



Makro partners with Fujitsu on e-waste disposal programme

In partnership with Fujitsu Siemens, Makro runs an e-waste disposal project at 11 of its stores across South Africa. Extra large recycling bins located in the chain's stores' parking areas are available for customers to use as a drop-off point for unwanted printers, cell phones, TVs and outdated or broken electronic equipment. Makro sells volumes of electronic goods so it makes sense for the chain to offer customers a responsible and convenient way of disposing of them.

E-waste is a growing problem

E-waste is one of world's fastest-growing pollution problems. It's the name given to old and discarded computers, digital photo and music devices, microwaves, monitors, circuit boards and other equipment. Electronic goods often contain parts made from metals that are hazardous to the environment and to people. Contaminants such as lead, cadmium, beryllium, mercury and brominated flame-retardants can be found in everyday electronic equipment, so these goods need to be disposed of carefully.

What's more, the rate at which waste is building up is significant, especially in developing coun-

tries. In February 2010, a UN Environmental Programme report predicted that sales of electronic goods in Africa will rise sharply in the next 10 years. In South Africa, the report predicts that by 2020 e-waste from old computers will have jumped 200% to 400% over 2007 levels. UN experts warn that action must be taken to collect and responsibly manage hazardous e-waste for the sake of the environment and public health.

Makro's e-waste project

Makro and Fujitsu have been working together since 2008 to help customers manage their e-waste and so far almost 47 tons of discarded electronic waste has been collected. It is disassembled,



redirected into individual waste streams and from there it's sent for recycling, for further processing to recover reclaimable metals or it's safely destroyed.

Once waste is discarded in the e-waste bins at Makro stores, it is collected free of charge by the recyclers, Desco Electronic Recyclers. Desco weighs the waste and offloads it at their recycling centre for sorting into waste streams. Waste streams include - but are not limited to - batteries, plastics, metals, circuit boards and monitors. Mainstream waste is manually dismantled, sorted and reclaimable elements are passed through to the next level of processing. Metals such as steel and aluminium are stripped off while components containing aluminium, alloys of tin, zinc, copper, nickel or precious metals (including gold and silver) are shredded. These are passed on to smelting plants or foundries to produce new alloys or pure metal.

How much waste has Makro collected?

Tons of PC bases, TVs, radios, monitors, printers, keyboards, DVDs, notebooks cell phones, air conditioners, microwaves and scanners have been collected since August 2008.

	Kilogrammes	Tons
Weight of e-waste	134 672	135
Approximate CO ₂ emission saved	7 231 940	7 232

On average only between 0,5% and 1,5% of the e-waste collected from Makro stores and other sites that ends up at Desco's plant is sent to landfill and this includes sweeping resulting from the shredding and dismantling processes. None of this waste is toxic.

Responsible disposal

To ensure the process is reliable for Makro and Fujitsu as a destination for their customers' e-waste, the recycling and processing service provider is registered as a recycling facility with the Gauteng Department of Agriculture and Rural Development. It is also registered with the Department of Environmental Affairs as a Section 20 recycling company and is a member of both the E-waste Association of South Africa and the Information Technology Association of South Africa. The recycler holds a precious metal refining licence from the South African Diamond and Precious Metal Regulator and is certified ISO 14001 compli-

ant. They also meet ISO 9001, ISO 14001 and OHSAS 18001 standards.

Because the stripping and dismantling processes are manual, Makro's e-waste recycling is also helping create jobs. There are 95 employees working at Desco, which also has two Broad-based Black Economic Empowerment (BBBEE) partners linked to its operations. Occupational health for employees is maintained and negative environmental impacts minimised through the identification and prevention/minimisation of pollutants linked to the dismantling process.

Makro receives regular reports from the recycler about how much e-waste is being collected, what type of e-waste it is and which stores are bringing in the most. In this way the chain is able to monitor and report on tonnage on a monthly basis. Certificates of destruction are also made available to Makro and Fujitsu. What started out as a pilot project at Makro Woodmead is now

a national project. Increasing awareness of the e-waste disposal facility among shoppers across South Africa should see customer participation and e-waste disposal volumes rising even further. ■



E-waste facts: Did you know?

Modern electronics can contain up to 60 different elements. Many are valuable, some are hazardous and some are both.

- A mobile phone can contain over 40 elements, including base metals like copper and tin; special metals such as cobalt, indium and antimony, and precious metals silver, gold and palladium.
- The use of common metals such as iron in electronics is considerable. About 6kg of iron or steel is used in a desktop PC.
- Recycling is not without its own negative byproducts, but these are far overshadowed by the damage done to the natural environment in accessing new raw materials. Recovering metals from sustainable recycling processes generates only a fraction of the carbon dioxide (CO₂) emissions that mining for new metals produces and also requires less energy. For example, production of 1kg of aluminium by recycling uses only one-tenth or less of the energy required for primary production.

Source: UNEP

What happens to e-waste?

According to the United Nations Environmental Programme (UNEP) a sound treatment process for e-waste should aim at either removing hazardous items or at least separating them from the main recyclable materials. The UNEP adheres to the '3 R Principle' to reduce, reuse and recycle. Reclaiming and safe disposal, however, are also very important steps in dealing with e-waste.

Recycle – The most common recyclable elements in e-waste are metals, glass and plastics. Recycling reduces waste going to final disposal and it decreases the consumption of natural resources used in the production of new goods.

Reuse – The term 'reusing' refers to extending the lifespan of electronic goods. It's not an alternative to recycling, though, because eventually the reused goods will need to be disposed of responsibly. At present, the Makro Fujitsu e-waste disposal programme does not include reusing components from discarded electronic goods.

Reclaim – Reclaiming allows for the reuse of valuable metals such as aluminium, copper, palladium and gold commonly found in e-waste. These metals are extracted from the discarded goods and smelted for reuse in other products.

Safe disposal – Because some elements of e-waste are toxic and hazardous, safe disposal is critical to preventing risks to human health and the environment. Only safe waste should be sent to landfill because toxic and harmful substances can contaminate groundwater.