CARBON DISCLOSURE PROJECT

CDP 2009 Information Request

Respondent: KLEEN STRIKE (UK) ltd

General introduction

Kleen Strike (UK) Ltd is a remanufacturer of printer cartridges, offers a printer repair service and is a reseller of office consumables. The company has been in operation for over 26 years and offers a range of products from ribbon cassette reloading to our own brand remanufactured toner cartridges and inkjets. Kleen Strike has been ISO 9001:2000 accredited since 1997 and awarded 'Remanufacturer of The Year' by The Recycler Magazine, a trade publication to the remanufacturing industry. We are a founding member of ETIRA (European Toner and Inkjet Remanufacturing Association) holding their 'Code of Conduct' certification and also a member of the UK Cartridge Remanufacturers Association (UKCRA) for 13 years. The company has been audited through independent studies and its products shown to be of "pristine quality". Kleen Strike has maintained this position through the years by rigorous testing and quality control procedures. The company supplies all types of printing media, including toners, inkjets, waxstix, ribbons and TTR's, to small and medium sized enterprises as well as large corporate customers and the home user. The company also offers printer repair services offered through the dedicated workshop on-site. Kleen Strike prides itself on friendly helpful staff who go out of their way find the right solution for each and every customer's printing requirements.

Contact details: Kleen Strike(UK) Ltd, Royle Works, Royle Road, Rochdale, Greater Manchester, OL11 3EH. Tel 01706 658582. Fax 01706 647440. Website www.kleenstrike.co.uk Email sales@kleenstrike.co.uk Contacts: Alistair Barker and Laura Heywood

Risk and Opportunities

1. Regulatory Risks

Climate change poses both risks and opportunities to many types of business.
Companies may be faced with implementing changes to conform to government regulations related to climate change and energy use and this may involve extra costs. However, forthcoming regulations may present opportunities to companies because their goods and services are already in step with those requirements, which may give them an advantage over their competitors.
Climate change brings changing weather patterns. For some companies, this will be a risk if, for example, their or their suppliers' premises are at increased likelihood of flooding. Additionally physical changes may bring benefits depending on geographical location. For example, some farmers may experience longer growing seasons. Customer behaviour may also be modified as a result of climate change. As consumers become more environmentally aware, goods or services linked with high greenhouse gas emissions/energy use may become harder to sell while sales of low-emission/low-energy alternatives grow. Companies may have goods or services that can help people adapt to circumstances that have come about as a result of climate change, bringing them business opportunities.

Please use the selection buttons to show which risks and opportunities apply to your business. In the text boxes that appear, describe the risks/opportunities, explain any actions your company has taken to manage/adapt to/exploit these and indicate the financial implications.
See our guidance for other examples of risks and opportunities from climate change.

1.1 Is your company exposed to regulatory risks related to climate change i.e. is your company affected or likely to be affected by government regulations related to climate change?

We consider our company to be exposed to regulatory risks.

Kleen Strike (like other cartridge remanufacturers) face regulatory risks in terms of failure of evolving regulatory systems to take account of industrial practices that do not encourage good ecodesign practices. For example, Article 4 of the European WEEE Directive required Member States to take appropriate measures so that producers do not prevent, through specific design features or manufacturing processes, WEEE from being reused, unless such specific design features or manufacturing processes present overriding advantages, for example, with regard to the protection of the environment and/or safety requirements. Unfortunately the problem of regulatory failure is allowing a situation to perpetuate in which anti-reuse devices (eg zig-zag and sonic weldings of cartridge casings rather than long-life clips and screws, smart chips, unnecessary bonding) are preventing cartridges from being reused. Kleen Strike, as a member of remanufacturing trade associations, is making representations to UK and European governments to address these regulatory failures so that greenhouse gas emissions associated with poor ecodesign can be avoided.

Further information

To further expand on the difficulties facing Kleen Strike as well as other remanufacturers we have attached 2 published reports regarding anti-reuse devices, both with the permission of The Recharger Magazine to include in our submission. (If only one file is received please notify us and will send the other as it seems to only allow one to be attached).

http://cdp.cdproject.net/attachedfiles/Responses/58642/11170/Inkjet cartridge chips-Recharger.pdf

2. Physical Risks

2.1 Is your company exposed to physical risks from climate change e.g. extreme weather or trends, such as decreasing rainfall?

We do not consider our company to be exposed to physical risks.

The decreasing availability of landfill space is a risk for those businesses involved whose business model involves sending cartridges to landfill. Kleen Strike's policy is to keep as many materials, components and cartridges recirculating in the economy as possible through high quality remanufacturing and so the physical risk associated with decreasing landfill space (and associated escalating landfill costs) is actually a business opportunity.

Further information

3. Other Risks

3.1 Is your company exposed to other risks as a result of climate change e.g. reduced customer demand for products that may be linked with relatively high GHG

emissions or energy use, or difficulty in sourcing materials or components due to climate change-related scarcity?

We consider our company to be exposed to other risks.

