

## Carbon Disclosure 2011-2012

Kleen Strike (UK) Ltd is a remanufacturer of printer cartridges, reconditions used laser printers and offers a printer repair service. We are also a reseller of office consumables and paper. Our company has been remanufacturing printer consumables at our Rochdale facility for the past 28 years. We specialize in many different types of cartridge models from small toner and inkjet cartridges for the home user through to medium size and larger models for small businesses, local authorities and educational enterprises.

We have maintained its position through the years by rigorous testing and quality assurance procedures for:-

- Remanufacturing toner cartridges and drum units for laser printers and faxes.
- Refilling inkjet cartridges for inkjet printers.
- Refilling ribbon cassettes for matrix printers.
- Repairing and servicing laser printers, inkjet printers, office shredders and laminators including our unique one token/one repair scheme.
- Refurbishing and reconditioning used laser printers to original condition with a 12 month warranty.

The service we offer is unique to our customers. In using our own locally produced remanufactured cartridges and printer servicing we are reducing our customer's carbon footprint as well. We offer an annual certificate informing our customers of the carbon reduction benefits they have achieved by the purchase of remanufactured cartridges and reconditioned printers. In demonstrating the substantial CO<sub>2</sub> savings made in a 12 month period it encourages our customers to appreciate the advantages of reducing their own carbon impact.

### ENVIRONMENTAL IMPROVEMENTS

It is our firm belief that the best thing a business can do is to lead by example so that improvements can be achieved not only inside the organization but also to encourage and help other organizations to make similar improvements. To this end we have implemented a wide range of environmental improvements inside our business in the last two years and have also participated in National, European and International initiatives to raise the bar in environmental stewardship. Our Company participated as a stakeholder in the development of a pioneering environmental standard, the EPEAT - IEEE 1680.2 for imaging equipment (see [www.epeat.org](http://www.epeat.org)).

We have been ISO 9001 registered since 1997 and supplemented this through registration to ISO 14001. Inside the business, we have implemented wide ranging energy-saving and resource efficiency measures. These include:

- Reduction in water usage by the use of cistern water displacement bags
- Reduction of heating temperature by lowering thermostats on heaters
- Replacing small personal heaters with fewer more efficient ones
- Switching to energy saving lighting throughout the business
- Ensuring that all machines and equipment are switched off when not in use and at night and weekends
- Reuse of materials for other purposes
- printing on both sides of paper
- printing with remanufactured cartridges all our own labels and courier labels
- reusing shredded paper, cartons and packing materials
- implementation of packing cartons which are used for multiple trips between customers

The implementation of energy and water saving measures has enabled our Company to make significant savings of the order of 23%. To date we can compare electricity consumption for a 34-week period from March to October 2010 (baseline) and March to October 2011 (saving measures implemented) and this shows a reduction of 4,357 kWh from the baseline of 19,519 kWh. The corresponding financial saving is £380 and the CO<sub>2</sub>e saving is 2.5 tCO<sub>2</sub>e. We are continuing to monitor energy and water usage with frequent readings in order to derive performance measures that can be used in detailed assessments of the embodied emissions of our goods and services.

Our Company has a zero landfill policy. The company's aim is to keep as many materials, components and cartridges re-circulating in the economy as possible through high quality remanufacturing. The more that materials and components are reused, the fewer virgin materials are required to make new products. In our remanufacturing operation, all residual materials which can no longer be put to productive use are dealt with in as environmentally and responsible manner as possible. We continue to seek productive uses even for waste materials that would traditionally be discarded. For example:

- End of life components and broken and unusable cartridges are palletized and transported to a qualified recycler with waste management licenses in place for material recovery and not for landfill.
- Waste toner removed from spent cartridges is collected in specially made Bulk bags and transported on a pallet crate for material recovery.

Our business transport is kept to a minimum and delivery and collection of cartridges is planned intelligently so as to be as fuel-effective as possible, within the constraint of maintaining good response times to customer requirements.

