HOW TO DELIVER A CARBON FRIENDLY WORKPLACE TRANSITION

A guide for businesses on how to deliver a workplace transition that limits waste, protects the environment, and benefits employee health and wellbeing.

Introduction

The way we think about our workplaces has undergone a seismic shift in 2020. COVID-19 has brought about enforced national lockdowns, mandatory social-distancing and widespread homeworking. The uncertainty and economic impacts of the pandemic have forced companies to reduce costs, prompting as many as 73% business leaders to consider downsizing their offices during 2021[i].

Business in the Community (BITC) member JLL, a real estate consultancy, predicts that whilst offices are here to stay, occupiers will need them to perform a different range of functions in a 'post-COVID' world [ii]. Most UK employees want the opportunity to work flexibly[iii], meaning offices will likely require fewer desks and more collaboration space. Businesses are also demanding net zero carbon workplaces, and are increasingly interested in reducing their indirect Scope 3 emissions associated with products they purchase, such as office furniture or IT. The pandemic has also understandably accelerated demand for workplaces that actively support employee wellbeing and engagement.

Whilst these trends represent opportunities for businesses to improve their employees' experience in the workplace, reduce their carbon footprints and save costs, BITC has also identified increased furniture and IT waste as a significant hidden risk of this workplace transition.

In this guide we show that reconfiguring an office layout for social distancing risks an estimated 44% of furniture being wasted. With commercial waste arisings in England already having increased from 21.6 million tonnes in 2010 to 27.1 million tonnes in 2017. COVID-19's impact on our workplaces risks compounding an already vast challenge.

As we now start to see more churn in the commercial office marketplace, there will be increased opportunities for responsible businesses to embrace low-carbon, low-waste design, and procurement principles to save costs and lower carbon in new or reconfigured premises.

For more information about how BITC can support around your circular ambitions, please contact Peter Ramsey at Peter.Ramsey@bitc.org.uk

CALLS TO ACTION

Our main calls to action for businesses who are going through a post-COVID workplace transition are:

1. **Whatever your situation, treat unneeded equipment as a resource, not waste**

2. **Use the waste hierarchy for office clearances – shown on page 8 – to prioritise options to reuse equipment inside or outside your organisation, to extend its life**

3. **Ensure that facilities, procurement, and sustainability teams collaborate throughout the process**

4. **Use our Circular Office lifecycle framework – on page 7 – to embed circular principles at all stages: Design, Procurement, Operations and End-of-Life**

5. **Include embodied carbon alongside cost in your business case. Use the carbon and cost savings figures in the Appendix as a guide**

CONTENTS

THE BUSINESS CASE

Hurried workplace transitions enforced by COVID-19 increase the risk of significant volumes of furniture and other workplace assets being wasted – bringing negative carbon impacts. But beyond managing environmental risks, there is a compelling business case for embracing circular economy principles.

Embedding circular principles into the transition of your workspace – with a focus on reusing items – will allow you to:

- Generate additional revenue
- Reduce costs
- Prevent waste and lower embodied carbon
- Enhance employee engagement and reputation
- Benefit communities
- Below we provide further details on how adopting a circular workplace transition will deliver benefits to your business. These principles can be used by your sustainability team to secure buy-in for a circular approach to your workplace transition.

Generate additional revenue

There are a growing number of suppliers who will happily purchase assets like furniture, IT, and kitchen equipment at end of life, to be remanufactured and resold. Businesses can generate significant revenue by selling redundant assets in this way. **Did you know that BITC member PwC generate up to £125 per employee per year reselling old smartphones and laptops for remanufacture?**

Reduce costs

Buying remanufactured or refurbished assets yields a significant cost saving, without discernible difference in the quality of products purchased. For example, buying typical remanufactured office desks and chairs rather than brand new can yield savings of between 40-80%.

Further data is provided for the most common categories in our cost and carbon saving grid (see Appendix). Given the lower cost of remanufactured equipment, there is also the chance to buy items to a higher specification for the same overall budget, instead using savings to increase the quality of your fit-out.

