Comments on the draft Ecodesign & Labelling review study on household refrigeration (tasks 1-6)

January 2016

Draft tasks 1 to 6 include some solid analysis and refined technical modelling, as well as interesting recommendations that confirm the need for a substantial revision of the Regulations for household refrigeration, both in terms of metrics and level of requirements.

We would like to stress a number of pending issues or need for clarification.

- **Scope**

We reiterate our concerns about 'simplifying' the scope by referring to '*household use'* only.

On page 18, the reaction of Environmental NGOs has been summarised as '*non-household appliances should remain included*'. In reality, what we called for is also making sure that **household and similar appliances that are sold in non-household environments are still considered covered by Ecodesign and Energy labels by market players**. This was not only supported by NGOs, but also other stakeholders who raised the risks of loopholes if the scope only refers to '*household use*.'

Additionally, in meetings for Lot 12 (commercial refrigeration), it has been mentioned that all wine coolers and minibars (no matter if sold for household or professional use) are supposed to be covered by the regulations for household cold appliances. These products have been excluded from the scope of the regulations for professional and commercial refrigerating appliances. In this context, **the scope for household appliances should remain as broad as it was, to avoid grey areas and loopholes** (such as for minibars, wine coolers, or professional chest freezers). We consider that these issues are still not fully clarified in the study.

On page 21, the fifth consideration sounds contradictory. It states that setting minimum requirements on wine storage appliances is fully feasible and would not entail extra administrative burden. On the other hand, it refrains from doing so and reaches a conclusion about the current exemption.

- **Categories and reference lines**

On page 44, the problems with the current categories and metrics are highlighted, but only the CECED proposal is introduced and described in details. **We are surprised that the joint ECOS-Topten alternative presented during the first stakeholder meeting[1] – based on robust principles and technical justifications about the various factors and compensations – is not mentioned at all**. Our proposal should be acknowledged and its benefits put in perspective with the CECED approach.

In this regard, we still oppose describing the CECED proposal as a '*simplification*' and '*reduction of the current 10 categories to 4 or 5'*, because in reality their proposal would still include 8 or 9 categories in total, nothing more simple than today.

[1] http://www.ecodesign-fridges.eu/Documents/Topten_input_HH-cold_stakeholder_meeting.pdf

- **Measurement standard**

In the EN standard, the proposed reaction to circumvention devices potentially found in appliances appears way too weak (only including a mention in the test report, and penalty factors on the measured energy consumption). If circumvention devices are detected during a test, national authorities should **immediately be alerted**, the manufacturer **prosecuted** and **legal sanctions** applied.

This is what should have been done in the first place with Volkswagen. No tolerance or arrangement can be justified in this matter.

- **Market data**

On page 52, more recent data is available for 2014. See for instance:

http://www.topten.eu/uploads/File/WhiteGoods_in_Europe_June15.pdf (figure 1), and

http://iet.jrc.ec.europa.eu/energyefficiency/sites/energyefficiency/files/events/EEDAL15/S7_Policies7/eedal15_submission_49.pdf (figure 4).

It confirms that the sales in the top two classes are significantly trailing behind model availability, and this should be highlighted as a concern and strong reason to swiftly revise the energy labels for this product group.

In the first study mentioned above, published in early June 2015, there is also information on EU average price, energy consumption and volume, for the total sales and per class (based on sales data from GfK).

- **Durability**

On page 64, the report maintains that provisions to extend the repairability and prolong product lifetime would be very negative in environmental terms, and therefore should not be considered.

In any case, the ultimate balance between saving energy and saving other material resources or increasing consumer interest (through prolonged lifetime) will be decided by decision-makers. For this, they need to have access to a precise and up-to-date assessment of what is at stake and what the actual benefits and negative impacts in both cases would be.

