Homeworking: helping businesses cut costs and reduce their carbon footprint

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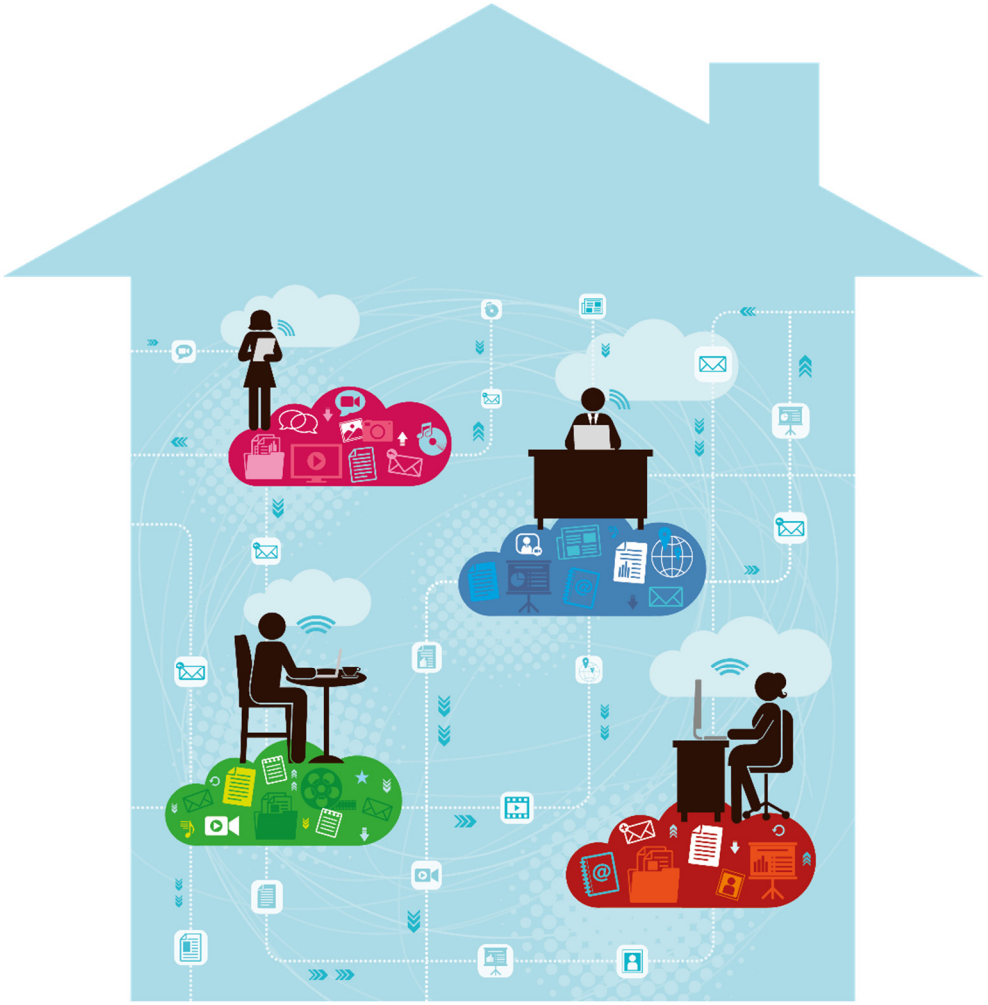

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Change is coming

Homeworking, or teleworking, is not a new concept. For decades there have been advocates calling for practices which enable working from outside the workplace, or claiming that a transformation is just around the corner. It began with the widespread introduction of the telephone into homes in the aftermath of World War II, received a boost during the 1970s oil crisis, and took off alongside the rise of personal computing since the 1980s. The potential of homeworking has long been recognised, but until recently it had not spread as quickly or as far as predicted.

This now appears to be changing – between 2007 and 2012 the number of UK employees who usually work from home increased by 13%.[1] This was an increase of almost half a million people, taking the total to over 4 million employees out of a UK workforce of 30 million.[2]

There are a number of reasons for this rise. First, technologies such as broadband internet, smart phones, cloud computing and teleconferencing are becoming cheaper, easier to use and more widely available. Second, approaches to management and workplace culture are evolving. There is an increased focus in many companies on outcome-based rather than process-based staff assessment, and a willingness to explore innovative approaches with the potential to provide significant cost and environmental benefits.

But what is the environmental impact of this shift? Now that many businesses are taking serious action on cutting carbon and becoming more sustainable in their own operations, it has become necessary to consider whether greater levels of homeworking could be a carbon boon or a burden.

Homeworking reduces employee commuting, resulting in carbon, money and time savings. If office space is properly rationalised to reflect this, homeworking can also significantly reduce office energy consumption and rental costs.