Prevent waste and lower embodied carbon

If we are serious about transitioning to a truly net zero carbon economy, we need to look beyond the energy used in our operations and consider the 45% of emissions that are generated in the production of the products and materials we consume[iv]. In a typical office fit-out context, furniture, IT, flooring, and ancillary equipment all have high levels of 'embodied' carbon – the carbon emitted in their production. It follows that the longer an item is used for, the more value is gained for the same carbon emitted. Similarly, if an item is reused, it will typically prevent a new item needing to be purchased, multiplying emissions savings.

Again, we have captured typical carbon savings in our carbon saving grid (see Appendix), showing that by buying remanufactured or refurbished items you can save anywhere between 40-80% carbon versus a new purchase. Over the many fit-outs carried out in a building's life cycle, the impact of reusing fittings can be huge, and this will enable businesses to reduce

their indirect 'Scope 3' emissions associated with goods purchased.

Employee engagement and reputation

With over three quarters of UK citizens now concerned about climate change[v], the way in which employers demonstrate an authentic commitment to tackling the challenge has never been more important. 71% of Millennials and Gen Z-ers see climate change as the biggest challenge facing their generation, with 61% stating it is very important for their employers to take a stance on the issues that matter to them[vi]. So, to attract, retain, and engage talent, companies need to be able to demonstrate a genuine commitment.

We believe this should start with ambitious, science-based net zero targets, but should also include awareness raising and inspiration of employees. Showing how carbon savings have been generated through the purchase of quality reused items can generate pride and engagement. In the circular fit-out of their Manchester office, **JLL tagged reused furniture items with a product provenance and carbon saving story, which has engaged employees and clients.**

Community benefits

Adopting principles of reuse, resale, or donation when conducting your equipment audits can allow businesses to have a social as well as an environmental impact when adopting circular principles for their workplace transition. Redundant office furniture or IT equipment could be donated to a local charity or community organisation, helping them to deliver their services and support more effectively. Using equipment to support your communities will, in turn, improve employee engagement and reputation.

Between April-December 2020, BITC has supported its members to donate 612 items of furniture and 823 IT devices through the **National Business Response Network**, which promotes reuse and waste prevention by connecting businesses with spare resources to communities in need. The need for technology to support with education is particularly profound, and redundant equipment from a workplace transition could have a huge impact.

Crucially, refurbishing, and remanufacturing furniture, IT, and other items also generates sustainable employment. For example, Crown Workspace employ 20 full time roles in their Renew Centre refurbishing and remanufacturing furniture for their clients. So, by using these services, your organisation will be helping to secure green jobs for the future.

RECONFIGURE OR RELOCATE?

As COVID-19 has affected workplaces, businesses are facing two main choices: workplace reconfiguration and/or workplace relocation.

Reconfiguration focuses on changes to the internal design and layout of an existing space prompted by a range of drivers, from the need for increased social distancing measures, to improved collaboration space or flow of people through the building. In many cases these changes have led to assets becoming redundant, especially furniture. We are therefore calling businesses reconfiguring existing spaces to prioritise:

- Treating unneeded equipment as a resource, not waste

- Using the waste hierarchy for office clearances to extend your equipment's life by prioritising options to reuse it inside or outside your organisation

We expect **relocation** to become more common as existing workplace leases expire and companies consider moving into premises that more closely meet the size and expectations of increasingly flexible workforces.

For organisations moving as sole or anchor tenants, this will mean there are opportunities not only to influence the specification of the fit-out in the new premises, but also to consider how to maximise the use of assets from your existing premises as you move. We are therefore call on business relocating to adopt the two principles above as well as:

- Ensuring that your facilities, procurement, and sustainability teams collaborate to take a holistic approach to your office configuration or relocation
- Using our Circular Office Lifecycle Framework – on page 7 – to embed circular principles at all stages of your project: Design, Procurement, Operations, and End-of-Life
- Including embodied carbon alongside costs in your business case. Use the carbon and cost savings figures in the Appendix as a guide