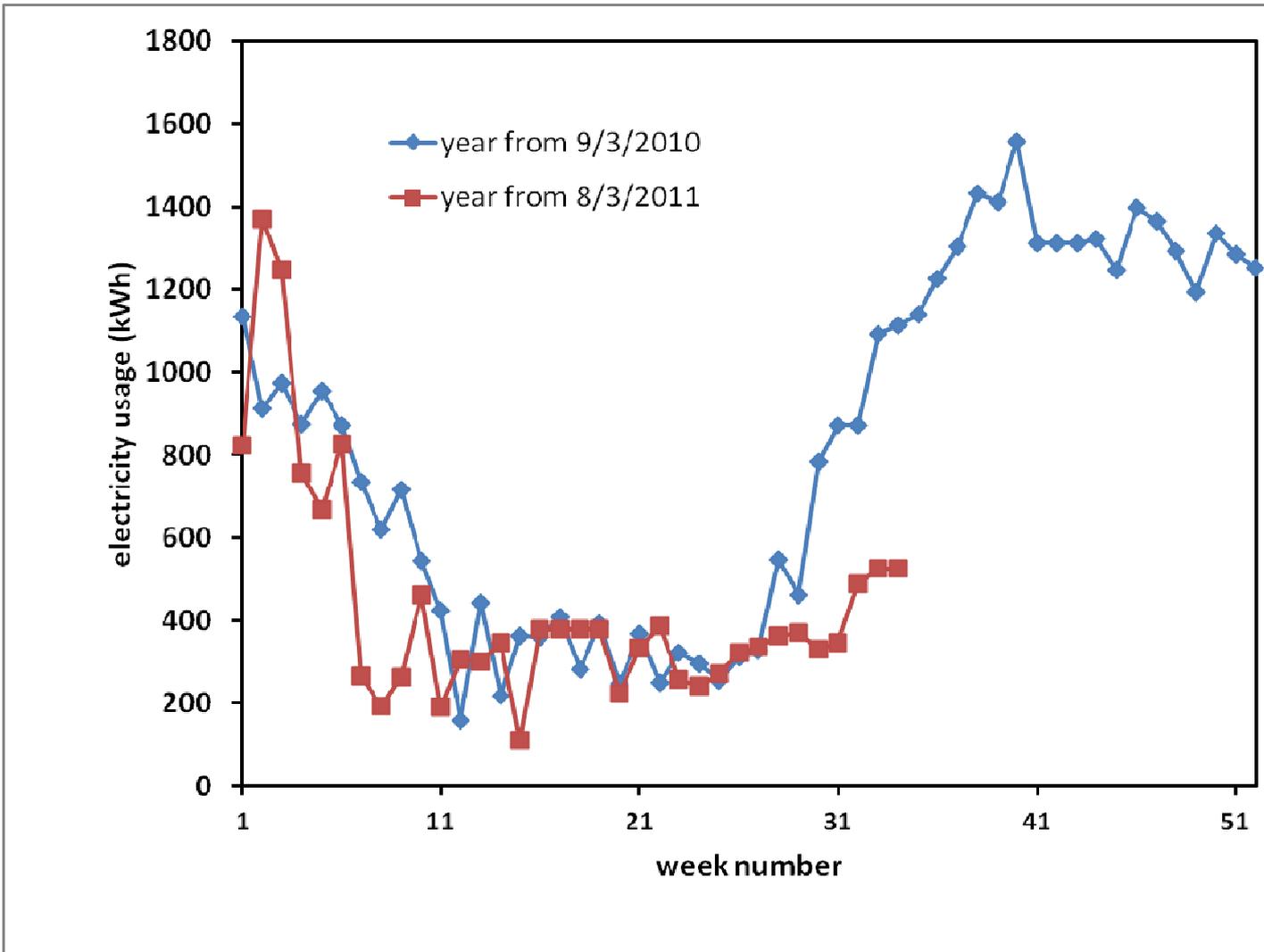
In the interests of transparency, Our Company has participated in the Carbon Disclosure Project ([www.cdproject.net](http://www.cdproject.net)) and has measured and disclosed both its operational greenhouse gas (ghg) emissions as well as the embodied ghg emissions of remanufactured cartridges.

