

Carbon footprint of London's local authority procurement

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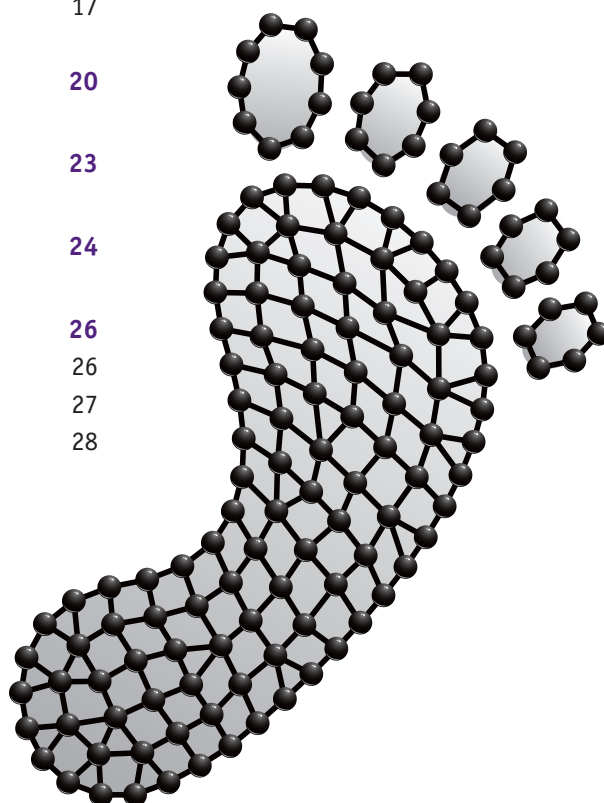
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Capital Ambition commissioned Trucost Plc to conduct this study to assess the carbon footprints of London local authority supply chains.

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About Capital Ambition

Capital Ambition is the Regional Improvement and Efficiency Partnership (RIEP) for London. It is one of nine RIEPs in England, funded to support authorities to deliver significant improvements in services, reduce costs and introduce better ways of working.

Capital Ambition is part of London Councils and is led by senior local government officers and elected members from all the main parties.

Capital Ambition works to engage and support all local authorities in London and their partners to find new ways of making savings and improvements to services.

It works closely with local authorities to help them share best practice across London; deliver services together to save money and avoid duplication; and build the capacity and leadership needed in the sector to deliver more for less.

Capital Ambition commissions a wide range of projects that focus on making efficiencies and improving services to tackle many of the issues facing local authorities in improving life for Londoners.

Already Capital Ambition is on track to deliver £638 million of efficiency savings by 2014-15, with £391 million of this specifically validated by the Chartered Institute of Public Finance and Accountancy.

Capital Ambition supports and develops innovative, new ways of working that are helping authorities deliver more for less and continue to improve services for Londoners within the context of severely reduced public sector finances over the coming years.



To find out more, visit:
<http://www.londoncouncils.gov.uk/capitalambition/>

About Trucost

Trucost was established in 2000 to help organisations, investors and governments understand and quantify the environmental impacts of business activities.

Over the past 10 years Trucost has collected, researched and validated environmental data from organisations across the world. The result is the world's most comprehensive data on corporate environmental impacts, including greenhouse gases (GHGs), water, waste and metals.

This enables our clients to access:

- The most effective approach to measuring GHG emissions and wider environmental impacts across organisations, supply chains and investment portfolios.

- Clear identification of focus areas for reducing environmental impacts.
- Validation of source data, including providing intelligence on data which are not currently being tracked or reported on.
- Comparison of environmental performance against peers, sectors and investment benchmarks.
- The ability to create environmentally-oriented investment products.



To find out more, visit:
www.trucost.com

1. Foreword

The UK is helping to lead international efforts to limit an increase in average global temperature to less than 2°C from pre-industrial levels and have a chance of avoiding the most dangerous climate change impacts. Greenhouse gas (GHG) emissions result in climate change impacts which impose costs on the economy. Taking action to reduce GHG emissions now will cost less than paying for damages from climate change impacts in the future. The sooner action is taken, the less costly it will be to reduce emissions. The government has set ambitious targets to decarbonise the economy, and London will play an important role in achieving these.

Carbon is fast becoming a scarce resource that organisations need to manage efficiently. Significant emission sources are often linked to outsourced activities. Organisations are therefore increasingly looking to reduce emissions throughout their value chains. By taking a comprehensive approach to GHG measurement and management, organisations can focus on the greatest opportunities to reduce emissions.

The public sector is in a key position to lead the economy towards a low-carbon future. As a significant buyer of goods and services the sector can drive GHG emission reductions by both setting an example and making strategic buying decisions. Reducing carbon dioxide (CO₂) emissions from operations is a priority for most local authorities. Many in London have begun to monitor and report their direct CO₂ emissions as a vital first step towards managing and reducing them. However, they are indirectly responsible for a larger amount of GHGs through a procured expenditure of more than £7 billion analysed in this report. This equates to over 3 per cent of around £220 billion spent by the public sector on the procurement of goods and services in 2008/09.¹ Many of the activities to deliver purchased goods and services result in GHG emissions, which are effectively outsourced. This presents an opportunity for boroughs to contribute to reducing London's wider carbon footprint by influencing suppliers. Carbon efficiency in supply chains can contribute to making public sector procurement more environmentally sustainable, in line with recommendations from the Johannesburg Earth Summit in 2002.²

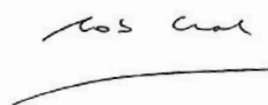
However, a critical gap in information about sources of GHG emissions in supply chains has presented a barrier to embedding carbon management in procurement decisions. Capital Ambition has therefore commissioned Trucost to assess

the carbon footprints of London authority supply chains. The project includes an engagement programme to share knowledge about the main sources of emissions identified and opportunities to reduce these. Local authorities can use findings to contribute to achieving commitments under the Nottingham Declaration on Climate Change³ by:

- Using the carbon data and analysis provided to understand how they are positioned relative to other organisations and to inform plans to contribute to the shift to a low-carbon economy.
- Using assessments of supply chain carbon footprints to benchmark suppliers.
- Encouraging carbon-intensive suppliers in all sectors to reduce their emissions and sharing opportunities to improve carbon efficiency.
- Using information on carbon performance to tactically switch to low-carbon choices. This can support strategies to reduce GHG emissions from purchased goods and services.
- Systematically measuring and reducing GHG emissions to contribute to meeting a UK target under the UN Kyoto Protocol to cut emissions by 12.5 per cent on 1990 levels by 2012.

This project also supports an initiative to embed the climate change agenda across all London authorities through activities including engagement, leadership and improving service-level buy in. The study builds on a programme by Capital Ambition and London Councils to share best practice on reducing emissions among local authorities as part of the National Climate Change Best Practice Programme.

I would like to thank all those who participated in the study for contributing to plans to make London a carbon-efficient capital.



Rob Leak, Chair of Capital Ambition Efficiency Board and Chief Executive, Enfield Council



1 http://www.ogc.gov.uk/policy_and_standards_framework_policy_through_procurement.asp, accessed 20 September 2010

2 http://www.un.org/esa/sustdev/documents/WSSD_POI_PD/English/POIChapter3.htm, accessed 7 September 2010

3 <http://www.energysavingtrust.org.uk/nottingham>, accessed 12 July 2010

2. Executive summary

Capital Ambition commissioned Trucost to measure the carbon footprints of the supply chains of London local authorities. The study provides insight into the main sources of greenhouse gas (GHG) emissions from their procurement. Trucost engaged with suppliers of goods and services and shared information with local authorities about opportunities to cut carbon, which could also result in cost savings.

Key findings and recommendations

Plans to cut carbon can focus on local authority procurement. On average, every £ million of expenditure by local authorities in London resulted in 337 tonnes of GHG emissions, measured in carbon dioxide equivalent (CO₂e). Local authorities with smaller carbon footprints than the average are well placed for controls on carbon and could help others identify carbon savings in their supply chains.

Local authority carbon footprints provide a baseline for targets to reduce emissions from supply chains. A range in the carbon footprints of procurement from 167 tCO₂e per £ million of expenditure to 674 tCO₂e/£ mn suggests that some local authorities could make big improvements in carbon efficiency.

Plans to cut carbon can focus on sectors that add most to carbon footprints. The overall supply chain carbon footprint is mainly due to the high carbon intensity of sectors such as Utilities and Construction. Carbon footprints vary widely for local authority expenditure in these sectors. Authorities can target categories of spend with large carbon footprints to reduce emissions from their supply chains.

Variations in the carbon performance of suppliers in carbon-intensive sectors highlights opportunities to cut carbon. Variations in the carbon intensity of companies providing similar goods and services are greatest in the Catering, Building Construction Materials and Facilities & Management Services sectors. For instance, the carbon intensity of Catering companies ranges from 226 tCO₂e/£ mn to 5,762 tCO₂e/£ mn.

Authorities can encourage carbon-intensive suppliers to reduce emissions. Trucost modelled potential carbon savings. If companies in 10 sectors were at least as carbon efficient as the average for their industries, London's local authorities could cut annual emissions by 582,304 tonnes of CO₂e. This would shrink their overall carbon footprint by 23% to 260 tCO₂e/£ mn.

Information on where GHG emissions come from can pinpoint carbon 'hotspots'. Suppliers directly emit 37 per cent of GHGs linked to local authority procurement. The electricity they use causes another 11 per cent of emissions, and the remaining 52 per cent are from their wider supply chains. Carbon hotspots, which could deliver the biggest emission reductions, vary for companies in different sectors.

Local authorities could encourage suppliers to disclose, manage and cut carbon emissions. Over 200 companies that confirmed carbon data through Trucost's engagement programme emitted over 30 per cent of GHGs analysed in this study. The resulting carbon data showed that suppliers in 11 sectors could cut emissions from their electricity use by over 1 million tonnes of CO₂e. Improving their energy efficiency could also cut their electricity bills by over £168 million.

London's local authorities could co-operate to cut supply chain emissions. Many of the authorities share the same suppliers and co-operating through engagement would increase their influence to encourage emission reductions. They could share information and resources to ask carbon-intensive long-term suppliers to improve their carbon performance. Sharing tools to monitor and manage carbon performance could support cost-effective carbon reduction plans.

Measuring carbon impacts

GHGs are measured as tonnes of carbon dioxide equivalent (tCO₂e). Trucost converts emissions of different GHGs to CO₂e based on their effect over 100 years relative to the emission of an equal mass of CO₂. Supply chain carbon footprints are measured as tCO₂e per £ mn of expenditure.



Electricity use by Information Communication Technology providers can be carbon intensive

3. Introduction

Climate change impacts such as higher temperatures, changes in precipitation and sea level rise are expected to affect London in the coming decades. Sea level in London is set to rise by around 18 cm by 2040.⁴ Warmer, wetter winters; hotter, drier summers and more frequent and extreme weather events in southeast England will increase risks of floods, drought, heat waves and heavy rainfall in the capital.⁵ Changes will affect air quality, increase risks of storm damage and cause ground instability and movement. Negative impacts are expected to outweigh any benefits.

Greenhouse gas-induced climate change imposes direct costs on the economy. Annual costs from flood losses in the UK could increase from 0.1 per cent of GDP in 2006 to 0.4 per cent of GDP if global average temperatures rise by 3 or 4°C.⁶ Adapting to impacts such as flood and coastal erosion is already costing billions. Global emissions must peak within 10 years at most and then fall by 50 per cent on 1990 levels by 2050 to stabilise greenhouse gas (GHG) concentrations in the atmosphere at or below 550 parts per million and have a chance of limiting the global temperature rise to 2°C above pre-industrial levels.⁷

Reducing emissions through measures such as lowering demand for emissions-intensive goods and services will be less costly than paying for climate change impacts in the future. Using innovation and increased efficiencies to reduce emissions sooner rather than later would cost less and could result in net economic gains. The government has therefore set ambitious targets to decarbonise the economy, and London will play an important role in achieving these.

The Climate Change Act 2008 sets a statutory target for the UK to cut GHG emissions by at least 80 per cent below 1990 levels by 2050. Emissions must be cut by 34 per cent by 2020. The first “carbon budget” to cap the total quantity of GHG emissions in the UK runs from 2008 to 2012. Every tonne of carbon emitted counts. Organisations therefore need to manage carbon as an increasingly scarce resource. All levels of government are currently developing policies to adapt to impacts and mitigate GHG emissions across the UK.

