

Tenth edition of Eurosif/“Le Monde”, “El Pais” and “La Stampa” indicators for environmental and social performance of international companies

Computer companies constrained by the need to save energy

On October 19th, representatives from the industrial world, consumer associations and environmental organisations will meet in Brussels to give their opinions on a European regulation creating new standards for energy consumption for electric and electronic devices when they are in “power-saving” or “activated” mode. While consumption currently varies from 12 to 15 W/h depending on the product, the measure being proposed would require manufacturers to reduce this to 1 or 2 W/h within a year once the law was passed, and then to 0.5 to 1 W/h within 3 years for all new products.

This initiative, which should become effective in September 2008, is one of fifteen decisions that will be made by the European Commission between May 2008 and March 2009, in applying the “Ecodesign of Energy Using Products” (EUP) directive – adopted on July 6th 2005 and whose English acronym inspired French experts to call it the “Youpi Directive”. Each decision will set up energy performance standards for a “family of products”, from public lighting to televisions, refrigerators and teakettles, as well as computers. The goal is to reduce energy consumption by 20% before 2020.

The regulation concerning computers should be passed in September 2008, at the same time as the one concerning office lighting. This regulation package should make companies aware of the energy performances of the computers and other IT material they use. Especially in the current context of increased energy costs and decisions that will be made by the French environmental reflection group “Grenelle de l’environnement”. According to recent measures – a 2005 survey of 600 devices in 49 companies in the Provence-Alpes-Côte d’Azur region, which was carried out by Enertech for the French Environment and Energy Management Agency (Ademe) – the consumption of electronic office equipment was estimated to be 878 kWh per employee and per year. *“Out of this total number, 33% comes from the computer’s central processing unit, 24% from screens, 19% from servers, and 12% from printers. Most of all, only 25% of the energy consumed by screens and 16% of those consumed by the central processing units correspond to when they are actually in use. The rest comes from when the computers are on, but not in use, in power saving mode or in an activated off*

mode!” says Hervé Lefebvre in the department of energy efficient markets and services at the Ademe. Laptops, the computer with the highest sales in the world, are slowly replacing PCs and work stations for personal and professional use. Based on data gathered by Ernst & Young for the tenth edition of Eurosif/Le Monde, El Pais and La Stampa indicators, laptop manufacturers are anticipating the regulation and are trying to stand out above the competition by launching initiatives to show the amount of energy saved by using their product. However only two companies, Apple and HP, make this information available to the public for their entire range of products. The global effort is still hard to evaluate. *“Even if you publish the number of labelled products and performances for each brand; there is still no information available on the percentage of products that are the most energy efficient in the entire range of products available from the manufacturer, and most of all what that represents in terms of sales”*, says Alexandre Hébert, consultant in the environment and sustainable development department at Ernst & Young. It’s precisely this information that, beyond the choice of the consumer, could guide the investor concerned with evaluating the capacity of a manufacturer to meet regulations and the basic principles of sustainable development they claim to adhere to.

Beyond the responsibility of the manufacturer, the consumer’s responsibility plays a fundamental role. First, with the purchase: *“On average, a company’s entire computer hardware infrastructure is renewed every three to five years”*, states Mr. Lefebvre. First, they must choose equipment that meets their needs in terms of services they expect. The capacity of computers doubles every six to twelve months on average, and their energy consumption does too, with some at a slower pace than others. In most existing brands, the simplest function is run with the same amount of energy as the most complex function, which results in a useless surplus of energy being consumed. Then, for the same service, the variation of energy performances depends on the screen (based on its size and features, a flat screen consumes two to three times less than an ordinary cathodic screen), the microprocessor and finally the plug and electrical cord, which are often neglected: on average 40% of energy consumption comes from unnecessary heating.

The second – and more important – source of energy savings comes from modifying the way we use computers, at home and at the office. Automatically activating the screen power saving mode (not to be confused with a screensaver that does not reduce energy consumption at all), and simply turning off computers, allows you to save up to 60% of energy for the screen and 50% for the central processing unit. However, even the power

saving and activated modes consume a lot of energy. Ideally, you should have a plug with a switch that you can use to completely turn off your machine when it is not in use. Finally, you should use the “advanced energy savings options”, which appear more and more on different operating systems, allowing you to vary the energy consumption in proportion to the functions that are active on your computer.

