

The Carbon Intent Project

ICT Enabling Low Carbon Business

Homeworking and Teleconferencing

April 2009

Guidelines

“Within the international ICT industry we see increasing attention paid by the larger corporate and public sector organisations to their own carbon reduction and energy efficiency strategies. We also see an increasing volume of individual supplier-sponsored studies addressing the corporate ICT user needs. The time has now come to address the business user community’s needs from an expert, independent, impartial perspective” **Glenn Powell, Chief Executive of the CMA**

First published April 2009.
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Preface

“British business must capitalise on its communications technology investments in addressing carbon dioxide emissions reduction.” **Glenn Powell, Chief Executive of CMA**

This document is the result of project collaboration between the Communications Management Association (CMA), and the Carbon Trust. It was coordinated, researched and written on behalf of the CMA by the Hannover Consultancy.

The authors and project collaborators are grateful to the following organisations and individuals whose contributions to the research element of the project have been invaluable:

- The Carbon Trust – for primary funding and research support.
- CMA members - for participation in The Carbon Intent Survey 2009.
- Phil Sayer and Bob Harvey – for technical support and advice. Phil Sayer is Principal Analyst at Forrester Research and CMA Strategic Board Member. Bob Harvey is chair of the British Computer Society’s Carbon Footprint Working Group.
- HSBC Group, Atkins, Bristol City Council, and the Immigration Advisory Service - for their cooperation in research Case Studies.
- Alcatel-Lucent, BT, IBM, and ntl: Telewest - for further technical and financial support for the project research element.

Communications Management Association

CMA is the UK’s only membership body for professionals and organisations using Information and Communications Technologies (ICT) networking for business advantage. The Association has been supporting Telecoms and IT professionals and organisations for 50 years, and represents members who spend £15 billion in the communications market annually. There are approximately 1500 individual members representing over 500 companies and organisations, and over 90 corporate and associate partner members. CMA became part of the BCS Group in 2007.

CMA is widely acknowledged as an independent authority in the voice and data communications sector. The network of professionals draws on a powerful membership of individuals and organisations who are leaders in their fields and are increasingly asking for professional advice from the ICT perspective on enterprise strategy and programmes responding to climate change and addressing environmental issues and challenges. The CMA is building experience and knowledge in this field in order to support its members and their peers as they play increasingly significant parts in the move to sustainable enterprise via ICT –enabled business processes.

Purpose and structure of the guidelines and research

CMA conceived the 'Carbon Intent Project' for the benefit of its enterprise members and, more broadly, to assist UK business to make better use of ICT to significantly reduce carbon dioxide emissions. Its ultimate purpose is to provide a trusted, independent source of authoritative information, guidance and benchmarks for the adoption of carbon-efficient, ICT-enabled business processes.

This pilot project investigated two modern workforce operational processes facilitated by ICT: Homeworking (including remote contact centres) and Teleconferencing, both of which can contribute to reducing carbon dioxide emissions through decreased energy use and business travel.

The Carbon Intent Project was conceived in three parts. Firstly, a review was conducted of existing academic, analyst and ICT vendor sponsored research into energy use and business processes. Secondly, the Carbon Intent Survey 2009 covered 85 different CMA member organisations to identify generic information on carbon dioxide emission reductions from Homeworking and Teleconferencing. Thirdly, the project research team worked alongside ICT professionals from four user corporations in different sectors of activity to develop a set of Case Studies investigating current practice in Homeworking and Teleconferencing.

Scope of Project and Guidelines

Drawing on the above, a number of clearly marked guidelines are contained within this document. These are based on both primary evidence collated from the CMA Carbon Intent Survey 2009 and research Case Studies 2008-09, and secondary evidence collated from academic and industry literature.

These guidelines are provided to advise enterprise users of ICT on the opportunities for carbon dioxide emission reductions that arise from Homeworking and Teleconferencing. The need for such guidelines is underlined by the very limited extent of empirical research published to date. The guidelines will be of particular relevance to those organisations that predominantly use ICT in everyday business through office-based operations.

It is broadly accepted that Homeworking and Teleconferencing are carbon efficient working practices when used to reduce travel emissions. However, the overall net carbon benefit needs further research.

No two organisations are the same. Therefore, these guidelines should be considered as 'top-line' and be applied in the context of the individual enterprise and its particular Homeworking or Teleconferencing needs. Through these guidelines the Carbon Intent Project provides a strong and practical starting point towards implementation based on informed indications. Through further research, the Project can lead to a deeper and richer objective understanding of the scale of opportunities for CO₂ emission reductions through the use of ICT.

We have summarised the key findings of the Carbon Intent Survey and the Case Studies at the end of the document (pp.17 to 21). All are intended to provide clear examples of current practice in CO₂

emissions reduction from within the broad range of private sector enterprises and public sector organisations represented by CMA membership.

A selection of currently available ICT-enabled Homeworking and Teleconferencing solutions is provided in the Appendix. These offer an insight into potential services and solutions that may be worth adopting as support for the introduction or extension of Homeworking or Teleconferencing processes. The options provided within the Appendix should not be treated as comprehensive.

Introduction - The Link between ICT and CO₂

The ICT sector has two major roles to play in future carbon dioxide emissions reduction scenarios in the UK. Increased use of ICT equipment requires large amounts of electricity and as such is responsible directly for increased carbon dioxide emissions, though efforts by manufacturers and better management by users can significantly reduce these emissions. However, and arguably far more significantly within the bigger national and international context, ICT equipment can also be used to enable the reduction of carbon dioxide emissions across many areas of private and public activity. Both these routes provide good grounds for attention and action in organisations looking to reduce their energy use and carbon dioxide emissions.

Energy use by ICT

Energy use and carbon dioxide emissions of ICT equipment are significant, both in the manufacture and disposal of the equipment and from the direct electricity and indirect heating and cooling demands of equipment when in use. Widely referenced data from Gartner¹ suggests that the manufacture, use and disposal of ICT equipment accounts for 2% of the global carbon footprint – comparable to the annual carbon dioxide emissions from the aviation industry. Elsewhere it has been suggested that global ICT sector emissions will rise significantly from 0.53 GtCO₂e (0.53 billion tonnes of carbon dioxide equivalent) in 2008 to 1.43 GtCO₂e by 2020².

In the UK alone, it has been estimated that the use of ICT equipment accounted for a staggering 10%³ of the 351.4TWh of electricity used in 2006, equating to carbon dioxide emissions in excess of 15MtCO₂ annually and growing⁴. Others offer that ICT equipment (excluding servers and datacentres) accounted for more than 7% of the non-domestic UK energy use in 2004, releasing over 7 MtCO₂ into the atmosphere⁵. The good news is that significant reductions are possible, with some reports indicating that in certain ICT sectors up to 80% reduction in energy use and emissions are feasible⁶.

Clearly, it is imperative that organisations using or considering the use of ICT for more carbon efficient forms of working such as Homeworking and Teleconferencing also address the energy use

¹ Gartner Symposium/IT Expo, 26 April 2007 (<http://www.gartner.com/it/page.jsp?id=503867>)

² Global eSustainability Initiative 2008 SMART 2020: Enabling the low carbon economy in the information age.

³ Global Action Plan 2007 An Inefficient Truth.

⁴ Department for BERR 2007 UK Energy In Brief July 2007.

⁵ Market Transformation Programme (MTP), 2004

⁶ National Energy Foundation 2006 Assessment of Potential for Energy Savings from PC Software Management.

of the ICT equipment itself. Policies, procurement practice, usage procedures and equipment settings should all be tailored to specifically reduce energy use as a matter of course. US and UK based reports suggest that it is possible to reduce the energy use of data centres alone by 50% through careful management and an incremental strategy where equipment need not be totally replaced⁷.

