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International Network for Sustainable Energy - Europe

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**Position of ECOS, European Environmental Bureau,
Friends of the Earth Europe, WWF and INFORSE-Europe**

on the EC Working Document
on possible Ecodesign and Energy Labelling requirements for
ROOM AIR CONDITIONERS and COMFORT FANS

In the context of Directive 2005/32/EC establishing a framework for the setting of ecodesign requirements for energy using products.

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Cool Products for a Cool Planet is the NGO campaign for ambitious Ecodesign Policies. See www.coolproducts.eu

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ROOM AIR CONDITIONERS and COMFORT FANS

ECOS, EEB, Friends of the Earth Europe, WWF-European Policy Office and INFORSE-Europe welcome the Working document from the European Commission on room air-conditioners and comfort fans, but **request to go for much more aggressive policies to contain and reverse the exploding growth of energy consumption and environmental impact in this sector.**

With an annual growth of 8-10%, the market for air-conditioning threatens the EU environmental objectives and should therefore be stalled. Only trying to save 44 TWh/a when the trend is expected to add at least 65 TWh/a of energy consumption is not a sustainable strategy.

The US, Australia, Japan and other Asian countries have managed to implement stricter policies on air-conditioners. The EU is advised to contain the sales growth and align its Ecodesign policy very quickly to the best-in-class, and then move its market towards benchmark levels to get a chance to meet its 2020 targets and stop being a dumping ground for products rejected elsewhere.

In this context, we submit the following comments.

Scope

➤ **We reject the principle of treating local air-coolers (LACs) separately, especially if it means weaker EuP requirements and a more favourable labelling for them.** This would go against the goal of the Ecodesign and Labelling directives to ensure least-life cycle costs for consumers and fair information on products.

In addition, LACs are problematic products. They require leaving a window or door open, thus deteriorating the efficiency of the system. They are usually an impulse purchase and the consumer does not necessarily get a proper advise in shops (in opposition to RACs where an installer may ensure a well-fitted and designed installation). Favouring LACs will expand the unsustainable compulsion trends towards easy energy-consuming air-conditioning, and increase CO₂ emissions and fragility of power grids.

We do not see a reason to maintain LACs on the EU market if they are not capable of reaching higher efficiency levels (comparable to RACs). We also do not see the rationale to set a simplified methodology and specific label regime for LACs, which would make comparison with RACs difficult and confusing. To our understanding, an A-rated LAC could be less energy efficient than a D-rated RAC.

In any case, **the Commission should provide a comparison of the two approaches** (either a specific regime for LACs or not) in terms of stock trends and overall energy consumption. We regret that this comparison is impossible with the available data.

➤ We believe that the scope of the Working Document could be extended up to 17 kW products. The preparatory study mentioned that the capacity of products higher than 12 kW may be in all points similar to products below 12 kW. We understand that the 12 kW limit has only been considered for practical reasons, not for technical ones.

➤ Larger tertiary air-conditioning is not included here. Could the Commission clarify when a new preparatory study will be launched to cover it? (*They are included in the EuP Work Plan*).

➤ We note the postponement of the discussion on domestic ventilation. Could the Commission provide a clearer calendar for this product category?

Improving requirements on the cooling and heating modes

The proposed requirements for the cooling function of air-conditioners and heat pumps are way below current Japanese top runner models, which have a SEER¹ of at least 7. If the Working Document proposals were adopted, in 5 years time the minimum standard would still be 40% below current benchmark. For sure the EU would remain the dumping ground for poor-performing products rejected elsewhere.

Therefore, we suggest more serious requirements, first ensuring quickly the current least-life cycle cost level for consumers, then setting a middle-term objective of moving the technology towards benchmark models.

- **First stage in 2011: SEER > 4.3**
- **Second stage in 2016: SEER > 7**

Similarly, we suggest stricter requirements for the heating function of reversible products. The preparatory study had a confusing reason to justify a low-ambition limit at a SCOP² of 3.2 (by considering only the cooling season in the life-cycle cost calculation, instead of both seasons). A genuine least life cycle cost calculation including both cooling and heating seasons justifies to remove reversible products below SCOP of 3.9³.

Therefore, we suggest more serious requirements, first ensuring quickly the current least-life cycle cost level for consumers, then setting a middle-term objective of moving the technology towards benchmark models.

- **First stage in 2011: SCOP > 3.9**
- **Second stage in 2016: SCOP > 4.8**

Concerns with the proposed Energy Labelling

We do not see any rationale to introduce new labels with 8 or 9 classes. Using the simple well-known A-G scale would avoid all the difficult on-going political deadlocks and doubts about naming classes on top of A.

It is essential to note that with the proposed mandatory requirements, 5 to 6 energy classes for the cooling mode and 4 to 5 for the heating mode would already be empty and pointless when the new labels are introduced. We do not find it workable.

- **Therefore, we suggest limiting the labels to 7 classes.**

We also find it strange that the proposed class boundaries are not consistent with the minimum requirements. In order to facilitate consumer information and market surveillance/evaluation, it would be much better if **EuP limits were aligned with class boundaries** (i.e. not cutting in the middle of a class).

