



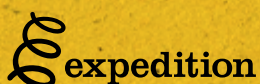
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# Impact Report

2023



thomas.matthews  
communication design



usefulprojects

Useful studio



# Foreword



Welcome to our 2023 Impact Report. This year we are focusing on the theme of ‘circularity’, showcasing how our work to create regenerative and circular buildings, strategies, and places is really delivering impact on the ground.

The Construction sector is the biggest consumer of raw materials and generator of waste, responsible for 62% of waste and 50% of material use in the UK. The worsening climate and biodiversity crises require accelerated action and systemic change. Industry practice is far from aligned with carbon budgets under the Paris Agreement, and research we recently carried out with the Institution of Civil Engineers highlighted the unseen impacts on biodiversity of our industry’s extractive processes.

The key principles of a circular economy: eliminating waste and pollution, circulating products and materials at their highest value, and regenerating nature, offer one pathway to transitioning our built environment. We work in collaboration with clients and professional teams who have a shared ambition to refurbish, retrofit and repurpose existing buildings, extend the life of built assets, design out waste, and use materials with the lowest possible environmental footprint. The following pages present some of the achievements we are most proud to share with you.

Thank you to all our clients, collaborators, and supporters who make it possible for us to do such positively impactful work!

**Judith Sykes, Chief Executive Officer**





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# Fit for the future

The Useful Simple Trust (UST) is an award-winning group of professional design and consultancy practices driving change in the built environment. Our experienced engineers, architects, designers, consultants, and strategists work side-by-side to address the major issues of our time, including net zero carbon, circular economy, biodiversity gain, and social impact. Through our naturally collaborative approach, we engage our clients to deliver BOLD, valuable projects with positive impact.



As a B Corp and Social Enterprise, we are committed to using the power of the built environment to solve social and environmental problems. By working to make a positive impact on the world through our skills, services, and operations, our ambitious plans to reduce our environmental footprint and support the communities where we do business are embedded in our purpose-led mission to trailblaze within the built environment.

We believe that companies have a responsibility to do more than just make a profit and are proud to be part of a community working towards a better future for all. Through our accreditation as an Employee Benefit Trust, our employees

have a significant and meaningful stake in the business, as well as a say in how it's run. By providing transparency across all levels, from management to graduate, our leadership teams consult, share information about the company, and give responsibility that allows us to deliver superior business performance.

This ethos drives our commitment to corporate social responsibility and community engagement, recognised by our latest accreditation as Investors in People Gold in January 2024. Having first achieved 'Silver' status in 2020, we have continued to improve our workplace culture in areas around employee engagement, communication, organisational culture, and work practices.



# Always



## **B Corp recertification**

UST became a certified B Corporation in 2020. We began our recertification process in November 2022, reviewing our B Impact Assessment to identify areas for improvement across five main impact areas: governance, workers, community, environment, and customers. In December 2023, we submitted our recertification application with a 35% anticipated uplift in our score and, at time of publication, are awaiting our final interview to confirm we have been successful.

We are proud that our performance has improved across all the impact areas; a particular achievement over the last year includes putting in place

systems and processes to monitor and report our progress against key ESG indicators, both within our own organisation, as well as through more active engagement with our suppliers.

Furthermore, our work calculating and disclosing our Scope 1-3 carbon emissions has been recognised in the environmental area. We have invested in our equality, diversity, and inclusion performance through a dedicated programme of internal capacity building, that is starting to make a real impact.

# improving

In December 2023, we became an accredited Carbon Literate Organisation, which demonstrates our commitment to educating ourselves and working with others towards a lower carbon future.

Our business is carbon reduction, be that through policy, building projects or strategic innovation programmes. We recognise that our industry is slow to change, and we need to empower all members of our team in making the case for rapid action. In 2023 we worked with staff to co-create our new Carbon Action Plan and routemap to net zero, and evolved our approach to offsetting.



# Big impact

Our greatest opportunity to contribute to mitigating the climate emergency is through our project work, by supporting and challenging our clients and industry to adopt regenerative design practices. Our four 'Impact Strands' demonstrate our commitment to positive transformation of the built environment.

We have developed a methodology to report on how our work performs against these strands, knitting together the projects and services we provide our clients. This demonstrates how, as a collective, we create positive impact.

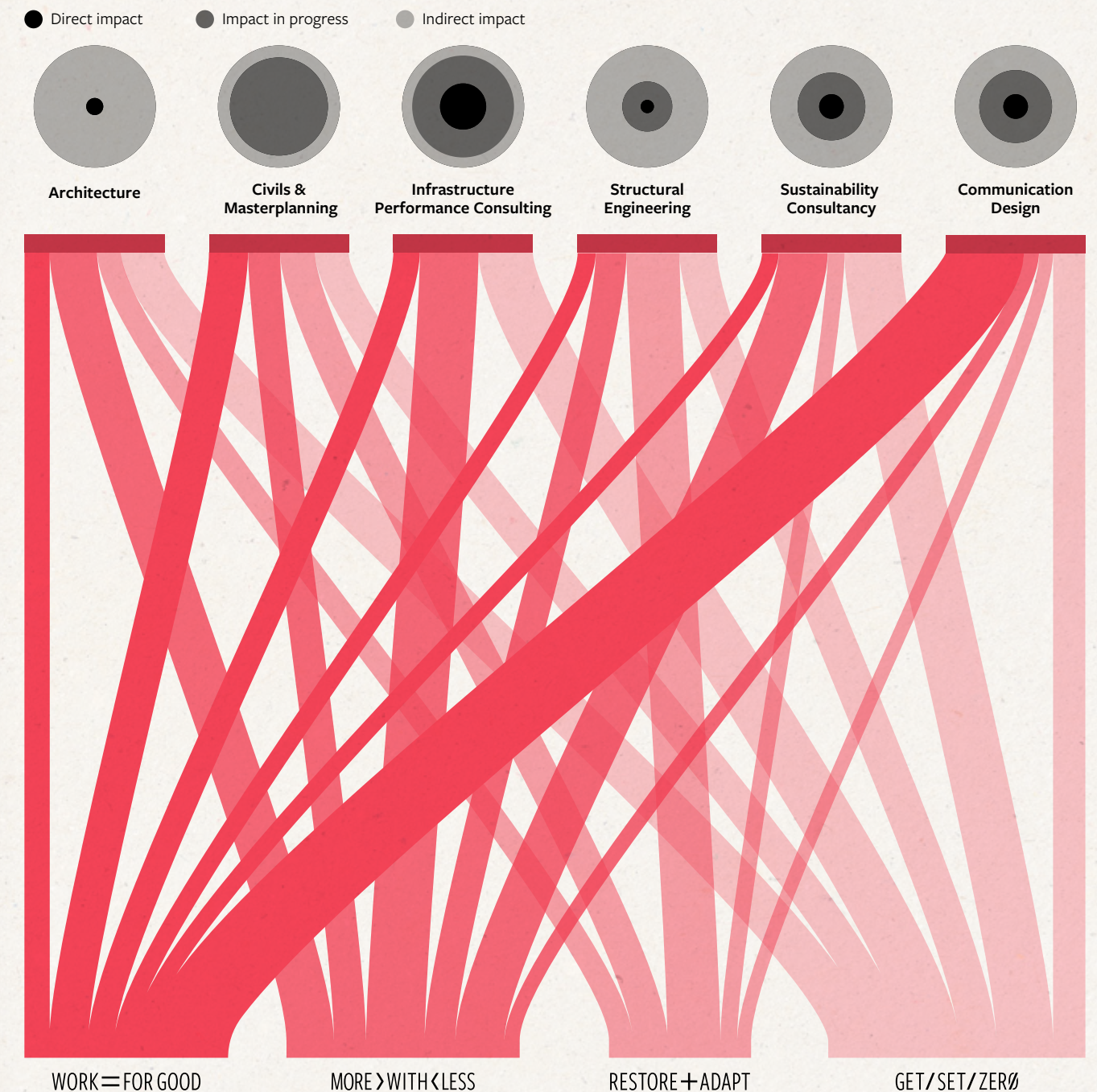
Our 'Impact Circles' illustrate how we work across different stages of the development process, ranging from strategic and feasibility work that demonstrates potential impacts (indirect), through to the implementation of projects and programmes that deliver tangible built outcomes (direct).