Kleen Strike regards the potential delays in establishing Implementation Measures for the EuP (ErP) Directive in terms of requiring good ecodesign practice for printer cartridges as a risk. Kleen Strike welcomes the introduction of strong regulations in this area so that OEM's - original equipment manufacturers (i.e. printer manufacturers) are required to place onto the market cartridges that are readily reusable/remanufacturable. It is well recognised that the waste hierarchy is reduce, reuse, recycle and so remanufacturing, which addresses reuse, inherently is more environmentally and climate friendly than the recycling of materials.

Further information

4. Regulatory Opportunities

4.1 Do regulatory requirements on climate change present opportunities for your company? For example, government regulations related to climate change may result in greater demand for your products.

Regulatory requirements present opportunities for my company.

Kleen Strike believes that the cartridge remanufacturing industry is an excellent example of the way industry should function in the low carbon economy – based on using resources in an environmentally sensitive way and taking every action possible to avoid sending useful components and materials to landfill or incineration. By building up remanufacturing infrastructure and capability in such a way that creates scope to build a sustainable economy with lots of new jobs and at the same time reduce carbon emissions. Kleen Strike is an active participant in trade associations (UKCRA & ETIRA) efforts in liaising with government, industry and policy makers in raising awareness of these positive developments and opportunities. Kleen Strike is also actively participating through UKCRA in the development of the international EPEAT ecodesign certification standard for imaging equipment, which includes consumables such as toner and inkjet cartridges. This certification mechanism has the potential to inform customers of the potential carbon reduction benefits of purchasing remanufactured cartridges compared with new cartridges that are either sent to landfill, recycled for material recovery which again takes energy or incinerated after they have been used only once.

In terms of the development of the European EuP Directive there is an opportunity to reassess the design of cartridges (especially in terms of anti reuse devices and design features) from the points of view of both good ecodesign and climate change mitigation. This is seen as an opportunity for Kleen Strike.

Further information

5. Physical Opportunities

5.1 Do physical changes resulting from climate change present opportunities for your company? For example, climate change may have led to a longer growing season.

Physical changes do not present opportunities for my company.

Kleen Strike is pursuing a policy of striving for “nothing to landfill”. This is a physical opportunity in that if materials are reused and kept out of landfill, there is less requirement to source replacement virgin materials and avoidance of the emissions associated with the manufacture and supply of those virgin materials.

Further information

6. Other Opportunities

6.1 Does climate change present other opportunities for your company e.g. increased customer demand for products that help them cope with the effects of climate change?

Climate change presents other opportunities for my company.

Many of Kleen Strike's customers recognise that remanufactured toner cartridges are a cost effective environmentally-friendly alternative to new toner cartridges and this is leading to increasing numbers of companies purchasing remanufactured toner cartridges. Many customers have sustainable procurement policies in place and so purchasing remanufactured toners is an ideal way for them to comply with their own policies. Kleen Strike and UKCRA which Kleen Strike is an active member of wish to be pursue further investigations similar to the carbon footprint of toner cartridges report recently carried out to quantify the environmental benefits of remanufactured toners for customers.
The next big challenge on the horizon for all cartridge users is to reduce landfilling of printer cartridges through reuse or material recovery. With landfill prices on the increase and only 30% of used printer cartridges recovered for reuse, this is the next major issue that must be addressed. Kleen Strike is working with others in the remanufacturing industry to focus on maintaining high quality to build more capability in the industry to get to higher numbers of refill cycles. The more that the industry goes to higher numbers of refill cycles the more that materials are recirculated in the economy and kept out of landfill and the more carbon savings are made. Kleen Strike believes that these represent excellent opportunities in terms of business development and more widely in terms of developing a sustainable low carbon economy and reducing the potential for dangerous climate change.

Further information

Greenhouse Gas (GHG) Emissions Accounting, Emissions Intensity, Energy and Trading

7. Reporting Year

CDP follows a method of reporting emissions known as the GHG Protocol: A Corporate Accounting and Reporting Standard (Revised Edition). (http://www.ghgprotocol.org/standards/corporate-standard). This divides emissions into three "scopes".

Scope 1 GHG emissions are direct emissions from GHG sources owned or controlled by the reporting company. They fall within the company's "reporting boundary". Examples may include:

• Combustion facilities - boilers, furnaces, turbines, heaters, incinerators, engines.
• Combustion of fuels in transportation - cars, buses, planes, ships, barges, trains.
• Physical or chemical processes e.g. in cement manufacturing.

The key factor is that your company owns or controls the emission sources.

Scope 2 GHG emissions are caused by a company's consumption of electricity, heat, steam or cooling brought in for use by assets or activities within its reporting boundary. The emissions do not occur at sources that are owned or controlled by the reporting company and are therefore termed "indirect emissions". This category is often called "purchased electricity" because it represents the most common source of Scope 2 emissions.

Scope 3 GHG emissions are a company's indirect emissions other than those covered in Scope 2. They are from sources that are not owned or controlled by the company, but which occur as a result of its activities. Scope 3 is a very wide category. It includes emissions associated with the extraction and production of materials that you have bought, employee business travel in vehicles that you don't own or control, emissions associated with the use of your goods as well as other emission sources.

