FROM TARGET VALUES TO ECO-LABEL

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1. LABELS AND TARGET VALUES

1.1. Swiss Target Value Program

In Switzerland, subsequent to the enactment of the Federal Energy Decree on the Use of Energy in 1991, a Target Value Program for office equipment has been defined in close collaboration with manufacturers. It provides maximum values of power consumption in standby mode for all relevant groups of office equipment as well as deadlines by which 80 to 95% of the equipment is to comply with these values.

1.2. U.S. EPA's Energy Star Label and Swiss Target Values

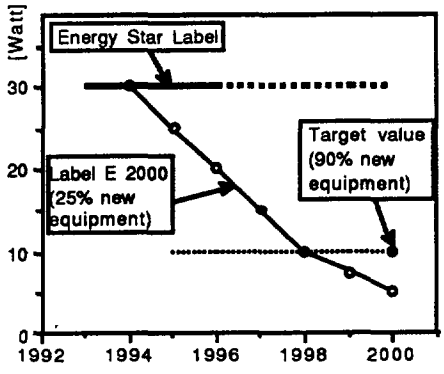
The U.S. Environmental Protection Agency (EPA) announced in 1992 the Energy Star Program, which is a voluntary program with the goal of reducing the power consumption of computers, displays and printers in the standby mode (copiers and faxmachines will soon be included). The goal of the program is to save energy without sacrificing performance or cost. The Energy Star Program and the Target Value Program are complementary in respect to time scale, purpose, technology and cost:

— Energy Star is a short term program. It is expected that a majority of the equipment sold will qualify in one or two years. The Energy Star Label can immediately be used for information and marketing purposes.
— The Target Value Program sets goals to be achieved in three to five years. It is a signal for manufacturers of what the requirements will be in the future.
— The Energy Star Program affects mainly the stand-by mode with a very short recovery time of the order of a (few) second(s). No supplementary costs are expected.
— The Target Value Program does not exclude stand-by modes which may have recovery times of ten seconds (or more) often referred as suspend modes and explicitly specifies values for the off mode. Some development and implementation costs are not excluded.

1.3. Swiss Energy 2000 Label

A labelling program is supporting the Target Value Program by annually awarding the Energy 2000 Label to equipment complying with interim values which are made more stringent every year, coinciding finally with the target values. Figure 1 illustrates how the dynamic Energy 2000 Label makes the link between the Energy Star Program and the Target Value Program.

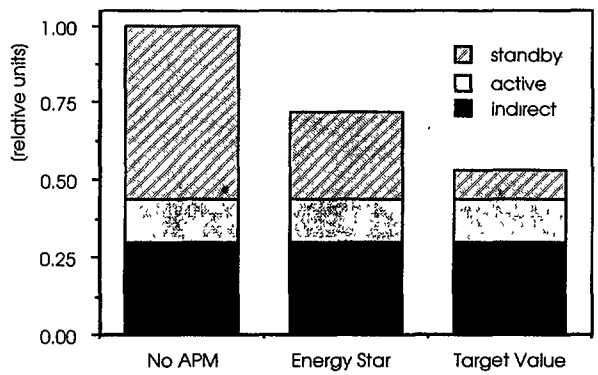
***Figure 1** Illustration of the complementarity between the Energy Star Label, the Swiss Energy 2000 Label and the Swiss Target Value Program*



2. FROM ENERGY-LABEL TO ECO-LABEL

EPA's Energy Star Program and the Swiss Target Value Program intend to change the market If these new power management features are effectively used, energy savings in the standby mode will yield substantial decreases in overall consumption. Once this is achieved, energy consumption in the active mode and indirect energy (energy used for manufacturing, distribution, maintenance, recycling or disposal of equipment)) will become relatively more important. This possible evolution is shown in the next Figure.

Figure 2
Relative importance of energy use in standby mode, in active mode and energy used in production, distribution and disposal process (indirect energy use) of a typical office equipment without automatic power management (APM), with APM according to Energy Star Program and with APM according to Swiss Target Value Program.



A program to further reduce energy consumption by office equipment can hardly rely on target values for power consumption in active mode. Such values are difficult to define and are considered too stringent to both users and manufacturers as they might affect directly the performance of the devices. In some domains, alternative technologies already exist, like ink jet printers compared to laser printers. By increasing user awareness through information, manufacturers can progressively introduce efficiency and environmental quality as a marketing advantage.

Life cycle analysis is still quite an unexplored approach and a lot has to be done before making sound comparisons between equipment on this basis. New technologies can lower operating energy consumption but may increase embodied energy. With todays manufacturing technology this seems to be true for LCD-screens. Considering the concept of energy efficient offices, other relevant factors are of the same order of magnitude (or greater) than direct energy consumption of office equipment. A well-known factor is the amount of energy incorporated in paper . General environmental awareness among end-users and companies is increasing. Energy conservation is then competing with other environmental issues such as electromagnetic radiation, recycling, reuse, noise. A global Eco-Label could be a good way of attaining most of the environmental objectives, among which energy efficiency is one. It can also help companies which complaine about the overproliferation of labels. A complete set of coherent requirements, internationally recognised, would represent an enormous step forward.

3. FIRST ELEMENTS OF AN EVALUATION

3.1. Energy Star Label

A first evaluation of the Energy Star Program by EPA shows that the market was successfully influenced. With President Clinton's Executive Order in 1993, all US government agencies give their support to the program by purchasing Energy Star Products, whenever possible. It was recognised that the weak point was the actual use of the energy saving facilities and improvements are under way. EPA's successful program may soon be consolidated by the Global Energy Star Program supported by the U.S. EPA the European Union and the Japanese Industry.

3.2. Swiss Target Value Program and Energy 2000 Label

The Energy 2000 Label allows a monitoring of progress in the Target Value Program. The maximum values for power consumption in standby mode are more stringent in 1995 than in 1994, which means that the power

consumption of the 25% best models is in 1995 lower than what it was in 1994. On the purchaser and user side we find Governmental recommendations to all federal offices in order to promote purchase of labeled office equipment and correct use of power management facilities. The administration of Zürich decided to purchase – when ever possible – office equipment with the Energy 2000 Label. International acceptance of the Swiss Target Value Program greatly increased with the understanding of its complementarity to the Energy Star Label.

3.3. Ecolabel

In Switzerland, the Information Centre Managers Forum (ICMF), which includes about 100 members representing most of the economic activities and about 80% of the Swiss professional PC market awards an annual eco-prize to the most ecological PC, Monitor and Printer presently on the market. Five or six criteria out of about twenty concern energy and 20% of the attributed mark is related to energy conservation during operating time. In the future ICMF will work on an eco-label which could be attributed to several models of different manufacturers.