Because of our commitment to our Industry and encouraging printer users on the virtues of reuse over recycling (crushing) and landfill, we have been at the vanguard of many industry and global initiatives.

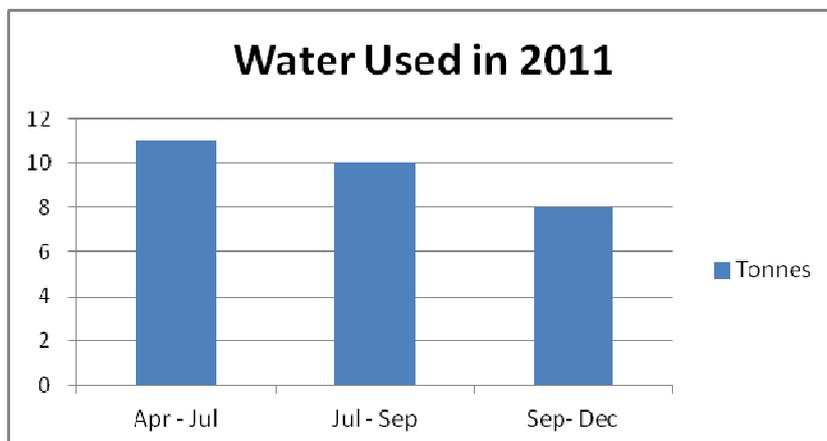
- Involved as a stakeholder in the development of the EPEAT - IEEE 1680.2 standard for the past two years on Imaging Equipment presently in the balloting stage that will be adopted in over 40 countries Worldwide when released in 2012.
- Active in recent recast review of the WEEE Directive to encourage the reduction of printer cartridges to landfill through our local MEP.
- Contributed as a stakeholder to the 'Revised Sustainable Procurement Guidelines for Toner Cartridges – prepared by ICLEI for UNEP-DTIE (United Nations Environment program, the Division of Technology, Industry and Economics.)
- Worked successfully to seek a change in EU policy which has resulted in the inclusion of remanufactured toner cartridges in EU procurement guidelines
- Contributed as an industry expert to the review of the Nordic Swan Eco-Labeling on toner cartridges

**THE POSITIVE IMPACTS THE IMPROVEMENTS WE HAVE IMPLEMENTED HAVE HAD ON THE ENVIRONMENT AND OUR COMPANY**

To date we can compare electricity consumption for a 34-week period from March to October 2010 (baseline) and March to October 2011 and this shows a reduction of 4,357 kWh from the baseline of 19,519 kWh with financial saving £380 and CO2e saving 2.5 tCO2e.



The reduction in water use can be shown by the following graph



## ENVIRONMENTAL IMPACTS

Our Company recognises that carbon emissions are involved not only in terms of energy usage in the business but also through embodied emissions in its goods and services.

Our remanufactured toner cartridges can save customers up to 2/3 of costs and 2/3 of CO<sub>2</sub>e compared with purchasing 'Original' products. By this we enable customers to avoid ghg emissions, because remanufactured cartridges have a lower carbon footprint compared with a new cartridge. The avoided emissions for each cartridge are approximately 4.3 kgCO<sub>2</sub>e. We remanufacture a minimum of 12,500 toner cartridges each year. By this the avoided emissions that our Company enables users to achieve is  $12,500 \times 4.3 \text{ kg CO}_2\text{e} = 54 \text{ tCO}_2\text{e}$ .