Carbon dioxide emissions from burning biomass/biofuels should be reported separately from emissions in the three scopes. If relevant, please report these emissions in question 15. However, please do include any nitrous oxide or methane emissions from biomass/biofuel combustion in your emissions under the three scopes. Click here to read why

The aim of categorising emissions by "scopes" is to ensure, as far as possible, that double-counting of emissions is minimized or, where it cannot be avoided, it is identifiable.

Before we ask you to give emission figures, we need to establish the time period that they cover and areas of your business for which you are supplying data.

7.1. State the start date and the end date of the year for which you are supplying data.

Start date: 01 January 2008
End date: 31 December 2008
Financial accounting year: 01 January 2008

8. Reporting Boundary

8.1. Please indicate the category that describes the business operations for which you will be reporting Scope 1 and Scope 2 data.
If you wholly own all of your operations, please choose the first selection button below.
If you do not, please read the four options for reporting boundaries and select one of them.
If your company has a complicated structure, please read chapter 3 of the Greenhouse Gas Protocol. It will outline the circumstances in which you should not report all of the emissions from an operation (e.g. when you have chosen the equity share reporting boundary, but don't hold 100% of the equity in the operation).

Companies over which financial control is exercised – per consolidated audited Financial Statements.

9. Methodology

9.1. Please describe the method used by your company to calculate Scope 1 and Scope 2 GHG emissions.

Explain your process for collecting the "activity data", i.e. the amounts of the different fuels consumed, electricity use figures, etc, that you need in order to calculate your Scope 1 and 2 emissions.

If you have not been able to collect activity data for all your sources of Scope 1 and 2 emissions, please list those that are excluded.

If you have followed a published procedure for collecting data, please name it e.g. the GHG Protocol, ISO 14064-1.

Describe your calculations.

Please provide your answer in the text box. In addition to this description, if relevant, select a methodology from the list of published methodologies. This will aid automated analysis of the data.

The reporting boundary is the entire Kleen Strike business, which consists of a shop, reception, office, workshop and workspaces at its site in Rochdale, UK. The facilities and operations are wholly owned by Kleen Strike Ltd, and Kleen Strike is not part of any larger organisation / reporting entity. The reporting boundary also includes the company's own vehicle (Citroen Despatch 900 Enterprise Van and two employee-owned cars) used for meetings as well as collection and delivery of cartridges from / to customers.The assessment methodology used here follows the reporting principles and guidelines provided by the Greenhouse Gas Protocol published by the World Business Council for Sustainable Development and the World Resources Institute (GHG Protocol). In line with the GHG Protocol, the procedure used to make the GHG assessment involves (1) establishment of the assessment boundary (including the selection of the greenhouse gases (Kyoto set), project boundaries and operational boundaries), collection of data, and calculation of emissions using appropriate conversion factors.

Select methodologies:

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

Please also provide:

9.3 The names of and links to any calculation tools used.

Scope 1 emissions correspond solely to the use of a van and two cars (as per 8.1). Scope 2 emissions are derived from electricity consumption data (in kWh) provided by the energy supplier and emission factor for CO2 (5 year rolling average) from DEFRA guidelines (2007) and for CH4 and N2O from IPCC (2008) and IEA (2007) reports. IPCC AR4 values for Global Warming Potentials (GWPs) have been used. Kleenstrike's scope 2 emissions correspond only to those associated with purchase of electricity; Kleen Strike does not use natural gas and does not import either heating or cooling across the reporting boundary.

Greenhouse gas assessments are based not on direct measurement of emissions, but on estimates of material and energy consumption (principally weight or volume of material, consumption of electricity as recorded by the energy supplier) and the application of relevant conversion factors. This approach is considered the most pragmatic, since the quantity of greenhouse gases produced in most combustion and manufacturing processes is well understood. The certainty of waste emission estimates is lower, but direct measurement is rarely a realistic option.

Select calculation tools:

Further information

10. Scope 1 Direct GHG Emissions

Instructions for question 10 and question 11 (following page)

When providing answers to questions 10, 11 and 13, for clarity, please do not deduct offset credits, Renewable Energy Certificates etc, or net off any emissions that you estimate that your goods or services enable others to avoid (for example, an insulation company might consider that the installation of its insulation in another organisation's premises might reduce the consumption of gas to heat the building with the consequential reduction of GHG emissions from the property).

If you purchase offsets, please give details of your purchases in the "Further information" section at the end of each webpage. Details of renewable energy certificates that you have retired can be given in answer to question 12.2. Estimates of emissions avoided through third party use of your goods and services can be given in answer to question 14.1.

We ask for emissions data in metric tonnes of CO_2-e: CO_2-e stands for carbon dioxide equivalent. This is the universal unit of measurement used to indicate the global warming potential (GWP) of a GHG, expressed in terms of the global warming potential of one unit of carbon dioxide. A metric tonne of CO_2-e means one metric tonne of carbon dioxide or an amount of any of the other GHGs with an equivalent global warming potential.