A government consultation on a proposed Planning Policy Statement (PPS): ‘Planning for a Low Carbon Future in a Changing Climate’ closed in June 2010. The draft guidance outlines a framework for making progress towards the UK’s targets to cut GHG emissions by using more renewable and low-carbon energy.⁸

The Mayor of London has also set targets to:

- Reduce London’s carbon dioxide (CO₂) emissions by 60 per cent by 2025 in the energy, transport and built environment sectors.
- Ensure 25 per cent of London’s energy is delivered through more efficient decentralised energy by 2025.
- Capture environmental and economic benefits of making London a low-carbon city.

Borough local development frameworks should be aligned with the Mayor’s revised London Plan, which emphasises the importance of cross-cutting policies to mitigate and adapt to climate change.⁹

Local authorities also have an incentive to reduce CO₂ emissions under the Carbon Reduction Commitment (CRC) Energy Efficiency Scheme, a mandatory emissions trading scheme launched in April 2010. Local authorities and schools that use more than 6,000 megawatt-hours (MWh) of electricity settled through half-hourly meters will be among organisations that must purchase allowances for CO₂ emissions from energy use from 2011. The price of allowances will be fixed at £12 per tonne of CO₂ during a three-year introductory phase. Depending on their ranking in a performance league table that takes account of CO₂ emission reductions, participants could receive financial rewards or penalties.

Greater London local authority emissions totalled 1,148,011 tonnes of CO₂ in 2008/09.¹⁰ This equates to 14 per cent of emissions from all local authority operations in England. Performance assessment on CO₂ reduction is based on total annual direct emissions from sources that local authorities own or control (Scope 1 of the Greenhouse Gas Protocol - see page 27), as well as indirect CO₂ emitted as a result of

4 <http://www.defra.gov.uk/environment/climate/documents/uk-climate-projections.pdf>, accessed 7 September 2010

5 Mayor of London (February 2010) Draft climate change adaptation strategy for London

6 Stern, N. (2006) Stern Review: The Economics of Climate Change, HM Treasury, UK

7 http://ec.europa.eu/environment/climat/future_action.htm, accessed 7 September 2010

8 The draft PPS combines the Planning and Climate Change supplement to PPS 1 with the 2004 PPS 22 on Renewable Energy

9 <http://www.london.gov.uk/thelondonplan/policies/4a-01.jsp>, accessed 12 July 2010

10 Provisional data, <http://www.decc.gov.uk/en/content/cms/statistics/indicators/ni185/ni185.aspx>, accessed 12 July 2010

local authority operations. Indirect emissions result from the activities of the local authority, but occur at sources owned or controlled by another entity, including functions delivered through outsourced services (including schools but excluding social housing).

Local authorities have the potential to play an important role in delivering a low-carbon economy. London Councils and 27 London boroughs are among more than 300 English councils that have signed the Nottingham Declaration on Climate Change, pledging to systematically address the causes of climate change. Capital Ambition supports London local authorities and partners in the delivery of their priorities, including climate change goals, through its Improvement and Efficiency Strategy for London (2008-2012).

Significant emission sources are often linked to outsourced activities such as power generation, transportation and waste disposal. Organisations are increasingly mapping their value chains to identify upstream emissions from suppliers of goods and services. By taking a comprehensive approach to GHG measurement and management, organisations can focus on the greatest opportunities to reduce emissions as part of establishing more sustainable supply chains.

The public sector – including central and local government, schools, universities and the National Health Service – accounts for 11 per cent of London’s emissions from the consumption of goods and services.¹¹ Many of these GHGs are likely to be emitted during the production of goods outside of London. Managing carbon in the procurement of goods and services could contribute to significant emission reductions and help develop more sustainable consumption and production in the capital and beyond.¹²

/// There is likely to be a move [from production to] consumption-based emissions, as this offers a more realistic (and honest) measurement, and points more clearly towards the type of lifestyle and behaviour change needed to cap emissions. ///

Warren Hatter, Local Improvement Advisor ¹³

Recognising this, the Mayor of London’s Green Procurement Code aims to help organisations reduce their environmental impacts through responsible purchasing. The code is aligned with the government’s Sustainable Procurement National Action Plan *Procuring the Future*.¹⁴ This provides a flexible framework to assess and improve the quality of procurement, which includes the themes of “engaging with suppliers” and “measurement & results”.

Barriers to reducing emissions include lack of data to identify areas to target and baselines to measure progress against. Capital Ambition commissioned Trucost to assess the carbon footprints of London local authority supply chains, engage with suppliers and share information about the main sources of emissions and opportunities to achieve carbon savings in supply chains. Trucost will conduct a similar analysis for 2009-2010 to build on knowledge gained during the first assessment, further embed carbon data in procurement decision-making, increase engagement with suppliers and assess year-on-year changes in carbon performance. This is the first study to use measured data to calculate GHG emissions from local authority procurement.



11 This estimate is based on modelled data that derives a local authority’s impacts from broad socio-economic rather than actual measured local impacts. London Sustainable Development Commission and BioRegional Development Group (November 2009) *Capital consumption: The transition to sustainable consumption and production in London*

12 <http://www.londonsdc.org/documents/research/Capital%20Consumption.pdf>, accessed 9 July 2010

13 Hatter, W. (June 2010) London Climate Change portfolio review, Local Improvement Advisor’s Report FIRST DRAFT, June 2010

14 <http://www.defra.gov.uk/sustainable/government/documents/full-document.pdf>, accessed 8 July 2010

3.1 Project outline

Capital Ambition commissioned Trucost to measure the carbon footprints of the supply chains of 29 London local authorities, the London Development Agency and London Fire and Emergency Planning Authority. The project aims to:

- Provide a baseline carbon assessment of London local authority suppliers.
- Identify which companies contribute most to supply chain carbon footprints.
- Identify which sectors contribute most to supply chain carbon impacts.
- Assess supplier disclosure on greenhouse gases, measured as their carbon dioxide equivalent (CO₂e) emissions.
- Highlight opportunities to reduce GHG emissions from procurement.
- Engage with suppliers to raise awareness and share expertise in carbon monitoring and reporting.
- Help local authorities achieve Practice Level 3 of the flexible framework in the Sustainable Procurement National Action Plan:

The flexible framework ¹⁵	Practice Level 3
Engaging suppliers	Targeted supplier engagement programme in place, promoting continual sustainability improvement. Two-way communication between procurer and supplier exists with incentives. Supply chains for key spend areas have been mapped.
Measurements & results	Sustainability measures refined from general departmental measures to include individual procurers and are linked to development objectives.

Trucost has provided underlying data to suppliers, authorities and Capital Ambition. Key outcomes for authorities include:

- Knowledge about which suppliers contribute most to carbon emissions.
- An understanding of how their procurement decisions influence their indirect carbon impacts.
- A tool to benchmark suppliers on carbon performance.
- Information about areas for improvement in supplier carbon disclosure and performance.

- Access to an online portal to track changes in monitoring and reporting of supply chain carbon emissions.
- Data to inform the development of carbon-efficient procurement strategies.

The project also aims to help suppliers in the following ways:

- Develop their capacity to monitor and report GHG emissions.
- Gain an understanding of how their carbon performance compares with that of sector peers.
- Understand how they could contribute to the public sector drive to reduce carbon emissions from procurement.

Codes have been used to enable local authorities to identify their baseline carbon footprints in 2010 and give them the opportunity to reduce procurement emissions before their carbon performance is ranked publicly. In 2011, a second carbon footprint analysis will be conducted. Further findings will be made publicly available for expenditures of over £50,000.

3.2 Scope

The analysis covers 31 local authorities, including London boroughs, the London Fire and Emergency Planning Authority and London Development Agency. Many of the authorities' expenditures with suppliers were small. In order to limit the scope of the analysis to the most relevant suppliers, the analysis and engagement programme only included companies that accounted for the top 90 per cent of expenditure for each authority. The analysis covers £7.6 billion of expenditure, out of a total £7.8 billion spent on procurement between 1 April 2008 and 31 March 2009. A total of 9,802 suppliers were analysed, many of which supply goods or services to more than one local authority. The table below shows the coverage of expenditure in the supply chain carbon footprint assessment:

Table 1: Coverage by number of suppliers and expenditure

	Number of suppliers	Expenditure (£ bn)
Data analysed by Trucost	9,802	7.6
Percentage of total expenditure covered by analysis		>90%

15 <http://www.defra.gov.uk/sustainable/government/documents/full-document.pdf>, accessed 8 October 2010

3.3 Methodology

Preliminary analysis

Expenditure data provided by the authorities were used by the Contracts Register to identify Proclass sector classifications. These were used to map the activities of each supplier to the 464 sectors in Trucost's database. The database used readily available financial information for suppliers' activities in different sectors to automatically calculate the direct GHG emissions for each supplier. In addition to data on emissions from electricity consumption (Scope 2) and from outsourced activities including transport in vehicles not owned or controlled by each local authority (Scope 3), this study includes emissions upstream from suppliers – those emitted from their own supply chains (see Trucost methodology on page 26).

A percentage of GHG emissions from each organisation was assigned to each authority in proportion to the amount it spends with that supplier. The allocated carbon emissions for each supplier were then summed to form a total for the authorities' supply chains. This total was then normalised by expenditure to calculate the supply chain carbon footprint, or "carbon intensity", measured as tonnes of CO₂e for each million Pounds of spend. Emissions and expenditure for all authorities were aggregated to calculate their combined supply chain carbon footprint.

This quantitative approach enables comparison of supply chains with different levels of expenditure across different industries. The lower the number, the smaller the carbon footprint. Carbon

footprints reflect the carbon efficiency of procurement and indicate exposure to the rising costs of emitting CO₂.

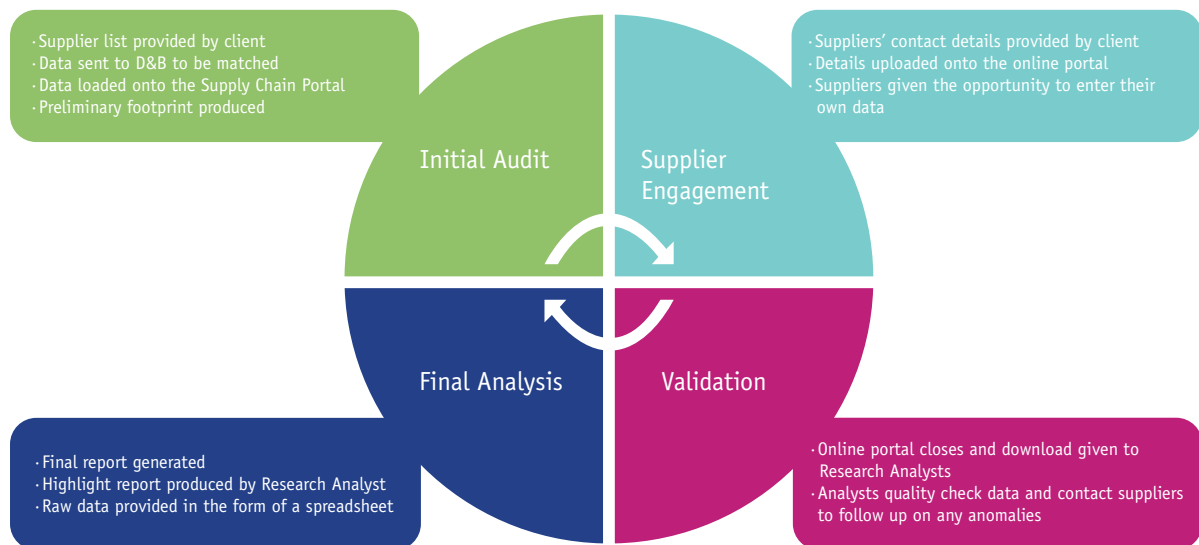
Supplier engagement

The preliminary analysis identified the 250 suppliers that contributed most to the carbon footprints of each authority. Trucost carried out a programme of supplier engagement with these organisations to identify their actual emissions (direct emissions from operations as well as indirect emissions from purchased electricity and business travel). Some 4,500 unique suppliers, which accounted for 93 per cent of all supply chain carbon emissions, were contacted to collect actual annual data on:

- Electricity use.
- Energy consumption in buildings and fuel use in vehicles. UK government conversion factors were used to calculate GHG emissions.
- Refrigerant leakage.
- Other environmental key performance indicators relevant to specific sectors – such as water consumption and waste generation – to inform wider environment reports.