Each year our Company repair about 500 laser printers and 25 inkjet printers. These repairs take place both on-site (about 1/3 at Kleen Strike premises) and offsite (about 2/3 at the user premises). Making the assumption that each repair enabled the user to avoid having to purchase a new machine, an estimate for the avoided emissions enabled through Kleen Strike's printer repair service amounts to 74 tCO<sub>2</sub>e (laser printers) and 2 tCO<sub>2</sub>e (inkjet printers), giving a total avoided emissions of 76 tCO<sub>2</sub>e. This figure excludes transport and parts emissions incurred by Kleen Strike for each repair task.

The total emissions which our Company enables users to avoid through cartridge remanufacturing and printer repair services amounts approximately to  $54 + 76 = 130 \text{ tCO}_2\text{e}$ . This outweighs the emissions of our Company (35 tCO<sub>2</sub>e) by approximately 95 tCO<sub>2</sub>e. Thus, the net environmental benefit that Kleen Strike provides to its customer base is the capability to avoid 95 tCO<sub>2</sub>e per year.

## SOCIAL IMPACTS

Our Company has been involved in many local initiatives. These include:

- In the Final for the Rochdale Business Awards 2011 in the category of the Environment.
- In the Final for The Greater Manchester Green Awards 2011 for Environmental Excellence
- Commissioned a white Paper (published in the September 2011 issue of The Recycler Magazine) to help educational establishments so that schools and colleges can make a qualified decision in the area of what printing option is the most environmental, economical and tailor made for them.
- Offering our customers an annual certificate on the CO<sub>2</sub> savings they have gained by the use of locally produced remanufactured toners and printer repairs through life extension.
- Supporting community and sports sponsorships – Sponsor of Rochdale Hornets Rugby League for the 2012 Season.
- Offers a local used cartridge collection and recycling service

## OUR COMPANIES ONGOING COMMITMENT TO MAKING ENVIRONMENTAL IMPROVEMENTS

Our business model is based on offering low carbon strategies through the use of our remanufactured products and services. To achieve a more efficient low carbon strategy within our own company and maintain responsibility we have

- Disclosed our carbon emissions through the Carbon Disclosure Project
- Achieved the ISO14001 environmental certification
- Achieved Investors in People certification

In reducing our own carbon impact, we ensure:

- Waste toner removed from used cartridges is sent for material recovery and not landfill
- End of life components and cartridges are sent for material recovery
- Returnable/reusable toner bubble bag are used in our cartridge packaging in order that used toner cartridges can be returned undamaged and in turn the bags can be reused carrying a newly remanufactured toner

We have also:

- Introduced the reusable toner carton with a tab/lock system
- Reduced electricity usage by reduction of fluorescent tubes company wide
- Introduced a more efficient low energy hand dryer to substitute hand paper towels
- Separate all paper and card and for recycling
- Switch off of all computers, printers and equipment at the end of each day
- Reducing thermostats on heaters.
- Print duplex or reuse one-sided printed paper in our fax tray or copier for non-essential documents
- Reduce printing by no longer printing out hard copies of purchase orders and as much as possible sending order acknowledgements, invoices, payments electronically
- Reduce our delivery journeys by implementing a minimum order or planning deliveries and delivery routes in a more fuel efficient way.

Our remanufactured cartridges were submitted in the first ever carbon footprint study for remanufactured toner cartridges.[1] The conclusion demonstrated the positive impact in carbon savings by multiple life cycles of toner cartridges.

We have also modified our remanufacturing strategies following a unique quality assurance system implementing our own advanced remanufacturing practices. By following documented instructions and procedures we are able to achieve best practice in our remanufacturing process as well as extend cartridge life cycles beyond the market average. We have achieved this by extending the life of many components within the cartridge itself through reconditioning of cartridge components. Such measures have reduced the carbon footprint of our cartridges by up to 60% from a newly produced cartridge.

---

[1]Carbon Footprints and Ecodesign of Toner Printer Cartridges; Dr, Michael Gell, Xanfeon Energy & Environmental Services; Dec 2008