But as with any change, the environmental benefits offered by homeworking can only be achieved if it is implemented at the right time and in the right way. For example there can be rebound effects that result in increased carbon emissions, particularly from increased home energy consumption. It is a lot more efficient to heat a modern office with dozens of workers, as opposed to heating dozens of draughty homes for single occupants.

This paper aims to explore some of these issues and help business leaders consider whether a shift to homeworking could provide benefits for both their organisation and for the wider environment. This includes not only examining how to maximise the sustainability benefits, but also how to overcome other barriers to adoption, such as perceived impacts on productivity.

[1] Analysis of data from the "Labour Force Survey", Trade Unions Congress (2013). Available at www.tuc.org.uk/workplace-issues/work-life-balance/04-homeworkers/home-working-increase-despite-recession-says-tuc

[2] "Labour Market Statistics March 2014", Office for National Statistics. Available at www.ons.gov.uk/ons/rel/lms/labour-market-statistics/march-2014/statistical-bulletin.html

Where are we now?

Estimates of how many people work at home, and how frequently they do this, should be treated with some caution. One of the goals of homeworking is flexibility, and something with a flexible nature is difficult to define.

If someone takes work home on the weekends, are they homeworking? How many days a week or month does a staff member have to work outside the office before they are considered to be a homeworker? Are the self-employed included?

There is a spectrum stretching between those who are in the office every day without fail and those who have no office to go to. Where the limits of homeworking are drawn on this spectrum will always be somewhat arbitrary, but there is general agreement that the number of staff working from home is increasing.[3,4]

In working out the potential for homeworking in the UK, however, a number of points are relatively uncontroversial. First, over 40% of UK jobs are compatible with working from home.[5,6] Second, homeworking is offered to fewer than 40% of employees.[6] Recent research by the Carbon Trust found that only 35% of companies have a policy allowing their employees to work from home.[7] Third, where homeworking is offered by companies, between one-third[8] and one-half[9] of employees choose not to accept it.

It is possible to draw two conclusions here: there is potential for homeworking to become significantly more widespread than it is already, and a resistance to homeworking exists both among management, who choose not to offer it to their staff, and employees, who choose not to take it up.

One argument often made against the introduction of homeworking is that it may be suitable for other businesses, but wouldn't work within a particular industry sector or organisational culture. Despite this, surveys show that homeworking has been successfully introduced in most sectors, even for certain jobs within manufacturing.[6] As well as in different sectors, it has also been introduced for different types of roles, from customer service agents,[10] whose work outcomes are easily measurable, to managerial, technical or professional workers, who make up the majority of those working from home.[6,11]

[3] "Home-based workers in the United States: 2010," Household Economic Studies (2012). Available at www.census.gov/hhes/commuting/files/2012/Home-based%20Workers%20in%20the%20United%20States-Paper.pdf

[4] "Telework Trendlines 2009 – A survey brief," WorldatWork (2009). Available at www.worldatwork.org/waw/adimLink?id=31115

[5] "Telework data report (population survey) – Ten Countries in Comparison," EcaTT (2000). Available at www.ecatt.com/statistics/tgps/gps_data_report2.pdf

[6] "The Third Work-Life Balance Employer Survey," Department for Business Enterprise & Regulatory Reform (2007).

[7] Populus conducted an online survey of a representative sample of 1,135 UK employees, with fieldwork taking place in December 2013.

[8] "Behaviour At Work Survey" of 1135 respondents, carried out by Populus for the Carbon Trust (2013).

[9] "The Fourth Work-Life Balance Employer Survey," Department for Business Innovation & Skills (2012).

What is 'best practice'?