Analysing energy use and running costs of ICT equipment over time, whether using sophisticated ICT tools or simple monitoring, allows energy and carbon dioxide emissions reductions to be identified. For example BCS and the Carbon Trust are currently developing a software tool to help reduce the significant energy demand of data centres. The simulation software tool will help companies understand the energy use within data centres. The tool is being developed to address the IT industry's need to manage growing power consumption and increased carbon emissions.

As ICT equipment becomes more energy efficient in use, the embodied energy in the production, sale and disposal, or whole life cycle, of ICT equipment becomes proportionately more important in understanding its total carbon impact. These issues are the subject of research elsewhere and are beyond the scope of this report. Careful investigation by individual enterprises of all these matters however, is recommended to ensure that net carbon dioxide emissions really are reduced when ICT is used to enable Homeworking and Teleconferencing as a route to low carbon business.

In the report 'Driving the Virtuous Circle' the Department for Business, Enterprise and Regulatory Reform (BERR) notes that there are a number of current, national initiatives, both public and corporate, designed to reduce the energy use of ICT equipment itself. Examples include IBM's Big Green Initiative and HP's Dynamic Smart Cooling System to reduce data centre energy use, and Newport City Council's drive to increase data storage without increasing its carbon footprint. Vodafone has committed to increasing the energy efficiency of its networks, Sun Microsystems has rolled out thin client technologies and The Co-operative Group is installing an ICT system in its food stores that shuts itself down every night to reduce energy use. There are many other examples throughout

Enabling CO₂ emissions reduction through ICT

The use of ICT equipment has a significant role to play as an enabler, to help reduce the carbon dioxide emissions of organisations by changing ways of operating and ways of working. So how much carbon can ICT save? It has been suggested that the enabling potential of ICT can lead to other sector carbon dioxide emissions reductions of five times the size of its own sector footprint⁸.

The table below highlights some of the areas in which ICT can enable carbon dioxide emission reductions.

⁷ Roth, K., Goldstein F. and Kleinman, J. 2004 Energy Consumption by Office and Telecommunications Equipment in Commercial Buildings Volume II: Energy Savings Potential.

⁸ Global eSustainability Initiative 2008 SMART 2020: Enabling the low carbon economy in the information age.

ICT Application Area	Description	Carbon Footprint Benefits
Intelligent Transportation Systems	Traffic and congestion management systems for cities and road networks.	Congestion and road miles reduced.
Teleconferencing	Communications technologies that facilitate effective individual and group interaction without distance being a barrier.	Physical travel avoided. Culture change.
Collaboration Tools	A wide set of tools that enable effective knowledge sharing, team working and innovation across time and distance.	Better decisions. Less physical travel. Wider sharing of best practice. Culture change.
Mobile working	ICT hardware and software that allows an employee to operate effectively without being in a central office.	Reduced travel emissions, and potential for reduced office energy use.
Intelligent Utility Networks	Helping the 'largest machine in the world' operate at peak efficiency balancing supply and demand so using less resource.	Optimisation of energy loading – energy savings enabled – more efficient meter reading
Smart Buildings	Properties that use information and operate more efficiently to use less resource and encourage better productivity.	Better energy efficiency.
Lean Supply Chain	The implementation of better processes based on better information to optimise supply chain performance.	Less physical movement, energy usage and storage.

Source: Adapted from *Department for BERR 2008 Driving the virtuous circle - how ICT can enable the carbon-effective organisation.*

ICT can be used to facilitate more carbon-efficient working processes through Teleworking to make quicker and better decisions and to reduce the need for physical goods – known as 'dematerialisation'. The replacement of physical face-to-face meetings with virtual meetings, and telecommuting or Homeworking, rather than physical commuting, allows reduction of the global carbon footprint of transportation and power production with ICT.

This project is specifically concerned with investigating and encouraging businesses to place greater emphasis on Homeworking and Teleconferencing as routes to lower carbon business operations. The following sections outline potential carbon dioxide emission reductions achievable through Homeworking and Teleconferencing as identified by the Carbon Intent Project.

Opportunities for CO₂ reduction

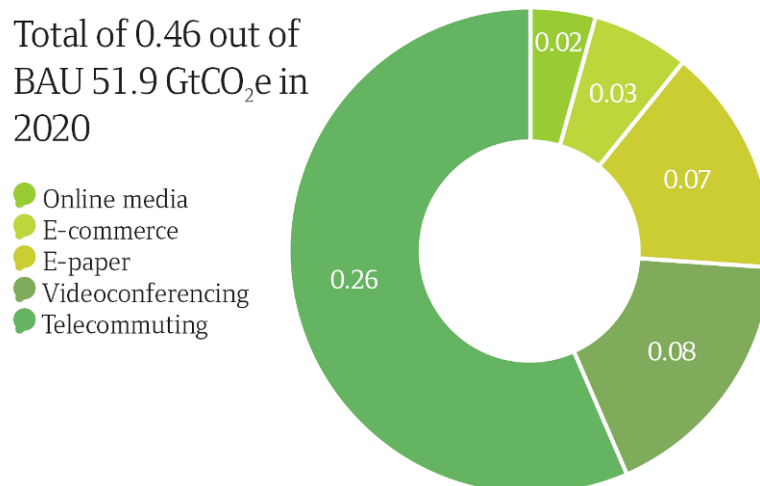
Why manage the carbon dioxide emission impact of ICT? Profligate energy use and the resulting carbon dioxide emissions are no longer an acceptable by-product of business. Business drivers for more environmentally considerate behaviour include: cost savings, improving productivity, environmental and carbon focussed legislation and trading schemes, improving brand value and loyalty, employee retention, recruitment and community currency through corporate responsibility (CR). Of course, the opportunities for carbon reductions depend upon the type of business involved and the key drivers within each individual organization.

Given the conjecture that 2% of global carbon dioxide emissions come directly from the energy use of ICT, a commonly quoted 'fact' states that the 'other 98%' of the global carbon footprint can be reduced by using ICT in other sectors. That presents potentially a far bigger piece of the pie. Of course, in reality not all of that 98% may be influenced by ICT. A more reasonable estimate might be

that ICT can reduce carbon dioxide emissions across some 40% of the remaining carbon footprint. Further, the energy use of ICT equipment varies between organisations and localities – for example, DEFRA suggests that 14% of its carbon footprint comes from ICT and according to Bristol City Council the ICT sector in the City of Bristol accounts for 3% of its carbon footprint. Undoubtedly though, a deep understanding the carbon footprint of your organisation’s ICT allows you to identify the opportunities for energy and carbon dioxide emissions reductions directly from ICT and its use.

When it comes to enabling changes in working practice to save carbon it is imperative to understand the business case, especially in an economic downturn. In the real world, whatever the ethical and environmental case, for many enterprises the business case is and will remain paramount. The key drivers, then, for changing working practices are cost and productivity, as well as sustainability. Homeworking and Teleconferencing are usually cost-efficient options for business operations as well as carbon-efficient. Homeworking schemes can help businesses consolidate assets and reduce overheads spent on office space. Teleconferencing saves travel costs and employees work time otherwise spent travelling. Of course, both schemes require capital outlay and outlining a successful business case is organisation-dependent.

The Global eSustainability Initiative⁹ found that telecommuting (or Homeworking) is the largest opportunity for reducing carbon emissions within dematerialisation. Its analysis predicted that telecommuting will account for a 0.26GtCO₂e emissions reduction in 2020, whilst videoconferencing will account for 0.08GtCO₂e.



There are many factors that influence the exact carbon-effectiveness – the absolute level of CO₂ reduction - of Homeworking and Teleconferencing. These will also influence the particular business case for adoption or expansion of these ways of working.

⁹ Global eSustainability Initiative 2008 SMART 2020: Enabling the low carbon economy in the information age.

