

Circular Economy in Action

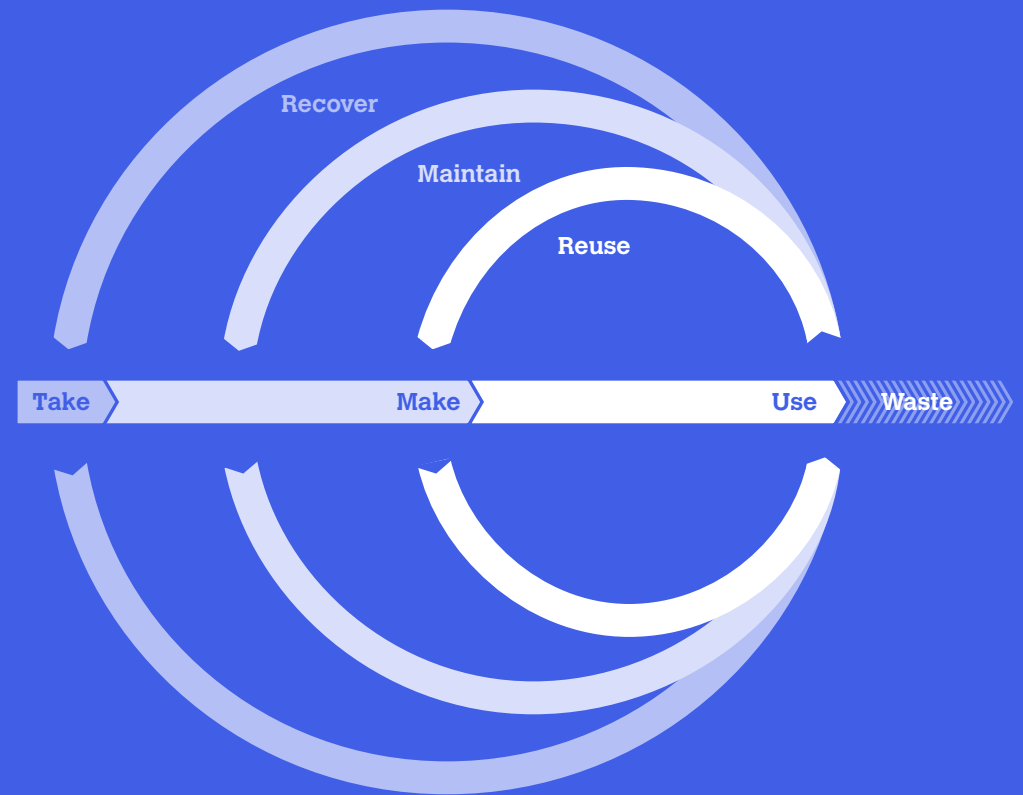


What is a Circular Economy?

Waste is a resource in the wrong place. Everything we design should always be made to be designed to be reused or recycled at the end of a use cycle.

A Circular Economy is one where materials retain their value at the highest possible level for as long as possible.

Whilst the idea is deceptively simple, its implementation can be complex and difficult.



Outcomes

We put the theory into practice across a range of scales – from regions to masterplans, buildings and products, across the entire lifecycle.

With our experience in applying circular principles, we support your shift towards a Circular Economy in policy, strategy, design, construction, ongoing management and decommissioning.

Our work in the Circular Economy is based on effective decision making and minimizing resource demand, embodied carbon, operational carbon and waste across the whole lifecycle of a product or asset.



Save time & money

Circular Economy approaches lead to better design decisions which can reduce capital costs, distribute commercial risks, improve safety and speed of delivery, and enable more reliable long-term planning.



Plan for policy & regulation

The Greater London Authority is leading the way by embedding the Circular Economy in the New London Plan. Other authorities across the UK are likely to introduce similar measures in order to achieve the government's target of a Zero Carbon economy by 2050.



Respond to the Climate Emergency

Circular Economy approaches often result in significant reductions of waste, carbon emissions and other types of environmental pollution beyond the first whole lifecycle of an asset or product.



Build resilience within communities

The Circular Economy frequently stimulates innovation that strengthens local economies. Collaborations lead to the distribution and circulation of resources, knowledge and skills. These new networks are significantly less volatile than current global markets in the traditional linear economy.