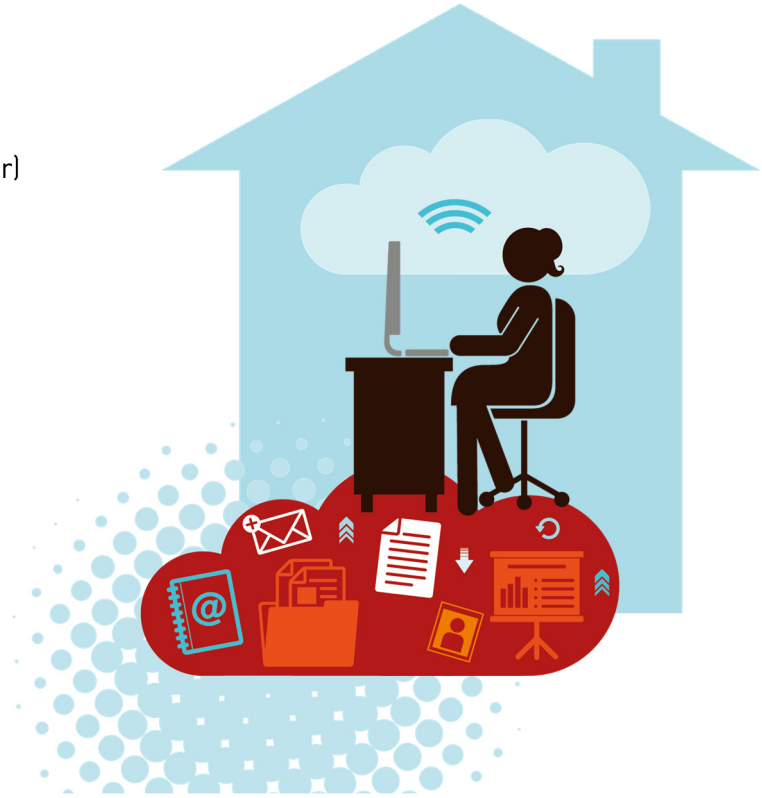
The impacts of working from home, as compared to commuting and working in an office, vary by individual and should take into account individual circumstances. Therefore any homeworking policy needs a degree of flexibility to recognise these different factors, and be suited to the specifics of an organisation, or even the individuals within that organisation.

The reality is that in terms of environmental impact there is no single 'best' solution to homeworking. Rather it depends on various factors such as:

- type of organisation
- type of work
- location of employees and workplace
- commuting distances
- travel modes for commuting
- home environment
- weather (or at least the seasonal differences between summer and winter)

Implementing a homeworking policy is likely to involve a combination of working from home and working from the office on different days, depending on job roles. It is also likely to reflect different work patterns and priorities, such that 'home days' are dedicated to tasks requiring focus and concentration without interruptions, and 'office days' involve interaction with colleagues, communication tasks, and meetings.

While this report discusses a number of relevant factors, any organisation wanting to optimise the positive environmental consequences of implementing a homeworking policy will require a more detailed consideration of their own circumstances and the potential benefits.

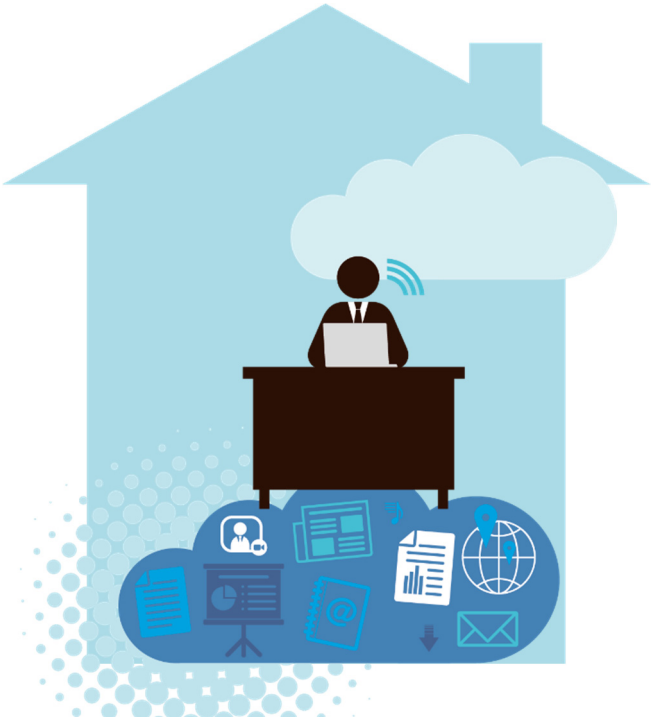


[10] "Does working from home work? Evidence from a Chinese experiment," Bloom, N., Liang, J., et al. (2013). Available at www.stanford.edu/~nbloom/WFH.pdf

[11] "Telework in the European Union," European Foundation for the Improvement of Living and Working Conditions (2010). Available at www.eurofound.europa.eu/docs/eiro/tn0910050s/tn0910050s.pdf

Benefits and barriers

Two stakeholder groups must be considered: employees and business leaders. For each group, the time, cost and environmental impacts of homeworking must be weighed up, and a judgement made as to whether these outweigh the risks and barriers. After considering these issues from the perspective of employees and businesses, this report provides an estimate of the impact of homeworking on the UK economy and carbon emissions.



Employee perspective

Benefits

Homeworking has a clear impact on employee commuting. By working from home two days a week for a year, an average UK employee can save 390 kg CO_2e, 50 hours commuting time and £450[12] including travel costs (modelling based on DECC/Defra emission factors and travel survey data).[13,14]

To put these savings in context, a typical personal carbon footprint in the UK is approximately 10 tonnes CO_2e,[15] while the average household annual spend on heating is roughly £590.[16] Of course it is worth bearing in mind when looking at averages that individuals are not usually average. Many organisations' workforces comprise individuals who are far from being "average" people.

