

## **POLICY OPTIONS FOR ECO-DESIGN REQUIREMENTS OF ENERGY USING PRODUCTS – Refrigeration and freezing equipment**

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**Copy to** : André Brisaer, Stefan Kolb, Kerstin Lichtenwort

**Object**: Additional EPEE comments on the “Task 1 Report May 2009” prepared by Bio Intelligence

Brussels, 20 May 2009

Dear Mr. Mudgal and Ms. Iyama,

The *European Partnership for Energy and Environment* ([EPEE](http://www.epeeglobal.org))<sup>1</sup> is pleased to participate in the process to ensure that this report is ready for use of the Commission and likes to share its comments with you.

The present task 1 report is giving an overview of the products that can be considered in scope of this study. For the products that are of interest to EPEE, it is clear that the contents of task 1 are acceptable. However some issues have to be modified to give correct information:

EPEE members are actively involved in ensuring that their products are designed as such, choosing the best options to deliver optimal performance.

In this respect, EPEE wishes to assure that correct information is given in the report, as this work will be used as a base for possible implementing measures.

In table 1-4, information used is outdated and omits e.g. the POCP values and the atmospheric lifetime. Similarly, the GWP values of hydrocarbons have been insufficiently assessed to justify the qualification “very low”.

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<sup>1</sup> The European Partnership for Energy and the Environment ([www.epeeglobal.org](http://www.epeeglobal.org)) was set-up in September 2000 to represent the interests of the air-conditioning, heat pump and refrigeration industry. Representing around 90% of the market, EPEE members include manufacturers of equipment as well as installers and producers of refrigerant fluids. EPEE is “the voice” of the air-conditioning, heat pump and refrigeration industry in Europe.

Moreover, EPEE wishes to point out that in future task reports new fluorocarbon technology such as hydrofluoro-olefins (HFO's), which, have a much shorter atmospheric lifetime than HFC's and therefore a low GWP, in a range similar to hydrocarbons have to be considered.


Simple comparisons of properties, including thermodynamic properties, can be misleading. Actual results or more complex models are necessary taking into account for example, pressure drops and heat transfer properties at relevant conditions. It is the overall refrigerant properties, including flammability and toxicity that dictate design, cost and performance. EuP-ENTRlot 1 covers a wide range of equipment. While some equipment could use system charge of less than 150 g with HC, other equipment requires a greater system charge where HC's are not appropriate. For these systems HFC's, including "HFO's", offer a range of refrigerants having non-flammability, marginal flammability, or moderate flammability. For even larger systems, where non-flammability is required HFC's remain appropriate. While CO<sub>2</sub> is ideal as the low stage of a cascade system or for use as a secondary fluid, or indeed as a heat pump fluid where hot water is required, it does not perform as well as HFC's at medium or high temperature for refrigeration, particularly in warm or hot climates.

EPEE also would like to stress the necessity to leave to manufacturers the "free choice of refrigerants" to be used in accordance to the application.

Also, the GWP-value of a substance is of relatively limited value, since proper containment technology can prevent emission, and thereby the actual impact on climate changes (as clearly reported in IPCC report "safeguarding the ozone layer and the global climate system" (<http://www.ipcc.ch/ipccreports/sroc.htm>). This is recognized in the report, where it discussed the TEWI and LCCP assessment.

We trust that the information contained in this position paper will be of relevance and interest to you. Should you have any questions or require any additional input, please do not hesitate to contact us.

Yours sincerely,



Friedrich P Busch  
Director General – EPEE