## Work for Good

We create affordable, inclusive, easy to navigate, and welcoming places to live and work, as well as helping organisations to maximise social value where it's needed most, through creative approaches.

## More with Less

We create more value with less material by designing out waste and inefficiency as part of wider productivity improvements. We respect existing buildings and components by looking for opportunities for reuse.



## Restore and Adapt

Our regenerative design approach seeks to restore habitats and ecological networks. We design new communities and infrastructure to be resilient in the face of high-emissions global warming scenarios.

## Get Set Zero

We have over a decade of experience in carbon baselining, target setting, verification, developing decarbonisation pathways, and action plans for organisations and projects.



# Small footprints

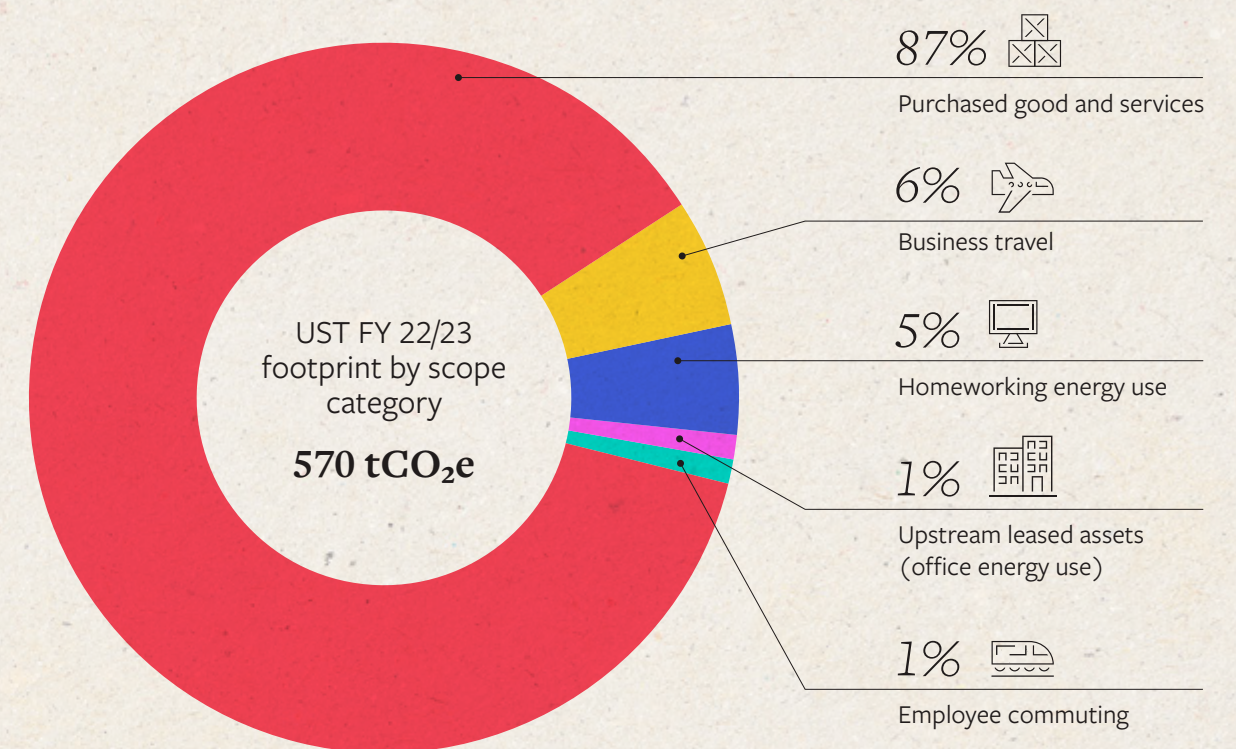
UST is committed to achieving carbon neutrality and net zero aligned carbon emissions by 2030.

We have set an official science-based target through the Science Based Targets initiative (SBTi), which was approved in July 2022. Through SBTi, we have set a near-term net zero aligned company-wide emissions reduction target to reduce Scope 1 and Scope 2 GHG emissions by 46% by 2030, from a 2020 baseline.

We have also joined the United Nations (UNFCCC) Race to Zero initiative, where we are committed to 'reducing emissions, across all scopes, swiftly and fairly in line with the Paris Agreement, with transparent action plans and robust near-term targets'.

Our targets are recognised on the SBTi website, We Mean Business, and the SME Climate Hub. Our Carbon Action Plan provides further information about how the Trust is working towards net zero operational carbon emissions across three priority areas: procurement, energy use in buildings, and travel.

Our carbon footprint for FY22/23 was 574 tonnes CO<sub>2</sub>e. This has increased since the previous year, in line with our growth in company size and turnover. As a professional services company, most of our footprint lies within Scope 3, specifically under 'purchased goods and services'.



Our challenge is to decouple financial growth from carbon emissions, so that we significantly and rapidly decarbonise our business operations, whilst continuing to support our clients to deliver positively impactful projects. This will be achieved by focusing on engaging with our suppliers to reduce their carbon emissions and, where possible, seeking to procure goods and services from like-minded organisations who share our commitment to low carbon and responsible business practices.