Please answer the following question using Table 1.

Please provide:
10.1. For those operations within the boundary that you gave in 8.1., please give your total gross Scope 1 GHG emissions in metric tonnes of CO_2-e.

Table 1 - Please use whole numbers only.

Reporting year Q7.1 Start date	01/01/2008
Reporting year Q7.1 End date	31/12/2008
10.1 Total gross global Scope 1 GHG emissions in metric tonnes CO_2-e	10

Please tick the box if your total gross Scope 1 figure (Q10.1) includes emissions that you have transferred outside your reporting boundary (as given in answer to 8.1). Please report these transfers under 13.5.

10.6. If you have not provided a Scope 1 emissions figure, please explain your reasons and describe any plans you have for collecting Scope 1 GHG emissions information in future.

Further information

11. Scope 2 Indirect GHG Emissions

Scope 2 emissions are GHG emissions that the organisation has indirectly caused through its consumption of electricity, heat, cooling or steam generated by another organisation outside its reporting boundary.
Most companies buy electricity from the grid. In that case, we ask you to use the grid average emission factor to calculate emissions linked with your electricity use. If you buy electricity under a zero or low carbon tariff (often called a "green tariff"), this still applies, except in a very limited range of circumstances (Click here to read more).

Please answer the following question using Table 5.

Please provide:
11.1. For those operations within the boundary you gave in 8.1., please give total gross Scope 2 GHG emissions in metric tonnes of CO_2-e.

Reporting year Q7.1 Start date	01/01/2008
Reporting year Q7.1 End date	31/12/2008
11.1 Total gross global Scope 2 GHG emissions in metric tonnes CO_2-e	25

11.5. If you have not provided a Scope 2 emissions figure, please explain your reasons and describe any plans you have for collecting Scope 2 GHG emissions information in future.

Further information

12. Contractual Arrangements Supporting Particular Types of Electricity Generation

12.1. If you buy electricity using a zero or low carbon electricity tariff and wish to give details, please do so.

Not applicable

12.2. If you retire any certificates (eg: Renewable Energy Certificates) associated with zero or low carbon electricity, please provide details.

Not applicable

Further information

13. Scope 3 Other Indirect GHG Emissions

Scope 2 covers emissions that a company has indirectly caused to be emitted through its consumption of - usually purchased - electricity, heat, cooling and steam. Scope 3 covers all other indirect emissions from sources that are not owned or controlled by a company, but which occur as a result of its activities.

It includes emissions associated with the extraction and production of materials that you have bought, employee business travel in vehicles that you do not own or control and emissions associated with the use of your goods and services.

For each of the following categories, please:
- Describe the main sources of emissions,
- Report emissions in metric tonnes of CO_2-e,
- State the procedure you have used for gathering data and performing your calculations (identifying any calculation tools used).

13.1 Employee business travel
Describe the main sources of emissions

Emissions in metric tonnes CO_2-e.

State the procedure you have used for gathering data and performing your calculations (identifying any calculation tools used).

13.2. External distribution/logistics
Describe the main sources of emissions

Emissions in metric tonnes CO_2-e.

State the procedure you have used for gathering data and performing your calculations (identifying any calculation tools used).

13.3 Use/disposal of company's products and services

Describe the main sources of emissions

Emissions in metric tonnes CO_2-e.

State the procedure you have used for gathering data and performing your calculations (identifying any calculation tools used).

13.4 Company supply chain
Describe the main sources of emissions

Emissions in metric tonnes CO_2-e.

State the procedure you have used for gathering data and performing your calculations (identifying any calculation tools used).

13.5 Other
If you are reporting emissions that do not fall into the categories above, please categorise them into transferred emissions and non-transferred emissions (please see guidance for an explanation of these terms).

Please report transfers in the first three input fields and non-transfers in the last three input fields.

Transfers
Describe the main sources of emissions

Scope 3 emissions have been assessed through a detailed carbon footprint assessment of two models of toner cartridges which the company remanufactures (see SM3).

Transfers
Report emissions in metric tonnes of CO_2-e.

Transfers
State the procedure you have used for gathering data and performing your calculations (identifying any calculation tools used).

Non-transfers
Describe the main sources of emissions

Non-transfers
Report emissions in metric tonnes of CO_2-e.

Non-transfers
State the procedure you have used for gathering data and performing your calculations (identifying any calculation tools used).

13.6 If you have not provided information about one or more of the categories of Scope 3 GHG emissions in response to the questions above, please explain your reasons and describe any plans you have for collecting Scope 3 indirect emissions information in future.

Further information

14. Emissions Avoided Through Use Of Goods And Services

14.1. If your goods and/or services enable GHG emissions to be avoided by a third party, please provide details including the estimated avoided emissions, the anticipated timescale over which the emissions are avoided and the methodology, assumptions, emission factors (including sources), and global warming potentials (including sources) used for your estimations.

In the current reporting year, Kleen Strike is able to provide estimates of avoided emissions in two categories: (1) remanufactured laser toner cartridges and (2) printer

repairs. A detailed report focusing on two of the many models of toner cartridges that Kleen Strike remanufactures is attached and is used to make the following estimates.