FRAMEWORK FOR SUCCESS

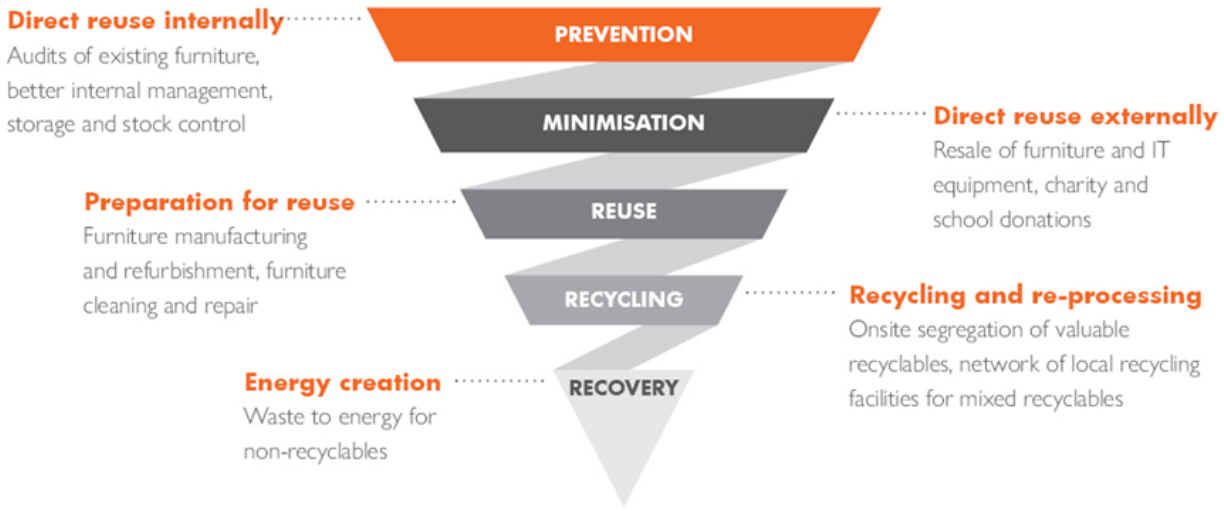
We have created a simple framework to enable businesses to build circular decision making into their workplace transition planning. We focus on practical steps at each stage of the fit-out cycle: Design, Procurement, Operations and End-of-Life. Whilst End-of-Life features as the last concept, to prevent avoidable waste, these considerations should be kept in mind throughout each stage of the workplace transition to make sure that no assets are discarded unnecessarily.

	MOVING INTO NEW OFFICE			CLEARING UNNEEDED ASSETS
STAGE	DESIGN	PROCUREMENT	OPERATIONS	END-OF-LIFE
OBJECCTIVE	Create design brief to facilitate best use of space and equipment	Install energy efficient equipment with low embodied carbon	Make efficient use of the equipment that you've got	Find new uses for unneeded equipment
WHAT TO INCLUDE	Plan space for multiple uses and future changes Prioritise low embodied carbon as a design parameter in your fit out Engage with contractors to minimise waste in fit-out process	Review of what items are truly necessary Set product specifications that prioritise reuse and include end-of-life management. Engage with suppliers to identify sustainable solutions Use the BITC Circular Office Directory to identify suitable suppliers	Engage with employees to gain buy-in for your plans Ensure homeworkers are included Monitor use of key items to evaluate efficiency	Produce inventory of key items Refurb / remanufacture those which can be adapted Use partners and platforms to sell or donate excess items

End-of-Life: Preventing unneeded items from being wasted

Whilst the biggest carbon, cost and material savings can be achieved during the design and procurement phases of a fit-out, the most common and urgent short-term challenge facing businesses as they reconfigure or relocate due to COVID-19 is how to manage items that they no longer need. Given the unpredictability of national lockdowns, uncertainty around numbers of employees that will eventually return to the office, and the pressing need to manage costs, we understand that many businesses have been tempted to clear offices quickly, without properly considering the waste impacts of their decisions.

Key items to consider are those which are high value, have substantial weight (making them costly to dispose of) and high embodied carbon. We recommend focusing on furniture, IT, flooring and other items like kitchen or gym equipment. The waste hierarchy (below) provides a framework to prioritise and manage each of these at the end-of-life.