*Through SBTi, we have set a near-term net zero aligned company-wide emissions reduction target to reduce Scope 1 and Scope 2 GHG emissions by 46% by 2030.*



# Project high- lights

On the next pages we present some of our most impactful projects from the year, focusing on how our work creates positive environmental and social benefit across these four circularity themes.



*Materials are central to the story of human prosperity, but we must find ways to cut the tremendous costs we are now paying. The challenge therefore is how we bend this linear economic model into one that holds onto that product, that material, that embodied energy in a way that keeps value in the system for as long as possible. This is the circular economy – a redefinition of waste to resource and an opening up of great opportunities.*

Ed McCann, Founding Director for Useful Simple Trust and Past President of the Institution of Civil Engineers

## Creative reuse & retrofit

85–95% of buildings standing in the UK today will still be here in 2050. Existing buildings and infrastructure are valuable assets that need to be cared for and maintained to extend their life and minimise the extraction of virgin materials for new construction. We work with existing estates, infrastructure, and buildings to find opportunities for creative reuse and low energy retrofit that provide value and amenity for businesses, investors, and the community.

## Design for long life, loose fit

Designing for ‘long life’ means creating assets that are durable, resilient, and able to cope with the changing needs of society and the environment. Simultaneously, new buildings must be ‘loose fit’ – flexible and adaptable over time and designed as a bank of materials and components that can be deconstructed and reused again and again.

## Designing out waste

The Construction sector is the biggest consumer of raw materials and generator of waste, responsible for 62% of waste and 50% of material use in the UK. We work as an interdisciplinary group of Architects, Engineers, Consultants, Designers, and Educators to find creative ways to use materials efficiently whilst generating less waste and delivering circular outcomes.

## Low impact / reclaimed materials

We need to reduce our reliance on materials that harm our natural environment, both through their extraction and in use. Instead, we are exploring ways to use regenerative and bio-based materials such as bamboo, timber, and earth, as well as supporting the industry in rapidly decarbonising our most carbon intensive materials, concrete and steel.



# Creative reuse & retrofit

## Brunel Engine Shed

**Location:** High Wycombe, Buckinghamshire

**Client:** Buckinghamshire New University (BNU)

**Status:** RIBA Stage 4 Ongoing

The Grade II listed former railway station and goods shed, designed in the 19th Century by Isambard Kingdom Brunel, is set to reopen to the public as a rejuvenated mixed-use education, exhibition, café, and flexible workspace for the university, community, and local businesses.

Following previous refurbishment and extension work by Buckinghamshire Council, the Brunel Engine Shed is now under lease to the university as its flagship building, forming a gateway to High Wycombe by welcoming visitors from the adjacent train station and providing an instant visual cue to the town's industrial heritage.

We are working as lead designer for the final phase of work on this historic building, including minor alterations to the envelope and full interior fit-out. With a focus on circular and natural materials, our design complements the original building's honest construction, rich character, and historical craftsmanship.

The workspaces have been designed with biophilic principles using natural materials, including hemp and lime plaster, with excellent access to daylight and natural ventilation.

BNU is committed to a high environmental performance, with aspirations for achieving SKA Gold rating by embedding circular principles across the fit-out and operations. Working closely with the services engineers, a passive ventilation strategy has been developed which will significantly reduce the building's operational carbon emissions and mitigate the potential for cluttered servicing in the exposed soffit and original trusses.



*The team instinctively get what we are trying to achieve and have really helped translate what are little more than vague thoughts into something real, tangible, effective, and beautiful (not to mention sustainable).*

Nick Braisby, Vice Chancellor & Chief Executive for BNU



## Circular Economy in Action

— Sophie Thomas

Founding Director for Thomas.Matthews, Senior Director for Useful Simple Trust & Director of Circular Design for Useful Projects

2023 saw me continuing a focused push on influencing our sector towards a circular transformation. I wrote a number of articles that looked at the scale and creativity required to build material innovation and change and had the pleasure of delivering a keynote on specifying materials for circular practice at the Festival of Circular Economy.

I continued to reach into policy and became a member of the CIWM's Policy and Innovation Forum, as well as extending my term on the Board of Trustees at WRAP, where

I have served for over eight years. I was also accepted as a Fellow at the Chartered Institute of Waste and Resource Management, wrote a chapter for the RIBA Materials book on Future Innovation (published March 2023) and recorded several podcasts. All whilst working on circular economy consultancy projects at UST and continuing my creative practice, using waste as a raw material in glass and print.



# Leeds City Museum

We were commissioned to refresh the Natural Science Gallery exhibition, 'Life on Earth', retaining the existing collection and supporting the museum curatorial team to retell the stories around it. By reflecting the shift in understanding of the climate emergency and social history of the gallery's visitors in "the most sustainable way possible", we implemented a minimum waste, low carbon, and measured design approach.

**Location:** Leeds, UK

**Client:** Leeds City Museum

**Status:** Complete

Following an audit of the gallery's collection, furniture, and narrative, we agreed what to reuse or repurpose, and how this could feed into a coherent concept and vision. As many of the displays were remaining, and large conditioned cases were not viable to relocate, we developed a comfortable visitor journey and interpretation plan that reflected the museum's heritage whilst respecting its reputation as a modern scientific establishment.

Our design strategy focussed on four key principles:

## **Less is actually more**

By removing a large fibreglass model, we created better views across the gallery and allowed existing impact pieces more

prominence. To ensure we maximised reuse and the client's positive impact both socially and environmentally, the model was given to a local organisation to divert from landfill.

## **Material is the message**

We considered the purpose and credentials of each material addition as a key focus. Structural 'fins', made from reclaimed timber and recycled paint, were fabricated by local social enterprises. Robust materials, like recyclable mono-material Eco-mesh and PVC-free vinyl were chosen to maintain lifespan. We also maximised the reuse of existing structures to minimise embodied carbon impact, opting to relocate and re-dress rather than producing new. The visitor experience was improved with new, easily updatable information panels and flexible slide stands for labels to ensure future updates will be low impact and low cost.

## **Naturally inclusive and active**

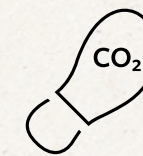
We introduced key interventions such as a locally made children's activity area, constructed

with 100% recycled post-consumer plastic and spools leftover from the fabric trade. We also designed a new game, 'Whose Poo', to re-invigorate an under-used corner of the museum and provide engaging education around one of the most important biological functions.

Sourcing locally ensured that money, work, and knowledge remained in the local area, and that carbon emissions from transport were minimised. We also installed a brand-adjacent set of campaign banners to raise awareness of global environmental and social issues. These were designed in contrast to the vibrant, warm colours of the gallery to invoke a more serious tone around environmental issues.

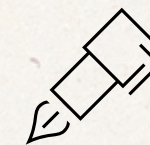
## **Always sharing and learning**

The project's carbon saving report is already being used within Leeds Museum as a baseline, allowing other organisations in the UK to compare like-for-like exhibition projects.