For the purposes of estimating the avoided emissions associated with providing a toner cartridge remanufacturing service, two popular models of cartridge are considered in the study and average carbon footprints are estimated. In the case of the average OEM cartridge, weigthed by the relative numbers of each model remanufactured at Kleen Strike, the carbon footprint is 5.8 kgCO2e and this is what a user would incur if they purchased an equivalent 'average' new toner cartridge. The average carbon footprint of the first three remanufacturing cycles for the average toner cartridge is 1.5 kgCO2e. The avoided emissions provided by Kleen Strike's remanufacturing service for toner cartridges is therefore estimated to be on average approximately 4.3 kgCO2e. Kleen Strike remanufactures approximately 12,500 toner cartridges each year and so the estimated avoided emissions that Kleen Strike enables users to achieve is 12,500 x 4.3 kg CO2 = 53.8 tonnes CO2e.

During the reporting year Kleen strike repaired 494 laser printers and 26 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 indicative estimate for the avoided emissions enabled through Kleen strike's printer repair service can be made using indicative values for the embodied carbon emissions of printers associated with materials and production of the printer. Estimates of these embodied emissions are 150 kg CO2e for a typical laser printer and 75 kg CO2e for a typical inkjet printer and have been provided by Xanfeon (www.xanfeon.co.uk). Assuming that each printer that is repaired corresponds to the avoidance of one new printer being purchased, the avoided emissions associated with Kleenstrike's printer repair service amounts to 150 x 494 = 74100 kg CO2e (laser printers) and 75 x 26 = 1950 kg CO2e (inkjet printers), giving a total avoided emissions of 76 tonnes CO2e. This figure excludes transport and parts emissions incurred by Kleen strike for each repair task.

The total emissions which Kleen Strike enables users through its toner cartridge remanufacturing and printer repair services amounts approximately to 54 + 76 = 130 tCO2e. The gross Scope 1 and Scope 2 emissions of Kleenstrike are 10 and 25 t CO2e giving a total of approximately 35 tCO2e. Thus, the emissions avoided by users (130 tCO2e) outweigh the emissions of Kleenstrike (35 tCO2e) by approximately 95 tCO2e. In this respect, the services of Kleen strike Ltd are considered to be of environmental benefit in terms of the net reduction of greenhouse gas emissions that the company facilitates in the marketplace in which it operates.

Further information

http://cdp.cdproject.net/attachedfiles/Responses/58642/11171/Carbon Footprint Study Dec .08.pdf

15. Carbon Dioxide Emissions from Biologically Sequestered Carbon

15.1. Please provide your total carbon dioxide emissions in metric tonnes CO_2 from the combustion of biologically sequestered carbon (e.g. carbon dioxide emissions from the burning of biomass/biofuels).

Emissions in metric tonnes CO_2 - Please use whole numbers only

Further information

Not applicable. Kleen Strike does not use biomass or biofuels.

16. Emissions Intensity

Whereas "total" emissions refers to the actual amount of GHGs produced by an organisation, emissions intensity means the ratio of GHGs produced to a financial measure (e.g. turnover or profit), or to a measure of activity (e.g. per metric tonne or unit of output). Therefore:

$$\text{GHG intensity} = \frac{\text{GHG emissions}}{\text{Output (financial or activity-related)}}$$

Emission intensity figures can give your customer an approximate idea of how many of your emissions are linked to their purchases from you. They may also give an indication of how your emissions performance is changing over time.
We suggest that you present your emissions as a ratio of your turnover (also known as sales).

$$\frac{\text{Scope 1* + Scope 2** emissions}}{\text{Turnover}} = \text{Result to be reported in response to 16.1.2.}$$

* Scope 1 emissions should be taken from your answer to Question 10.1.
**Scope 2 emissions should be taken from your answer to Question 11.1.

Please divide your combined Scope 1 and 2 emissions in metric tonnes of CO_2-e for the reporting year by your turnover in the currency of your choice.

16.1.1. Give the units. For example, the units could be metric tonnes of CO_2-e per million Yen of turnover, metric tonnes of CO_2-e per US$ of profit, metric tonnes of CO_2-e per thousand Euros of turnover.

Turnover is .728 million pounds sterling

16.1.2. The resulting figure.
Use a decimal point if necessary. Please use a "." rather than a "," i.e. please write 15.6 rather than 15,6

48.2

Please select the activity-related measurement that best reflects the activities of your business. For a service sector company, this might be emissions per full-time employee, per job completed or per gigabyte of data transmitted for IT companies. A manufacturing company might give GHG emissions per tonne of output or unit of production (e.g. per square centimetre of semiconductor wafer produced or per litre of shampoo or beverage).

16.2. Please supply an activity related intensity measurement for the reporting year for your combined Scope 1 and 2 emissions, including a description of the measurement.