A frequently cited benefit of homeworking, supported by several case studies,[7,17] is higher staff satisfaction. Flexibility over working hours, combined with time saved by reduced commuting, results in a better work-life balance. It should be kept in mind, however, that increased satisfaction may not be sufficient to tip the balance in favour of homeworking. In a Stanford study, telecommuting staff reported higher satisfaction but over half nevertheless chose to return to the office.[7]

[12] This takes into account average UK commuting patterns, in particular the impact of high number of workers taking public transport in London. All figures presented in this paper assume that homeworking involves two days per working week.

[13] National Travel Survey, UK Department of Transport (2011). Available at www.gov.uk/government/collections/national-travel-survey-statistics

[14] "The car and the commute – The journey to work in England and Wales," Gomm, P. & Wengraf, I for the RAC Foundation (2013). Available at www.racfoundation.org/assets/rac_foundation/content/downloadables/car-and-the-commute-web-version.pdf

[15] "Personal Carbon Allowances White Paper," Sapiro, U., Franses, J., et al, Carbon Trust Advisory and The Coca-Cola Company (2012). Available at www.carbontrust.com/resources/reports/footprinting/personal-carbon-allowances-white-paper

[16] "Winter woe – the cost of heating is 63% higher than five years ago," Uswitch (2012). Available at www.uswitch.com/gas-electricity/news/2012/11/28/winter-woe-the-cost-of-heating-is-63-higher-than-five-years-ago/

[17] "How a company builds culture around at-home work force," Humer, C., The Globe and Mail (2013). Available at www.theglobeandmail.com/report-on-business/careers/how-a-company-builds-culture-around-at-home-work-force/article9201446/

Risks/barriers

A significant rebound effect of homeworking is higher home energy consumption, incurring environmental and monetary costs. While extra electricity consumption, primarily from IT equipment, is likely to be low, much depends on behaviour around heating. This also means that there can be quite large seasonal variance, with the impacts being far greater in winter.

Assuming that an average employee heats just their home office for an extra four hours a day, then this will incur estimated costs of 180 kg CO_2e and £60 per year (Table 1). If the heated area or period is significantly higher than this, however, the carbon cost can outweigh the carbon benefits of reduced commuting. This is especially the case in urban environments where the majority of employees tend to commute by public transport or cycling.

While several studies have shown that employees consume less energy at home than in the office, there is little hard data on exactly how home energy consumption changes. However one study by BT found homeworking resulted in a 20% increase in home energy consumption per day.[18]

Key factors affecting home energy consumption include: whether the house is normally occupied during the day anyway, whether the whole house needs heating or just part of the house, whether it is summer or winter, and the efficiency of the household's heating and insulation.

The rebound impact on home energy consumption could be reduced through employees working in shared spaces, such as libraries, urban communal workspaces or telecottages sited in rural areas. These should ideally provide a quiet environment, desks, and typical office facilities like printing, but in a location closer to the employee's home.

In order to increase the environmental benefits of homeworking, or make it a more attractive proposition to employees, employers could find ways to improve domestic energy efficiency for employees, potentially as an incentive or benefit.

Companies including Accenture, EDF Energy, Aviva and HSBC have previously piloted approaches to encouraging employees to implement home insulation.[19] Greater adoption of smart metering and controls in homes could also make it simpler to only heat part of a home as a workspace.

[18] "BT agile worker energy and carbon study" (2010). Available at www.smart2020.org/case-studies/bt-agile-worker-energy-and-carbon-study/

[19] Scheme piloted as part of the "Insulate Today" campaign. Further information available at: http://webarchive.nationalarchives.gov.uk/20100509134746/http://www.decc.gov.uk/en/content/cms/news/pn10_052/pn10_052.aspx

The following table illustrates some impacts and tipping points for the environmental benefits of homeworking. The figures use typical averages, but individual circumstances will significantly impact these.

Table 1: Carbon and monetary impacts of homeworking, specifically relating to commuting and home energy consumption. The avoided costs of reduced commuting do not take into account parking or congestion charges.

	Commuting	Home energy	TOTAL
Carbon savings (kg CO_2e / year)	440	-180	**260**
Cost savings (£ / year)	500	-30	**470**

Tipping points: how far does a commuter have to travel to work (one-way) to balance the average increase in home energy consumption (180 kg CO_2e)?[20] *Travelling further than this will result in net carbon savings.*

By car	7 km (4 miles)
By bus	11 km (7 miles)
By train	25km (16 miles)

Tipping points: how long can a home worker have the heating on for per day (on average across the year) before they balance the carbon savings from an average commute (440 kg CO_2e)?[21] *Having the heating on for longer than this will result in net carbon emissions.*

Heating a single room	7 hours
Heating the entire house	1hr 15min

[20] With no passengers, but allowing a 25% rebound effect of increased trips while working from home

[21] Taking into account increased home electricity consumption of 230 kWh per year. Average number of hours heating per day working from home across the entire year.