## 2.3tCO<sub>2</sub>e

Total carbon footprint



## 40%

Carbon saved through good design decisions



# Design for long life, loose fit



## Community River Walk

— Fred Labbé

Director for Expedition Engineering

Since the site's historic flooding, residents and businesses in Lewes have lived in fear of it happening again. To help appease understandable questions arising over The Phoenix's planning submission, I led a series of 'informative and reassuring' guided walks along the River Ouse in 2023. Together with Human Nature, we discussed the project's aims to mitigate flood risk through its use of green infrastructure and emphasis as one of the UK's most sustainable neighbourhoods.



*Fred Labbé and his team are simply wonderful sustainable water engineers. They get design, they are rigorous, communicate quickly and effectively and express or manifest empathy when meeting even the most querulous people in our host communities.*

Jonathan Smales, Executive Chair for Human Nature



## The Phoenix

**Location:** Lewes, East Sussex

**Client:** Human Nature Places

**Collaborators:** Human Nature, Periscope and Kathryn Firth

**Status:** Planning Approved

We are working with innovative developer, Human Nature, to design the future-proofed flood defences and a sustainable surface water drainage system for the widely acclaimed new riverside development in Lewes.

The exemplary sustainable masterplan has committed to eliminate waste and creates valuable new products and services from redundant materials across the site, repurposing existing structures, retaining principal streets, and prioritising the waste strategy.

### Future-proof design

The landscape strategy will re-open access to the riverfront following the former Phoenix Industrial Estate's immersion under 1.5m of water in the 2000 River Ouse flooding.

As part of the wider approach to utilising the former floodplain, the proposed 900m-long flood wall represents a large-scale intervention in the landscape of the site, and shapes its plan in several significant ways. Working closely with the Environment Agency, we have proposed a scheme that sensitively protects the site with



**38%**  
Biodiversity net gain



**900m**  
Upgraded and new flood defence for new and existing communities



**5**  
Existing buildings to be retained

planting and retains parts of the existing river wall, while also improving and mitigating flood risk for the neighbouring area.

Our design also aims to bring multiple biodiversity, amenity, and water circularity benefits to protect the existing and future community from flooding, requiring careful planning and configuration owing to the existing flood defences varying in size and condition.

### The power of place

Future resilience is a key consideration, as climate change will increase rainfall intensities and fluvial flood risk, as well as sea levels and tidal flood risk. Landscape features will manage run-off and remove pollutants before discharge, and integrated storage features allow stormwater to be retained until river levels drop sufficiently to allow its release by gravity.





# Northstowe Community Hub

We produced the Sustainability Statement in support of the Reserved Matters application for a new eco-friendly Community Centre (NCC) on Stirling Road, Cambridgeshire, forming part of the Local Centre and Employment Zone (LCEZ).

**Location:** Cambridge, UK

**Client:** South Cambridgeshire District Council

**Collaborators:** CZWG Architects

**Status:** Planning Approved

Planning has been approved for Phase 1 of the development to commence. Putting the environment at its heart, our holistic Sustainability Strategy sets the aspirations for climate resilience, biodiversity enhancements, net zero carbon development, circular economy, waste management, water efficiency, sustainable transport provision, and health and wellbeing.

## Human and planetary health

This Strategy also follows the BREEAM principles for sustainable development, with a focus on developing a holistic and bespoke strategy tailored to the specific project requirements that will add value for the communities it serves.



**19%**

Predicted Biodiversity net gain



**50%**

Toilet flushing demand supplied by rainwater harvesting



**1,800m<sup>2</sup>**

New habitat created, including 272m<sup>2</sup> of green roof and 32m<sup>2</sup> of rain gardens

As the first permanent community centre in the area, the two-storey building will comprise a large, multi-purpose main hall, activity rooms, meeting rooms, collaboration spaces, a café, ancillary spaces, and a sheltered garden for the local community. Designed to Passivhaus levels of insulation and air tightness, it aims to set a benchmark for sustainable and inclusive community spaces, catering to the needs of people of all ages and abilities.

## Serving the community

The scheme will also reduce transport-based pollution by providing cycle parking and

facilities to staff and visitors to encourage active travel. It is a fitting addition to Northstowe's 'NHS Healthy New Town' designation, promoting health and wellbeing through its design and programming.

With the Council committed to enhancing biodiversity in the area, they are also developing new landscaping scheme. This will feature green roofs and surrounding spaces for nature, including hedges, trees, integrated bird and bat boxes, deadwood features and a bee house. These measures will achieve a Biodiversity Net Gain of 19% within the site.





# Skipton House

**Location:** London, UK

**Client:** London + Regional Properties

**Status:** Pre-Planning

The concept design for this 30-storey redevelopment is a testament to our innovative approach to sustainable and circular engineering. The design underscores our investment in pre-redevelopment and pre-deconstruction audits, offering a meaningful method of influencing project sustainability at an early stage – something that is becoming increasingly important following new requirements under the GLA’s 2021 London Plan.