The hierarchy for office clearance, produced by Crown Workspace

Our call to action for office clearances is to view unneeded equipment as resources, not waste, and to use the hierarchy for office clearance to find new uses for these items. You can follow these steps to have the greatest impact:

- Start by conducting a basic audit of your key items to create an inventory of what you are clearing. This should include the item type (e.g. desk, task chair, monitor etc.) as well as the manufacturer and model (if known), the number of items, and a basic assessment of its condition.
- Usually the simplest, lowest impact way to reuse key items is through direct reuse internally. This can be achieved by moving items to a different office (e.g., if consolidating multiple offices into one location) or by offering items to employees to use at home, contributing to wellbeing by providing access to ergonomic items that employees may not otherwise buy for themselves. See the Amey case study later in this document as an example of this.
- Any remaining items which are in good condition may be suitable for reuse externally

through resale. Many suppliers will purchase good quality furniture, IT, and other items like gym equipment. The revenues generated through resale can be offset against overall reconfiguration or relocation costs. Refer to BITC's Circular Supplier Directory for a full list of suppliers.

- Generate social value through donation of items through platforms such as the National Business Response Network, run by Business in the Community, which can help you identify UK-wide charities and community projects affected by COVID-19 that would value your equipment. IT equipment such as laptops, tablets and phone are in particularly high demand, but the platform will accept any form of donation. Crown Workspace operate the Giving Back Project as part of their sustainable clearance offering donating redundant assets to schools, charities, and social enterprises. Business to Schools, WarpIt, Globechain and Reyooz also offer alternative paid-for platforms enabling the reuse of office furniture and delivering social value.
- If furniture items are damaged or not suitable for direct reuse (for example because desks are too large for use in home offices) you can work with a partner to have this equipment refurbished or remanufactured to bring it to a suitable condition. Organisations such as Crown Workspace or Rype Office can provide this service for office furniture, including relevant logistics.
- Table 1: Different types of reuse options (taken from BS8001: Framework for implementing the principles of the circular economy)

Reuse Process	Definition
Refurbish	Aesthetic improvement of a product, component, or material, which might involve making it look like new, with no or limited functionality improvements
Remanufacture	Return a used product to at least its original performance with a warranty that is equivalent or better than that of the newly manufactured product
Repair	Returning a faulty or broken product, component, or material back to a usable state
Repurpose	Using a product, its components, or materials in a role that they were not originally designed to perform

SPOTTING THE BIGGEST OPPORTUNITIES

If you are relocating premises entirely, or planning a major refit of your existing premises, there are opportunities to go beyond thinking simply about end-of-life solutions, towards integrating circularity into the full refit process: from design, to procurement and operations.

The following steps are most relevant for organisations that are planning an office move and who have some influence over its fit-out.

Design

- Plan space for multiple uses and future scenarios. By thinking about the functionality you need from your future space, you can design it in a way that allows for a variety of uses without the need for lots of additional equipment. For example, it can include moveable walls, standalone meeting pods or rooms built out of prefabricated components that can be easily disassembled and relocated. Spaces can be multi-functional, such as collaboration spaces doubling up as auditoriums.
- Prioritise low embodied carbon as a design parameter in your fit-out. Think about how your different design options will impact the level of carbon embodied in your fit-out approach. Using embodied carbon estimates alongside cost, quality and functionality will prevent you from making decisions that lock in unnecessarily high levels of carbon for the years ahead. The RICS SKA Rating tool provides more than a hundred 'good practice' measures covering carbon amongst other indicators like water and wellbeing, and can be used to identify design measures that will help you lower overall embodied carbon.
- Engage with contractors to minimise waste in the fit-out process. By engaging contractors collectively at design phase, you will be able to better plan and coordinate the fit-out process itself to share logistics and sequence on-site activity in a way that minimises waste. Undertake a 'Designing out waste' workshop with your full project team, with a view to creating a shared plan to keep carbon and waste to a minimum.

Procurement

You have the opportunity to execute your design ambitions through your procurement process, by specifying products and fittings with low embodied carbon, prioritising reuse wherever possible.

- Review which items are truly necessary. Before creating procurement specifications or going out to market, review the assets you will truly need in the context of your overarching design and floorplan. This will help you to identify items which may actually serve a limited function or are seldom used.
- Set product specifications that prioritise reuse and include end-of-life management. To maximise the use of materials and products, and to reduce the demand for raw materials consider alternatives to the standard fit-out elements. Look for materials and products that are:
    - Reused, repurposed, remanufactured or recycled (see Table 1 for more detail on different types of reuse options)
    - Fully recyclable, reusable, and easy to repair/upgrade
    - Bio-based
    - Leased/shared rather than owned by your business

Prioritising collaboration between Sustainability, Facilities and Procurement Teams

To really maximise the opportunities to reduce the embodied carbon of your future fit-out, collaboration between teams internally with be crucial. It is common that Facilities Teams are responsible – and hold the budget for – clearances of an existing premises, whilst Procurement typically hold the budget for the fit-out of a new premise. Sustainability teams may provide expertise to guide design specifications and procurement. However, it is rare that these different processes are connected, meaning that opportunities to reuse equipment from existing premises can be lost if they are not fed into and considered in the Procurement process for a new site. Make sure you find a way to bring these disparate conversations together for best results.