Trucost managed the data collection process, working with suppliers to ensure they were able to provide accurate information quickly and with minimum disruption. Letters were sent to suppliers, inviting them to verify and/or amend pre-populated data through a secure online portal.

Figure 1: Supply chain methodology



An instruction video introduced the project to suppliers and advised them on data collection and reporting. Trucost's helpdesk was available to suppliers to answer any queries and advise on data entry. Trucost analysts then verified the collected data and the helpdesk team followed up on any anomalies with the suppliers to re-confirm or correct the data. This helped to ensure each supplier's carbon footprint was calculated accurately.

On completion of the online portal, each supplier that took part in the engagement received a tailored environmental footprint report featuring quantitative data, as well as recommendations to reduce emissions. The report also benchmarks their performance against suppliers analysed in the project. Suppliers can access the on-demand portal tool at any time to refine their data stored within the system as new data becomes available, and to download an updated carbon footprint report.

4. Findings on carbon performance

4.1 Carbon reduction strategies could target significant supply chain emissions

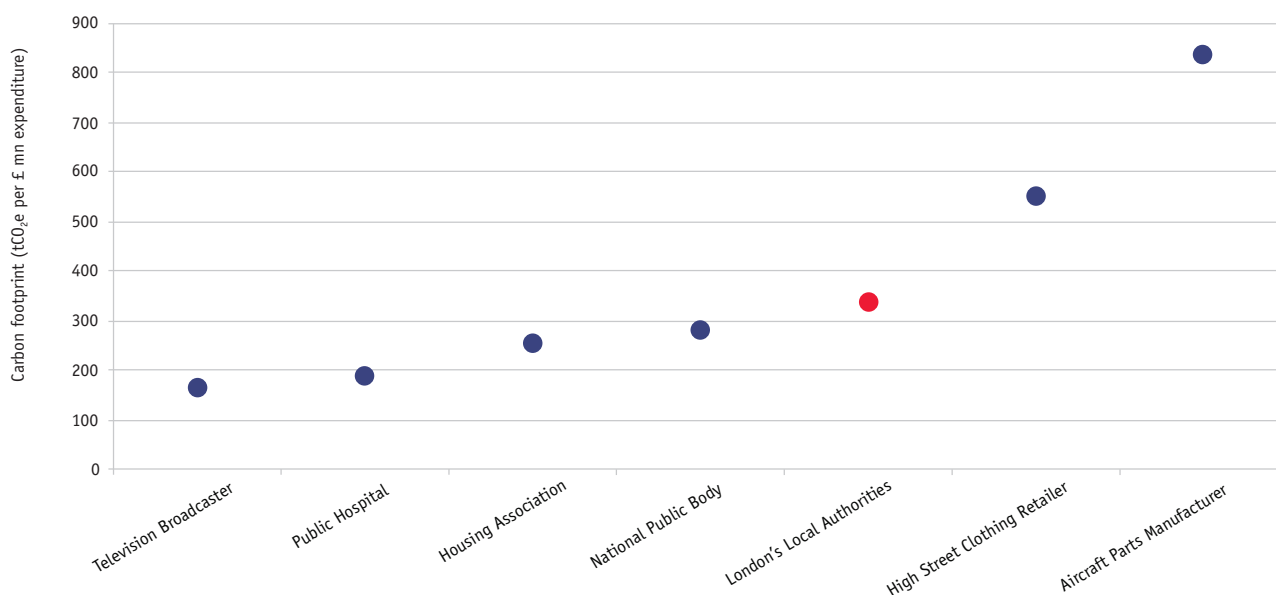
Procurement by London’s local authorities was linked to 2.6 million tonnes of GHG emissions, measured as tonnes of carbon dioxide equivalent (tCO₂e) emitted by suppliers during the 2009 financial year. This is more than twice the amount of CO₂ emitted by local authority operations in Greater London in 2008/09 (1.15 MtCO₂), which reflects the importance of measuring, managing and reducing supply chain emissions.¹⁶ For every £ million of expenditure, 337 tonnes of CO₂e were emitted (see Table 2).

The carbon footprint is in line with other supply chain projects that Trucost has carried out (see Chart 1 below).

Table 2: Supply chain carbon footprint for London’s local authorities

Number of companies analysed	9,802
Expenditure (£ mn)	7,611
Supplier expenditure represented (%)	90
Total carbon emissions (tCO ₂ e)	2,563,511
Carbon footprint (tCO ₂ e per £ mn)	337

Chart 1: Overall supply chain carbon footprint comparison



The carbon footprint of combined expenditure by London’s local authorities is larger than that of a Public Hospital (188 tCO₂e/£ mn) and a National Public Body (281 tCO₂e/£ mn) analysed. Their higher carbon intensity reflects the diverse range of services that they deliver throughout communities. This requires a significant number of suppliers across multiple locations, compared with more limited procurement by public sector organisations that have more concentrated responsibilities. Local authorities are also likely to outsource a greater proportion of goods and services than the corporations analysed. On average, each local authority analysed procures goods and services from 553 suppliers.

Recommendations

The larger carbon footprint of procurement by London local authorities than other organisations suggests that there could be potential to improve carbon efficiency. An understanding of which local authorities have the largest supply chain carbon footprints relative to the benchmark of 337 tCO₂e/£ mn can be used to identify areas to prioritise for emission reductions.

¹⁶ <http://www.decc.gov.uk/en/content/cms/statistics/indicators/ni185/ni185.aspx>, accessed 29 July 2010

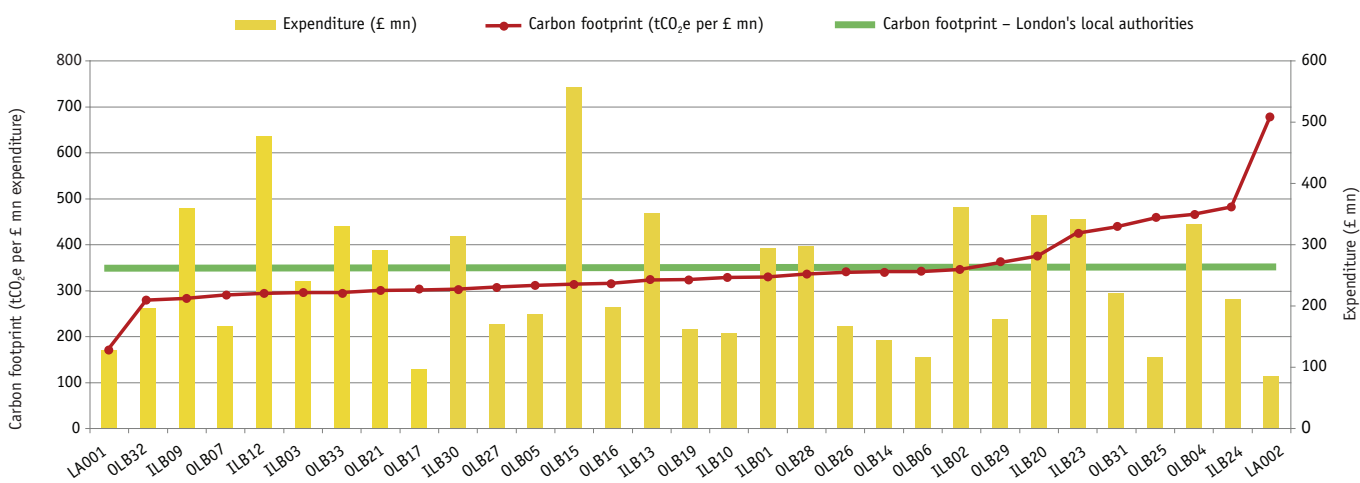
4.2 Carbon footprints provide baselines for emission reductions

Trucost compared the carbon footprints of the participating London authorities against the benchmark carbon footprint of their combined public procurement. Each supplier's emissions were apportioned to the authorities that purchase from them in proportion to their expenditure in 2009. Total emissions allocated to each authority were summed up and divided by their total expenditure to identify the carbon footprint of their supply chains. Chart 2 below shows variations in

the carbon footprints of procurement by the participating authorities. "ILB" refers to authorities that are inner London boroughs, while "OLB" refers to outer London boroughs.

The carbon footprints of procurement by the authorities analysed range from 167 tCO₂e/£ mn to 674 tCO₂e/£ mn. The small carbon footprint of LA001 is partly due to high levels of expenditure on low-carbon legal services. In contrast, LA002 has relatively high expenditure on more carbon-intensive goods and services such as electricity and vehicle management.

Chart 2: Range in carbon efficiency across all participating authorities



The remaining carbon footprints of London authority supply chains range from 275 to 479 tonnes of CO₂e per £ million (see Table 3 on page 12). The carbon footprint of procurement by OLB32 is almost half the size of the carbon footprint of procurement by ILB24. OLB15 contributes the highest share of absolute emissions to the overall carbon footprint of London's public sector procurement (6.7 per cent). However, it also has the highest share of expenditure (£557 mn), and is therefore ranked 13th on its carbon footprint.

Authorities that outsource more services than others might have higher procurement carbon footprints, but lower direct GHG emissions. It is therefore important for them to understand their procurement footprint in the wider context in order to focus on the greatest opportunities to reduce emissions. However, levels of expenditure are not always directly linked to emission levels. For instance, OLB21 spends more on procurement than OLB31 but its procurement results in 10 per cent fewer emissions. This is due to variations in the carbon intensity of categories of spend, as well as variations in the carbon performance of companies providing the same goods and services.

Table 3: Local authority carbon efficiency league table

Authority name	Expenditure		Carbon apportioned		Carbon footprint
	£ mn	% of total	(tCO ₂ e)	% of total	(tCO ₂ e per £ mn)
LA001	127.25	1.67%	21,308	0.83%	167
OLB32	197.36	2.59%	54,354	2.12%	275
ILB09	359.88	4.73%	100,663	3.93%	280
OLB07	168.06	2.21%	48,260	1.88%	287
ILB12	478.14	6.28%	138,966	5.42%	291
ILB03	240.83	3.16%	70,335	2.74%	292
OLB33	330.93	4.35%	96,853	3.78%	293
OLB21	291.13	3.83%	86,414	3.37%	297
OLB17	98.07	1.29%	29,158	1.14%	297
ILB30	314.47	4.13%	94,236	3.68%	300
OLB27	171.27	2.25%	57,723	2.25%	304
OLB05	187.56	2.46%	57,723	2.25%	308
OLB15	557.33	7.32%	172,877	6.74%	310
OLB16	198.48	2.61%	61,944	2.42%	312
ILB13	351.39	4.62%	112,183	4.38%	319
OLB19	162.25	2.13%	52,071	2.03%	321
ILB10	155.66	2.05%	50,571	1.97%	325
ILB01	293.63	3.86%	95,814	3.74%	326
OLB28	297.00	3.90%	98,761	3.85%	333
OLB26	167.04	2.19%	56,208	2.19%	336
London's local authorities	7,610.58	100.00%	2,563,511	100.00%	337
OLB14	144.44	1.90%	48,802	1.90%	338
OLB06	116.36	1.53%	39,341	1.53%	338
ILB02	362.38	4.76%	124,177	4.84%	343
OLB29	179.39	2.36%	64,076	2.50%	357
ILB20	348.91	4.58%	129,816	5.06%	372
ILB23	341.81	4.49%	143,910	5.61%	421
OLB31	221.70	2.91%	96,418	3.76%	435
OLB25	117.33	1.54%	53,255	2.08%	454
OLB04	334.08	4.39%	154,301	6.02%	462
ILB24	210.87	2.77%	100,985	3.94%	479
LA002	85.58	1.12%	57,684	2.25%	674

Between 116 and 1,148 suppliers are used by individual local authorities, depending on local needs and the level of services provided directly by local authorities. Levels of expenditure in different categories of spend, which have different average carbon intensities, vary widely. For instance, local authorities such as ILB23 spend 20 times more than OLB07 on street and traffic management, which has an average carbon footprint of 163 tCO₂e/£ mn. However, ILB23 spends less on sports and playground equipment and maintenance, which has an average carbon footprint of 502 tCO₂e/£ mn. Expenditure to meet varied requirements in different London boroughs contributes to overall variations in the carbon efficiency of procurement.