ANTOINE REVERCHON

Communication efforts made by laptop manufacturers

Company	Information on energy performances ⁽²⁾	Number of brands with label ⁽³⁾	Information available to consumer ⁽⁴⁾	Advanced energy saving options
Acer (Taiwan)	1	48	1	Yes
Apple (United States)	2	17	2	Yes
ASUSTek Computer (Taiwan)	0	11	0	Yes
DELL (United States) ⁽¹⁾	2	26	0	Yes
Fujitsu (Japan) ⁽¹⁾	0	30	1	No
Hitachi (Japan) ⁽¹⁾	2	0	0	No
HP-Compaq (United States) ⁽¹⁾	2	48	2	No
Lenovo (China /Hong Kong) ⁽¹⁾	0	227	2	Yes
NEC (Japan) ⁽¹⁾	2	0	0	Yes
Sony (Japan)	2	124	0	Yes
Toshiba (Japan)	1	30	0	Yes

(1): Participation in “Climate Savers Computing Initiative”
(2): 0 = no data with figures, 1 = information for certain products, 2 = information on entire product range
(3): Energy Star (Europe or United States), Blue Angel, Epeat or internal label
(4): 0 = standard technical datasheet, 1 = datasheet with IT Eco-Declaration for certain products, 2 = datasheets for entire product range

Source : Ernst & Young, based on information published by companies

PUBLIC DATA

Information published in this table was collected and processed by the consulting firm Ernst & Young based on documents published by companies. Table does not include data on IBM, who sold their PC and laptop activities to Lenovo, and Gateway, bought by the Taiwanese Acer in August. The data on Packard Bell are integrated into those of NEC, who owns the brand. Finally, Hitachi only sells laptops on the Japanese market.

Labels and tools to consumer better



75% of screen energy consumption comes from when they are not in use (here in a call centre in Melbourne, Australia) TELETECH HOLDINGS/AP

COMPANY or individual, how does the buyer of a personal computer choose the right equipment in order to fight against climate change and the rise in electricity bills in the best possible way?

Few manufacturers publish sufficient information on their entire product range. To obtain this it's better to turn towards eco-labels (the list and characteristics can be found on www.indexel.net, a website dedicated to professional IT infrastructures).

Certain labels were created by public administrations. That's the case with the most well known label, Energy Star, launched in 1992 in the United States by the Environmental Protection Agency and the Energy Department. In 2001, the European Commission signed an agreement with Washington spreading the use of Energy Star to computer equipment made and imported into Europe. Set up for five years, this agreement was renewed and widened on December 28th, 2006 for five more years. The Energy Star website (www.energystar.gov) offers an energy performance comparison tool of the products available on the market. Since July, it includes another label, 80plus, which guarantees that the electric power source limits heat loss to, at the most, 20% of the total energy consumed.

The Blue Angel label, created by the German government in 1977, has now been signed by over twenty countries grouped together in the Global Ecolabelling Network (GEN). Different from the previous one, this label concerns all sorts of products and their entire lifecycle (manufacturing, use, recycling). This is also the case for Eco-Label that the European Commission is trying to promote to their member states.

Epeat (Electronic Product Environmental Assessment Tool – a tool that evaluates the environmental impact of electronic products) – also concerns the entire lifecycle of the product, but was created by American industrialists grouped together in the Green Electronic Council (GEC). The American administration made Epeat mandatory for all purchases made by the Federal State, amounting to 75 billion dollars per year.

Another private initiative is the Climate Savers Computing Initiative, launched in 2007 by Intel and Google. The industrialists follow it by committing to reduce the energy consumption of computers they produce by 50% before 2011, resulting in a savings of 5.5 billion dollars for the world energy bill (based on the current price of kWh in the United States).

It's true that the energy consumption of servers has doubled between 2000 and 2005 due to a multiplication of internet service providers (websites, telephone, downloading, e-commerce, intranet, etc.). There were 27 million in 2005 versus 14 million in 2000. In 2005, their energy bill was 7.2 billion dollars, an amount that the operators are looking to bring down.

Manufacturers of microprocessor (AMD, Intel), PCs (Dell, HP, IBM), specialised data storage systems (APC, Rackable Systems, SprayCool) and software editors (Microsoft, VMWare) have joined together, creating the Green Grid to develop computer tools to manage the electrical consumption of computers and servers. The sector is developing rapidly, and one of its main actors, American Power Conversion Corporation (APC), was bought in the beginning of the year for 6.1 billion dollars by the French Schneider Electric, who, with the help of its MGE UPS Systems subsidiary, plans to become number one worldwide in this promising market.

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