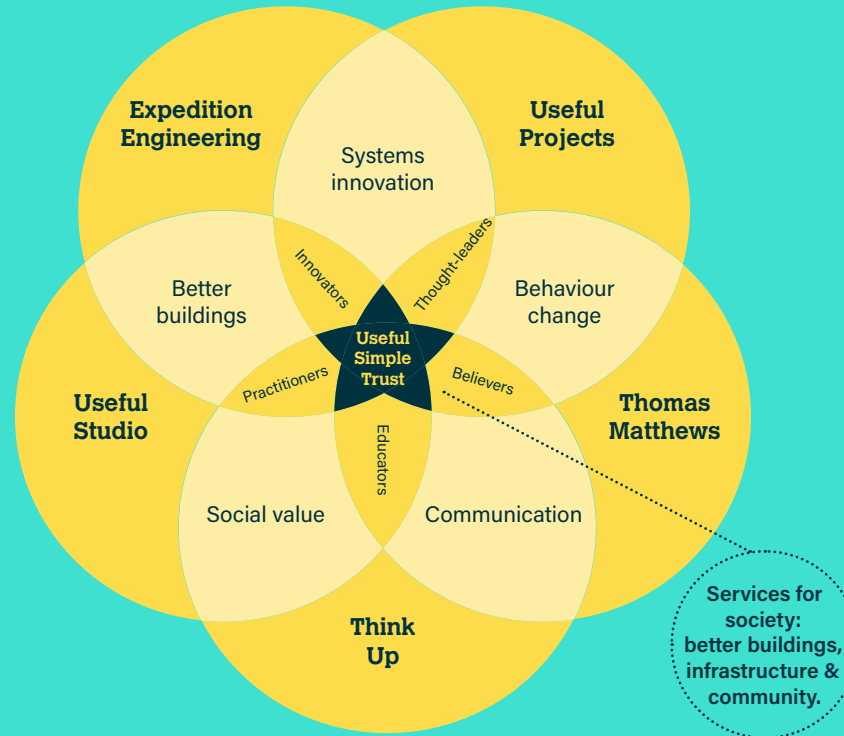
Collaboration for success

Our mission is to blaze a trail in the integrated, intelligent and ethical provision of the built environment

We are the Useful Simple Trust – an employee-owned and collaborative group of companies comprising Useful Projects, Expedition Engineering, Useful Studio, Thomas Matthews and Think Up. Our consultancy team includes engineers, architects, designers, consultants, communicators, facilitators, writers and strategists all working in the built environment.

What makes us unique is our understanding of decision-making processes across the sector, our design expertise and our ability to communicate clearly.

We believe our work should have a sustainable impact on our clients and the wider human environment by delivering **useful, simple** outcomes that are **beautiful and good**.



Useful Projects is a sustainable innovation consultancy for the built environment.

Expedition is an engineering practice with experience in a wide range of building, infrastructure and masterplanning projects.

Thomas.Matthews is a communications design agency working with unique experience in identity and placemaking for the built environment.

Useful Studio is an architecture and design practice with experience from masterplanning through to new build and refurbishment projects.

We are a **Social Enterprise** and we use our skills to tackle social problems, improve communities, people's life chances, and the environment.

We are an **Employee Ownership** organisation, entrepreneurial in our work and committed to delivering success for our clients.

Many clients have social value objectives, and working with SMEs and Social Enterprises is often part of this – and we are both of these things.



Trusted Experts



Dan Epstein
Consultant Director

Dan has over 30 years' experience in sustainable development and is a thought leader on the circular economy in the built environment. He is the former Head of Sustainability on the Olympic Park, which implemented many circular economy principles. Dan has directed numerous circular economy consultancy projects for clients including OPDC, LWARB and Zero Waste Scotland, and has had great success at getting board-level buy-in for circular economy initiatives. Dan is a member of the Green Construction Board Circular Economy Working Group.



Sophie Thomas
Director

Sophie has been working in the field of sustainable design, behaviour change and material process for nearly 20 years. She is the founder of The Great Recovery circular economy engagement programme and former Director of Circular Economy at the RSA. Sophie is a trustee for WRAP UK, and was one of the first designers to become a Chartered Waste Manager. She was shortlisted by CIWM for Industry leader of the year. Sophie has particular expertise in working with product manufacturers to develop more circular design approaches and business models.