Although the enabling technology is continually improving, there are a number of persistent social barriers to homeworking, which include the perception of 'home-shirking'. This is the idea that those working from home are less productive and create more work for their colleagues.[22]

Perhaps to compensate for this perception, there is evidence that staff working from home tend to spend a significant part of the time saved from reduced commuting on work, up to seven additional hours per week.[7, 10] Another social barrier is the fear that homeworking may result in feelings of isolation.

A number of approaches can mitigate the impact of these concerns. Employees should be conscious of the need to respond promptly to emails or instant messenger requests. Managers, for their part, need to ensure employee assessment criteria are objective and output-focused. To ensure employees feel supported by the social structure of their team, it is important to schedule regular time for socialising, both virtually and in person. Also, rather than working from home full-time, a better compromise is for employees to work from home for two to three days per week.[15,23]

[22] "73% of UK office-workers did not believe there was complete trust when working outside the office." Ipsos MORI survey of representative GB sample of 1000 office workers, commissioned for the Anywhere Working Consortium.

[23] "Measuring the Energy Reduction Impact of Selected Broadband-Enabled Activities Within Households," Laitner, J., Patridge, B., et al., Yankee Group (2012).

Business perspective

Benefits

In theory, office environments should provide economies of scale with regard to energy consumption. This tends not to be the case in practice because energy consumption is often determined by outlying behaviour – for example, heating and lighting are on from when the first employees arrive to when the last employees leave. The more inefficient office energy consumption is, the greater the opportunity presented by homeworking.

Homeworking results in fewer employees in the office. When this is combined with hot-desking (where multiple employees share a single desk), it offers the possibility for businesses to rationalise and reduce their office space requirements. This can in turn result in both environmental benefits and substantial cost savings.

The need for office space is determined primarily by two values: the area used per workspace and desk utilisation, which is essentially the number of desks that have an employee sitting at them. The former is generally 10-12 m^2,[24] and can be calculated by dividing the net internal area (NIA) of the office by the number of desks. Desk utilisation is calculated by counting the number of desks that are unoccupied (no bags or coat), temporarily unoccupied (coat or bags at the desk), and occupied. This counting process should be carried out on multiple sample times and days.

The potential carbon and cost savings gained through reducing office space (by increasing desk occupancy and moving to a smaller premises) are illustrated in Table 2. All scenarios have the same number of employees (100), a typical m^2 per workspace (12 m^2) and a typical electricity and gas consumption for the office type.[25]

In these scenarios, desk occupancy has changed from the average situation, with 65% desks occupied, to a situation where 80% of desks are occupied. This occupancy rate is considered high but achievable, as has been demonstrated by the Carbon Trust's pioneering Low Carbon Workplace business.

Cost savings are based on rental and energy costs, which vary according to geography and office type respectively.[26] By increasing desk occupancy and rationalising their office space, the businesses in these scenarios can move from a space of 2500 m^2 gross internal area (GIA) to one of 2,050 m^2.

[24] "Occupier Density Study Summary Support," British Council for Offices (2009). Available at www.pringlebrandonpw.com/pdf/BCODensityStudy2009.pdf

[25] "Energy consumption guide 19 – Energy use in offices", Chartered Institute of Building Service Engineers (CIBSE) (2000). Available at www.cibse.org/pdfs/ECG019.pdf

[26] "Property Market Report," Valuation Office Agency (2011). Available at www.voa.gov.uk/dvs/_downloads/pmr_2011.pdf

Table 2: Scenarios showing carbon and cost benefits of increasing desk utilisation from 65% to 80%.

Geography	Cardiff	Manchester	London
Office type	Naturally ventilated cellular	Naturally ventilated open-plan	Air-conditioned standard
Carbon savings per employee (kg CO_2e / year)	270	340	700
Cost savings ('000 £ / year)	100	121	195

As well as carbon and cost savings, homeworking offers businesses a number of other potential benefits. There is evidence that it can result in higher staff productivity.[27,28] The quiet environment provided by homeworking facilitates tasks demanding speed and focus such as claims processing, as well as creative work involving tasks like problem-solving and report writing. In contrast, activities requiring close collaboration such as team brain-storming and question-and-answer sessions tend to benefit from an office environment.

Improved staff satisfaction due to homeworking can also result in higher staff retention levels.[7,29] For example, annual voluntary turnover for staff working from home at the healthcare company Aetna is 3%, compared with the company-wide average of 8%.[11] A distributed workforce has the additional benefit of making businesses more resilient to transport disruption and extreme weather events, something a number of organisations have faced with snowfall and flooding in recent winters.