FACTORS INFLUENCING CARBON-EFFECTIVENESS: HOMEWORKING AND TELECONFERENCING

Location of office (rural, suburban, urban) and the transport links available

The energy use of a home office

The job function of employees

Central office type (fixed/flexible/lean) and energy use per employee

Networking ability within the central office (suitability for flexible work schemes)

ICT equipment provided to Homeworker (both energy use and embodied energy)

Many of these issues are organisation-specific - as has already been underlined. However the following sections explore some practical, general rules of thumb when it comes to assessing and optimising the potential carbon dioxide emission reductions.

GUIDELINES - General

Understand your organisations ICT carbon footprint to identify opportunities for CO₂ emission reductions both of ICT equipment directly and in terms of enabling carbon saving in other parts of your business.

Understand the business case. Homeworking and Teleconferencing are cost-efficient options for business operations where:

- Homeworking schemes can help businesses consolidate assets and reduce overheads spent on office space
- Teleconferencing saves travel costs and employees work time otherwise spent travelling.

Teleconferencing can potentially be used in any office and is generally more carbon-effective than Homeworking – typically, greater CO₂ reductions are achieved by avoiding travel to a meeting than commute travel. Nevertheless, an organisation might have a greater overall opportunity for Homeworking than Teleconferencing.

Homeworking

WHAT IS HOMEWORKING?

'Homeworking' is a business activity, and is when a worker carries out work duties some or all of the time from his or her home rather than from a central office.

The term 'Teleworking' is often used interchangeably with 'Homeworking' as the latter is facilitated by advanced telecommunications equipment. SustainIT¹⁰ define Teleworking as 'work that is undertaken at a distance from the employer's main office that uses Information & Communication Technology (ICT) to overcome that distance'. However, Teleworking is an umbrella term to encompass all forms of remote working that use ICT to replace the need to be physically in an office.

The internet, and ICT equipment and services, make Homeworking a possibility for millions of employees around the world. In 2001, data from the Labour Force Survey showed that 2.2 million people in the UK (7.4% of the labour force) worked from home at least one day a week using a telephone and computer. Teleworking in the UK rose by 65% between 1997 and 2001¹¹. Research suggests that Teleworkers generally only tend to work from home about 30% of the time – one to one and a half days per week.¹²

The Carbon Intent Survey 2009 carried out as part of this research found that of the 85 UK organisations surveyed, 80% had Homeworkers, and, within these enterprises, on average 7% of all employees worked from home at least one day per week. In fact, on average, these Homeworkers worked from home 2.8 days per week.

Homeworking is not immediately appropriate to all office-based departments or employees. Some require daily face-to-face contact with colleagues and clients, though many more organisations could consider Homeworking in conjunction with cultural changes in working practice. Homeworkers need to be able to manage their time on their own, make their own decisions, and operate all the ICT equipment needed to homework. They need to be trustworthy.

Remote contact centres are an excellent example of Homeworking on a broader scale, with the associated carbon benefits, though the business process is not yet as popular in the UK as the US. Whilst there are examples of 'in-house' remote contact centres, e.g. AA, most remote contact centres are outsourced to specialist firms. Examples include the Immigration Advisory Service and the Co-Op Travel Centre.

HOMEWORKING AND CARBON DIOXIDE EMISSIONS

Homeworking has two key effects on carbon dioxide emissions associated with the enterprise. Firstly, that an employee may not need a permanent space in the office and will not be using office equipment suggests a resultant reduction in overall central office energy use and associated emissions. Secondly, and perhaps more importantly, when working from home the employee no longer needs to commute to the office, thereby reducing his or her carbon dioxide emissions from travel/ transport activity.

¹⁰ SustainIT 2008 *About Telework*

¹¹ Department of Trade and Industry 2002 *Teleworking in the UK, Labour Market Trends* June 2002

¹² Cairns, S et al. 2004 *Smarter Choices – Changing the Way We Travel*.

Research published to date also indicates that Homeworking reduces transport mileage and therefore decreases carbon dioxide emissions. However there are numerous factors that influence the net emissions benefits; examples include mode of transport and distance to office. Most calculations are based heavily on assumptions, but alongside the empirical evidence that does exist, underline that the practice of working from home is carbon negative.

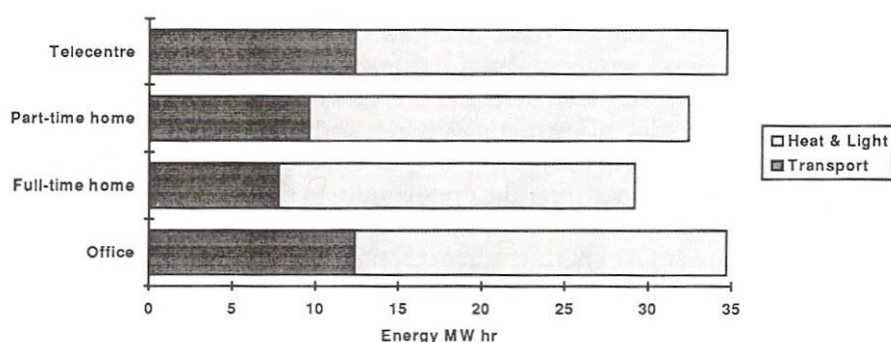
Of course, each employee will transfer at least some of the office carbon footprint to a home-based office. Changing behavioural patterns of Homeworkers can also lead to additional journeys – creating more emissions known as ‘rebound effects’. Trips that were usually combined with a commute drive are now taken independently, for example, driving children to school; additional trips for shopping; or driving out for lunch.

The relative CO₂ reduction potential of travel emissions, equipment choice (considering the whole life cycle costs) and home-office in comparison with office energy use are important. One US study of a Homeworking scheme suggests that 98% of the CO₂ reductions arise from lower travel emissions, whilst only 2% of reductions arise from lower office energy use¹³. This may help inform a view on general proportions of energy savings and carbon dioxide emission reductions possible from Homeworking. However, caution is needed since the American commute pattern leans more towards single occupancy vehicles and out-of-town work places than the UK.

Energy Use in the Home Office

The current body of available research suggests that home office energy use is, on average, less than centralised office energy use. A common perception is that Homeworkers monitor and manage their energy use at home far more than when working from a central office, since they are responsible directly for the utility bills. Research by the Department of Employment in Sheffield found that ‘Homeworkers use half the energy of office-based colleagues during working hours’¹⁴.

Research undertaken at BT, – see the chart below - also indicates that home office energy usage may be less than that of energy use in a central office¹⁵.



In the US, it has been estimated that each virtual [home] worker could potentially add 1000 kWh to his or her home electricity bill each year¹⁶. The study estimates that a full time Homeworker reduces

¹³ A study by Sun Microsystems in the US

¹⁴ Cited in: Goodman, J., Alakeson, V. And Jorgensen, B. 2004 Encouraging Green Telework.

¹⁵ Gray, M., Hodson, N. And Gordon, G. 1993 Teleworking Explained.

¹⁶ Romm (1999) The Internet Economy and Global Warming: A Scenario of the Impact of E-commerce Energy and the Environment.

central office energy use by 5,400 kWh a year - indicating that, on average, a US Homeworker would use 80% less energy in the home office compared with a central office.

Unfortunately, few companies who operate Homeworking schemes provide employees with guidance on how to minimise home office energy use, an obvious area for attention in order to reduce emissions. A survey of 345 global executives carried out by The Economist Intelligence Unit¹⁷ found that from the organisations who do have a Homeworking scheme, only 21% provide their Homeworkers with advice on how to reduce the carbon footprint in the home office.

Office Space and 'Desk Efficiency'

Evidence from the Carbon Intent Case Studies and Survey 2008-09, indicates that more carbon dioxide emission reductions associated with offices are made possible from Homeworking when office space is reduced to a minimum through desk efficiency.

Careful departmental diary management so that one central office desk is home to more than one worker is facilitated by Homeworking. Some of these desks may be 'hot desks' – desks where any worker can sit and operate from. Reducing the overall number of desks in an office can lead to reduced requirement for office space and therefore a reduction in the heating, lighting and energy use of equipment. Reducing office space requirements allows consolidation of assets to save money, or an increase in workforce without purchasing or renting further office space.