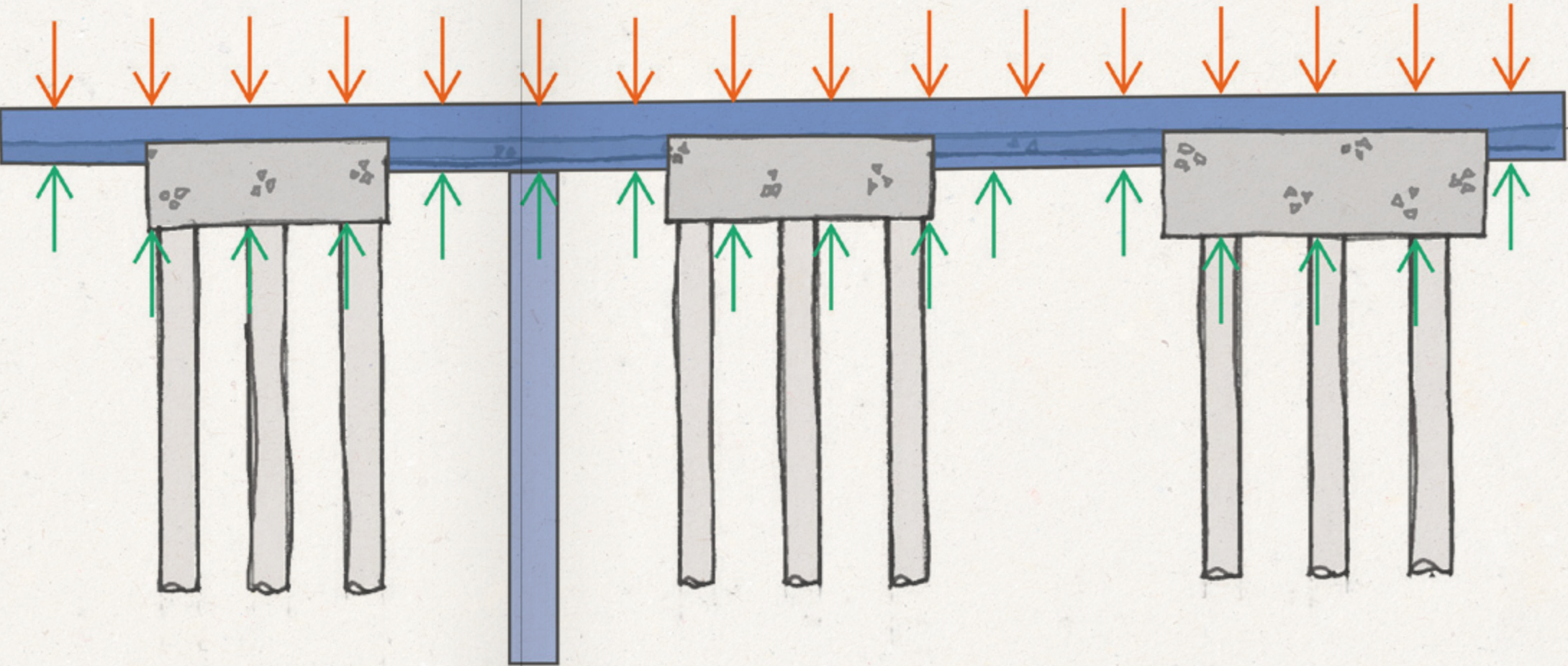
We leveraged our team’s structural knowledge to enable early justification of the ground-stiffening effect of the site’s existing piles, enabling a relatively economical new foundation raft that significantly reduces the extent of new foundations (see sketch opposite).

Our work considers the LETI targets for embodied carbon by default – embedding an easily comprehensible roadmap that draws down towards the UK’s 2050 Net Zero target and goes beyond the London Plan benchmark and aspirational targets for whole life embodied carbon. Key sustainability moves include incorporating passive design principles, the use of low carbon concrete, and an emphasis on increasing the scheme’s modularity and demountability.

This strategy aims to maximise long-term use of the new building, promotes material circularity, and ensures optimisation for both current use and future adaptability. Furthermore, establishing positive working relationships during the planning phase has allowed us to advocate for increased floor-to-floor heights without altering the number of storeys, prioritising reusability and future structural repurposing.

**Key**

- Concrete foundations retained from existing building.
- Additional concrete foundations plugging into the existing ones.



Concept sketch illustrating potential for reuse of existing structural components



*Standing out as a forward-thinking model that aligns with circular economy and whole life carbon strategy principles, our holistic and meaningful leverage of sustainability opportunities for the long-term lifecycle of the building enabled our proposal to have a significantly lower whole lifecycle carbon footprint per unit area than two previous schemes, which was highly commended by the design review panel.*

Hayley Cormick, Associate Sustainability Consultant for Useful Projects



# Designing out waste

## Environment Agency Net Zero

**Location:** United Kingdom

**Client:** Environment Agency

**Status:** Ongoing

We advised and steered the formation of the Environment Agency's £21m flagship net zero innovation programme which now focusses on rapid scale up of available technologies, enabling it to go from 273,000tCO<sub>2</sub>e in 2022 to net zero in 2030.

A shortlist of innovative technologies with the potential to cut capital carbon in infrastructure is being explored, and we are advising how to identify and manage the development of those which hold the greatest promise for scale-up in the time available.

The Agency has set itself an ambitious target to drive out 43% of capital carbon by 2030 as part of its route to net zero, and acknowledges the need to accelerate progress to meet this important milestone. For the Flood, Coastal & Erosion Risk Management Programme, the Agency has identified six themes where carbon savings could have the biggest impact. Six teams in geographical hubs have been established to test and trial them, identifying which have the greatest potential for scale-up and widespread adoption.

This is an all-encompassing net zero programme, exploring multiple technologies for several infrastructure and construction types, rather than restricting itself to just one or two. These new technologies cover steel and concrete construction, earthworks, asset management, and modern methods of construction (MMC).

Not all of these would be expected to be viable and achieve widespread adoption, even with

unlimited funding. To be successful, they must meet a wider range of criteria than just technology readiness. Our team has introduced the concept of the Innovation Readiness Matrix which prompts innovators to identify and assess a wide range of barriers to adoption, including demand, system, and reliability readiness.



Photo by Shane Mclendon on Unsplash



## National Highways Gantry

— Chris Wise

Founding Director for Expedition Engineering & Useful Simple Trust

This RIBA competition-winning collaboration will produce the next generation of motorway gantries for England's motorways. Our design and technical innovations for a 'family' of elegant new gantries is proven to bring up to a 60% reduction in embodied carbon, dramatic CapEx and OpEx cost reductions, and an extended service life through leaner, lighter steel construction that doesn't compromise on strength or resilience. As a significant first for National Highways and the Department for Transport, we have also proved how the Government, acting as an innovation champion, can get better value and more sustainable performance from public funding by choosing specialist designers who are not normally part of their large infrastructure framework agreements.

Working closely with National Highways' technical specialists, our gantries have been pared down to use low-carbon electric-arc furnace weathering steel to prioritise low maintenance; the material will continue to patinate during its lifespan, in some cases being left untreated to appear as an earthy reddish-brown to complement the surrounding landscape.

We have also scaled down all key components to optimise their size and shape, leading to a 50% reduction in material per gantry, and a similar reduction by replacing the normal block foundations with a sculpted lean plinth.



**43%**

Capital carbon reduction targeted by 2030



**1st**

Tactical plan from an infrastructure organisation for how to deliver innovative low carbon solutions at scale on a capital programme supporting the capital carbon reduction target



**38**

Technologies across six schemes to be tested during the £21m programme





# WMCA Circular Economy Roadmap

We worked with the WMCA to develop a Circular Economy Routemap for the region, supporting the aim of spurring a green industrial revolution by kickstarting the circular economy in the West Midlands. Our analysis revealed that £2 billion could be generated each year if 50% of West Midlands' population participated in reuse and sharing networks.

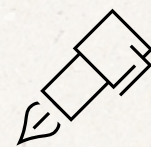
**Client:** West Midlands Combined Authority

**Status:** Complete

## Focus, purpose and scope

The Routemap focuses on three priority areas that can catalyse socio-economic transformation, specifically chosen as they build on the regions existing strengths and expertise: circular manufacturing, circular construction and circular food.

