is unclear how market surveillance can be performed for an already installed WICR, as the performance in situ is largely influenced by user behaviour and no standardised conditions can be applied.

Additionally, manufacturer self-certification is challenging with WICRs, as this can only be performed for end-products over which the manufacturer has control over the method of supply. Since the commissioning of WICRs is outside the control of manufacturer, such units cannot be self-certified.

We are aware of a point system scheme that has been rolled out in Australia on performance requirements for WICRs, and would like to stress that one-to-one replication of the requirements cannot be performed to different markets. As such, the Australian scheme needs to be tested in order to understand its benefit properly and judge on the applicability under ecodesign or energy labelling, including adaptation to local conditions.

2. Perform complete analysis of MEPS and BAT values for process chillers

The consultant used SEPR data from four different manufacturers, which is not enough to give a proper market overview on the technical performance development of process chillers. Also, there is no clear indication which exact refrigerant is behind each data point, and the data is thereby possibly skewed. We understand that the information from desk research is not straightforward for these application temperatures. Only a more complete market analysis will allow regulators to establish correct MEPS. We have advised our members to contact the study team in order to allow a more fundamental analysis with more product data.

3. Condensing units: perform proper analysis on performance and market data

EPEE noticed that several Tables in the study report, which was presented during the stakeholder meeting of 13 January, contained errors or were incomplete.

Concerning the performance parameters in Table 19:

- The trends in energy efficiency cannot be properly interpreted, as the rounding to a single digit is too inaccurate to operate with.

On the growth scenarios in Table 14:

- The growth scenarios appear too ambitious. Competition from high efficiency IDC and equipment with doors reduces the cooling load, and in general the condensing unit market is considered to be a stagnating one. The majority of the market is in the more developed economic areas of the EU, while catching up by newer Member States cannot account for the growth indicated.
- The population does not grow, and even the trend to more frozen or convenience food does not support the predicted growth.

With regards to the price indicators in Table 28:

- A correct accounting of all the market trends is indispensable for the assessment and prediction of price level developments.
- The numbers appear to be completely arbitrary, ending at the same levels as 1990 levels is unexplained.
- The trend to inverter driven components results in higher cost.
- The F-gas phase-down pushes to flammable refrigerants, requiring isolated e-boxes, and the accordingly qualified components, which is another cost added.
- In order to reach MEPS, the final choice is the increase of the condenser size, which is another cost added.
- CO₂ condensing units are sometimes more costly (up to threefold vs non-CO₂ condensing units, due to, amongst others, their larger sizes to reach similar efficiencies). Due to the high pressure of CO₂ and related safety measures, the test equipment is more expensive as well.
- Inflation and scarcity of material/manpower increases cost and prices accordingly – they have been very noticeable already in 2021, including for logistics, like an 8-fold increase for container tariffs.

4. Condensing units: do not increase the scope above 20 KW for LT & 50 KW for MT

EPEE opposes the increase of the scope of the capacity of LT condensing units to above 20 KW and for MT to above 50 KW.

- First, these larger sizes are rather rare occurrences, and they are competing with individualized solutions, like racks, which are not regulated at all for efficiency/performance. As such, increasing the scope to include such condensing units would distort the level playing field versus other non-regulated technologies.
- Moreover, there are only a few models in the high-capacity range, since the competition from individualised solutions play a much higher role. Lab capacities to measure large sizes are as well a bottleneck.

- Nonetheless, we agree with the finding from Section 4.5.3.1 that condensing units including an evaporator or having a factory determined evaporator cannot be considered as condensing unit, but should be seen as process chillers or packaged refrigeration units.

5. Condensing units: consider to maintain some Global Warming Potential bonus

Since there is a noticeable cost and effort involved for the certification process, the data from the ASERCOM certified products are not giving a complete overview of the efficiency development on the market. For certification manufacturers rather select the most promising products first for marketing effects. The sample might not be reflecting the true mix in the market introductions over the last years and is potentially overestimating the potential for efficiency improvements.

In general, EPEE agrees that the GWP bonus is obsolete. A bonus on efficiency based on the GWP of refrigerants is not required, since refrigerants are already regulated under the F-gas Regulation, which requires the move towards lower GWP refrigerants.

However, we had to realise that the F-gas Regulation has a much stronger impact on the performance of LT SEPR condensing units, since all refrigerants below 150 GWP host a much more extreme challenge than was foreseeable in 2014.

- The report shows that the SEPR limits for LT condensing units are much more challenging, especially for zeotropic refrigerants (<150 GWP).
- A tightening of the requirements on SEPRs for the LT condensing units would eliminate a large selection of products from the market, especially <150 GWP. These units are one of the many stepping stones to achieve the F-gas phase down and decarbonisation of the refrigeration sectors, especially the food chain.
- Manufacturers would have to choose between allocating development capacities on reviewing existing condensing units or focusing on new product development. To abandon a newer product with GWP <150 that has just gone through a 3-5 year development cycle is not acceptable from a business perspective.
- We ask the consultants for a thorough analysis of this situation, balancing out the principles of EE1 against the targets of the F-gas phase-down requirements, which necessitates a swift move towards lower GWP solutions. In this specific application, a larger number of models that were designed for low-GWP refrigerants might be potentially eliminated from the market, which will be detrimental to the F-gas phase-down targets.

