



Adding value – buying green

## UBS AG (United Bankers of Switzerland), Switzerland

*Computer screens: Innovation triggered through purchasing power of a large procurer*

### *Abstract*

Environmental management at UBS has a long history. Starting with the optimisation of their own operations (energy, purchase, waste), environmental management has been extended to include bank products and services. In 1995, purchasing guidelines for office ecology were drafted. The department for energy management and business ecology supports the implementation of ecological measures in house, and undertakes regularly surveys before purchasing new office material, taking into account energy consumption as well as emissions.

As many office installations such as PCs, monitors, printers and other electronic devices, if hooked up to a network, use energy and generate heat even if they are not actively used, the energy department undertook a survey and drew up recommendations for LCD monitors for an energy-efficient, low-impact power supply. Following direct contact with various manufacturers, a screen satisfying the requirements was produced by a Korean manufacturer, Samsung. While a conventional power supply consumes between 4 and 7 watts in sleep mode or when switched off, a device incorporating the best technology can consume up to ten times less.

### *Objectives*

The recommendations drafted by the energy management department included product standards that were not available on the market at that time. The objectives were to reduce energy consumption as well as the generation of heat which puts greater pressure on air-conditioning systems.

It was asked for a LCD (liquid crystal display) monitor fulfilling specific, very detailed requirements concerning energy consumption and emissions.

Several suppliers of IT Systems stated that these requirements could not be fulfilled. However, one supplier, Samsung, accepted the challenge and developed a monitor fulfilling most of the requirements.

### *State of the activities*

The project was finalised in the year 2000. Monitors were developed, presented to the press and introduced to the market. Although eventually these monitors were not purchased in big quantities by UBS, no further activities remain to be done, and the project can be considered as completed. However, UBS continues to improve their environmental office performance through purchasing environmental friendly products.



## *Background Information*

UBS regards sustainable development as a fundamental aspect of sound business management. An environmental policy was passed on in 1998. It focuses on banking, financial products and services, operations and management.

UBS actively seeks ways of reducing the environmental impact to air, soil and water from in-house operations. The main focus is the reduction of greenhouse gas emissions. The efficient implementation of the environmental policy is assured via an environmental management system which includes sound objectives, programmes and monitoring.

In May 1999, UBS AG received certification according to the ISO 14001 environmental standard, making it the first bank in the world to have its environmental management system in banking operations certified according to ISO 14001 on a world-wide basis. The bank's in-house operations in Switzerland were also recognised as being in accordance with ISO 14001.

Some specialised environmental units ensure the implementation of environmental policies. The In-house Ecology team is concerned with general in-house ecology in Switzerland (purchasing, waste and recycling, hazardous materials and transport). Purchasing guidelines for office ecology were adopted in 1995.

It was within this movement of in-house ecology that the energy management department decided to undertake a survey and to draft the recommendations for innovative LCD monitors. In banks and other service companies with a high density of electrical appliances, the high number of appliances may lead to the necessity to cool the neutral conductor of the high voltage current supply system in order to avoid the cables burning. This was one of the reasons why the energy management department decided to ask for high standard monitors.

## *Implementation*

### *• Strategy chosen*

A survey was carried out by the energy management department on monitors taking into account energy consumption as well as emissions. As a result, recommendations were drafted containing precise purchasing requirements for monitors. Monitors with an energy performance such as described in the tender documents did not exist on the market beforehand, they were developed on purpose to fulfil the requirements of a large buyer. Therefore, the present case study is a typical example of product innovation.

### *• Activities*

The recommendations included the following product requirements for LCD monitors:

The power input in sleep mode should not be superior to 0,1 Watt, the power factor ( $\cos\phi$ ) superior to 0,95, the total power factor superior to 0,95. A loaded efficiency factor of 90% for a low voltage (inferior to 12 Volt alternating voltage) was asked for. For a low voltage superior to 12 Volt alternating voltage, a loaded efficiency factor of 95% was demanded. The backup capacitor should be sufficient for 10 milliseconds. Additionally, a mechanical switch allowing the physical separation from the power supply system should be part of the product.