The activity related measurement that Kleen strike is able to supply in its first disclosure through the CDP relates only to some of the service tasks performed by the company for its customers. The repair & remanufacturing service tasks fall into three categories: (1) refill or remanufacturing of laser toner cartridges, (2) refill or remanufacturing of inkjet cartridges, and (3) repair of printers. The number of tasks in each of these categories carried out during the reporting year was (1) 12500 toner cartridge tasks, (2) 4000 inkjet tasks, and (3) 520 printer repairs. The total number of all service tasks was therefore 17020. Dividing the total of the scope 1 (9770 kgCO2e) and scope 2 (25285 kgCO2e) emissions, 35055 kgCO2e, by the total number of service tasks (17020) gives an indicator of the average service task-related emissions intensity. This average figure includes the emissions associated with the shop and reception area through which office and stationery items are sold.

16.2.1. Give the units e.g. metric tonnes of CO_2-e per metric tonne of output or for service sector businesses per unit of service provided.

kgCO2e per service task, 35055 / 17020 = 2.06 kgCO2e per service task

16.2.2. The resulting figure.
Use a decimal point if necessary. Please use a "." rather than a "," i.e. please write 15.6 rather than 15,6

2.06

Further information

Performance

23. Reduction plans & goals

23.1. Does your company have a GHG emissions and/or energy reduction plan in place?

Yes. (Please go to question 23.3)

23.2. Please explain why.

It would aid automated analysis of responses if you could select a response from the options below as well as using the text box. However, please just use the text box provided if the options are not appropriate.

If the menu options above are not appropriate, please answer the question using the text box below:

Goal setting

23.3. Do you have an emissions and/or energy reduction target(s)?

Yes. (Please answer the following questions)

23.4 What is the baseline year for the target(s)?

The company has a plan in place to reduce its environmental impact. All staff are aware of the company's aspirations to reduce its environmental footprint. Kleen Strike recognises that carbon emissions are involved not only in terms of energy usage in the business but also in a much broader way through embodied emissions in materials and components and the ways that such materials are protected for reuse. To this end the company is exploring ways in which its use of materials and the influence the company can have through supply chains, including end-of-life stages, can be improved. The process will inform the company's ongoing planning for reducing energy and emissions. The currently reported year (January 2008 – December 2008) is the baseline year against which future emissions performances will be compared.

23.5. What is the emissions and/or energy reduction target(s)?

Over the coming year the company will endeavour to create more detailed account of the emissions associated with the broader product range and operations so that targets for intensity metrics can be set accordingly. At present there is insufficient information available to be able to do this. Setting targets solely on gross scope 2 emissions (purchased electricity) is insufficient without setting such a target in the context of levels of business (service loadings).

23.6. What are the sources or activities to which the target(s) applies?

The targets to be set will apply to intensity metrics for service lines (repairs, refills, etc).

23.7. Over what period/timescale does the target(s) extend?

It is expected that realistic intensity targets will be able to be set over the coming year for the following year.

Further information

23. GHG emissions and energy reduction activities

23.8. What activities are you undertaking or planning to undertake to reduce your emissions/energy use?

Kleen Strike is investigating various options to enhance end-of-life management of materials and spent components. The company is participating in EPEAT standards processes to explore opportunities and best practices available on an international basis.

Further information

23. Goal achievement

23.10. What emissions reductions, energy savings and associated cost savings have been achieved to date as a result of the plan and/or the activities described above? Please explain how you calculated your figures.

During the reporting year the company instigated a wide ranging 'materials and energy saving programme' , ranging from a reduction in water usage, reduction in heating temperature, the switch to environmental energy saving lighting, ensuring that all machines are switched off at night, turning off machines and other equipment when not in use, through to reuse of materials for other purposes (eg printing on both sides of paper) reusing shredded paper for packing, reusing cartons, packing materials and toner cartridge bags specifically designed for return of the used cartridge and reused again. Business transport is kept to a minimum and delivery and collection of cartridges is planned so as to be as fuel-effective as possible, within the constraint of maintaining good response times to customer requirements.

Further information

23. Goal planning & investment

23.13 How do you expect your company's future Scope 1 and Scope 2 emissions to change in the next five years?

It is expected that the overall level of remanufacturing of printer cartridges will increase over the next five years as businesses become increasingly aware of the emissions reductions opportunities associated with purchasing remanufactured rather than new cartridges. The gross scope 1 and scope 2 emissions of Kleen Strike are therefore expected to increase over the next five years as the business grows. However, that growth in Kleen Strike's business will enable a corresponding significant avoidance / decrease in emissions of customers' businesses (as explained in answer to Q14).

23.14 How do you expect your company's energy use to change in the next five years?

The company will endeavour to reduce the emissions intensity of each remanufacturing and repair task. For example, Kleen Strike is participating in industry initiatives to improve the ecodesign of cartridges. If new cartridges are held together with screws and clips which can be undone manually, compared with using electric-powered machinery to saw through sonically welded new cartridge housing, the amount of electricity (and hence emissions) associated with each task will be reduced.