EPEE is working on a further elaboration of its GWP position and will soon provide more information and feedback.

6. Condensing units: use available standards for testing and calculating evaporating temperature with refrigerant mixtures

EPEE supports the possibility to extend the Ecodesign Regulation with a testing and calculation approach for the determination of the evaporating temperature with refrigerant mixtures, as under EN 13215:2016+A1:2020. EN 13215 includes dew-point and mid-point performance measurement. The mid-point method is necessary to allow a proper measurement of high glide refrigerants (especially for GWP <150). This standard is soon to be harmonised

Furthermore, EN 378-1 is only mentioned for the product definition. At the same time, IEC 60335 is the only mentioned standard on flammability, while it is only relevant for a certain charge size, which is fairly small. EN 378 covers the larger charge sizes and this should be reflected in the report.

7. Process chillers: maintain MEPS for chillers without the bonus

We recommend an evaluation of the proposed efficiency requirements for chillers. The approach defined by the consultants to set the MEPS needs to be justified by appropriate data, and a lack of data cannot be a sufficient basis for changing efficiency requirements.

Although EPEE is in principle supportive of removing bonuses, we stress on the importance of evaluating the proposed measures, as changes in bonuses have an impact on the availability of products. Such an evaluation must be performed thoroughly, carefully considering the balance between EE1 and the phase-down of refrigerants in the F-gas Regulation.

8. Process chillers: rationalise the scope

Please note that there is no upper limit of capacity defined for the scope of process chillers, as has been done for the other product types under this regulation. Furthermore, the scope of Regulation (EU) No 2016/2281 for HT process chillers is limited to 2 MW. The number of MT and LT products able to provide more than 2 MW is marginal and limited to custom-made products. In order to be consistent with the regulation of HT process chillers, EPEE recommends to adopt the same scope in terms of capacity, i.e., limited to 2 MW.

9. Counter cabinets: provide dedicated data for frozen and chilled separately

It is shown in section 4.1.7.8.1 that counter cabinets generally achieve better energy label classes than vertical cabinets (centred around C and D respectively). An important question from the consultant is whether both vertical and counter cabinets offer the user the same functionality (could equally be chosen for a given purpose) in which case the same reference line should be used and any difference in performance should be clear to see.

Without knowing which category (chilled or frozen) are behind the data, this statement cannot be commented on

10. Heavy duty cabinets: provide clarification on removing concessional EEI for heavy duty cabinets

Removing the concessional EEI for heavy duty cabinets could theoretically result in the elimination of any heavy-duty cabinets, since they would have to reach an EEI lower than 85 versus the current threshold of lower than 115. EPEE would like to receive clarification whether this is the intention.

11. Use the AR4 Report for GWP values

A question from the consultant: For all products, a check if newer versions of quoted sources are available for Global Warming Potential (GWP) values. GWP values should always refer to the commonly used sources in relevant legislation, in this case the only source is the F-gas Regulation – currently the AR4 report.

12. Maintain verification tolerance levels for all products

No evidence has been identified to date that would indicate a change is needed. Therefore, EPEE recommends that tolerances should stay as they are.

13. No refrigerated containers in requirements under WICRs

EPEE supports that refrigerated containers in stationary applications should not be regulated by revised ENTR Lot 1 requirements as a subsector of WICRs.

14. Further efficiency improvements by considering heat recovery

In the light of decarbonisation and energy EE1 principle, it is also important to consider aspects on heat recovery of products within ecodesign regulations and standards. In the current proposals, this is not considered yet, and a standardised efficiency comparison between two systems is currently not available. Including such an aspect may show the benefit and, in turn, contribute towards further decarbonisation efforts. It will also help to make customers aware of innovative technologies on the market. Nowadays, we see that efficiency data on heat/energy recovery of refrigeration products is based on different approaches and is not harmonised.

Therefore, EPEE recommends introducing heat recovery within ecodesign regulations for potential review or to be included in the standardisation mandate.

ABOUT EPEE

EPEE represents the Refrigeration, Air-Conditioning and Heat Pump industry in Europe. Founded in the year 2000, EPEE's membership is composed of over 50 member companies as well as national and international associations from three continents (Europe, North America, Asia). With manufacturing sites and research and development facilities across the EU, which innovate for the global market, EPEE member companies realize a turnover of over 30 billion Euros, employ more than 200,000 people in Europe and also create indirect employment through a vast network of small and medium-sized enterprises such as contractors who install, service and maintain equipment. Please see our website (<https://www.epeeglobal.org/>) for further information.