Case Study: BT Group

Gathering data to support the business case

BT has been very active in the area of homeworking. One of their projects focused on the benefits and trade-offs of homeworking versus office working, including the home energy monitoring of 30 employees' households. Homeworking resulted in reduced commute travel emissions and office energy use, as well as some increase in home energy use.

Benefits - The project found that net annual saving per home-based employee was 1.4 tonnes CO_2e. This equates to a 14% reduction of emissions per person, assuming the total emissions per person in the UK are approximately 10 tonnes CO_2e per year. A roll-out of homeworking within BT saved 14,000 tonnes CO_2e over a period of 12 months. As well as the carbon savings, homeworking allowed BT to reduce their office space, resulting in annual savings of £60m or approximately £6,000 per full-time homeworker.

[27] "Flexible working – Can your company compete without it?," BT (2007). Available at www2.bt.com/static/i/media/pdf/flex_working_wp_07.pdf

[28] "Future of Work Programme – The Trans-Tasman Telework Survey," Bentley, T., McLeod, L. et al, New Zealand Work Research Institute (2013). Available at www.cisco.com/web/ANZ/workyourway/pdfs/trans-tasman_telework_survey_report.pdf

[29] "Workspace Utilization and Allocation Benchmark," GSA Office of Governmentwide Policy (2011). Available at www.gsa.gov/graphics/ogp/Workspace_Utilization_Banchmark_July_2012.pdf

Risks/barriers

While technology has in the past been a barrier to homeworking, this has changed in the last five years. Connectivity is less of an issue as home broadband speeds have increased significantly. And the tools for working are more portable than ever, with organisations rolling out laptops combined with docking stations, cloud-based file sharing, instant messenger and video-conferencing capabilities, as well as smartphones and tablets. But although the technology is increasingly available, it is important to update internal policies and training on how these technologies should be used securely and appropriately.

Employees may be reluctant to take up homeworking, particularly if their office environment has in the past been relatively static. It is vital that the team introducing homeworking engage extensively and honestly with employees. If good data is gathered on changes to travel patterns and home energy consumption with early adopters, this can help inform the discussion. Employees are more likely to embrace homeworking if it is introduced as part of a broader cultural shift, alongside initiatives such as renewable energy, flexible working and car pools.

Perhaps the greatest barrier to the uptake of homeworking is management uncertainty. Managers can often be concerned that staff members will work less effectively outside the office. Homeworking hit the headlines in 2013 when Yahoo's incoming CEO, Marissa Mayer banned working from home. An internal memo stated that "some of the best decisions and insights come from hallway and cafeteria discussions, meeting new people, and impromptu team meetings."

The ban prompted a vigorous debate within the tech community and the wider business world. Two months later Mayer acknowledged that "people are more productive when they're alone." She also qualified the ban with "it's not what's right for Yahoo right now. [The ban] was wrongly perceived as an industry narrative."[30]

Indeed, this concern appears to be misplaced, given the empirical insights on increased productivity discussed above. However, there is some evidence that employees working from home may be penalised by their managers, if only subconsciously, by the lack of *face-time* or visibility of achievement, through slower career and pay progression.[31]

It is vital that managers are trained in how to fairly and transparently assess staff who work from home.[32] To overcome this barrier, it is also important to get senior management buy-in early on. This can help define the principle that homeworking is an acceptable option.

[30] "Marissa Mayer breaks her silence on Yahoo's telecommuting policy," Tkaczyk, C., Fortune (2013)

[31] "How Passive 'Face Time' Affects Perceptions of Employees: Evidence of Spontaneous Trait Inference," Elsbach, K. D., Cable, D. M., et al., Human Relations (2010).

[32] "Secrets of virtual success," Meyer, E., INSEAD (2010).

UK economy-wide perspective

In 2012 the UK government launched its 'Anywhere Working' initiative to provide advice and case studies on homeworking. Homeworking received a further boost in the run-up to the London Olympics, with the goal of relieving pressure on the city's transport system, with many civil servants working from home during that period. A similar but more permanent impact was had in the USA in 2010, when President Barack Obama signed the Telework Enhancement Act, which aimed to expand the number of federal workers who work from home.

Other government initiatives such as the Green Deal, helping improve household energy efficiency, could have a positive impact on encouraging homeworking. By having more energy efficiency home then workers are better able to take advantage of the potential financial and environmental benefits on offer.

Looking at the potential impact, there are approximately 4 million UK employees that work in jobs that are compatible with homeworking but remain entirely office-based. This estimate is based on a Yankee Group study[21] and data from Office of National Statistics. If homeworking was extended to these employees, it has the potential to provide significant environmental and cost benefits (see Table 3 below).