Further information

Governance

25. Responsibility

25.2. Please explain how climate change and energy use is managed within your company.

Kleen Strike is a small company (with only 8 staff) and there is clear communication about the ethos of the company to have as small a climate change impact as possible and to do what it can within its resources and capabilities to help and influence others (particularly among the OEMs and component suppliers, as well as customers) to take a similar approach. Kleen Strike is planning to implement an internal system for recording data for greenhouse gas assessment so as to improve the accuracy of future emissions assessments across the range of products and processes in the company. The emissions profile will be reviewed annually so that any changes in emissions can be monitored. This will allow an emissions baseline to be established, against which targets can be set and progress can be monitored.

Further information

27. Communications

27.1. If you publish any information e.g. media releases or website information on what you are doing on climate change/energy use, please give details.

Kleen Strike has published several articles in trade and environmental magazines about the environmental benefits of remanufacturing and has participated in a world-first for the carbon footprinting analysis comparing remanufactured and new cartridges over many refill cycles.

Kleen Strike has been active for many years in bringing awareness to the public and government, both in the UK and the EU Commission, about the benefits of remanufacturing over recycling and to encourage legislative bodies to prohibit practices and technical solutions deployed by original equipment manufacturers that restrict the reuse of components, cartridges and equipment.

Further information

Supplier Module

SM 1 Ability to Split Scope 1 and 2 Emissions by Business Category

The aim of these questions is to help your customers estimate the extent to which your Scope 1 and Scope 2 emissions are linked with their purchases of services or goods from you.

Please note that we use the term “product” to cover both goods and services.

SM 1.1 Are you able to break down your total Scope 1 and Scope 2 emissions by the following categories:

- Business division
- Business unit
- Factory
- Product group
- Other

Please give details in each case.

Business division?

Yes

At present the company does not formally break down scope 2 emissions according to each of the many product lines because the facilities (office, shop, reception, workshop zones, lines of activity, etc) within Kleen Strike at present do not have separate metering.

Business unit?

Yes

Kleen Strike’s scope 2 emissions correspond only to those associated with purchase of electricity for the running of office equipment in order to process the company's daily activities.

Factory?

Yes

Kleen Strike’s scope 2 emissions correspond only to those associated with purchase of electricity for the running of equipment associated with the remanufacturing of printer cartridges and the repair of printers.

Product group?

Yes

Because the majority of our product output is in remanufactured printer cartridges, we are able to offer a savings in embodied carbon emissions to our customers solely by the products we offer.

Other

Yes

Kleen Strike prides itself on its dedication to zero landfill policy on all recyclables. In Kleen Strike's remanufacturing operation, damaged or unusable toner cartridges and end of life components are sent for material recovery with a 94% recovery rate rather than sent to landfill, incineration or 'thermal' recycling; the waste toner removed from spent toner cartridges is sent for material recovery and used in the dye industry as masterbatch. Deliveries and meetings are planned in multiples and cut to a minimum and the company endeavors to find further ways in reducing its carbon footprint wherever possible.

Unable to breakdown by category?

Further information

SM 1.2 Splitting Scope 1 and Scope 2 Emissions by Category

SM 1.2. Using your preferred method (question SM 1.1) for splitting emissions, please consider what are the five biggest emitting categories (e.g. business units or product groups) for your company? For each of the five biggest emitting categories, plus any other categories specified by your customer(s), please complete the table SM1.2.

Click here to see a sample of a completed table.

Please complete this table. Use the figure given in answer to question 11.1. as the basis for your Scope 2 emissions.

	Category e.g. business division, business unit, factory, product group.	Total emissions (number)	Total emissions Units of measure e.g. metric tonnes CO2-e	Do these represent emissions from Scope 1 only, Scope 2 only, or both?	Output	Units	Major emission Sources
Group 1	Cartridge remanufacture and refilling	15200	kgCO2e	Scope 1 and 2	16500	Remanuf/Refills	Electricity & Transport
Group 2	Printer repairs	19855	kgCO2e	Scope 1 and 2	520	Printer repairs	Electricity & Transport
Group 3							
Group 4							
Group 5							
Other							
Total							

Further information

SM 1.3 Methodology

SM 1.3. Please explain how you have identified the GHG sources listed in the previous question, including major limitations to this process and assumptions made.

Describe your system for allocating emissions to the groups in the table.

Where published information has been used, please provide a reference(s).

Give the degree of confidence that you have in the figures expressed as a percentage, e.g. you estimate that they are accurate to +/- 15%.

If the allocation of emissions to different categories has been externally verified, please give details.

Estimates for allocation of scope 1 and scope 2 emissions have been incorporated in the carbon footprint study of the remanufactured toner cartidges. The figures in the above table do not include scope 3 emissions (eg embodied emissions in materials); see section SM3.

Further information

SM 1.4 Challenges and Developments

What are the challenges in allocating emissions to different business categories and what would help you to overcome these challenges? Please describe whether and how you plan to develop your capabilities to allocate your emissions in the future.

The main challenges in allocating emissions to particular tasks is the lack of submetering in different parts of the building as different tasks (eg cartridge remanufacturing, testing and printer repair) may be collated.