- Use the BITC Circular Office Directory to find suppliers. The Circular Office Directory offers a comprehensive list of suppliers to assist with your circular sourcing. BITC's Circular Procurement Guide also has a range of tips for managing an end-to-end circular procurement process.
- Engage with suppliers to identify sustainable solutions. Work closely with your suppliers to identify more circular solutions, providing them enough flexibility to innovate on your behalf.

Operations

For even the best design and procurement ambitions to succeed, they must be operationally feasible, and acceptable and engaging for employees and wider stakeholders. As outlined in the Business Case section above, employees will respond well to tangible evidence of their employer tackling climate change, however this does not need to be at the expense of utility, wellbeing, or aesthetics system.

Focus on 'IT as a service'

The challenge of 'WEEE' – waste electrical and electronic equipment – is enormous in the UK. Each year 209,000 tonnes of WEEE is exported illegally from the UK, whilst 155,000 tonnes goes to landfill or incineration[vii].

Disposing of IT and other electrical assets at end of life is therefore a risk for businesses without a plan. IT hardware is also a significant cost to business. Fortunately, new circular models of purchasing IT are emerging, enabling businesses to make cost and carbon savings, and produce zero waste. Companies like **InnoVent UK** offer fully financed 'IT as a service' packages, allowing companies to lease rather than own their IT hardware, with items going back to the provider at end of life to be refurbished or remanufactured and then resold to another customer. These second life assets offer more affordable options to businesses or charities looking to save costs.

A typical laptop processed in this way will prevent 314kg of CO_2 equivalent emissions being produced, 1,200 kg of finite mineral resources being mined and ensures 0% e-waste at the end[viii]. The service-based model also preserves capital and offers greater flexibility to companies looking to upgrade their equipment.

- Engage with employees to gain buy-in for your plans. Share your plans with colleagues as they develop to help them to feel part of the journey. Outline key benefits of adopting circularity in your new office designs. Once in place, draw attention to the stories behind refurbished or

remanufactured items to inspire and engage. There is a common misconception that refurbished or remanufactured furniture or IT do not look or perform as well as new items, however as stated in the BS8001 standard, suppliers conforming to these standards will offer products with no discernible difference to new, generally at much lower prices.

- Ensure homeworkers are included. With flexible working on the rise, and the need to ensure homeworkers' wellbeing is looked after, there are plenty of options to support their needs in a sustainable way. Suppliers like Crown Workspace can remanufacturer unwanted ergonomic furniture from office clearances to fit into smaller spaces in employees' homes, for example. Connect with HR colleagues to understand the likely occupancy rates in a more flexible workspace and use those to inform your design to ensure the amount of equipment purchased in the fit-out matches expected demand.
- Monitor use of key items to identify repair opportunities and efficient use. Repairing equipment increases the lifespan of products and reduces the demand for resources.

WORKED EXAMPLE

Given continued uncertainty around the medium and longer-term economic impacts of the pandemic, the overall volumes of items at risk of being wasted due to reconfiguration and relocation can be hard to quantify. The following illustration, based on an actual office redesign project, shows how decision making is leading to the displacement and possible waste of a staggering 44% of furniture and other assets in a typical reconfiguration project.

Figure 1 shows how – for a generic workplace of 50 desks – an organisation has responded in the short-term by introducing screens, and alternate desk use, to enable social distancing. Whilst the furniture remains on site, it is effectively redundant.