To provide some context for the carbon savings, the Department of Energy and Climate Change has calculated that the combined potential carbon savings of the Green Deal and ECO would be 4.5 million tonnes CO_2e per year by 2020.[33] As well as the benefits already mentioned, homeworking could also reduce traffic congestion, resulting in fewer accidents and less air pollution, and reduce the need for transport infrastructure projects.

Table 3: Economy-wide annual carbon and cost savings for the UK if homeworking was extended to an additional 4 million people

	Carbon savings ('000 tonnes CO_2e)	Cost savings (million £)
Reduced employee commuting	1,760	2,000
Increased home energy consumption	-735	-140
Reduced office rental		920
Reduced office energy consumption	2,080	200
Total	**3,110**	**2,980**

[33] "Supplementary written evidence submitted by the Department of Energy and Climate Change (GD12a)," (2012). Available at www.publications.parliament.uk/pa/cm201213/cmselect/cmenergy/writev/greendeal/m12a.htm

What makes working from home work?

Below are some general indicators, which suggest that homeworking could be right for an organisation, as well as a shortlist of areas which should be considered when building a business case, or making sure that implementation is effective.

Indicators that homeworking can work for your company

Desire to rationalise office space:
The office lease is coming up for renewal, offering the possibility of moving to a smaller office as a cost-cutting measure; alternatively, the current office is overcrowded and there is pressure to move to a larger, more expensive office.

Paperless office:
The IT department has completed, or is in the process of rolling out, a programme to store documents on the cloud and implement facilities such as soft phones, teleconferencing and instant messenger.

Receptive senior management:
The culture of senior management is not against homeworking, and is likely to be influenced by a strong business case.

Long employee commutes:
The longer the average commute time, the greater the potential cost, time and environmental benefits for employees. This is of greater significance from an environmental perspective if the majority of commuting journeys are by car rather than by public transport.

Suitable working environment at home:
It is important that the home environment provides somewhere conducive to work such that employees are productive, and somewhere that can be heated at minimal marginal cost.

Reported carbon footprint:
Your organisation reports on its carbon footprint.

Building a business case and getting the most out of homeworking

Office space costs:
Gather information from your office manager or estates manager on the current rent and energy costs.

Occupancy survey:
Carry out an occupancy survey to determine the number of unoccupied desks at different times during an average work-day.

IT infrastructure:
Discuss with the IT department whether the current security and file-sharing approaches would support homeworking.

Staff survey:
Gather data from employees on their current commute times and mode of travel, and investigate whether this is a concern in terms of cost and time. If possible, gather home energy and commute data from employees before and after they begin homeworking.

Policy review:
Review which policies relate to homeworking and to what extent they would need to be updated.

Case Study: Wokingham Borough Council

Realising the benefits with a low capital expenditure

Wokingham Borough Council was attracted to homeworking because of its potential to significantly reduce office space rental costs. Their first step was to identify job roles that were suitable for homeworking.

An early data-gathering approach was highly impersonal, simply a spreadsheet emailed out to departments. It became clear, however, that the project needed an approach that engaged people on a personal level. As Stephanie Maxwell, Smart Working Project Manager, puts it, "people were asking questions about where they were going to keep their coffee cup. Previously we hadn't considered people's feelings in all of this but now we have a much more doing with approach rather than doing to."

Setting an example

To achieve change, management needed to set an example. Under the new approach, no manager was to have their own office. Another key choice was that there was no enforced change to homeworking. Instead, the project team spoke face-to-face with staff about their concerns, and smart working champions were recruited who could answer staff questions on the basis of their personal experience.

Low financial investment

Staff at Wokingham Borough Council who work from home do not receive extra pay to cover heating or broadband. The project

took advantage of an IT refresh already underway that equipped staff with laptops, however there was no general roll-out of smart phones, instant messenger or video-conferencing. As Stephanie Maxwell explains, "we're not a high-tech office, it doesn't look much different than the way it always did. It's the people bit that changed – that was the most difficult bit without a doubt."

Results

Over the course of two years, the project has achieved a ratio of approximately 1.6 staff members to one desk. With 600 staff working from home at least part of the week, the project delivers annual savings of approximately £50,000, and 80% of staff working from home feel they are more productive than they were. Council services are more resilient when snowfall disrupts travel, and managers who had been worried about team morale have in fact experienced the opposite. "In the past, if you had a one-to-one, it tended to get dropped and rescheduled. Now it's really important that the manager see [their team member] – they need to make time and stick to it". Since the roll-out of homeworking, staff members have reported that team meetings have become more focused and build on team spirit and motivation.