Further information

SM 2. Your engagement with your suppliers

Your customers want to engage with you to learn more about the emissions from their immediate suppliers. The purpose of this section is to find out what you in turn are doing to engage with your own suppliers.

SM 2.1 Do you have a strategy for engaging with your suppliers on their GHG emissions and the impacts of climate change on their business? If so, please provide details of this strategy. To give a sense of the scale of this engagement, please include the number of suppliers with whom you are engaging and the proportion of your total

spending that they represent.
If you do not have a strategy, please explain any plans you have to develop one in the future.

No

To date we have not implemented a formal engagement process with suppliers about the carbon emissions. Discussions about carbon emissions have been informal as the level of awareness has gradually been increasing.

Further information

SM 2.2 Use of data

If you have data on your suppliers' GHG emissions and climate change strategies, please explain how you make use of that data (for example: identifying major GHG sources to prioritise emissions reduction actions, identifying physical risks in the supply chain, stimulating innovation, etc).

Some requests for specific information from suppliers were made in order to perform the carbon footprint study described in SM3.1.

Further information

SM 3. Emissions over the lifecycle of goods and services

SM 3.1. Please list any major successes and/or planned activities to reduce GHG emissions in the lifecycle of groups of products or individual products, including an estimate of the possible reductions for each initiative.

During 4th quarter of 2008 UKCRA commissioned an LCA (carbon footprint) study of laser toner cartridges and the study focussed on remanufacturing of two laser toner cartridge models at Kleen Strike (UK) Ltd. The study (completed in November 2008) made a comparison of carbon footprints of short-life and long-life toner cartridges, comparing the carbon footprints of OEM cartridges with those of corresponding remanufactured cartridges. The carbon footprints were evaluated on the basis of actual profiles of components replaced during refilling cycles. Scaled across world markets, potential savings in CO2 emissions associated with the use of long-life cartridges are estimated to be about 0.4 Mtonnes CO2 worldwide / year.

SM 3.2 Do you offer customers information or steps they can take to reduce the GHG emissions associated with use of your products, and - in the case of goods - with their disposal? Please give examples.

The carbon footprint study of Kleen Strike's remanufactured laser toner cartridges means that the company can provide its customers with an indication of the avoidable carbon footprint for customers choosing to purchase long-life remanufactured cartridges in favour of new ones. Procurement officers in companies and public sector organisations can now enter estimates for carbon savings in their carbon accounts made by choosing to purchase remanufactured over OEM (original).

Further information

SM 3.3 and 3.4 Individual Request Questions

Some suppliers may have customers who request that they provide estimates of GHG emissions over a particular product's lifecycle. Others may have estimated this information for their own purposes and wish to publicise it. If you fall into either group, please answer the following question and then complete the table SM 3.4.

SM 3.3 Please give details of the method that you have used to estimate lifecycle emissions. State if you have followed a published procedure (e.g. ISO 14040 & 14044 or PAS 2050) or one that you have developed yourself.

Clearly define the good or service for which data is being given and the boundary of your assessment. Please make it clear which GHGs and GHG sources are included in your assessment. If relevant GHGs and GHG sources are excluded, please describe them and give reasons for omissions.

Give references to data sources used.

If you are giving life cycle assessment (LCA) information for more than one product, please use this text box to describe your methodologies, each time making it clear to which product you are referring.

The calculation of the carbon footprint is performed by first identifying and mapping out the inputs of each life cycle stage. The method used is based on the assessment of emissions of CO2 and other greenhouse gases through the life cycle of a product. The study considered the flow from materials manufacturing, transport of materials to component manufacturing plants, manufacture of cartridge components, transport of components to cartridge assembly and remanufacturing plants, transport of cartridges to distribution / sales centre, and subsequent provision of the cartridge to the user. At the end of the use phase, the user either provides the spent cartridge to an end of life (EOL) process or arranges for the cartridge to go to a remanufacturing facility. In the first case, the user would then purchase another new cartridge and in the second case the user would use a remanufactured and refilled cartridge. The various stages at EOL for cartridges and used components were also investigated. The boundaries considered in the study encompassed all the stages in the life cycle of a cartridge except for the impacts arising in the use phase (eg the type of paper printed on, whether printed on both sides). Since the objective of this study is to compare OEM and remanufacturing, the same assumptions were made for the OEM and remanufactured cartridge wherever possible. Where it is known that specific differences do occur then these are taken into account. To test the importance of any assumptions, calculations were made using a range of possibilities so that sensitivities to assumptions can be tested. This included structure of the global supply chains and the component replacement profiles, for example

SM 3.4. Emissions over the lifecycle of goods and services

An example of the lifecycle stages of a service might be - in the case of a hotel stay - check in, use of room, check out, cleaning.

Further information

The CO2 saving in the early cycles ranges from about 20 to 45% whereas the CO2 saving in the later cycles ranges from about 53 to 60%. The carbon savings depend both on refill cycle number and the details of which components have been replaced up to that point. The study shows the advantages of remanufactured toner cartridges over new build cartridges in saving natural resources.