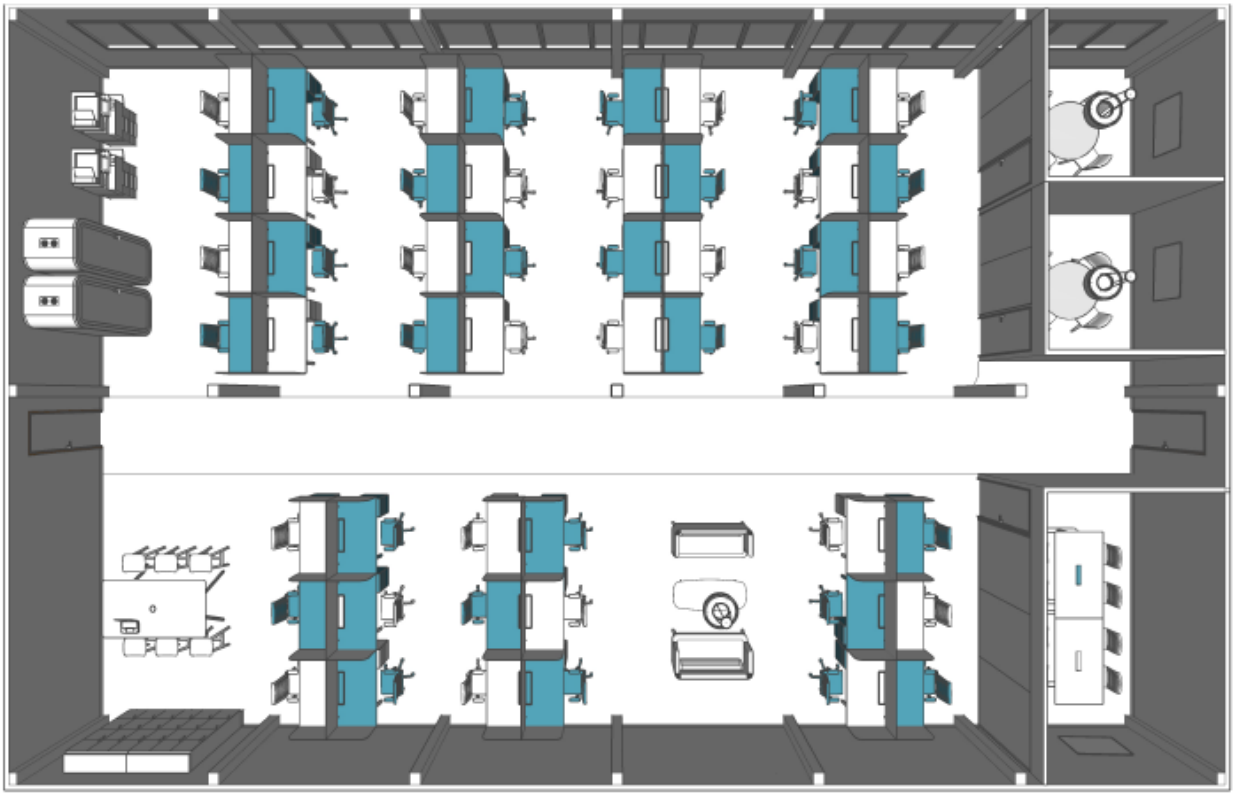


Figure 1: Basic social distancing measures keeping furniture in situ

Some organisations may simply choose to maintain their space in this format, though many businesses are taking the opportunity to maximise occupancy whilst maintaining social distancing by reconfiguring towards a lay out more like the one shown in Figure 2. Here breakout spaces have been integrated amongst more widely spaced desks to promote collaboration and wellbeing.