Our methodology began with baseline analysis and research, which involved undertaking a policy analysis, high-level analysis of the region's material flows, and a place-based mapping exercise, along with stakeholder engagement. Four clear principles were then identified to underpin the vision for the transition to a circular economy: setting the enabling foundation to support region-wide transition to a circular economy, optimising resources, establishing inclusive and green growth, and promoting innovation and collaboration.



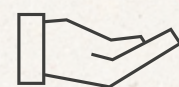
**35+**

Stakeholder engagement workshops



**100+**

People engaged across private, public and third sector



**£100,000**

Funding helped to secure for region's first construction hub

## Place-based mapping

The Circular Economy Routemap explored five key enablers: policy and regulation, governance, capacity building, soft infrastructure, and hard infrastructure. Each enabler was explored in further detail, proposing next steps and an implementation plan, and identifying delivery partners. Subsequent workstreams have produced four to five strategic interventions for each of the three priority areas. Each strategy proves that, not only does the circular economy make better use of resources, but it could generate more economic and social value as well as creating jobs for the region.

## Funding the future

Our work helped secure £100,000 of WMCA funding for the region's first construction materials reuse hub, in Wolverhampton. The Reuse Hub is a significant first step for the region's nationally leading work to grow the circular economy and support sectors such as construction, manufacturing, and food production to be more efficient in the way they use resources. It is also crucial for the

region's #WM2041 ambition to be net zero in the next two decades.

Surplus materials from construction sites, builders' merchants, wholesalers and others in the West Midlands supply chain – which often ends up as waste – will be taken by the Hub and sold on to small traders, DIYers, gardeners and craftspeople at a substantially discounted cost, saving them money and reducing landfill.

In its first full year of operation, around 600 tonnes of material are expected to be diverted away from landfill – the equivalent weight of 20 West Midlands Metro trams. It will also create jobs, apprenticeships and volunteering opportunities, and host repair and skills workshops.

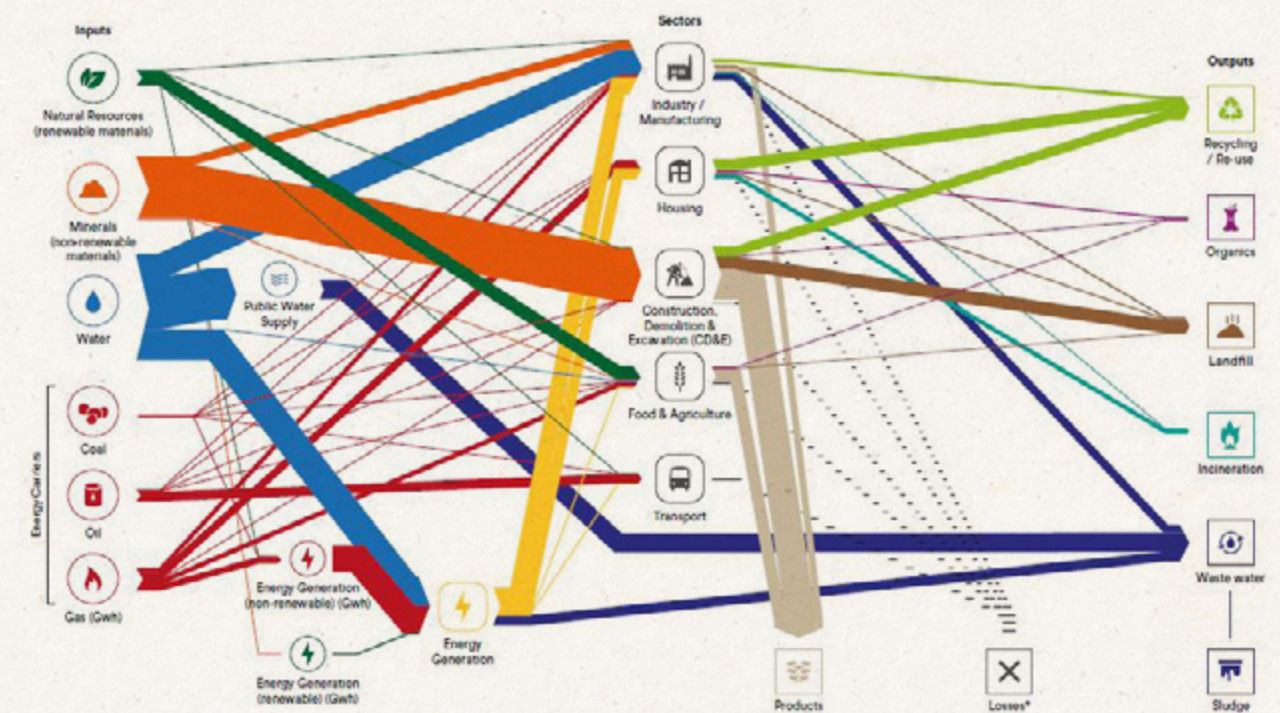


Figure 4: Initial material flow analysis conducted on five sector. For more information see Supporting Document: Baseline Analysis.

Material flow analysis for the West Midlands region



# Low impact/ reclaimed materials

## Queen Elizabeth II Memorial Garden

**Location:** Buckinghamshire, UK

**Client:** Buckinghamshire New University (BNU)

**Status:** Complete

As an exemplary place for learning, BNU is a shared estate actively in use by students, faculty, and the wider community. In conjunction with its mission to restore and renew nature, our team was appointed as Architect and Project Manager to revitalise the previously underutilised south-east corner of the campus.

Part of the wider 'Building a Better BNU' estate-wide Green Masterplan, the garden was designed to support student experience and mental health, in addition to creating a gathering space for both the community

and local organisations. We reinforced BNU's Nature Positive Universities Pledge and net zero targets with the inhabited screen and sculptural curved bench.

Partnering with other social enterprises on design, delivery, and operation, the bench gently wraps around the inner garden to provide a sense of enclosure, in addition to a visual and acoustic barrier against the adjacent road. Constructed using entirely reclaimed timber, sourced from a local primary school's old roof, the screen was developed and produced by Oxford Wood Recycling, whose 'Wood to Work' scheme supports individuals who face barriers to employment.

The landscaped grass area, mature trees, and shrubs were specified to support biodiversity, increase resilience to climate change, and improve air quality. The existing grassland was then enriched with ground covering plants, and several bird and bat boxes made from the

reclaimed timber off-cuts were positioned in the existing protected trees. It will be maintained by Missenden Walled Garden, a local charity who provide opportunities for people with disabilities or mental health issues.



**85%**  
Savings in carbon emissions  
compared to new timber



**40**  
Species of native and low  
maintenance plants



**625**  
Bulbs planted to  
boost biodiversity



**40m**  
Hedgerow planted  
alongside the Gateway



*Applying our work ethic of lean design, material reduction, and circular economy, our design solutions are high performance but low in carbon. This is achieved by our dedication to material reuse, ensuring resources are retained and waste is minimised, wherever possible.*

Carrie Behar, Head of Sustainability for Useful Simple Trust

Power House Exhibition, Roca Gallery: structures made from 100% recycled LDPE plastic sheet material.