Judith Sykes
Director

A Fellow of the ICE with a background in engineering, material and resource issues are a key consideration of Judith's work. She has directed several circular economy consultancy projects, and developed tools, processes and business cases to support business transition to the circular economy. She has also designed water systems based on closed loop principles including the Olympic Park blackwater reuse centre. She is a former Great Recovery Advisory Panel member and editor of the ICE Sustainability Journal.



Catherine Ramsden
Director

Catherine founded the architectural practice Useful Studio in 2013 and is also serving on the Board of Useful Simple Trust. She is a highly experienced architectural designer who combines excellent conceptual design skills with a wealth of delivery experience, much of which was gained working on high profile projects for over a decade whilst an Associate Partner at Foster and Partners. With a degree in environmental design Catherine spent the early years of her career in masterplanning and urban design for WRT across California working on projects including the strategic masterplans for Mission Bay and Balboa Park in San Diego and a sustainable townscape for Healdsburg.



Bruce Martin
Associate Director

Bruce is a passionate innovator. He has the technical skills and experience to unlock the potential of novel materials and applications. Along the wide range of projects he has worked on during his 25 years as engineering leader, he has showcased his ability to reduce environmental impact and provide significant value to his clients. Through his research, Bruce has contributed to the Get It Right Initiative, which aims to reduce errors in the construction industry. Minimising embodied carbon and the integration of new methods within an existing context are among his many interests.



Jo Dobson
Associate

Jo is a member of the ICE Circular Economy Panel for London, and the former Waste Manager on the Olympic Park. Her particular area of interest and expertise is developing circular economy policies, strategies and implementation plans for organisations and projects. She led our work with HS2 to identify circular economy opportunities across the organisation and project itself. Jo is passionate about making the circular economy more mainstream and has been involved in industry engagement initiatives for the Green Construction Board and The Great Recovery.



Edith Colomba
Senior Sustainability Consultant



Edith is an architect with 12 years' experience in environmental architecture. As a Sustainability Consultant, Edith has worked on a variety of projects, from impact assessment of materials, environmental assessment of large new developments, sustainability policies and energy assessments. Edith leads the organisation of events – finding speakers and delivering cutting-edge inspirational and innovative sustainability courses. She also presents both online and face to face courses on sustainability for organisations working within the built environment.



Ralf Claussner
Senior Consultant

Ralf complements his technical background in engineering with experience in delivering industrial ecology projects. He is passionate about generating ideas and developing strategies with tangible impacts. Ralf's systems perspective is based on Life-Cycle Analysis and social impact assessment to develop appropriate solutions and achieve sustainable benefits for his clients. His interests include decarbonisation, dematerialisation and a shift towards a circular equitable economy.

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Circular Economy Policy Guidance London



Brief

To develop comprehensive guidance for developers to demonstrate they are adopting Circular Economy principles.

Approach

- Analysis and refinement of policy
- Industry engagement workshops
- Review of different opportunities for a range of scales of development
- Development of a framework and definitions
- Creation of guidance

Outcomes

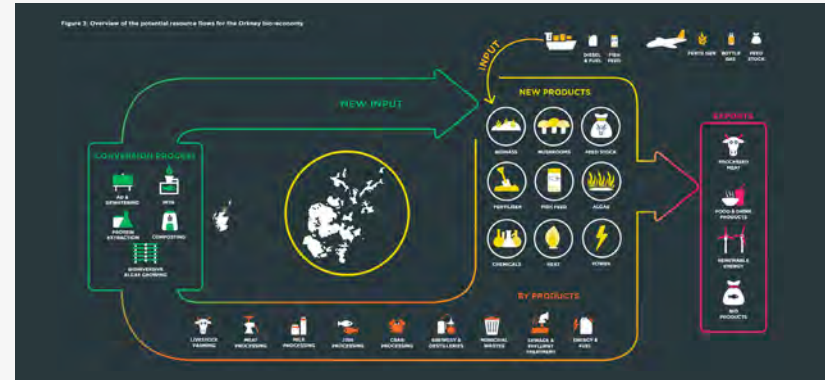
- Guidance adopted in the New London Plan
- Guidance will be used by all referable schemes in London
- Consultation with Local Authorities on its adoption and application
- **Co-authorship of the Mayor's Primer**



Client Greater London Authority (GLA) & London Waste and Recycling Board (LWARB)
Scale City
Service Policy guidance development



Local Bio-Resource Economy Orkney Islands



Brief

To conduct a material flow analysis of the local beer, whisky and fish industries; to investigate options for using by-products as resources for other industries and creating closed-loop systems.