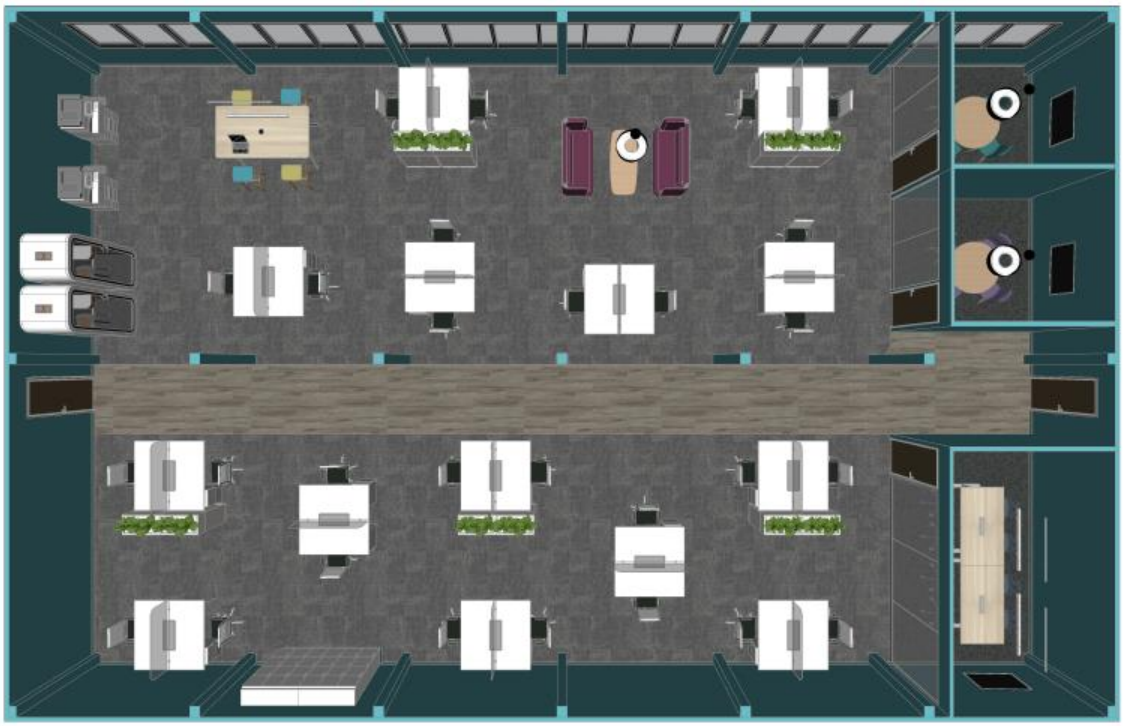


Figure 2: Reconfigured layout maximising social distancing and collaboration space – displacing 22 positions

This example assumes that the furniture that remains is pre-existing and has simply been repositioned. This would still lead to the displacement of **22 positions of furniture – or 44% - which would mean approximately one tonne of redundant assets being generated.** However**, if these 22 office desks and chairs are reused through resale or donation, as opposed to being disposed of, an estimated 3.89 tonnes of CO2 (e) could be saved** alongside the waste material savings[ix].

If the original furniture could not readily be moved, it is important to consider sustainable alternatives to newly procured items. The environmental impact and waste could be significantly reduced, as well as significant cost avoided, if existing furniture were "remanufactured" to meet the new socially distanced layout.

There are also wider financial implications that need to be considered. Depending on when and how the furniture was procured these could still be financial assets on the balance sheet and this can impact the decisions that are made.

However you choose to revise a workspace, the best environmental, social, and economic outcome will be achieved if you first seek to remanufacture or refurbish existing furniture to meet a new layout. Secondly, any assets that are no longer needed should either be resold to help cover the cost of the reconfiguration or donated to extend their useful lives and create social value.

CASE STUDY: AMEY

During the consolidation of their Sherard office space in Oxford in December 2019, BITC member Amey, a leading infrastructure support services provider, prioritised the reuse of assets no longer needed at other offices on their estate. Through a comprehensive review of their estate, they identified the opportunity to rehome around half of all the displaced assets from the Sherard office to their IDH site in Birmingham. Not only did this prevent hundreds of items of furniture from being disposed of, but it also saved significant costs by preventing the need to buy new equipment for the IDH site. The remaining items have been stored and Amey continue to seek options for their reuse rather than disposal.

Crucially, Amey took a holistic approach to their office transition, using data gathered on overall costs for disposal, logistics and storage, together with potential demand from other sites across their estate. Their facilities team worked closely with their procurement function to spot the opportunity to reuse furniture and prevent the need for new purchases. The cost-benefit of the project is outlined here:

Costs

There are several costs which Amey have had to consider when moving and storing the furniture:

- Cost to clear furniture from Sherard office into store – £11,000.00
- Cost to transfer furniture to IDH (Birmingham) – £11,200.00
- Storage cost for remaining items – £1085.00 per month. This is an ongoing cost which many organisations fail to consider when placing furniture in storage. The learning is that it is beneficial to identify opportunities to reuse furniture rather that to place it in storage indefinitely.