There are 'tipping points' at which Homeworking becomes more successful from a carbon reduction and cost perspective. When initially relocating workers to Homeworking, organisations may find they need, in the first instance, to increase their carbon footprint and expenditure by running a home and central office. For example, Homeworkers who only periodically work from home may require both home and office work space, both of which use energy. The tipping point may be reached when a critical mass, involving both the number of staff involved and their time spent working from home, has been reached. That may mean a whole office floor of an office can be shut down.

There are also cultural barriers to Homeworking. An inherent fear of working away from colleagues is that of isolation. The fear is that Homeworking may result in a lowered ability to complete a job function due to lack of team support, a diminished work social life which is important to employees and a lack of recognition in the central office leading to others being promoted above and before the Homeworker. UK evidence from BT workers suggests otherwise¹⁸. Employee surveys showed that whilst 46% of registered Homeworkers felt more isolated from their clients over the last two years, 41% of office-based work colleagues also felt the same. Furthermore, 93% of Homeworkers interviewed felt Teleworking has an overall positive effect on their quality of life.

¹⁷ The Economist Intelligence Unit 2008 managing the company's carbon footprint – The emerging role of ICT.

¹⁸ James 2008 *Homeworking at BT – Results of a survey on its economic, environmental and social impacts*.

GUIDELINES – Homeworking

Following a detailed review of current research, the Carbon Intent Project estimates a typical carbon dioxide emissions reduction for a UK-based Homeworker at 9 kg CO₂/per employee-day worked at home rather than a central office.

Efficiencies of scale are achieved in terms of equipment provided and reductions in office space when employees regularly work more than one day/week from home.

Factors that affect the Carbon Benefit of Homeworking

Optimise your carbon savings through Homeworking:

- Prioritise Homeworking for employees with a carbon heavy commute
- Prioritise Homeworking schemes in buildings with few/poor transport links
- Consider incentives for staff to take up Homeworking such as financial contributions to utility bills and ICT infrastructure (e.g. broadband).
- Reduce office space to a minimum through desk efficiency – desk sharing and hot desking. Reducing the overall number of desks in an office can reduce requirements for office space and therefore a reduction in the heating, lighting and energy use of equipment. Diary management ensures central office desks are in use and carbon reductions optimised.
- Provide training on CO₂ emissions and reducing the energy use of the home office. By deploying a home worker, daily office energy use is transferred to the home office.
- Provide training to reduce the transport rebound effects of Homeworkers. Suggest and incentivise low carbon travel routes and alternatives.
- Identify the tipping point at which CO₂ reductions and cost savings occur with any Homeworking scheme. (This may be at the closure of an entire office)
- Consider outsourcing call centres to a Remote Contact Centre of Homeworkers as they offer significant carbon saving. (Examples of UK-based managed-service remote contact centres have demonstrated improvements in: call waiting time, cost per call metrics and employee retention)
- Provide only one set of equipment per Homeworker for use in the office and home to reduce embodied energy, whole life cycle costs and equipment costs. For example provide mobile equipment such as laptops and mobile internet access. Note: Some companies report that more IT support is required for Homeworkers, but best practice using remote desktop support can minimise or eliminate this.

GUIDELINES – Implementing Homeworking

Issues to address:

- **Identify staff with the potential to effectively work from home: e.g. suitable home environment and ICT infrastructure (speed of broadband etc), appropriate personal skills to manage time and work effectively without supervision, ability to achieve their job purpose from home. Recognise that Homeworking is not suitable for everyone.**
- **Provide ICT training and support so Homeworkers have the skills and knowledge to effectively operate at home. Provide training on time and work management.**
- **Involve the relevant departments in your organisation to ensure Homeworking is successful. The Finance department will analyse the business case; the HR department manage cultural change as well as any pay and conditions issues; the ICT department facilitate Home workers with equipment; and the CSR/environmental department help seed the idea and measure the results. Successful implementation of Homeworking needs cooperation from all departments.**
- **Larger scale home working schemes need modified IT help desk support. When designing Homeworking schemes, remember that remote equipment will require updating and maintenance, and possibly decentralised software and hardware support.**
- **Initiate protocols so employees are culturally part of a team, e.g. daily online meetings and team support. ICT solutions such as instant messaging facilitate interaction between team members.**
- **Upgrade to lean and flexible offices that encourage Homeworking by designing in wireless networking, desk sharing and hot desking.**
- **View Homeworking as a manageable responsibility – not a perk for senior staff. Employees at any level can successfully work from home if the culture of the organisation supports them appropriately.**

Teleconferencing

WHAT IS TELECONFERENCING?

'Teleconferencing' is becoming increasingly popular as a modern working method - the real time communication between a group of people (more than two) in at least two locations and using one of a suite of facilities. It is used to reduce the time, cost and environmental implications of travelling to meetings, whether abroad or local. The equipment that facilitates Teleconferencing is also used for seminars, conferences, presentations and other group activities.

Teleconferencing facilities tend to come in three forms¹⁹: Audio conferencing – which makes use of conventional voice telephony; video conferencing – which uses networked cameras that relay pictures as well as sound to all of the participants; and web conferencing – where documents are shared 'live' over the web either independently or at the same time as audio or video conferencing. 'Tele-presence' describes high-quality, specialised equipment used for web-conferencing where the user can have the impression that he or she is present in another location.

Teleconferencing will not replace all meetings. It is often important to meet a client face-to-face initially to establish a trusting relationship. After that, Teleconferencing may be appropriate. Teleconferencing is often used for internal communications in large corporations – especially between international branches. In these cases Teleconferencing may only replace a previous phone call rather than a face-to-face meeting.

Issues and concerns by employees reduce take-up of virtual meetings and Teleconferencing is not without its sceptics. Findings from the Economist Intelligence Unit²⁰ found that many employees feel the lack of person-to-person interaction is too important to sacrifice through a virtual meeting. GeSI²¹ note that findings from TelCoa, the US Teleworking Coalition, showed that 54% of companies surveyed stated that Teleworking would make it difficult for employees to collaborate and that 46% felt it would limit the ability to manage employee performance.

Earlier versions of Teleconferencing suites, especially those run in-house rather than 'managed services', were often unreliable. This has cast an air of mistrust, at least for some. As a result, usage of conferencing facilities may be modest within some organisations, due in part to a fear of equipment not functioning. Cultural issues, as discussed above, within the individual enterprise may need to be addressed in order to encourage maximum carbon benefit from Teleconferencing.

TELECONFERENCING AND CARBON DIOXIDE EMISSIONS

The use of Teleconferencing facilities to reduce face-to-face meetings results in less business travel, and reduced carbon dioxide emissions. The global survey by the Economist Intelligence Unit²², of 345 senior executives, cited earlier, found that web and video conferencing are the most popular [ICT-enabled] tools for reducing an organisation's carbon footprint. These technologies and services

¹⁹ James 2007 Conferencing at BT – Results of a Survey on its Economic, Environmental and Social Impacts.

²⁰ The Economist Intelligence Unit 2008 managing the company's carbon footprint – The emerging role of ICT.

²¹ Global eSustainability Initiative 2008 SMART 2020: Enabling the low carbon economy in the information age.

²² The Economist Intelligence Unit 2008 managing the company's carbon footprint – The emerging role of ICT.

were more attractive than Homeworking to the respondents, as the carbon dioxide emissions reduction from transport miles is relatively straightforward to measure in a carbon audit study.