Case Study: Aberdeenshire Council

Rural locations offer strong incentives

Aberdeenshire Council is responsible for administering an area that is both large (almost 2,500 square miles) and sparsely populated (100 inhabitants per square mile). Partly as a consequence of this, the council found itself in 2007 with more office buildings than were practical. These made it difficult to achieve the council's environmental targets and also incurred significant energy costs.

Hurdles

An unusual barrier in this case was that 3G and even mobile phone coverage can be patchy in Aberdeenshire. Beyond that, Mark Baker, Service Manager for Performance and Improvement, emphasises that to win over staff it is important to place homeworking in a wider context of flexible working. Along with homeworking, Aberdeenshire Council also introduced pool cars and hot desks at key office locations. Another area of improvement saw solar panels installed on the roof at the Head Quarters Building. Bundling these initiatives into a package made it clear that the changes they were asking of staff related to environmental as well as cost savings.

Aberdeenshire COUNCIL

Results

By introducing homeworking for its staff in a gradual fashion, the council has achieved a minimum of 1.4 employees per desk across all teams. This resulted in the council releasing fourteen offices and achieving annual savings of around £270,000 and a capital receipt of £200,000. Also, commuting and business mileage distance has dropped by 10-15%. Both of these achievements resulted in significant carbon savings. According to 61% of managers, employee productivity had increased, with only 2% feeling that productivity had decreased. By 2017/18 the council is anticipating to reduce the number of offices from 98 to 54 and should have approximately 3,100 staff working differently.

Lessons learnt

Having introduced homeworking in one team, tight resources mean you tend to move on to the next. Mark Baker feels that it is important to keep in touch with those teams where homeworking was introduced. "[You] can never do enough consultation with staff. We did a lot but we could do even more".

Case Study: O2

Successful pilot provides confidence and some unexpected results

In April 2012, O2 carried out an ambitious experiment in homeworking, asking the entire workforce of its head office in Slough to work away from the office for the day. O2 described this as the *biggest flexible working initiative of its kind*. 2,500 staff responded, leaving only 125 mission-critical employees in the building, along with one employee who was both oblivious and surprised.

Laying the groundwork – A great deal of planning went into ensuring that the day went smoothly, and that all staff had the training and infrastructure they needed. On the technical front, O2 made necessary upgrades to its VPN (Virtual Private Network) and network infrastructure, and speeded up the deployment of Microsoft Lync, a text and video communications tool. This was combined with almost four weeks of preparation "everywhere from HR and internal comms to IT and property services," according to Ben Dowd, Business Director for O2.

Benefits – By working from home for a single day, employees saved 2,000 hours of commuting time, or an average of 45 minutes per employee. A survey of employees indicated that 50% of this saved time was spent working, 88% of staff said they were at least as productive as they were in the office, while 36% said they were more productive. Employees also collectively saved £9,000 (£3.60 per person), primarily through reduced commuting costs. With regards to building energy, the electricity consumption decreased by 12% against normal, and water usage decreased by 53%. Interestingly, gas usage increased slightly, most likely due to there being less body heat. In total, O2 calculated that in a single day the organisation had saved approximately 12.2 tonnes of CO_2e.

Conclusion – This was only a one-day experiment, but it is an instructive one. With the right preparation and tools, a large organisation could at a stroke save carbon, cost and time. As Ben Dowd points out, "it shows that given the right preparation and communication, conservative presenteeism-based attitudes to work can be changed, with great benefits for both managers and staff. It shows that businesses really can make significant and lasting reductions to their environmental impact, in a multitude of areas."

Conclusions

The shift to homeworking is happening and becoming increasingly normalised as a way of working. If adopted and encouraged by businesses and the public sector, then homeworking has the potential to cut £3 billion a year of costs for UK employers and employees and provide substantial carbon reductions, of over 3 million tonnes a year, across the country as a whole. But there are still a number of barriers to be overcome before this transformation can occur.

The opportunities offered by homeworking remain finely balanced with a nervousness regarding the impact of having staff outside the office. But as the need to reduce our carbon footprint increases, it has never been more important to examine homeworking carefully and to resolve these ambiguities.

As a general rule homeworking will provide both an environmental and a cost-saving benefit for organisations when well implemented, especially where employees tend to commute by car and where there is the potential to rationalise office space. But it should be remembered that in certain circumstances, particularly where offices already use energy and space efficiently and the majority of staff commute by public transport, such as in Central London, there could be an overall increase in carbon emissions.

Therefore in the nuanced area of homeworking it is important to look at each specific situation in order to properly account for the potential impacts, and thus implement homeworking policies which are designed to achieve an optimal set of benefits.

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- We advise businesses, governments and the public sector on their opportunities in a sustainable low-carbon world
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