Recommendations

This ranking could be used as a benchmark to set targets to achieve emission reductions across supply chains. Through understanding which sectors and companies contribute most to their combined carbon footprint, London's local authorities could collaborate to use the information provided to identify related risks and opportunities to influence their suppliers.

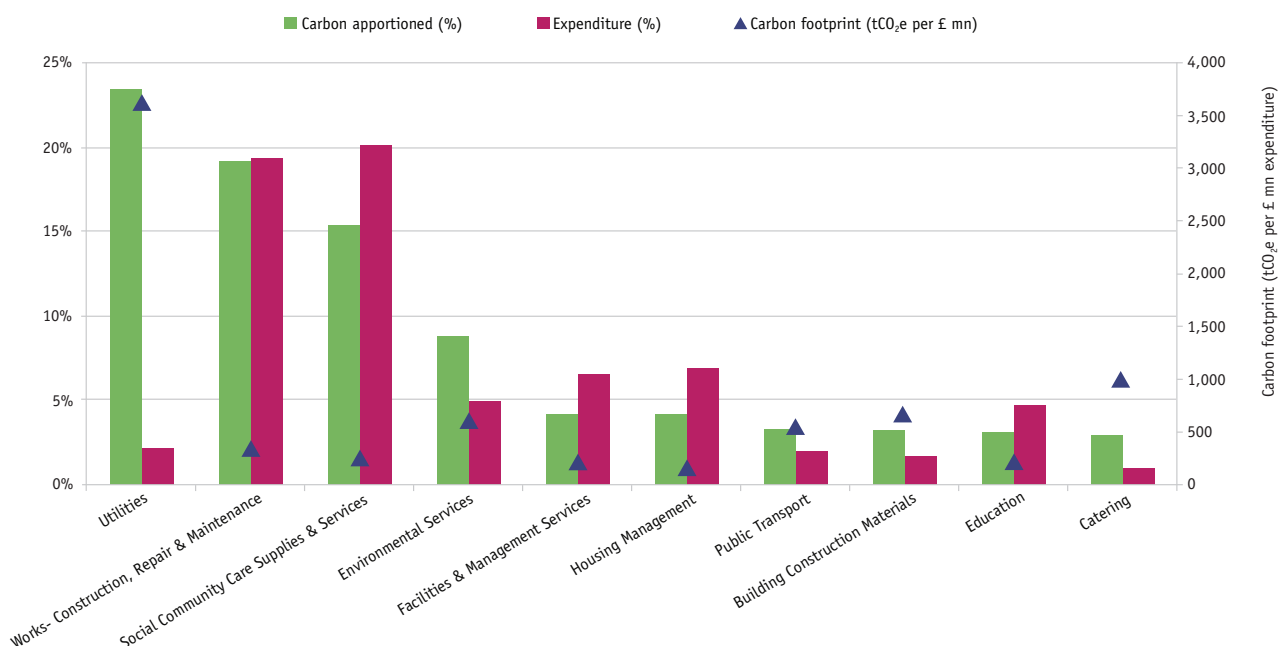
4.3 Carbon reduction plans can target carbon-intensive sectors

Trucost analysed public procurement in different spend categories to identify the main sources of emissions in different Proclass sectors. Ten sectors account for almost 90 per cent of entire supply chain emissions (see Chart 3). The top four (Utilities, Construction, Social Care and Environmental Services) are responsible for almost 70 per cent of emissions. High levels of expenditure contribute to high emissions levels in the Works – Construction, Repair & Maintenance, Social Community Care Supplies and Services and Environmental Services sectors. London’s local authorities together spend the most on Social Care, which

accounted for more than 20 per cent of total expenditure during 2009. In contrast, expenditure is not the main driver of emissions from the Utilities sector, which contributes almost 25 per cent of carbon emissions but accounted for less than three per cent of total expenditure.

The Utilities sector contributes the most carbon because it has the largest carbon footprint, driven by CO₂ emissions from fossil fuel combustion. Only about 38 per cent of the energy generated by a typical UK power plant is converted into electricity – the majority is lost as waste heat or during transmission.¹⁷ Energy efficiency measures could save the UK public sector up to £3 billion.¹⁸

Chart 3: Top 10 sectors by contribution to the overall supply chain carbon footprint



The carbon intensity of sectors is the main driver of the supply chain carbon footprint. The Catering, Construction and Environmental Services sectors are relatively carbon-intensive due to the nature of their business activities. Catering is energy intensive and includes GHG emissions from food producers such as dairy farms. Construction includes processes such as cement making, which emits CO₂ during energy use and chemical processes to produce limestone. The majority of emissions from Environmental Services firms such as waste collectors and processors are from fossil fuel use in transport.

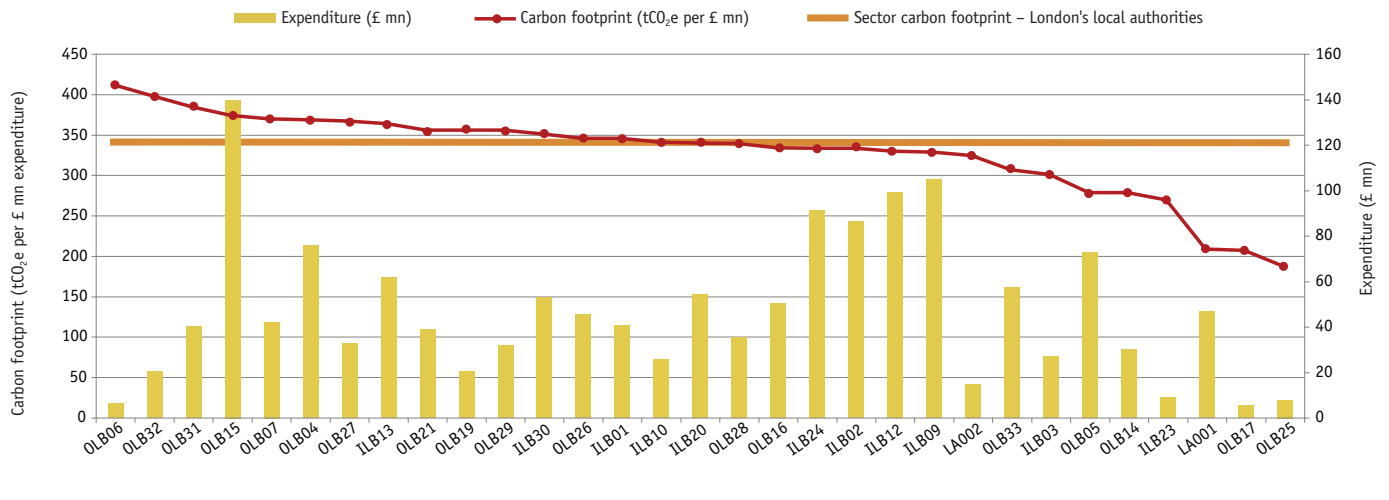
Comparing carbon footprints within spend categories is a useful way to assess the carbon performance of expenditure by the authorities. Chart 4 on page 14 illustrates how

the carbon footprint of Construction spend varies across all participating authorities. ILB12 and ILB09 have comparatively high levels of expenditure in construction (approximately seven per cent) yet the carbon intensity of their spend is below the average for the whole of the sector (334 tonnes of CO₂e per £ million). However, relatively low expenditure on construction by OLB21 results in a comparatively large carbon footprint (354 tonnes of CO₂e per £ million). Varied business activities by suppliers in the same sector contributes to variations in the sizes of carbon footprints in the same spend categories. In addition, the levels of emissions by suppliers per £ mn of revenue that they generate affects the carbon efficiency of procurement.

17 <http://www.greenpeace.org.uk/efficiency/about>, accessed 20 September 2010

18 <http://www.energyefficiencynews.com/i/3085/>, accessed 20 September 2010

Chart 4: Carbon footprint ranking of Works - Construction, Repair & Maintenance procurement



Recommendations

Each authority participating in this study can use its own supply chain carbon footprint to begin to manage emissions from procurement activities in different sectors. Authorities could initially focus on reducing procurement emissions from the four most carbon-intensive sectors in their supply chains. Although other sectors could contribute to reducing supply chain carbon footprints, targeting carbon “hotspots” in supply chains is likely to result in the greatest carbon savings. Authorities can use the average performance of sectors across London’s public procurement to benchmark their own suppliers.

4.4 Range in supplier carbon efficiency highlights opportunity for improvement

GHG emissions are also concentrated amongst suppliers. Of the 9,802 suppliers analysed, 5,000 emitted almost 98 per cent of GHGs (see Chart 5). Ten suppliers that contribute most to GHG emissions from procurement account for eight per cent of total expenditure and 32 per cent of emissions. Five of these suppliers are in the Utilities sector (see Chart 6 on page 15). While some have significant carbon intensities due to the nature and scale of their operations, the wide range in the carbon footprints of procurement indicates that some companies emit less carbon than their sector peers for every £ mn of spend. For instance, the carbon footprint of expenditure with npower is almost 45 per cent higher than that of electricity and gas purchased from E.ON UK Plc. Trucost only analysed the UK energy mix of utilities to derive more localised emissions profiles for electricity procurement. However, for utilities based solely in the UK, data on emissions associated with electricity distribution were also included in the analysis. EDF Energy Ltd and npower have the largest carbon footprints because their UK power generation was largely coal based in 2008/9.

Chart 5: Distribution of carbon throughout the supply chain

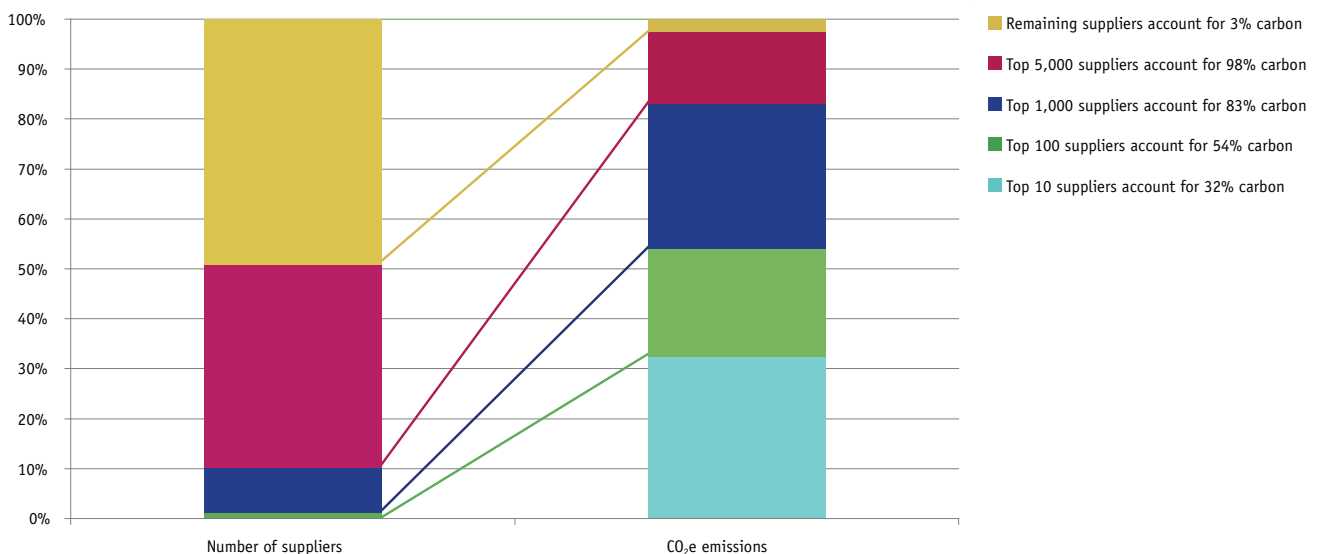
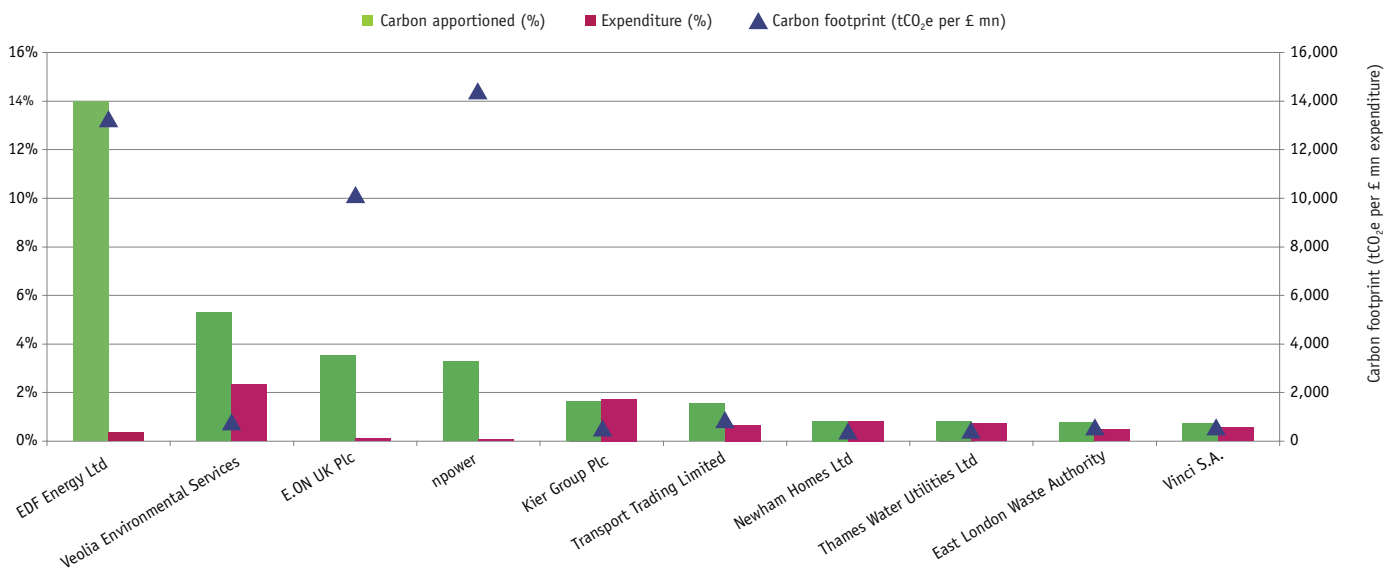