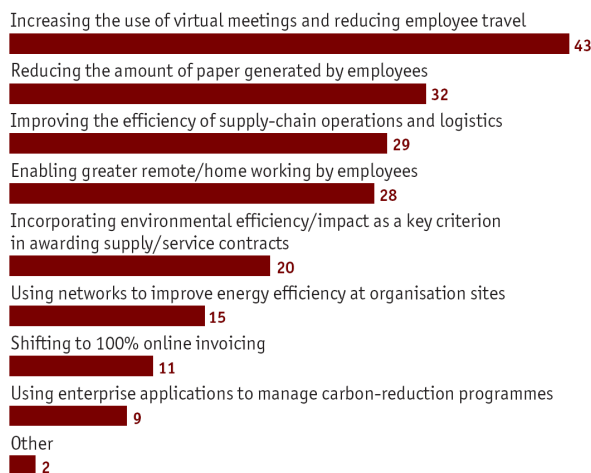
The EIU found that companies are still more likely to consider virtual meetings, rather than Homeworking, as a mechanism for carbon dioxide emissions reduction using ICT (see chart adjacent), and showed a level of scepticism around the net carbon dioxide emissions reduction benefits of Homeworking.

Of course whilst there are potentially large CO₂ emissions reductions to be made from using virtual meeting facilities and, therefore, not travelling, these will be offset to some degree by the energy use of any specific conferencing suite that would not otherwise be used. Recent increases in the use of high-definition video-conferencing and the development of telepresence equipment has led to a perception of increased energy use by these facilities.

UK research calculates that the worst case scenario is the use of a broadband line for Teleconferencing which uses 0.005kWh to run.²³ Given that the average BT conference call lasts an hour this equates to 0.00215kg CO₂ generated (based on DEFRA's 2007 electricity emissions factor of 0.43kg CO₂/kWh). This is less than 10% of CO₂ savings through reduced business travel resulting in a large net benefit overall. Whether or not a teleconference suite requires more bandwidth and energy than this estimation, it is clear that the overall travel emissions reduction outweighs this. This is reinforced by online calculators on the websites of major teleconference suite vendors.

Which of the following improvements in operations are likely to make the greatest contribution to an organisation's carbon-reduction efforts? Select up to two responses.

(% respondents)



²³ James 2008 *Conferencing at BT – Results of a survey on its economic, environmental and social impacts*.

GUIDELINES - Teleconferencing

Teleconferencing can be a cheap and effective route to saving carbon when using existing technology such as audio telephone and basic web conferencing.

Following a detailed review of current research, the Carbon Intent Project estimates a typical carbon dioxide emissions reduction for Teleconferencing of 35 kg CO₂/ conference call / per employee.

Optimise your carbon savings through Teleconferencing:

- Understand your IT infrastructure capability/ technical needs to provide Teleconferencing solutions. For example: internal telepresence solutions require high bandwidth at offices at both ends – dialler and receiver – will you need an infrastructure upgrade?
- Do a cost analysis to assess the financial benefits of Teleconferencing – frequent travellers will payback faster.
- Teleconferencing – use of video conferencing requires decent bandwidth for home users and office locations. For example, personal video conference units work well over normal UK ADSL broadband services (typically 3- 4 Mbps down, 500 – 750 kbps up) in the downward direction, but with reduced definition in the uplink. For office locations 2 Mbps SDSL is the minimum practical bandwidth.
- Communicate with staff and managers so they understand that Teleconferencing ICT solutions have vastly improved reliability and functionality in recent years, especially managed solutions (e.g. outsourced). Encourage staff to try these technologies again.
- Set and enforce policies on travel to increase uptake of e.g. by budget reductions
- Communicate extensively with users before and during a Teleconference implementation project. User training is reported by some as key to good take up.

Measure your CO₂ implications where possible by:

- Use systems supplier or survey software to determine if Teleconference replaces a face-to-face meeting. E.g. questionnaire at the beginning of each conference call will quickly determine the number of people involved and where travel is displaced. Staff surveys and data collection to provide evidence of changes and user experiences.

GUIDELINES – Implementing Teleconferencing

Issues to address:

- **Many organisations don't have the infrastructure required for a telepresence suite – they barely have enough bandwidth for good quality videoconferencing.**
- **Increased use of Teleconferencing will also require a culture change. Staff who frequently travel longer distances, particularly abroad, tend to have managerial roles and the travel is still viewed as a 'perk' to the job.**
- **It can be difficult to determine whether a face-to-face meeting has actually been replaced by a virtual meeting.**
- **On the other hand, it can be a straightforward matter to measure an organisation's impact on CO₂ reductions - where modern video suites etc have usage statistics.**

Case Studies

The Carbon Intent Survey 2008/09

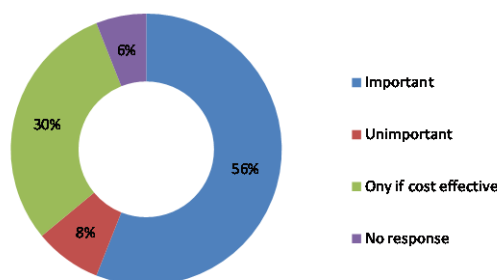
The Carbon Intent Survey assessed the views of the CMA members on ICT and carbon dioxide emissions and evaluated the current level of Homeworking (including remote contact centres) and Teleconferencing within those enterprises represented. The survey was a simple single level survey, where every question is answered by all participants, and the questions are 'closed' with a specific range of answers.

The survey provided useful data from 85 different CMA member organisations. Analysis of the 85 enterprises has produced 'generic' information on carbon dioxide emission reductions from Homeworking and Teleconferencing. Follow-up surveys, one and two years after the original version, will be used to calculate 'implemented' carbon dioxide emission reductions as a result of these guidelines.

Overview

Question: *How would you weight Green IT goals over the next 12 months?*

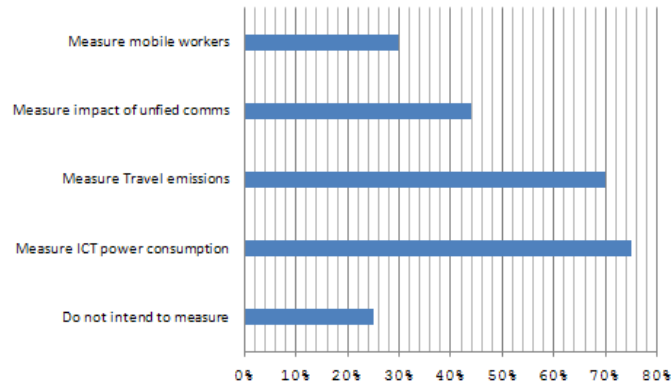
Green IT goals were "Important" to 56% of respondent organisations over the next 12 months. 8% of organisations stated that Green IT goals were "Unimportant" and 30% of organisations stated that Green IT goals over the 12 months were only important if cost-effective.



Carbon Dioxide Emissions

Question: *How does your organisation currently measure or intend to measure your overall ICT carbon dioxide emissions output?*

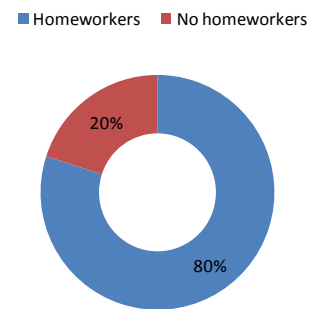
- 25% of organisations do not measure, or do not intend to measure, carbon dioxide emissions attributable to the use of ICT.
- Of those organisations that do measure the impact of the use of ICT on climate change, more than 75% of these measure carbon dioxide emissions attributable to the power use of ICT infrastructure (including data centre).
- More than 70% measure carbon dioxide emissions attributable to travel (including road, air and train travel), although respondents did not always measure emissions attributable to both power use and travel.
- 44% of those emissions-measuring organisations measure the carbon dioxide emissions impact of user uptake of unified communications such as conferencing and collaboration.
- Only 30% of emissions-measuring organisations measure increases in the ratio of mobile users to fixed head office workers in terms of carbon dioxide emissions.



