# Can a standby label cut power consumption?

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Everybody complains about high energy prices. And yet it's so easy to save electricity – simply by switching off electrical appliances completely, rather than leaving them 'idling' in standby mode. The Fraunhofer Institute for Systems and Innovation Research ISI (Germany) has been investigating possible ways of raising consumers' awareness of the energy they waste by leaving appliances switched on.

In a single year, the electrical equipment in German households and offices consumed an estimated 18 billion kilowatt-hours of power while switched to standby mode. That corresponds to almost the entire output of all the wind turbines producing electricity in Germany. Many consumer electronics devices take over 50 percent of their total power consumption in standby mode.

“A set-top box for receiving digital TV, which will soon be an essential item in almost every household, consumes about eight watts in standby mode, day in, day out,“ remarks Barbara Schlomann of the ISI. That doesn't sound much, but when you add it up over a whole year, it comes to somewhere around 54 kilowatt-hours. Multiply that by the approximately 60 million TVs in Germany, and you arrive at a figure of over three billion kilowatt-hours. Little is likely to change between 2004, the year that was studied, and 2015 with respect to the huge waste of power due to appliances running on standby. Although manufacturers have started to implement technical improvements in certain types of equipment, such as PCs and TVs, the savings here are almost entirely canceled out by the simultaneous increase in the number of appliances and the introduction of new products. This was the conclusion of a new

study conducted by the Fraunhofer Institute for Systems and Innovation Research ISI in Karlsruhe on behalf of the German Federal Ministry of Economics and Labour.

The Fraunhofer researchers were given the task of investigating whether this unnecessary consumption of electricity could by reduced through the use of a “standby label“ affixed to electrical appliances, showing for instance how much power the unit consumes in standby mode and when in off mode but still connected to the power supply. The latter state is all the more deceptive in that the equipment appears to be switched off but is in fact still consuming a small amount of electricity. The potential savings are huge: around nine million kilowatt-hours per annum could be economized if the most efficient technologies were applied, according to calculations by the Research Institute for Energy Economy FfE in Munich. There would appear to be no legal impediment to the introduction of a compulsory labeling scheme, even on a unilateral, national, basis, according to the institute's project partners at the Dresden University of Technology.

The study compiled by the ISI experts includes suggestions concerning the content of labels for use on items of electrical equipment and their sales packaging. The scientists are not in favor of using a classification scheme that rates energy efficiency from A to G, like the stickers commonly seen on refrigerators or washing machines, because most of these white goods only consume energy when they are actually in use. Instead, the ISI researchers propose that the markings employed on smaller appliances – such as personal computers, printers, TVs, set-top boxes, espresso machines – ought to show their standby consumption in watts, and furthermore their consumption when switched off but not unplugged from the power supply – the “leaking electricity“. The study also mentions alternatives to this kind of labeling: a voluntary code of practice for manufacturers, minimum energy efficiency standards, a ban on equipment that draws energy when apparently switched off, and

enhancements to existing labeling schemes such as Energy Star or the EU Eco-Label.

Source: Fraunhofer-Gesellschaft