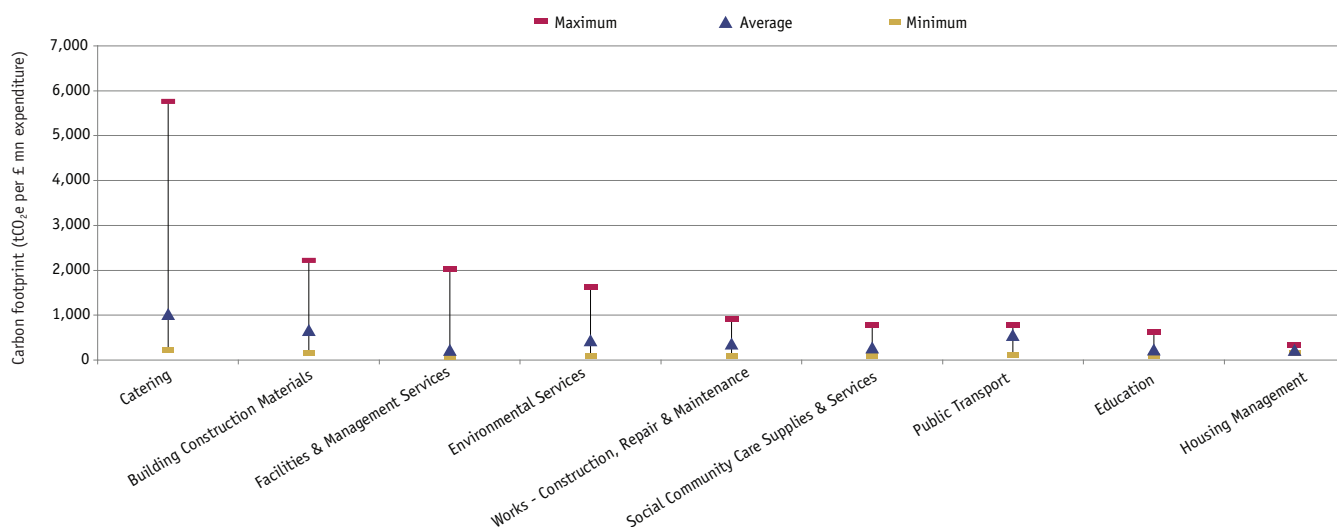
Chart 6: Top 10 suppliers by contribution to the overall supply chain carbon footprint



Veolia Environmental Services is the second main contributor to carbon emissions in the supply chain, but has a smaller carbon footprint than many other suppliers in the top ten. There is also a wide range in the carbon intensity of supply chain spend within several of the other most carbon-intensive sectors (see Chart 7). In

sectors such as Catering, Works – Construction, Repair and Maintenance and Building Materials the difference between the smallest and largest carbon footprints is significant. In Housing Management, where carbon performance appears close to the sector average, carbon footprints vary by a factor of three.

Chart 7: Range in supplier carbon efficiency across top 10 sectors¹⁹



Variations in carbon intensity reflect differences in the energy efficiency of companies, as well as the nature of products and services provided. In broad sectors such as Works – Construction, Repair & Maintenance, for example, some suppliers operate in different subsectors with activities ranging from flooring to building maintenance. Nevertheless, analysing the gap between those with the smallest and largest carbon footprints as well as the sector average is useful to benchmark suppliers and identify which might have the greatest potential to reduce emissions.

Recommendation

Suppliers that are more carbon efficient than the average for their sector could be less exposed to carbon costs, and therefore provide greater price stability. Carbon-intensive suppliers could have the greatest potential to achieve carbon savings. Measures such as energy efficiency can deliver cost savings while reducing exposure to fluctuating energy prices. There is a significant opportunity for London’s local authorities to collaborate with suppliers to drive improvements in carbon performance through supply chains.

19 Please note: Utilities sector was removed from chart because the range in carbon efficiency distorted the other sectors

5. Opportunities to reduce emissions within sectors

This section examines how much carbon could be saved if suppliers achieved average levels of carbon efficiency for their sectors.

5.1 Improving supplier carbon efficiency would cut procurement emissions

Local authorities stand to benefit from emission reductions in their supply chains. There is potential for dramatic improvements in energy efficiency across all sectors, which will be key to achieving carbon budgets in the UK. Greater energy and resource efficiency by suppliers could deliver cost savings and reduce wider environmental impacts. This can reduce the economic costs of pollution and ecosystem degradation, helping to make procurement practices more

sustainable. Reducing supply chain emissions also reduces financial risk from exposure to carbon costs passed on in higher prices.

Trucost used sector-level performance benchmarking to demonstrate potential carbon savings from improvements in supplier carbon efficiency. The scenario analysis is based on the variation in the carbon efficiency of suppliers within the 10 sectors that contribute most to the carbon footprint of procurement by London’s local authorities. Table 4 below shows the average carbon footprints of suppliers in each sector, measured as tonnes of CO₂e per £ million of expenditure, as well as the ranges in carbon efficiency at a company level. It also highlights the amount each sector contributes to the GHG emissions associated with procurement.

Table 4: Variation in carbon efficiency of suppliers within each spend category

Spend Category	Total carbon apportioned (tCO ₂ e)	Carbon footprint (tCO ₂ e/£ mn expenditure)		
		Minimum	Average	Maximum
Utilities	600,016	66	3,622	14,360
Works - Construction, Repair & Maintenance	491,633	80	334	899
Social Community Care Supplies & Services	393,062	97	257	777
Environmental Services	225,339	82	596	1,619
Facilities & Management Services	107,334	74	215	2,016
Housing Management	88,035	111	167	330
Public Transport	84,258	123	547	780
Building Construction Materials	83,771	143	654	2,216
Education	80,942	87	225	630
Catering	76,423	226	999	5,762

The average carbon footprint of local authorities would be reduced by 23 per cent if carbon-intensive suppliers in each spend category were as carbon efficient as the average for their sector peers. Emissions from London’s local authorities’ procurement could be reduced by 582,304 tonnes of CO₂e (see Table 5 on page 17). For instance, if suppliers in the Works – Construction, Repair & Maintenance sector that are currently less efficient than the average for their sector all achieved a carbon footprint of 334 tCO₂e/£ mn or below, supply chain

emissions could be cut by 63,792 tonnes of CO₂e. This equates to 13 per cent of carbon emissions from expenditure in the sector. Utilities that use carbon-intensive fuels such as coal could find it difficult to reduce emissions within short timeframes. However, the analysis illustrates how authorities could identify potential carbon savings in order to develop appropriate carbon reduction plans that take account of their specific mitigation opportunities.

Table 5: Scenario analysis results*

Spend Category	Carbon apportioned (tCO ₂ e)	Benchmark carbon apportioned (tCO ₂ e)	Carbon savings (tCO ₂ e)	Carbon reduction (%)
Utilities	600,016	218,982	381,034	64%
Works - Construction, Repair, Maintenance	491,633	427,841	63,792	13%
Social Community Care Supplies & Services	393,062	364,398	28,664	7%
Environmental Services	225,339	194,629	30,711	14%
Facilities & Management Services	107,334	89,865	17,469	16%
Public Transport	84,258	72,321	11,937	14%
Building Construction Materials	83,771	64,923	18,848	22%
Education	80,942	74,579	6,364	8%
Catering	76,423	54,689	21,734	28%
Housing Management	88,035	86,285	1,751	2%
Total	2,563,511	1,981,207	582,304	23%

*Figures are rounded up

To model the potential to reduce exposure to carbon costs, Trucost applied the Carbon Reduction Commitment (CRC) Energy Efficiency Scheme carbon price of £12 to each tonne of CO₂e saved. Results show that carbon costs totalling £6.98 million could be avoided if emissions were reduced by 582,304 tonnes of CO₂e. This equates to 0.1 per cent of expenditure by the authorities in the 10 sectors (£5,286.07 million). Actual exposure to carbon costs would vary, but the analysis illustrates the potential to assess and manage carbon risk.

by suppliers and allocated to London’s local authorities. Chart 8 shows suppliers’ emissions broken down by source – those direct from operations (Scope 1 of the Greenhouse Gas Protocol), those from electricity purchased by suppliers (Scope 2), those from their other first-tier suppliers, and emissions from their other suppliers further up the supply chain (Scope 3).

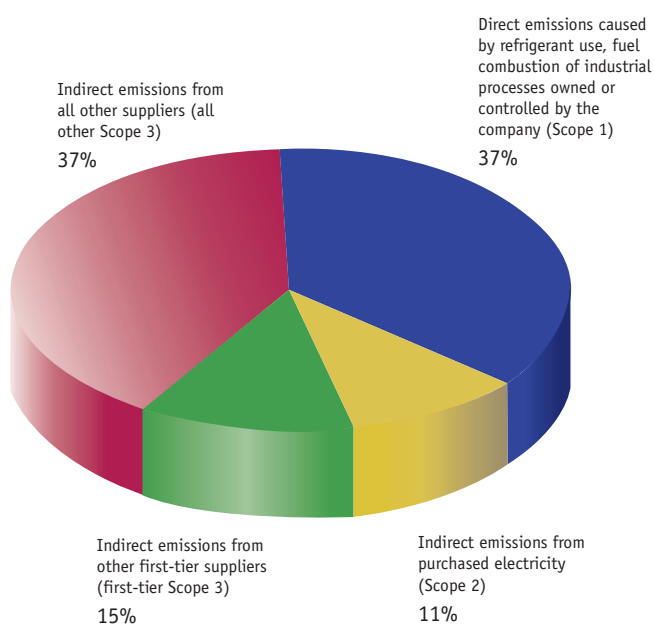
Recommendations

London’s authorities could use a sector benchmark approach to identify the potential scale of emission reductions from each supplier. Carbon reduction strategies could include information on variations in performance to help identify which suppliers to engage with most intensively. Authorities could engage with and educate suppliers that are carbon intensive for their sectors to encourage them to reduce emissions in line with their sector norms.