Again**, we do not consider that the study provides this at the moment**. The topic is too lightly covered (only a couple of pages), and lacks comprehensive analysis and illustrations. Notably on the following aspects:

Actual and future product lifetime

When discussing potentials for prolonged lifetime, it is essential to first agree on the actual lifetime of appliances on the market. The draft study takes for granted an average lifetime of 16 years for refrigerating appliances. The reference given is VHK's Ecodesign Impact Accounting, but no details could be found in this study as to where the '16 years' came from.

The original 2008 preparatory study on household refrigeration considered an average lifetime of 15 years as a '*commonly agreed figure'*, but also showed that less than 10% of cold appliances found in EU households are older than 10 years, and less than 5% older than 16 years. A 2011 French study[2] concluded that the average lifetime of a refrigerator before unrepairable failure is 11 years. The 2015 Ricardo-AEA study on durability[3] reported that around 50% of refrigerators purchased in UK in 2012

[2] http://www.tns-sofres.com/sites/default/files/2011.06.29-durabilite.pdf
[3] http://www.productdurability.eu/assets/Product-Durability-Full-Report-logo-updated.pdf

were replacing existing appliances of less than 8 years, and that in a large majority of cases the reason for the replacement was that their previous appliance had broken down or was unreliable.

Therefore, **we have some doubts regarding the assumption of 16 years.** Besides, the products of today are becoming different than the ones considered in past studies. They include increasingly sophisticated controls and electronics, displays, and potential new innovations that could increase the fragility of the appliance. There is no guarantee that the average lifetime before failure will remain stable in the future.

In addition, the average lifetime is not the only important parameter. The standard deviation also matters. How many products fail after e.g. 5 years, 7 years, or 8 years? **Improving durability also means ensuring that as many products as possible live up to their expectations**. Too many products are not repairable anymore (or subject to prohibitive reparation costs) even if they fail after only 5 years.

All this is important because discussing means for prolonging the lifetime of products from e.g. 8 to 10 years probably leads to significantly different life-cycle results than a prolongation from 16 to 18 years.

Credible quantification

The quantified illustration that is provided in the draft report is a 1999 Japanese fridge in a one-to-one replacement case. As we have already mentioned, this is not representative of a 2017 EU fridge model that would be replaced in 2025 or later. By that time, the use phase of products will have a significantly lower share in total product life-cycle impacts, energy efficiency gaps between old and new products will probably be smaller, and the EU electricity mix will have changed to higher renewable content.

A more representative calculation would be welcome to properly inform decision-makers in a fair way on the impact of prolonged lifetime. It is possible that prolonging lifetime is still not favourable – and we are ready to accept that, but it will not be as high as a 40% increase in environmental burden as currently suggested.

Policy recommendations

In terms of policy recommendations, **an exchange with the JRC team in charge of the review of the dishwasher and washing machine regulations would help**, as they are looking into this issue and some aspects are probably common with refrigerating appliances.

Here are examples of policy provisions that could improve resource efficiency and end-of-life impact, and could be discussed in the study:

- Longer legal warranty, and/or mandatory indication (possibly on the energy label) of the legal warranty duration and potential commercial/extended warranty duration offered by the manufacturer;
- Obligation related to the availability of spare parts for a sufficient period of time, and indication of the availability time in the product fiche and on the manufacturer website
- Potential design requirements for the durability of most critical components, such as the compressor;
- Making repair manuals (and tools) available to independent repair services beyond the sole OEM's customer services
- Forbidding the use of proprietary screws or other fixing techniques that cannot be set or unset with commonly used tools;
- Discouraging the gluing and welding of parts, notably fixing two different types of materials together (that, if so, cannot be changed/recycled);
- Mandatory marking of plastic parts above 25 g;

- Obligation to make each plastic part above 100 g in one single polymer, or a polymer blend that can be recycled without need for prior depollution.

▪ Compensation factors

As we already stated, **we generally oppose compensation factors for transparency reasons, notably for energy labels**. Energy labels are meant to inform people, and ensure they can compare models in a fair way. Whatever increases the energy consumption of a product should be reflected as lowering efficiency. The current Regulation requests an assessment of '*the possibilities for removing or reducing the values of the correction factors'* in the review process, there is no notion of introducing additional correction factors.