We suggest setting the scales so that SEER of 4.3 and SCOP of 3.9 are the boundaries between classes D and E. The minimum requirements we propose would translate into phasing-out E, F and G products from the market in 2011.

¹ *SEER: Seasonal Energy Efficiency Ratio, as defined in the Working Document*

² *SCOP: Seasonal Coefficient of Performance, as defined in the Working Document*

³ *See Preparatory study Chapter 8, pages 17, 18 and 19. In particular the comments that genuine LLCC is at SCOP of 3.9 – 4.2, but that the proposed targets are lower than suggested by the LLCC analysis to seek consistency with the EuP work on boilers dating from last year.*

Insufficient promotion of alternative refrigerants

Whereas refrigerants have been identified as a significant aspect, there is no substantial requirement to promote low-GWP fluids. We doubt that including a part of refrigerant leakage in an overall CO₂ mention at the bottom of the Energy Label would have the desired effect.

Strangely enough, the explanatory notes of the Working Document hint at some ideas to promote low-impact refrigerants (such as a bonus on the energy labelling rating – page 41), but nothing remains in the document itself.

We consider that promoting low-GWP refrigerants would be an environmental benefit, without a systematic trade-off with energy efficiency. But it requires a redesign of products, and therefore needs a strong incentive. We consider that the F-gas directive is insufficient to drive this market transformation.

➤ **One option could be to set progressive requirements on the GWP performance, with an ultimate limit at GWP of 150 in 2017.**

For products where using an alternative refrigerant may even improve the energy-efficiency, the market could be shifted more quickly to this option (especially in the case of LACs if they are to benefit from a specific regime – see *first page*).

➤ Another approach could be to **reward products using a low-GWP refrigerant by a clear pictogram on the Energy Label, or through including the refrigerant losses in the methodology to assess the energy efficiency ratio** (by translating the climate impact of the fluid losses into an equivalent electricity consumption emitting the same amount of greenhouse gases).

0 Watt mode

As air-conditioners are usually used in specific periods and sometimes only for a few days during the year, it is of utmost importance to ensure the equipment consumes 0 W outside the use cycles. The preparatory study has showed that there is in general no difference between so-called “off-mode” and standby power, meaning potentially substantial losses in both cases (from 0.3 to 25 W).

As it is often difficult (even impossible) to unplug wall-hung products from the grid, a 0 W mode needs be made easily accessible to the user. The argument that this would potentially put at risk the refrigerant in some specific conditions should find another technological solution, rather than requiring a constant electricity loss along the year.

➤ Therefore, we request the following requirement starting in 2012:

Air-conditioners, air coolers and comfort fans covered in this study shall include a 0 Watt mode, easily accessible to the user. The instruction booklet should encourage to switch the product completely off when not in use.

➤ In case the user forgets to switch to the 0 W mode after the heating/cooling season, this additional requirement could be proposed:

Air-conditioners, air coolers and comfort fans covered in this study shall automatically switch from standby/off-mode to the 0 Watt mode after 5 days of no-user interaction.

Limits on noise

We welcome mandatory limits on noise levels, but we are not convinced that the suggested levels are challenging. With benchmark models at 46 dB-A, all the levels proposed could easily be decreased. This should not excessively affect manufacturers.

➤ **We suggest decreasing the noise values by 5 to 10 dB-A.**

Alternative approach for tolerances

The working document proposes a 8% tolerance for the measurement of efficiency ratios, but fails to provide the rationale supporting this value.

The consultants of the preparatory study, in one of its draft versions of September 2008, had a much interesting comment in suggesting that “*setting fixed tolerances would distort the competition between large and small capacity units and also would favour units that does not have capacity control means. Consequently, we advise to require that SCOP and SEER be published without tolerances and only with uncertainties of measurement resulting from the ones of the individual tests.*” If we are not mistaken, this is the approach that is applied in the USA, and China (where most of these appliances are manufactured). However, the comment was strangely removed from the final version of the preparatory study.

We still believe that this comment made sense, and that there is no reason to allow a fixed tolerance of 8% for compliance assessment. If China does not need it, why would the EU?

➤ Therefore, **we request the SEER, SCOP and EER values to be declared without tolerances and published with the uncertainty range of the measurement only.**

Additional technical comments

➤ Harmonisation with the work on EuP Lot 1 (boilers): We are keen to see a high level of harmonisation between the methodologies used in EuP product groups “boilers” and “room air-conditioners”, since there are obvious overlaps. Minimum requirements should also be consistent; however we are ready to support more stringency on heat pumps in this implementing measure, if it is not possible to improve the performance of this specific product through the Lot 1 regulation. *Our technical experts have worked on this point and are ready to support the Commission if needed.*

➤ In the Annexes of the Working Document detailing the methodology, a nomenclature is missing (which would improve the approach to the document).

➤ The number of bins in Table 2 is 46, while the equations refer to 40 bins. Is there a mistake?

➤ The Working Document proposes as an option to declare efficiencies for cold, warm and average climates only in heating mode. We suggest a harmonised declaration in both heating and cooling modes (and to consider the proposal made for the heating mode for both modes).

➤ The methodology does not reward the models with advanced controls ensuring a better performance, whereas the methodology on Lot 1 (boilers) does it.

END.