5.2 Information on sources of GHGs can be used to identify opportunities to drive cuts in emissions

Information on the sources of emissions from suppliers can be used to identify related risks and opportunities. Trucost analysed sources of the 2,563,511 tonnes of CO₂e emitted

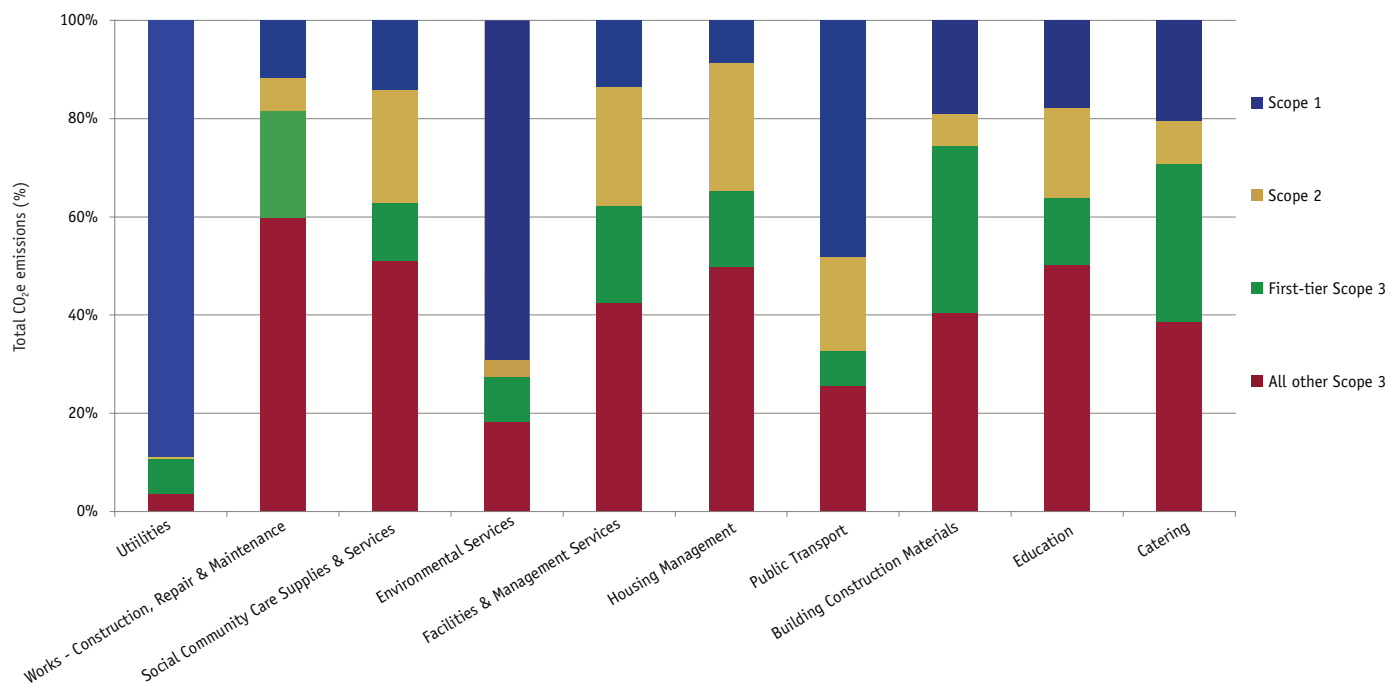
Chart 8: Breakdown of overall supply chain carbon emissions by scope



Thirty-seven per cent of overall supply chain emissions are directly from the operations of suppliers. Sources include fuel used in buildings and by company-owned vehicle fleets. The remaining 63 per cent of emissions, including 11 per cent driven by electricity purchases, is embedded within products and services that suppliers themselves procure from their own suppliers.

Authorities and their suppliers can use information on the sources of emissions to identify the greatest risks from exposure to carbon costs, as well as opportunities to mitigate emissions and manage these risks. Levels of emissions from different sources vary across industries. Chart 9 below identifies the breakdown of carbon emissions by scope across the top 10 sectors.

Chart 9: Breakdown of overall supply chain carbon emissions by scope – top 10 sectors



Trucost’s supply chain programme has been a pivotal piece of work for Homes for Haringey in relation to sustainability issues. It has enabled us to understand the impact of our suppliers’ greenhouse gas emissions on our own carbon footprint. The study will be used to build an evidence base for our sustainable procurement strategy and embed plans to reduce our supply chain carbon footprint. For example, we will use findings to include environmental considerations in our supplier selection process and work with strategic suppliers to help reduce carbon footprints.

“It is useful to know how we compare to other organisations, as this will help establish priorities more clearly in the area. The study has also given us facts and figures to promote our environmental agenda and approach to sustainability to internal and external stakeholders.”

Denislava Ivanova MBA, MCIPS, Procurement Manager, Homes for Haringey

Recommendations

Suppliers could reduce direct GHG emissions (Scope 1) caused by refrigerant use, fuel combustion or industrial processes that they own or control. The efficiency of suppliers' business practices could be improved to target the large share of emissions from their operations. Carbon-intensive companies could be encouraged to use resources, including fuel burned in heating systems and vehicles, more efficiently to help cut emissions. Authorities that collaborate with suppliers to improve operational carbon performance could help drive mitigation that delivers benefits directly to their suppliers. Benefits could include lower exposure to rising energy prices and reduced risk from carbon costs under the CRC. Suppliers that reduce emissions could also gain from a higher ranking in the CRC performance league table.

Suppliers could reduce indirect GHG emissions from purchased electricity (Scope 2). Suppliers could use information on emissions from electricity consumption to manage exposure to rising carbon costs passed on by electricity suppliers covered by the EU Emission Trading

System (EU ETS). Carbon costs will increase most for fossil fuel dependent power generators that will have to purchase EU Allowances for all of their CO₂ emissions under the EU ETS from 2013. More efficient suppliers with less dependence on carbon-intensive fuels will face less pressure to raise electricity prices in order to pass on rising carbon costs.

Organisations could reduce indirect emissions from other sources that they do not own or control (Scope 3). Authorities could indirectly influence the sizeable share of emissions that originate further upstream by encouraging their direct (first-tier) suppliers to assess carbon embedded in their own supply chains. Suppliers that adopt sustainable procurement strategies and understand, measure, and manage carbon can reduce their own indirect exposure to carbon costs passed on in higher input prices.

Information on sources of emissions in each sector can be used to support engagement. Authorities can encourage suppliers to monitor and manage emissions from sources most relevant to their industries.

/// *Taking part in the Capital Ambition supply chain carbon footprint project helped Westminster understand which suppliers contribute most to the carbon emissions arising from our broader procurement activities. The report has essentially provided us a first cut carbon impact assessment – by identifying where the biggest reduction potential might lie, it has allowed us to understand which contracts we should be engaging with in order to reduce carbon most effectively.*

“This understanding is essential in the current economic climate. With reduced resources to engage with contracts and greater focus on costs, reducing carbon emissions through targeted engagement is essential and we are taking the next steps in this process by developing ways for contractors to easily measure and report directly on their emissions. This data will be used to assess and refine the information the Capital Ambition report provides us, helping to drive efficiencies in our major contracts, and reducing carbon emissions from our supply chain. ///

Nic Mason, Sustainable Procurement, Energy and Carbon Manager, Westminster City Council

6. Engagement results

Trucost engaged with 4,500 suppliers. Over 200 companies provided additional data or confirmed figures for emissions from operations, electricity use and business travel. Emissions data from a further 150 companies were also incorporated from Trucost's database on corporate

environmental impacts that is maintained on an ongoing basis. Many of the companies engaged with supply more than one local authority. The companies that confirmed carbon data were responsible for 37 per cent of all emissions analysed in this study.

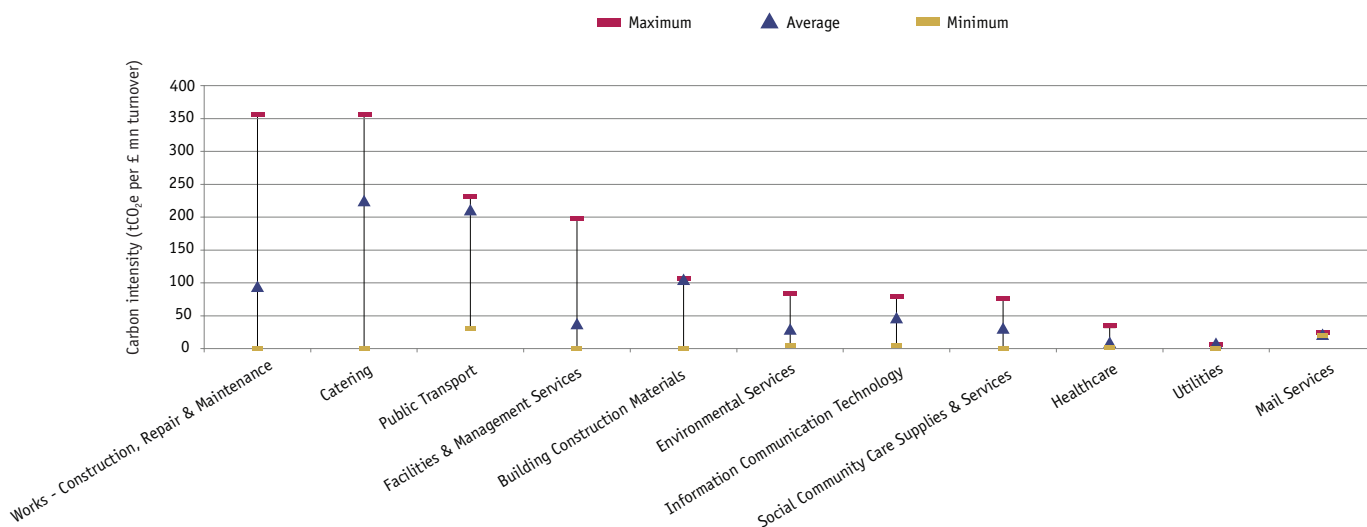
Table 6: Verification results by carbon apportioned to local authorities

Authority name	Expenditure (£ mn)	Carbon apportioned (tCO ₂ e)	Apportioned carbon confirmed through engagement and verification	
			Absolute (tCO ₂ e)	%
OLB25	117.33	53,255	32,745	61
OLB27	171.27	52,047	23,299	45
OLB28	297.00	98,761	38,569	39
OLB29	179.39	64,076	28,502	44
ILB30	314.47	94,236	32,100	34
ILB24	210.87	100,985	61,414	61
OLB31	221.70	96,418	51,758	54
OLB32	197.36	54,354	14,383	26
OLB33	330.93	96,853	28,081	29
ILB01	293.63	95,814	35,049	37
ILB03	240.83	70,335	26,419	38
ILB02	362.38	124,177	49,882	40
OLB04	334.08	154,301	83,882	54
OLB05	187.56	57,723	31,354	54
OLB06	116.36	39,341	11,927	30
OLB07	168.06	48,260	9,151	19
ILB09	359.88	100,663	39,247	39
ILB10	155.66	50,571	9,635	19
ILB12	478.14	138,966	53,175	38
LA001	127.25	21,308	4,982	23
ILB13	351.39	112,183	25,912	23
LA002	85.58	57,684	5,115	9
OLB14	144.44	48,802	15,359	31
OLB15	557.33	172,877	51,927	30
OLB16	198.48	61,944	19,785	32
OLB17	98.07	29,158	13,184	45
OLB19	162.25	52,071	11,350	22
ILB20	348.91	129,816	53,229	41
OLB21	291.13	86,414	21,805	25
ILB23	341.81	143,910	48,609	34
OLB26	167.04	56,208	27,934	50
Total	7,610.58	2,563,511	959,763	37

More precise information on sources of GHG emissions can be used to identify carbon and cost savings. To illustrate, Trucost modelled the potential for suppliers to use electricity more efficiently to reduce Scope 2 emissions and cut electricity bills.

Eleven sectors are ranked on the range in carbon intensities of companies – based on Scope 2 emissions relative to turnover – in Chart 10. Companies in the Works – Construction, Repair & Maintenance sector have the greatest range in carbon intensities (1 tCO₂e per £ mn vs. 356 tCO₂e per £ mn).

Chart 10: The 11 sectors by range in Scope 2 carbon intensity



Wide ranges in carbon intensity for Scope 2 emissions indicate significant potential to reduce emissions through electricity savings. Trucost identified suppliers in these sectors that purchased electricity from utilities with carbon intensities above the average for UK electricity supplies, based on Government emission factors. Trucost modelled potential emission reductions based on all electricity purchased by suppliers having the average UK carbon efficiency, or below.

Results in Table 7 on page 22 show over one million tonnes in absolute emission reductions could be achieved if suppliers switched electricity providers or reduced operational electricity use through efficiency measures. By reducing electricity use, based on the average price of electricity in 2009²⁰, suppliers in these sectors could cut costs by £168 million.