### *• Partners*



- UBS: departments for energy management and business ecology, and, to a certain extent, the departments for IT procurement

- Samsung ltd.

• *Financing and resources used*

The survey was financed by internal UBS resources, the development costs by Samsung. No additional funding from third parties was involved.

**Results and Impacts**

Several suppliers of IT Systems stated that the requirements which were included in the recommendations drafted by the energy management department could not be fulfilled. However, one Korean supplier, Samsung, accepted the challenge and developed a monitor fulfilling most of the requirements. It was not possible to develop a monitor with a power input inferior to 0,1 Watt. Achieved was a value of 0,63 Watt. All other requirements were fulfilled, i.e. a displacement factor ( $\cos\phi$ ) superior to 0,95, loaded power factor superior to 0,95, loaded efficiency factor of 90% for a low voltage (inferior to 12 Volt alternating voltage), loaded efficiency factor of 95% for a low voltage superior to 12 Volt alternating voltage, and a mechanical switch allowing the physical separation from the power supply system. Efforts from both the demand and the supply side were therefore crowned with success and lead effectively to innovation.

<b>Indication Dimensions</b>	<b>Cathode Ray Tube (CRT) 17 inch</b>	<b>Liquid Crystal Display (LCD) 15 inch</b>	
		<b>Standard appliance</b>	<b>Samsung SMS708/TFT</b>
switched on	120	25	20
Sleep mode	5	5	0,6
Switched off (mecanically)	5	5	0

Table 1: Comparison power input of computer monitors during different operating conditions

<b>Energy costs/year</b>	<b>Cathode Ray Tube (CRT) 17 inch</b>	<b>Liquid Crystal Display (LCD) 15 inch</b>
Monitors	59.300	23.000
Air condition	12.000	7.000
Uninterruptable power supply (UPS)	7.450	350
Condition UPS	300	0



Table 2: Comparison energy costs per year

With a respective purchase price of 420 EURO (CRT) and 850 EURO (LCD) and taking into consideration investment- and capital costs of monitors, air condition and uninterruptable power supply, the total annual costs for a trading floor with a 100 working places, would add up to 139.400 EURO for LCD monitors. Cost for CRT monitors would add up to 182.000 EURO, that means that in total, CRT monitors in spite of lower initial cost, costs 690 EURO more per year than LCD monitors.

We do have here an example of product innovation triggered through market demand. The innovation is rather on product invention than on dissemination, as a new product was developed especially for a large purchaser. The product such as asked for in the recommendations did not exist on the market at that time.

#### • *Barriers and Conflicts*

Although the study carried out by the Energy Management Department of UBS proved to be successful, the purchasing department did only purchase small quantities of the developed Samsung monitors. This study was no more than a help to the purchasing department, without any obligation for them to follow the recommendations when drafting the tender. The study was made 2 years prior to the purchasing process of the LCD monitors and has been overlooked. The monitors finally evaluated by a different purchasing team and purchased in large quantities by UBS were on a list with recommended appliances by the energy department called "energielabel.ch". Environmental friendly production methods and environmental policies of the manufacturers of the monitors were taken into consideration. Nevertheless, at the end, commercial aspects are always considered at least as much as environmental concerns.

One problem here was definitely the non-involvement of the energy department in the evaluation process when evaluation finally took place.. There was a lack of communication between the two departments, as well as a divergence in their interests.

#### • *Transferability*

Although this project was implemented by a private institution, the experience is well transferable to local or national authorities, or even to other large private procurers. Actually, public institutions are one of the largest buyers of IT equipment, and therefore, the present case study could well have been realised by a public authority (or any large buyer in need of IT equipment) in any country.

#### • *Lessons learned*

For those willing to undertake a similar project, it would certainly be recommendable to make sure that there is a close cooperation between the different departments concerned by the activity. Communication between those carrying out a survey and drafting recommendations, and those responsible for the actual purchasing is a necessary condition for successful action.

#### *Additional information*

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*Sources:*

<http://www.ubs.de>

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