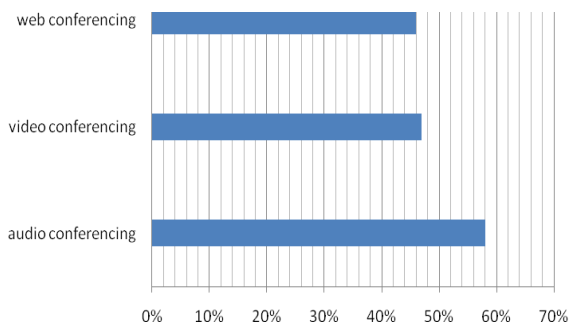
Homeworking

This survey of 85 CMA member organisations found that 80% had Homeworkers and, of these organisations, on average 7% of employees work from home at least one day per week.

Of those organisations that deploy or allow Homeworking, the Homeworkers would work from home on average for 2.8 days per week.



Teleconferencing



Of the 85 respondents, 58% of them use audio conferencing, 47% use video conferencing and 46% use web conferencing. Of those organisations that use conferencing, each employee would typically make a total of 50 conference calls per year.

Of those surveyed, 33% currently measure, or intend to measure, the carbon dioxide emissions reductions resulting from use of Teleconferencing.

In the 'freeform' section of the survey a number of respondents gave their views on Homeworking and Teleconferencing:

- *“The trend is for more Homeworkers each year.”*
- *“We eagerly await recognition by our clients of the need to reduce travel, especially when it is long distance.”*
- *“I am unconvinced that in total life cycle terms Homeworking has reduced carbon emissions”*
- *“Support costs are higher. We now carry out 3 month inspections of equipment, as home users tend to just overlook issues with their devices until they fail completely!”*
- *“We have encouraged Homeworking for many years now. The main reason for this is that the people that we found to be good often lived far from our offices.”*
- *“The other problem that we face is how do we get our people that work from home to be part of the team?”*

HSBC

The CMA and the Carbon Trust have collaborated with HSBC to look into the use of ICT to facilitate Homeworking and Teleconferencing as enablers of a reduction in carbon dioxide emissions.

The HSBC Group international headquarters are in London, at 8 Canada Square (8CS), Canary Wharf.

The current workforce at 8 Canada Square is predominantly managerial level employees. This includes senior executives. There is a strong vision of increasing operational mobility within HSBC, especially relating to the headquarters workforce. HSBC sees the use of ICT to increase mobile working, Teleconferencing and (even) remote contact centres as an essential means to increase employee productivity and contribute to corporate business, environment and CSR strategies.

Homeworking

HSBC@Work is an expandable, flexible work programme being rolled out globally. At 8 Canada Square it focuses on the provision of 'hot desks'. The scheme allows employees to securely access the HSBC applications whether from a multi-user desk or from home. The scheme is expected to increase home working from 8CS by 30%.

Teleconferencing

HSBC operates three main Teleconferencing options at 8CS; personal video phones, video conference suites and telepresence suites. All three of these conferencing facilities have a large demand and high usage.

Bristol City Council

The CMA and the Carbon Trust have collaborated with Bristol City Council (BCC) to look into the use of ICT to facilitate homeworking as an enabler of a reduction in carbon dioxide emissions.

Within local government, Bristol City Council is among those who hold a progressive environmental and sustainability vision. BCC has an overall target to reduce its CO₂ emissions by 60% by 2050 (from a 2000 baseline) and is also committed to reduce emissions by 3% year-on-year. The carbon footprint of BCC for 2007/08 was 48,000 tCO₂/yr (or 65,000 tCO₂/yr excluding electricity bought from a 'green tariff'). BCC has corporate and environmental policies which aim to encourage more sustainable forms of travel. These include a Corporate Travel Policy and Staff Travel Plans. Among the workforce incentive schemes, supported by advice on walking, cycling and public transport, are a Salary Sacrifice Bicycle Scheme and a Bicycle Mileage Allowance.

Responding to Gershon Report of 2004, The Business Transformation Programme (BTP) at BCC is focussed on increasing financial efficiency across the organisation. One of the significant actions is to reduce from the 50+ offices down to 17 main offices and to further consolidate property assets. An integral part of this project is to increase 'desk efficiency' or occupancy/building – for example, deploying ten people to every seven workstations (30% reduction in desk allocation by 2012) across the organisation. This will be facilitated by more flexible working including homeworking and desk sharing.

Homeworking

Currently BCC has two homeworking formats – an official scheme called Flexible Working, and ad hoc home working. Flexible Working is for a minimum of 1 day per week, a maximum of 3 days per week homeworking – the norm is 2-3 days/week. To sign-up to the scheme an employee must commit to a minimum of one year. Staff share ‘hot desks’ with other co-workers (e.g. 9 desks, 13 workers) and work fixed days at home, although there is some flexibility. Good departmental diary management ensures the appropriate number of desks are always available.

BCC believe that flexible working, in particular homeworking, is an important part of their overall accommodation strategy. In turn, this accommodation strategy has a significant role to play in reducing CO₂ emissions. However, given the nature of organisational structure at BCC, notably numerous buildings with very diverse staff commute patterns, the actual carbon savings from homeworking are very difficult to predict. Whilst it is expected that homeworking will ultimately lead to a net carbon dioxide emissions reduction from BCC, there are uncertainties that need to be addressed with further research.

Immigration Advisory Service

The CMA and the Carbon Trust have collaborated with the Immigration Advisory Service (IAS) to look into the use of ICT to facilitate remote contact centres as an enabler of reduced carbon dioxide emissions.

The IAS is a charity, funded by the Legal Services Commission and others. It provides legal and information services and other support to immigrants and asylum seekers in (or those seeking entry to) the UK. The IAS is directly attempting to reduce travel time and costs. As an organisation it is looking for ways to provide its services to the same standard but minimise the travel requirements of both its staff and those who use the services. Initiatives, at various stage of development, include remote contact centres, remote legal advice, centralised training and Homeworking.

Remote Contact Centres

The IAS provides a number of central and regional phone numbers for asylum seekers and immigrants to get information and book appointments with appropriate legal advisors. IAS has recently switched all of these calls to be routed through an outsourced contact centre run by Home Call Centre (HCC). Previous to this, calls were answered by two or three receptionists at each regional office. All call centre services provided by HCC only use workers located at their own homes – i.e. remote contact centres. The remote contact centre worker will log the call, take down the caller’s details and carry out a mini-assessment of the caller. This information is then used to get the caller an appointment with a legal worker.

At present there are approximately 45 remote contact centre workers at IAS. Of these, 43 work from home 5 days per week and 2 of them for 2 days per week.

As a result of using a remote contact centre, IAS prevents the release of **93 tonnes of CO₂ per annum** into the atmosphere.

Atkins

The CMA and the Carbon Trust have collaborated with Atkins to look into the use of ICT to facilitate Teleconferencing as an enabler of a reduction in carbon dioxide emissions.

As a large global engineering and design company, Atkins has already embraced issues of sustainability in its work and in the workplace. Atkins actively measures the carbon footprint of its UK-based organisation and in 2007/08 it was 2,978kg of CO₂/employee. The CO₂ impacts of business travel are also measured and monitored with the aim of reducing emissions over time – in 2007 Atkins was an Energy Savings Trust Fleet Hero award winner in the Business Mileage category.

Atkins is also well aware of the link between ICT and CO₂ as an organisation. The company is already working with an external organisation looking at the best practice behaviour employees should adopt when using ICT. Atkins is educating employees on the energy and carbon impact of their ICT equipment. This includes everything from efficient power management of ICT equipment and peripherals, right down to energy efficient use of communications – for example how best to send emails and attachments.

Teleconferencing

Atkins offers Teleconferencing capability (audio, video and web) to its employees across the organisation to communicate both internally and externally. Currently all Teleconferencing facilities are run in-house.