20 Source: Department of Energy and Climate Change

Table 7: Scenario analysis – supplier cost savings associated with efficiency gains

Spend Category	Turnover (£ mn)	Total Scope 2 carbon (tCO ₂ e)	Scope 2 emissions (tCO ₂ e after electricity carbon savings)	Carbon savings (tCO ₂ e)	KWh savings	Cost savings (£ mn)
Works - Construction, Repair & Maintenance	4,259	393,411	124,983	268,428	492,329,962	44.59
Catering	146	32,559	22,036	10,523	19,300,317	1.75
Public Transport	3,652	753,262	671,740	81,522	149,522,151	13.54
Facilities & Management Services	568	20,494	8,294	12,200	22,376,493	2.03
Building Construction Materials	36,581	3,810,221	3,765,805	44,416	81,464,383	7.38
Environmental Services	1,923	44,603	33,539	11,064	20,293,321	1.84
Information Communication Technology	62,854	3,092,387	2,618,387	474,000	869,373,814	78.74
Social Community Care Supplies & Services	5,071	154,026	104,125	49,900	91,523,362	8.29
Healthcare	7,951	53,776	30,740	23,036	42,251,395	3.83
Utilities	29,566	83,732	45,480	38,252	70,158,636	6.35
Mail Services	8,769	204,506	204,218	288	528,319	0.05
Total	161,339	8,642,978	7,629,347	1,013,631	1,859,122,154	168.38

The Information Communication Technology and Works – Construction, Repair & Maintenance sectors could achieve the greatest emission reductions and cost savings. If utilities pass on EU Allowances costs at £18.6 per tonne of CO₂ in 2013²¹ in higher prices, reducing emissions from electricity use in the scenario above could avoid £18.85 million in carbon costs. Suppliers that reduce exposure to carbon costs can contribute to price stability in local authority procurement.

Recommendations

Encourage disclosure of energy use and greenhouse gas emissions in line with reporting standards. This could help enable suppliers to manage exposure to rising input costs. Local authorities that help suppliers achieve joint efficiency savings could encourage firms to pass on a share of related financial gains in lower costs or price stability.

/// *The construction industry contributes 10 per cent of UK emissions. Equipment and support services have a responsibility to help the industry minimise its emissions with improved staff training on environmental issues and hire equipment which is fully functional yet environmentally sound.*

Any benchmarking is useful and welcomed and can help identify areas for improvement or opportunities to reduce emissions that have not yet been considered. Speedy can also use carbon data to demonstrate its position within its sector. ///

Andy Johnson, Head of Sustainability and Environment, Speedy (Hire) Plc.

21 Source: Department of Energy and Climate Change

7. Other key environmental impacts identified

Environmental and resource efficiency are becoming increasingly important to value chains and procurement. Inefficient use of natural resources can result in higher operating costs for suppliers, in turn increasing costs for public sector procurement. Environmental costs are rising as government policies apply the “polluter pays” principle through measures such as taxes.

Companies need to measure environmental impacts in order to manage them and reduce exposure to the rising cost of pollution and waste. Companies can decide which environmental key performance indicators (KPIs) to monitor using guidance from the UK Department for Environment, Food and Rural Affairs – *Environmental Key Performance Indicators: Reporting Guidelines for UK Business* (2006).

The guidelines explain how to measure environmental KPIs that are relevant to most businesses, depending on their sectors. In addition to GHG emissions, most companies are likely to have two to four further KPIs: Water, waste and sulphur dioxide and particulate emissions.

Water: Water availability and quality can affect businesses most in sectors including Utilities, Social Community Care Supplies & Services, Construction and Catering. Water pricing is rising to help protect supplies and encourage more efficient use. Supplies in southeast England are vulnerable to climate change impacts including more frequent and severe floods and droughts. Water use indirectly contributes to carbon dioxide emissions due to high energy use by water companies. Water savings measures could include installing technologies such as push taps, low-flush toilets, flow regulators or restrictors. Spray taps can reduce water use by up to 70 per cent compared with conventional taps.

Waste: Waste from business activities can be classified as hazardous or general. Disposal of hazardous waste such as lead acid batteries or fluorescent tubes is strictly regulated under the EU Hazardous Waste Directive. Local authorities and their

suppliers need to minimise hazardous waste and reduce disposal of general waste to landfill. The landfill tax rate payable when waste is sent to landfills is currently £48 per tonne, and will rise by £8 per year until it reaches £80 a tonne in 2014/15. Organisations could make significant cost savings by minimising waste. The EU waste hierarchy recommends reducing waste as the first step in waste management. Where possible, items should be re-used or recycled. If necessary, waste can be incinerated and the resulting energy recovered. Disposal to landfill should be a last resort.

Sulphur dioxide (SO₂) and particulate matter (PM): These air pollutants can contribute to acid rain and smog formation which can damage the environment and human health. Sulphur dioxide is released during the combustion of fossil fuels, particularly coal. Particulates, released when fuels such as diesel are burned, can contribute to cardiovascular and lung disease, as well as premature death. Road transport is responsible for around two-thirds of PM10 emissions in London. Limits on PM will be tightened under Euro IV emissions standards from 2012.²² Organisations can improve electricity efficiency and reduce fuel use in vehicles to cut SO₂ and PM emissions.

Recommendations

Local authorities could reduce their indirect environmental impacts by encouraging suppliers to measure and manage water use, waste generation and emissions of sulphur dioxide and particulate matter. They could monitor suppliers on these KPIs to track changes in performance.

²² <http://www.energysavingtrust.org.uk/business/Business/Transport-advice/Other-services/City-schemes/London-low-emission-zone>, accessed 23 August 2010

8. Next steps

The carbon footprint of procurement by London's local authorities will be assessed again for the 2009/10 and 2010/11 financial years to monitor changes in carbon efficiency. London boroughs will continue to be provided with information on the carbon footprints of their supply chains, highlighting opportunities for supplier carbon efficiency to contribute to reductions in the carbon impacts of procurement. Engagement with suppliers will also continue to be used to collect data and help build capacity to monitor and report emissions. Suppliers will be provided with carbon footprints of their businesses to help them identify opportunities to reduce GHG emissions. Benchmarks will help them understand how their carbon performance compares with that of sector peers.

Measuring and understanding carbon footprints is the first step to towards managing and reducing them. While it is up to suppliers to decide on how best to cost-effectively reduce emissions in their particular businesses, authorities can play a role in promoting emission reductions in their supply chains. In order to reduce the carbon footprint of their supply chains, authorities could use information:

To develop low-carbon procurement strategies:

- An understanding of the main sources of emissions within supply chains could inform low-carbon procurement strategies.
- Baselines can be used to set carbon reduction targets for procurement. These could be absolute to reduce total emissions as well as relative based on carbon efficiency (emissions per £ mn of expenditure).
- Include a requirement in tenders for suppliers to report carbon emissions data in line with the government's carbon reporting guidelines.²³ Greater transparency can help identify opportunities to reduce emissions and demonstrate improvements in carbon performance.
- Carbon prices can be applied to emissions data to inform procurement decisions.
- Identify opportunities to monitor and share cost savings achieved through improvements in the energy and carbon efficiency of procurement.

To inform engagement with suppliers:

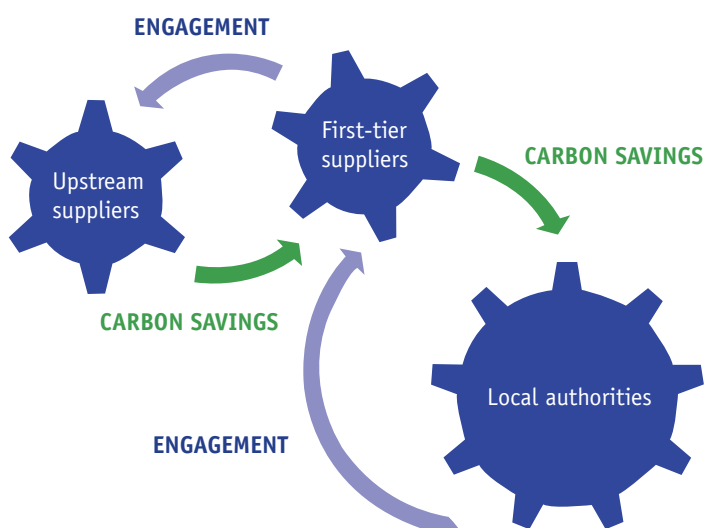
- Identify the companies and sectors where engagement could be most effective to reduce supply chain emissions.
- Engage with suppliers that do not yet disclose their emissions to encourage them to report in line with the

government's carbon reporting guidelines. Suppliers could also be encouraged to provide information on electricity tariffs to identify carbon savings where supplies are sourced from renewable energy.

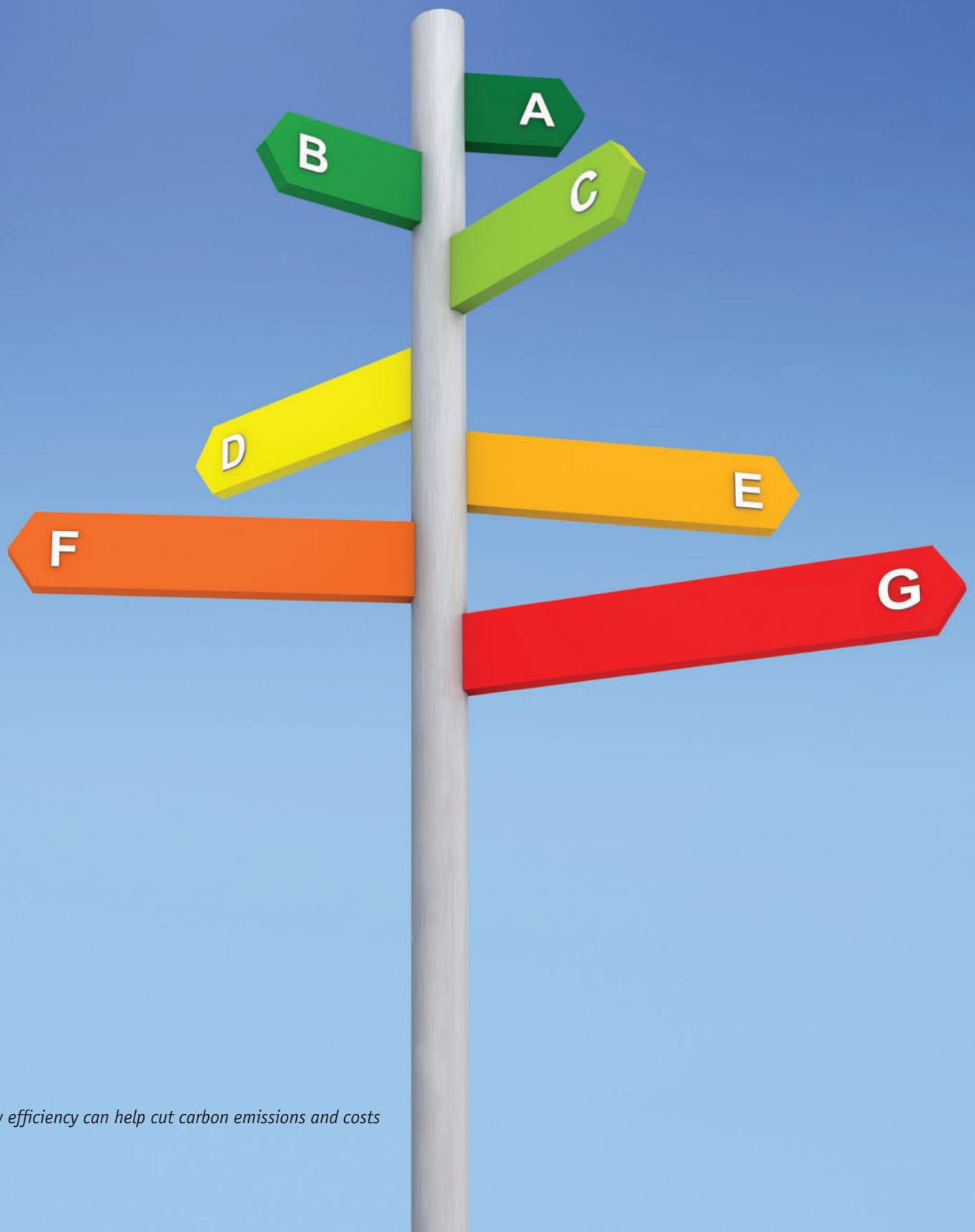
- Engage with suppliers that contribute most to carbon footprints, and are carbon-intensive compared with sector benchmarks, to encourage improvements in carbon efficiency. Switching suppliers could be used only as a last resort if suppliers fail to respond within reasonable timeframes.
- Ask suppliers to develop action plans to manage GHG emissions and monitor their performance. Encourage them to focus on improving the efficiency of fuel and electricity use so that they benefit from both carbon and cost savings.

