

# ENERGY STAR UPS Draft 1 v2.0

## – Comments from the European Commission

### **Proposed efficiency requirements**

Based on analysis of the ENERGY STAR database, the proposed efficiency requirements for ac-UPS will represent a challenging level in the market – as it should do – recognising the best 15–25% of models in the database across a range of different product sizes and types. An analysis of newer products placed on the market in the last 2–3 years also shows a similar result, which further supports the proposal.

We however also recommend to look forward when setting requirements and not only look at the current products on the market. Specifically, we would recommend to consider the following technologies, and that the industry provides further information about products with the following features:

- Automatic tri-mode UPS – These UPS can operate in all three modes VFI, VD, VFD and switch between the modes automatically depending on the input power. By only switching to VD mode when necessary rather than VFI mode, this can provide additional efficiency gains.
- Modular UPS with intelligent paralleling – communication between UPS modules can enable individual modules to be shutdown when load is low therefore increasing the load and operating efficiency of the remaining modules whilst maintaining the target redundancy. This would provide additional support for an Emod allowance.
- Very high frequency switching using SiC (silicon carbide) and GaN (gallium nitride). While no products are available, there is increasing media coverage and a promise of close to 99% efficiency in VFI mode. Are these close to commercialisation and do manufacturers have product roadmaps for their introduction?

### **Requirements and Definitions for low and high voltage DC UPS**

It is recommended that the proposed definitions for low and high voltage DC UPS only be introduced if there is a technical basis for different efficiency levels or different operating loads. The range of UPS types with different voltages is growing and applying different definitions and requirements may fragment the market, make comparison more difficult and result in consumers not selecting the most efficient solution.

### **Battery installation in UPS test**

We would like to understand why the battery is not installed in ENERGY STAR testing. The ENERGY STAR analysis suggests that this has an impact on efficiency and it is also more representative of real life use.

### **Removing allowance for models with metering**

We support removing this allowance because it is now a common and expected feature.