Audio conferencing across all 18,000 employees of Atkins is the most popular form of conferencing with over 24,000 audio conference calls occurring each year. Web conferencing has a smaller demand by comparison with over 1,700 video conference calls each year. There are approximately 1,000 video conference calls each year.

Teleconferencing at Atkins prevents the release of over **259 tonnes of CO₂** into the atmosphere p.a.

Conclusions

There is no doubt that the Information and Communications Technologies (ICT) sector has major contributions to make in future carbon dioxide emissions reduction scenarios in the UK. These are particularly significant in two areas: reducing the energy consumption requirements of ICT equipment; and through the use of ICT by enterprises across all sectors of activity to enable change to more environmentally as well as economically sustainable ways of working. This latter role for ICT is the focus of the Carbon Intent Project.

In its initial phase, the project investigated Homeworking (including remote contact centres) and Teleconferencing, and the routes through which these working methods can contribute to reducing carbon dioxide emissions through decreased energy use and business travel. It is evident from this study that both these methods are effective in reducing emissions, although in each case there are a number of factors to consider to ensure these practices provide the maximum carbon benefit possible and to ensure changes in working practice are successfully adopted.

Teleconferencing can be a cheap and effective route to reducing carbon dioxide emissions that can potentially be used in any office, using existing technology such as audio telephone and basic web conferencing, and generally has a greater carbon dioxide emission reduction potential per journey avoided than Homeworking. Nevertheless, Homeworking may well have a greater overall carbon dioxide emission reduction potential for an organisation. Following a detailed review of current research, the Carbon Intent Project estimates a typical carbon dioxide emission reduction for a UK-based Homeworker at 9 kg CO₂ / per employee-day worked at home rather than a central office, and for Teleconferencing of 35 kg CO₂ / conference call / per employee.

Organisations are encouraged to investigate and apply Homeworking and Teleconferencing as a route to reducing carbon dioxide emissions in the course of everyday business.

Areas for further research: What we need to know now

This first phase of the Carbon Intent Project has identified a number of significant areas for further research. In the UK, an objective understanding of the relative carbon dioxide emission reduction potential of three key elements of Homeworking would clarify the carbon dioxide emission benefit: travel emissions, equipment choice and home/office energy use. In particular, more detailed evidence-based research and the development of benchmarking tools are required for:

- the use of energy in the home office;
- commuter patterns of behaviour and cultural issues in the implementation of changes in working practice;
- relative carbon dioxide emission reductions of Homeworking of different types of organisations (e.g. size/ industry type) and office location (rural/ urban/ locality);
- embodied energy and life cycle analysis of ICT equipment required for Homeworking.

The CMA and BCS are committed to continue investigating these issues to provide reliable data that clarifies the best routes - and measurable benefits – for ICT to enable low-carbon business in the UK.

Appendix - Solution Providers

The purpose of this appendix is to provide users of this document with access to a limited number of ICT-based solutions currently available to facilitate Homeworking, remote contact centres and Teleconferencing. Solutions from four different vendor organisations are provided. These companies are all Sponsors of the first phase of the Carbon Intent project. The solutions offered by these organisations should not to be regarded as being endorsed or recommended by the CMA, the Carbon Trust or any other party involved in the preparation of this report. They form examples of current technologies available.

Homeworking

Alcatel-Lucent	
<p>Alcatel-Lucent provides a portfolio of solutions which aid mobility and remote (home) working. These products include: OmniTouch 8400, My Instant Communications Unified Communications suite, Alcatel-Lucent Cellular Extension (ACE), OmniAccess Remote Secure Worker.</p> <p>My Instant Communications – allows remote /home users to keep in contact with centralised communications and operate as if they were in the office.</p> <p>In addition to support for leading mobile devices such as Nokia E Series, Blackberry, Windows PDA and Apple iPhone (Q3 09) – high definition desktop video can now be supported for presentations, videoconferencing and advanced voice messaging services.</p> <p>Dual Wifi/Cellular working with mobile devices allows selection between local home WiFi access or Cellular access to optimise call routing costs.</p>	<p>For further information: Please call 0800 038 0091 or Email : admin@alcatel-lucent-enterprise.com</p> <p>http://www1.alcatel-lucent.com/enterprise/en/products/unified_communications/my_instant_communicator</p> <p>http://www1.alcatel-lucent.com/enterprise/en/demo/my_instant_communicator</p>
BT	
<p>BT have a range of products, services and solutions to facilitate Homeworking in all sizes of organisation.</p> <p>Work Anywhere enables organisations to develop and deliver a flexible working strategy, including home working; thus allowing employees to work flexibly, securely and to more effectively interact and collaborate with each other, their customers and partners.</p> <p>BT MobileXpress provides a user interface to allow simple, secure and cost-effective access from around the globe. This supports home working by providing the same interface, security and management tools bundled with broadband DSL connectivity so that the Homeworkeer can access their enterprise network, data and applications through a secure broadband connection.</p> <p>BT Workstyle Managed Services provide an end-to-end framework which addresses all of the people, culture, change management, property and process elements of flexible working and home working. It also acts as a framework for the technology, the environmental and the legislative aspects.</p>	<p>For further information: http://www.globalservices.bt.com</p> <p>> solutions menu > flexible working services</p>
IBM	
<p>IBM provides a variety of enablement technologies that makes Homeworking possible.</p> <p>Lotus Mobile Connect: This is the fundamental way of connecting a home worker to the corporate environment. It provides anytime, anywhere access to collaboration and enterprise applications.</p> <p>Unified Comms and Collaboration provides enterprise class solutions for Unified Communications (Voice, Video, Data) and the Collaboration element that is essential for productivity. Capability includes presence awareness, email integration, and communications enabled business processes (when a business process can find the people it needs to fulfil a task).</p> <p>Virtual Infrastructure Access provides another way that organisations can let their Homeworkeers connect to the back end, via thin clients, or their own home computers, or their existing systems. It provides full SSL encryption, over the internet access to the back end from anywhere, into a fully hardened architecture with multiple security zones.</p>	<p>For further information: http://www-01.ibm.com/software/lotus/products/mobileconnect/</p> <p>http://www-935.ibm.com/services/us/index.ws/offerfamily/gn/a1000397</p> <p>http://www-935.ibm.com/services/us/index.ws/offerfamily/eus/a1026737</p>
ntl: Telewest	
<p>ntl: Telewest provides a multitude of solutions that enable Homeworking. These include: IPVPN, Managed Internet Access, Managed Firewall, SSL VPN, IPsec VPN and Managed Authentication Service (MAS).</p> <p>For full-time home workers ntl: Telewest are able to provide remote access via IPVPN, providing Quality of Service (QoS) support for voice and other business critical applications. These can be further integrated with the Internet and overlaid with IPsec and SSL VPN's to add further security and flexibility.</p> <p>For occasional Homeworkeers internet based solutions using IPsec and SSL VPN technology are simple and flexible in meeting these requirements and more. These solutions can also be deployed to support Homeworkeer access, other remote worker access and Extranet access for customers and partners.</p>	<p>For further information: Contact ntl:Telewest Business Sales – 0800 953 4000</p> <p>http://www.ntltelewestbusiness.co.uk/products_solutions/a_to_z_product_list.aspx</p>