To support collaboration with other authorities on carbon reduction programmes:

- Co-operate with other authorities to increase the weight of influence through engagement with suppliers.
- Share supplier carbon data. For example, through the Contracts Register.
- Explore the potential to use software to help monitor and manage the carbon performance of procurement.
- Share examples of cost-effective actions to reduce emissions with other boroughs and suppliers. E.g. through seminars or training programmes.
- Encourage joint suppliers to collaborate with each other to share information on cost-effective actions to reduce emissions within sectors.



²³ <http://www.defra.gov.uk/environment/business/reporting/ghg-report.htm>, accessed 2 August 2010



Energy efficiency can help cut carbon emissions and costs

9. Appendices

Appendix I. Trucost methodology

Trucost has developed a comprehensive approach to calculating quantitative environmental impacts across organisations, supply chains and investment portfolios. Trucost has analysed the environmental performance of more than 4,500 companies worldwide. Corporate impacts are initially calculated using Trucost’s advanced environmental profiling model. This calculates more than 700 environmental impacts, including GHG emissions, water abstraction, air pollutants and heavy metals, from 464 industries worldwide. The model describes resources used through economic interactions between each sector based on extensive government census and survey data²⁴, and incorporates information on pollutant releases from national emissions registries.

Overseen by an international academic advisory panel, the model applies a price to each environmental resource used and pollutant released²⁵ to analyse, in financial terms, the economic and environmental performance of each sector. The model examines the interactions between industries in order to map each sector’s indirect supply chain environmental impacts. This data model underpins Trucost’s assessments of the carbon or environmental impacts of organisations and their supply chains.

Analysing and mapping company data

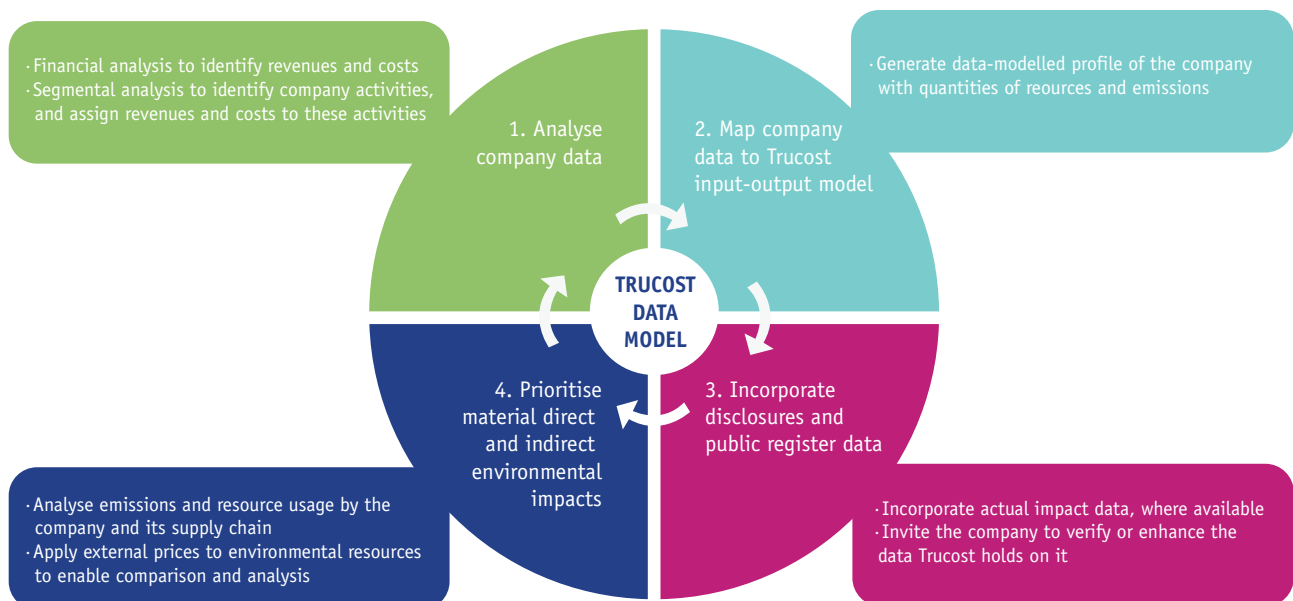
Environmental profiles quantify the environmental impacts of each company. Trucost initially analyses financial information to apportion revenues to business activities in different sectors. Using this information, the environmental profiling model can calculate an organisation’s likely direct and supply chain environmental impacts based on industry averages. Calculations also incorporate disclosed quantitative data on industrial facilities’ actual resource use and pollutant releases where possible.

Incorporating reported company data

Trucost’s database includes company-specific environmental data, either from public disclosure in annual or environmental reports, company websites or from direct communications with the company itself. Where a company only discloses data for part of its overall activities, Trucost might standardise or normalise quantities in order to calculate the environmental impacts of the business’s entire operations in line with environmental reporting standards. Where companies only disclose resource use such as fuel consumption, this information is used to derive environmental data where possible.

Each analysed company is invited to verify or refine the environmental profile Trucost has created. Trucost analysts quality check any further disclosures made by the company. These disclosures are exclusive to Trucost and further augment our data. The figure below shows how Trucost’s data model works.

The Trucost data model



24 Trucost uses the most up-to-date U.S. census data adapted to generate a global input-output model.

25 The prices in the Trucost model are based on external cost principles. The external cost of using an environmental resource, such as timber, or emitting a pollutant, such as carbon dioxide, is the cost that is borne by society through the degradation of the environment and harm to human health, but which is not borne by the firm that uses the resource or emits the pollutant.

Where companies do not disclose adequate data, Trucost uses the environmental profiles calculated by its model. Trucost’s comprehensive coverage ensures that all companies in a supply chain are included, not just those that disclose environmental information. Trucost’s analysis considers both direct and indirect impacts (from the supply chain). Indirect impacts are calculated by employing Trucost’s environmental profiling model.

Greenhouse gas emissions data

Trucost maintains the world’s largest and most comprehensive database of standardised corporate GHG emissions data. Trucost analyses the quantities of GHG emissions in line with the Greenhouse Gas Protocol international corporate accounting standard developed by

the World Resources Institute and World Business Council for Sustainable Development. The GHG Protocol breaks down emissions into three scopes – (1) direct from sources that are owned or controlled, (2) electricity indirect and (3) other indirect from supply chains and products in use.

The six greenhouse gases defined by the UN Kyoto Protocol are included in the analysis. The GHGs have been calculated for each company and converted into metric tonnes of carbon dioxide-equivalent (CO₂e) emissions based on the appropriate Global Warming Potential factors. The Global Warming Potential (GWP) index published by the Intergovernmental Panel on Climate Change (IPCC) assesses the effect of the emissions of different gases over a 100-year time period relative to the emission of an equal mass of CO₂.

Appendix II. Acknowledgements

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21st Century Office Concepts T/A Cupaz	Care Unlimited Llp	Fairhurst Ward Abbotts Ltd
Access For Living	Caretech UK Ltd	Family Matters Fostering Ltd
Account3 Ltd	Cater Link Ltd	Farnrise Construction Ltd
Acre Lifts Ltd	Centaur Minicoaches	Five Rivers Child Care Limited
Action For Children	Chestnut Products Ltd	Floron Residential Home
Alexandra Plc	Christies Care Ltd	Fosterplus Ltd
Amwell Fruit Company	CIS Security Limited	G. Burley & Sons Ltd
Anglian Water Group Ltd	City & Hackney Primary Care Trust	Gas & Air Services UK
Apollo Property Services Group Ltd	City Of London	Glowarm Central Heating Ltd
Arlington Builders Ltd	Cliffhanger Ltd	Greater London Fostering
Armour Contracts Limited	Colt	Greek & Greek Cypriot Community Of Enfield
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Audit Commission	Coram Family On Track	Greenwich Primary Care Trust
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Barking Panel Craft	Croydon Primary Care Trust	Gustafson Porter
Barnet Homes Limited	CTS Sales & Service	GVA Grimley
Barnet Primary Care Trust	Cycling Instructor Ltd	Hammersmith & Fulham Primary Care Trust
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Brent Primary Care Trust	Dickinson Dees	Hays Plc
Breyer Group Plc	Durable Contracts Ltd	Headley Brothers (Holdings) Ltd
Bristol Uniforms Ltd	DW Contractors (Oxford) Ltd	Heath Farm Family Services Ltd
British Telecommunications Plc	Ealing Primary Care Trust	Hertfordshire Partnership NHS Trust
Bromley Primary Care Trust	East London NHS Foundation Trust	Higgins Construction Plc
Bryen & Langley Limited	ELHAP	Hillingdon Training Ltd
Cable Test Ltd	Enfield Disability Action	Idelo Ltd
Camden & Islington Mental Health & Social Care Trust	Enfield Primary Care Trust	Independent Lift Services Ltd
Canterbury Oast Trust Ltd	Erith Contractors Ltd	Interserve Plc
Care Providers (UK) Ltd	Essex Woodcraft	ITC Concepts Limited
	European Asbestos Services	

JC Deveaux UK	Overbury Plc	SORAG Carers & Special Needs Project
Kensington & Chelsea Primary Care Trust	Oxleas NHS Foundation Trust	South London & Maudsley NHS Trust
Kent Heating Services Limited	Pelling Ltd	South West London And St George's Mental Health NHS Trust
Kindercare Fostering	PHS Group Plc	Speedy Asset Services
Kingston Primary Care Trust	Plan Personnel	St Mary's Wrestwood Children's Trust
Kinnarps AB	Playdale Playgrounds Ltd	Star Cars Ltd
Lengard Ltd	Potter Raper Partnership	Superclean Services Wothorpe Ltd
Liaise Loddon Ltd	Powerperfector Plc	Surrey & Borders Partnership NHS Trust
Libra Construction Services Ltd	Pressalit Care Plc	Sutton & Merton Primary Care Trust
Livetourism Ltd	Prestige Courier Services Ltd	Synetrix Holdings Limited
Logica Plc	Primepeace Ltd	T A Horn Limited (The Kinetics Group)
London Hire Ltd	Prior's Court Foundation	Tavistock & Portman NHS Trust
Macintyre Care	Prior's Court Foundation, Prior's Court School	Team Communications Services Ltd
Mann Flooring Ltd	Purdy Contracts Ltd	Tempus Resourcing Ltd
Manse Masterdord Ltd	Q Associates Ltd	The Apetito Group
Mapp Ltd	Quality Protects Children Ltd	The City Literary Institute
Marshalls Plc	R.A.A.C. Care Ltd	The Crossness Engines Trust
May Gurney Integrated Services Plc	Rathbone Centre	The Havering Fencing Company
Mears Ltd	Raytell Electrical Co. Ltd	The National Autistic Society
Mehler Vario System GmbH	Redbridge Action Against Domestic Abuse (RAADA)	The Shield Guarding Company
Merton Community Transport	Ricoh UK Ltd	The Stockwell Partnership Ltd
Midos Residential Investment Ltd	Ridge & Partners	Total Security Protection
Modular Direct Ltd	Royal Mail	Tower Hamlets Primary Care Trust
Morris Angel & Son Ltd	Royal National Institute Of Blind People	Trade Winds
Moyglan Construction Ltd	SACCS Care Ltd	Transitional Care Limited
Nationwide Express Carriers Ltd	Sage Care Ltd	Transport Trading Limited
Neilcott Construction	Sealtite Windows Ltd	Trowers & Hamlins Llp
Neopost Ltd	Searcy	Ubique Leisure Ltd
New College Worcester	Serjeant Security Ltd.	Veolia Environmental Services
New Forest Care Ltd	Servacomm Redhall Ltd	Virgin Media, Inc.
Newstead Wood School For Girls	Shanks Waste Management Limited	Vodafone Group Plc
North East London NHS Foundation Trust	Sharpe Pritchard	Waco UK Ltd
Northern Soundhouse	Signway Supplies (Datchet) Ltd	Walk England Ltd
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Office2Office Plc		Westminster Primary Care Trust
Osborne Energy Ltd		

Appendix III. References

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