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# Eden Project Dundee

We are undertaking the structural design for the ‘New Eden’, pioneering an innovative regenerative design process that will see the city’s five-hectare former Dundee Gasworks site transformed into a new tourist attraction and educational facility.

**Location:** Dundee, Scotland

**Client:** Eden Project

**Collaborators:** Feilden Clegg Bradley Studios, Urban Linkages, Nicoll Russell Studio

**Status:** In Planning

## A landmark for the city

The world-class project will set new standards in regenerative design and act as the development catalyst for the wider environmental, social, and economic transformation of the city.

Dundee is one of several sites that the Eden Project has selected to act as a global response to the planetary emergency, inspired by the original Eden Project in Cornwall. With locations ranging from Morecambe in Lancashire to Qingdao in China, each project is being developed with local teams, responding to its communities’ themes and needs.

## Championing regenerative design

The collaborative design aims to restore the site through a resilient scheme, reinstating biodiversity, and reusing existing materials to create an immersive educational facility. To achieve the project’s sustainable aspirations, we are maximising circular economy principles, both designing for in-situ reuse and ex-situ reuse.

We are providing Structural Engineering services for the three main buildings, including repurposing a vast gas holder to become the main exhibition venue, creating a new pavilion using structural timber, and recycling elements from buildings demolished elsewhere to construct a ‘circular economy’ venue. This approach aligns closely with the Eden Trust’s aspirations to reclaim contaminated land in the heart of the city, transforming it into a place where nature can thrive, and communities can be built. The most notable evolution will be the 60m-diameter gas holder that will become the main visitor venue known as the ‘Lush Bunker’.



## Embodied Biodiversity Impacts of Construction Materials

— Eva MacNamara

Director for Expedition Engineering

Our spin off research on the ‘Embodied Biodiversity Impacts of Construction Materials’ report was inspired by our collaboration with the Eden Project. The research was co-funded by the Institution of Civil Engineers R&D Enabling fund and Useful Simple Trust, as an outcome from our regenerative design approach with the wider Dundee design team, making the design process regenerative,

and enabling thriving outcomes well beyond the project site boundary.

This report was published in Autumn 2023, and we have been disseminating it with the wider industry in an open-source fashion, co-creating next steps to move the industry forward in this important field.

In parallel with our structural services, we are championing regenerative design by bringing focus back to the early choices that can have a knock-on effect on options later in the project lifecycle. For the ‘circular economy’ venue, for example, this might mean safeguarding the grid sizes of the building, accommodating the type and dimensions of recycled structural elements that are likely to be available.

## Commitment to local sourcing

For the wooden structure, we researched the local material supply, which is more likely to

be sawn or round timber in a limited range of grades and sizes, for which the structure must be designed accordingly.

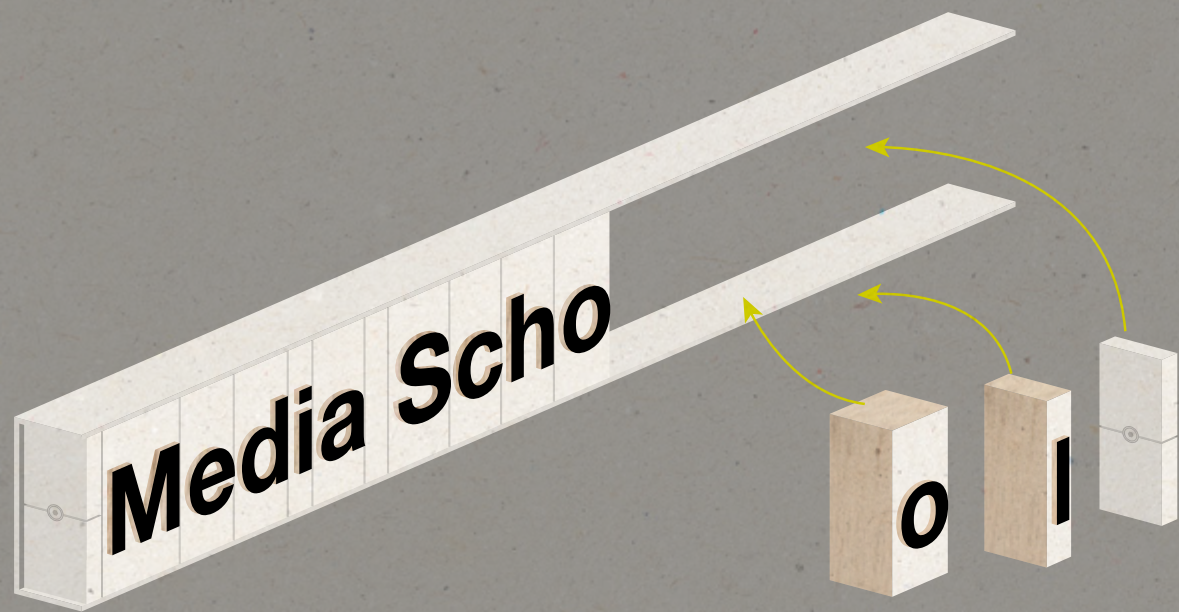
Building a regenerative future requires a commitment to positive transformation and Dundee aims to show how this shift in perspective can become a reality, by considering the city, construction industry, and regenerative design to deliver a legacy that expands on what Eden have already achieved.



*A world-class project which will deliver hundreds of jobs, huge visitor numbers and tens of millions of pounds into the local economy. And it’s so much more than that too, with tremendous opportunities for education, inspiration and connecting our diverse communities.*

John Alexander, Lead Councillor for Dundee City Council





## University of the Arts, London (UAL)

**Location:** London, UK

**Client:** UAL London College of Communication

**Status:** RIBA Stage 4 Complete



**16.4 tCO<sub>2</sub>e**

Savings per tonne of material using recycled aluminium



Reused materials from original building and construction



Targeting plastic reduction – vinyl use minimised and all vinyl specified PVC free

We joined architects, Penoyre & Prasad, to form a competition-winning design team for the new LCC building (formerly The London College of Printing) in Elephant & Castle, London. Having been at the heart of the rapidly expanding neighbourhood for over 50 years, the project aims to build capacity around the University's creative industry courses and new creative hub, part of the wider Allies & Morrison-led masterplan redevelopment.

Focusing on the site's rich history of print, we ensured the essence of the 1960s building was baked into the design solutions alongside embedding a sustainable approach at the heart of our proposal from concept stage. Now at the end of RIBA Stage 4, our wayfinding and signage solutions provide a framework for flexibility that is built around circularity.