Teleconferencing

<p>Alcatel-Lucent</p> <p>Alcatel Lucent's Teleconferencing solutions eliminate the barriers to communicate through audio conferencing, video conferencing, data sharing, web collaboration, and instant messaging all delivered within a secure and auditable architecture.</p> <p>Alcatel-Lucent's OmniTouch My Teamwork is a fully a full featured conferencing and collaboration tool.</p> <p>Using a consistent and intuitive user interface, based on user profiles or role functions, the My Teamwork solution allows users to instantly set up scheduled, reservation-less, or ad hoc Teleconferencing sessions at a click of a button. My Teamwork provides full connection functionality, through a single computer server, to manage IM, Presence, Audio, Video and Web conferencing. This single interface allows users to manage presence-driven communications and schedule events with conference control, application sharing and video conferencing at a click of a button.</p> <p>My Teamwork can run on any network, from any location, offering in-house audio conferencing and complete multimedia collaboration. OmniTouch My Teamwork is a browser software-based tool with no proprietary hardware and is easy to deploy, manage and support.</p>	<p>For further information: 0800 038 0091</p> <p>http://www1.alcatel-lucent.com/enterprise/en/products/my_teamwork</p>
<p>BT</p> <p>BT Conferencing provides audio, web and video conferencing, there are multiple products and solutions underpinning these capabilities, some of these include:</p> <ul style="list-style-type: none"> - Audio - BT Express, BT Plus, BT Premium, BT MeetMe - Web - WebEx, Live Meeting 2007 - Video - Telepresence Video Conferencing <p>BT provides the necessary hardware, software, systems, integration, security, professional services and management tools to implement and manage customer requirements.</p> <p>For example, with video conferencing, BT provides end user systems desktop systems, roll-about systems for portability and fixed-room systems, such as Telepresence meeting rooms that combine the latest in technology with cutting-edge room design to faithfully replicate an in-person experience.</p> <p>If network capacity needs to be upgraded, BT can provide this in order to support the conferencing solution.</p>	<p>For further information: Call 0800 61 62 62 and select option 2</p> <p>http://www.conferencing.bt.com/index.jsp</p> <p>http://www.globalservices.bt.com</p>
<p>IBM</p> <p>IBM provides Lotus Sametime and Unyte for web collaboration – the ability to remotely collaborate on (or simply present) standard office documents. The Sametime client also provides a means of setting up ad-hoc audio conference calls.</p> <p>Sametime provides an interface which enables users to easily set up voice or video conference calls. It also provides a means for remote users (via their desktop PCs) to collaborate on a single document in real time, or for a presenter to share documents with attendees. Annotation tools allow attendees to illustrate points being made during the call, or illustrate ideas on a shared virtual whiteboard.</p> <p>Sametime is designed to integrate with leading conferencing bridge vendors, such as Cisco, Nortel and Avaya. It also works with Microsoft Exchange environments, providing an opportunity for businesses to choose products. Sametime services run on standard server platforms, including Linux. The client runs on a desktop/laptop PC with webcam if required.</p>	<p>For further information: http://www-01.ibm.com/software/lotus/sametime/</p>
<p>ntl: Telewest</p> <p>ntl: Telewest offers Cisco Unified Communications Meeting Place Express to facilitate Teleconferencing within other organisations.</p> <p>This solution is part of the Cisco Unified Communications portfolio which provides an integrated solution for Voice and Video communications. It allows video and voice call to be placed between users from their PCs or workstations.</p> <p>Meetings can be controlled by a moderator for efficient meeting management including the ability to call out to others to bring them into the meeting, mute and unmute selected participants, pause and play another participant's video, record the meetings and control meeting access.</p> <p>The solutions use a dedicated server resident to provide the call set-up and management while the end points are the user's PC running the appropriate client software and local video camera associated with the user's PC. The video and associate voice traffic is carried over the user organisation IP network. The IP network can span a combination of LAN and WAN networks. Users may initiate video call and conferences through a standard web browser on their PC</p>	<p>For further information: Contact ntl:Telewest Business Sales – 0800 953 4000</p> <p>http://www.ntltelewestbusiness.co.uk/products_solutions/telephony_solutions/conferencing.aspx</p>

Remote Contact Centres

<p>Alcatel-Lucent</p> <p>Alcatel-Lucent provides browser based agent desktops which allow use anywhere where there is network connectivity. Home based agents are therefore supported through typical DSL connections, with either conventional PSTN telephony to support voice, or Via embedded VOIP plug in via higher speed DSL connections.</p> <p>OmniTouch Browser Agent Desktop – By providing a simple IP connection to centralised servers – all functions are available for Home /Remote based agents as if they were located within the main enterprise infrastructure. Voice may be independently supported via Fixed line PSTN or Mobile telephony, or alternatively supported via the same IP connection provided sufficient bandwidth or QoS (Quality of Service) is supported.</p> <p>Mobile Agents: Users with mobiles literally become part of agent resource groups within the Contact Centre configuration. This enables skill based routing, statistical reporting and even Voice Recording. Supervisors can manage agent allocation in exactly the same way as fixed desk agents. Remote Agent Users log on securely through a Voice Portal and PIN access.</p> <p>Alcatel-Lucent offers a solution called CC Teamer - a fusion between the Contact Centre desktop and Unified Communication collaboration tools.</p>	<p>For further information:</p> <p>Call Alcatel-Lucent on 0800 038 0091 or Email : admin@alcatel-lucent-enterprise.com</p> <p>http://www.crm-outlook.co.uk/ http://www1.alcatel-lucent.com/enterprise/en/solution/s/large/index.html</p>
<p>BT</p> <p>The BT homeshoring solution delivers a portfolio of managed services that encompass all of the property, people, processes and technology requirements an organisation will need to make a success of its homeshoring ambitions.</p> <p>BT homeshoring can provide the technology and services needed to deliver tangible business benefits and underpin the business case for introducing homeshoring.</p> <p>The component parts required would be taken from the MCCE proposition (Making Contact Centre's Efficient). The proposition combines technology and professional services solutions to help the customer's organization deliver the improved service their customer's demand, while providing the cost-efficiency and flexibility required in today's fast moving environment. This includes Hosted capability, inbound services, virtualisation, multimedia, self service and business analytics applications dependant on customer requirements.</p>	<p>For further information:</p> <p>http://www.globalservices.bt.com/LeafAction.do?Record=BT_Homeshoring_solutions_gbl_en_gb&fromPage=Search – Homeshoring</p> <p>http://www.globalservices.bt.com/BusinessContentAction.do?Record=Make_contact_centres_efficient_business_needs_all_en_gb&fromPage=Search – Making Contact Centres Efficient</p>
<p>IBM</p> <p>IBM offers IP Contact Center. The service transforms existing contact centres into multichannel, IP-based contact centres. It provides centralized contact centre management of a distributed agent workforce virtually anywhere in the world and it promotes communications internally and externally— via Web, phone, e-mail and more.</p> <p>IP Contact Center solutions use IBM WebSphere® and IBM Lotus® software as well as technologies from partners such as Cisco, Avaya and Genesys as core modules in the solution. These solutions are designed to combine traditional voice capabilities with IP-based voice, presence, data, facsimile, Web and video communications for an advanced, multichannel communications system that accommodates distributed operations and remote agents.</p> <p>An IP Contact Center is an IP Call Center with additional IP based channels such as e-mail and Web.</p>	<p>For further information:</p> <p>http://www-935.ibm.com/services/us/index.wss/offering/gn/a1027382</p>
<p>ntl: Telewest</p> <p>Ntl: Telewest offers a remote contact centre service called Customer Contact Solutions via a network-based call management platform.</p> <p>Customers setup skills-groups and agents, and then configure routing plans for each of their inbound non-geographic numbers. Calls to these numbers are routed via the appropriate routing plan, which selects which appropriately skilled agent should handle the call. Each agent has a telephone number defined in their profile, and the platform will route the call to the corresponding telephone number. Agents can be physically located anywhere, and can sign-in and out of the platform via the web or via the telephone.</p> <p>This solution is based on our network based platform which routes calls via the existing Virgin Media voice network or over the PSTN. It requires no infrastructure or equipment to be installed. The solution is completely integrated with Interactive Voice Response, Queuing and Advanced Routing capabilities within the same platform, therefore a customer using the RCC solution also gets by default a total inbound call management solution.</p>	<p>For further information:</p> <p>Contact ntl:Telewest Business Sales – 0800 953 4000</p> <p>http://www.ntltelewestbusiness.co.uk/products_solutions/customer_contact_solutions.aspx</p>



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