There are other specific reasons:

Multi-door compensation

We believe no multi-door compensation should be included, for the following reasons:

- As explained in the draft study, the losses due to an additional door depends on the type of compartment and can be as low as 1.5% and sometimes even compensated by the temperature correction. Thus, a generic compensation of 3% is technically unjustified, and would most of the time be a free bonus.
- Multi-door models belong to the most expensive models with high overall energy consumption (the average consumption of the 22 multi-door models currently offered on a popular French retailer website is 400 kWh/year[4], far above the level of a standard 2-door). There is no need to grant this market segment with compensations, as in this segment costs for higher efficiency can be more easily borne. Compensations may even be counter-productive by stimulating the sales of this segment and increasing overall energy consumption.

Glass door compensation

We still do not see any acceptable technical or environmental justification as to why equations should be tweaked to grant a 'compensation' to wine storage appliances that are less efficient due to glass doors. As a comparison, professional and commercial refrigeration appliances are treated in the same way irrespective of a transparent door or not in EU regulations for professional storage refrigeration already in force and draft regulations for commercial refrigeration.

No-frost compensation

We oppose defrosting compensation, but if it is deemed indispensable, then it should at least be reflected on the energy label. The annual extra energy consumption due to no-frost should be indicated on the label (as it is supposed to be measured under the new measurement standard).

Chill compartments

We do not see a reason to treat chill compartments differently from other compartments. Their lower temperature is accounted for in the temperature correction factor r (proposed formula), so there is no need for an additional compensation. The industry point of view that a chill compartment lowers CO_2 emissions because it leads people to potentially drive less to supermarkets is far-fetched and out of the scope.

[4] www.darty.com

- **Proposal for new metrics**

We welcome the attempt in chapter 9 to ground future metrics and reference lines on a more solid technical basis than on perishable market-based data. We also welcome the principle of reducing the number of product/compartment categories and to approach efficiency by compartments rather than entire models.

However, if there still are many compensations offered, as in the equation proposed on page 107, the final metrics will remain particularly complex. Market surveillance would not be simplified. On top of that, the accumulation of compensations could still allow certain models to consume 30% more than others with a similar basic performance, and get the same energy rating. **A percentage that we consider way too high**.

We understand that the so-called 'combi factor Cc' could still be modified. We are expecting that whatever the final decision, this factor will not allow a model with multiple compartments of the same type (for instance a model that would have a standard fresh food part and another one with a transparent door for e.g. drinks) to have more relaxed requirements compared to a similar model with a single compartment. Otherwise, it would encourage manufacturers to add internal walls and doors to be in the combi class. Specifically, we are not convinced that the temperature correction factor r_c should be squared (r_c^2) in the formula for combi models.

- **Improvements options and LLCC calculations**

The analysis in chapter 12 does not seem to take into consideration learning curves, although it is recommended to do so in the MEErP.

For instance, the determination of additional costs related to possible improvement options (p. 137) seems to have been done considering flat costs, based on data from past years. This does not take into account industrial learning / experience effects, that is progressive cost reductions as the identified improvement options start to be more massively deployed by manufacturers.

As a consequence, the LLCC determination may be valid for 2015, but not necessarily for 2018 or 2019 when future Ecodesign requirements and labelling classes supposedly enter into force.

A clarification should be provided as to why learning curve aspects have not been considered. At least, it should be clarified in the text that the calculations have been made using flat costs, and that the result is most probably conservative because it does not take into account cost reduction trends due to learning and mass deployment effects.

ENDS.

Contacts:

ECOS – European Environmental Citizens' Organisation for Standardisation
Chloé Fayole, chloe.fayole@ecostandard.org

Topten Europe
Anette Michel, anette.michel@topten.info