As part of our design process, we reviewed the relative impact of different materials and opted for recycled aluminium extrusions across the project – saving 16.4 tonnes CO<sub>2</sub>e per tonne of material - and championing specification of reclaimed materials, including interchangeable wooden blocks, shuttering ply from construction, and reusing parquet flooring from the original print rooms. We are continuing to work with the client to realise these proposals.

## Low Carbon Concrete Advisory

**Location:** UK

**Client:** Various

**Status:** Ongoing

Building on our involvement in the ICE Low Carbon Concrete Routemap, which sets the agenda for a path to net zero, we have continued to work with major infrastructure clients on a portfolio of low carbon concrete advisory work. Part of this involved identifying how Infrastructure Client Group (ICG) members could effectively accelerate the adoption of the Low Carbon Concrete Routemap considering their unique role in the industry. This led to an ongoing identification of barriers preventing the adoption of low carbon concrete principles and the practical immediate and longstanding actions that clients can take to overcome them.



**90Mt**

Per year of concrete use now on a journey towards net zero emissions



**£4m**

Funding identified from Innovate UK to support clients' and smaller enterprises' low carbon concrete initiatives

Our team pioneered carbon intensity targets and benchmarks which are now being adopted by leading industry bodies such as the ICG, alongside our clients who include Network Rail, HS2, National Highways and the Environment Agency. We have also provided support in the development of our clients' low carbon concrete minimum technical requirements and specification guidance.



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# Our impact network

For an SME, we believe we punch well above our weight in terms of influencing our industry and creating tangible positive impact. In addition to our project work, the year saw us leveraging our expertise through a series of collaborative networks and initiatives, including:

## Educating a purpose-driven workforce

- Bath University: Regenerative design education
- Cambridge University: Regenerative design education
- University College London: Environmental design and engineering teaching
- University College London: Industry Advisory Board membership for MSc and BSc Sustainable Built Environments, Energy and Resources

## Academic research and collaborations

- Cambridge University: Rebar for the 21st Century (with Laing O’Rourke)
- Cambridge University: Collaboration with Dr Sarah Fitton on social impact creation and reporting
- Imperial College: SouthKenZen+: Net Zero Nature Positive Living Lab (with Dame Alison Nimmo)
- Imperial College: Industry Steering Group for Retrofit Accelerator Programme



## Research collaborations with industry bodies

- Net Zero Building Standard: Steering committee and sector lead for the upcoming UK Net Zero Carbon Buildings Standard
- London Energy Transformation Initiative (LETI): Research and guidance on decarbonising buildings and infrastructure.
- Get it Right Initiative (GIRI): Contributed to research showing that the construction industry could save between £10–25billion per annum by eliminating error
- UK Low Carbon Concrete Group: Net Zero Routemap and novel carbon benchmarking scheme being deployed across UK concrete industry (see p.34)
- Infrastructure Client Group Low Carbon Concrete Accelerator Programme: Bringing research into practice for nine of the largest infrastructure clients in the UK
- UK Sport Sustainability Accelerator Programme
- UK Green Building Council (UKGBC) Carbon Offsetting, Embodied Carbon Task Group, and Pricing Working Group
- Chartered Institute of Building Services Engineers (CIBSE) Building Simulation Group Committee
- Net Zero Bridges Group

## Design panels

- National Infrastructure Commission (NIC) Design Group
- New London Architecture (NLA) Expert Panels: Wellbeing and Transport
- Royal Borough of Kensington and Chelsea Quality Review Panel
- Technical Advisor to the Board of Homes England

- Oxford Design Review Panel
- Somerset Quality Review Panel
- B Corp Built Environment Group
- UKGBC Social Value Taskforce
- ICE Circular Economy Panel
- UK Concrete Decarbonisation Taskforce
- CARES UK Reinforcing Steel Sustainability

## Publications

- “Sustainable Infrastructure: Principles into Practice” (September 2023): Judith Sykes co-authored with Richard Fenner and Charles Ainger
- RIBA “Materials: An environmental primer” (Spring 2024): Sophie Thomas, Helen McGarry, Eva MacNamara and Bruce Martin contributed to concrete, steel, and future materials sections
- Institution of Civil Engineers (ICE) R&D Enabling Fund research report: “The Embodied Biodiversity Impacts of Construction Materials” (September 2023) (see p.36)
- Institution of Civil Engineers (ICE) R&D Enabling Fund research on development infrastructure carbon: Guidance for the estimation and reduction of embodied carbon associated with infrastructure for masterplanning projects (forthcoming)
- NIC “Second National Infrastructure Assessment/NIA2” (October 2023): Judith Sykes contributed

## Advocacy

- Signatories of Architects Declare, Building Services Engineers Declare, B Design Declares!, Structural Engineers Declare
- Doughnut Economics Action Lab (DEAL): Useful Projects registered as an ‘Organisation in Action’



# Our year at a glance

## Awards won

### Building with Nature Award

Langleybury Film Hub

### Neave Brown Award for Housing

A House for Artists: RIBA Stirling Prize 2023

### Client of the Year Award 2023 and RIBA National Award 2023

A House for Artists: RIBA London Award 2023

### Constructing Excellence Awards 2023 Sustainability

AVA Bridge

### NLA Awards 2023– Mixed-Use

Harringay Warehouses

### New Civil Engineer Awards 2023 Highly Commended for Impact in Rail

Expedition Engineering,  
Construction Innovation Team

### AR Future Projects Awards 2023

The Phoenix

## Awards shortlisted

### Social Enterprise of the Year

Useful Simple Trust  
Social Enterprise UK Awards

### Digital Rising Star

Oana Sala: TechFest 2023 Awards

### Stephen Lawrence Prize 2023

A House for Artists

### Consultancy of the Year

Useful Projects: edie Net-Zero Awards

### Design Week 2023 Awards, Design, Climate, Action: Designing Sustainability

Thomas.Matthews



**295 hrs** **89**

of carbon literacy training  
undertaken in our first cohort.

Trust beneficiaries working  
together to drive positive  
change across our industry.



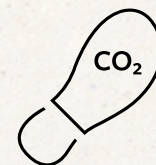
**35%**

anticipated B Corp  
score uplift.



**72**

days of pro bono  
and voluntary work  
undertaken with  
institutions and  
the community.



**570tCO<sub>2</sub>e**

Operational carbon footprint. We acknowledge that we  
haven't yet managed to decouple business growth from  
carbon emissions, but we are working on it.



- We became an accredited **Carbon Literate Organisation**.
- We published our first **Carbon Action Plan** setting out how UST will work towards net zero operational carbon emissions.
- We upgraded our **Investors in People** accreditation to **'Gold'**.







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**The Useful Simple Trust family is:**

*Expedition Engineering*

*Thomas.Matthews*

*Useful Projects*

*Useful Studio*

**Useful Simple Trust Limited**

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