Benefits

There is a strong business case for Amey to have reused these items internally, based on avoided costs of purchasing new furniture:

- Reusing existing furniture, rather than procuring new replacement furniture for the IDH site, has led to estimated cost savings of £55,025. Had Amey chosen to resell these items, the potential revenue generated would have been £6,060, showing a strong incentive for internal reuse in the first instance. Factoring in costs for clearance and delivery, there is a net saving of £32,825.
- Based on the data given in the appendix of this document the direct reuse of 118 task chairs, 13 banks of desks, 45 breakout chairs, and 3 sofas has resulted in savings of over 10 tonnes of CO2e versus purchasing new furniture.
- This project has created new collaboration between different departments within Amey and has started conversations about procuring furniture in more sustainable ways in future, such as through rent-and-return models.

ACKNOWLEDGEMENTS

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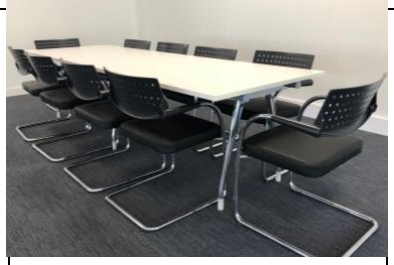
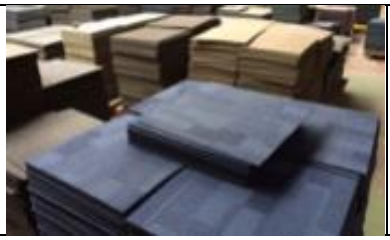
APPENDIX: ESTIMATED PRODUCT DATA

This table sets out an indication of the expected cost and carbon savings for refurbishing typical fit-out items as an alternative to replacing them with newly manufactured items. Cost and carbon savings vary depending on a range of factors – from the original specification of an asset, its age, or the type of reuse option selected – so we provide an indicative range of savings for each category. The lower figure is representative of extensive refurbishment including replacement of parts, with the upper figure representing direct reuse (allowing for carbon arisings due to transportation). Average embodied carbon for item types have been obtained from Furniture Industry Research Association (FIRA) research, for item types not included in the research you should contact your supplier to obtain embodied carbon figures. The data included is based on a number of sources including WRAPx, FIRAxixii, and the experience of Crown Workspace and JLL.

Item	Image	Average Embodied Carbon[xiii]	Refurb Cost Saving Range	Refurb CO2e Saving Range
Bench		Not Available	35-60%	60-80%
Breakout Chair		36kgCO2e	40-70%	60-80%
Meeting chair		36kgCO2e	40-60%	60-80%
Task chair		72kgCO2e	30-70%	60-80%

Sofa		90kgCO2e	30-70%	60-80%
Meeting booth		Not Available	35-60%	40%
Individual desk		35kgCO2e – 63kgCO2e (wave desk)	40-80%	80%
Desk bank		228kgCO2e	40-80%	80%
Meeting table		Not Available	25-75%	80%

Floor tiles / 1,000 m2		Not Available	65-85%	85-90%

ENDNOTES

[i] Accumulate Capital (3rd September 2020). *73% of UK business leaders predict office downsizing*. Available here.
[ii] JLL (November 2020). *The future of office demand: Central London after Covid-19*. Available here.
[iii] YouGov (September 2020). *Most workers want to work from home after COVID-19*. Available here.
[iv] Ellen Macarthur Foundation (2019). *Completing the Picture: How the Circular Economy Tackles Climate Change*. Available here.
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[vi] Purpose Pulse (2020). *Purpose Pulse 2020.* Available here.
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[ix] Crown Workspace calculate carbon savings for their clients taking into account the specific refurbishment processes that have been applied and the transportation of the furniture – more information can be found here.
[x] WRAP (2011). *A methodology for quantifying the environmental and economic impacts of reuse.* Available here.
[xi] FIRA (2011). *Study into the Feasibility of Benchmarking Carbon Footprints of Furniture Products.* Available here.
[xii] FIRA (2016). *Remanufacturing for the Circular Economy*. Available here.
[xiiixiii] FIRA (2011). *Study into the Feasibility of Benchmarking Carbon Footprints of Furniture Products.* Available here.