Approach

- Stakeholder interviews
- Waste management assessment
- Review of existing pilots
- Innovation capacity assessment
- Research of appropriate circular technologies
- Developing the business case for bio-waste and by-product circulation

Outcomes

- Material Flow Map illustrating the potential for circular flows, waste reduction and associated financial benefits
- Proposals for 9 interventions to develop at least some of the wide range of bio-economy opportunities tailored to Orkney

Client Zero Waste Scotland through The Great Recovery
Scale Region
Service Opportunity identification

Case Studies:

Infrastructure Clients

Major projects and innovative developers are beginning to embrace circular design and delivery models. In addition, as Local Authorities implement circular economy policies, developers and their supply chain will have to innovate in this area and follow robust approaches based on circular principles.

We have developed strategic approaches, design tools and project development support systems to help clients address circularity systematically and comprehensively.

Infrastructure Clients

Circular Economy Strategy

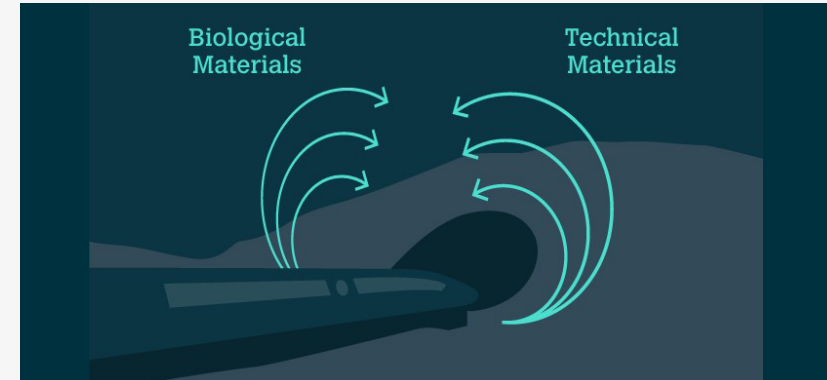
Infinity Bridge

Zero-Waste Textile Factory

Infrastructure Clients



Circular Economy Strategy HS2



Brief

To help develop HS2's Circular Economy strategy, identify specific opportunities across all asset classes, and develop business cases for board-level buy-in.

Approach

- Collaboration with Expedition Engineering and contractor BAM, combining sustainability expertise, engineering ingenuity
- Identify existing work linked to the circular economy
- Identify specific opportunities across stations, main civils works, railway systems, rolling stock and depots
- Recommendations for a series of enablers to encourage the supply chain to innovate and develop circular economy approaches

Outcomes

- Identification of over 100 circular economy opportunities, helping HS2 realise the potential to unlock value from the innovative use of resources over the whole project life cycle
- 4 business cases developed
- Enabled HS2 to publish a Circular Economy Policy and embed clauses into project requirements and specifications

Client High Speed Two

Scale Major infrastructure project

Service Gap analysis, strategy development, opportunity identification, business cases

Circular Economy Strategy

Infinity Bridge

Zero-Waste Textile Factory



Infinity Bridge Stockton



Brief

To deliver an iconic structure that forms a focal part of the Tees Valley Regeneration scheme on the North Shore at modest cost.

Approach

- Local stakeholder engagement to appraise the design
- Lean and engineering-led design approach
- Rational resolution of details

Outcomes

- Multi-award winning structure
- Landmark status among the local community immediately after opening
- Reuse of old gas pipes as steel foundations, significantly reducing costs

Client English Partnerships / Stockton Borough Council

Scale Local infrastructure project

Service Bridge design lead

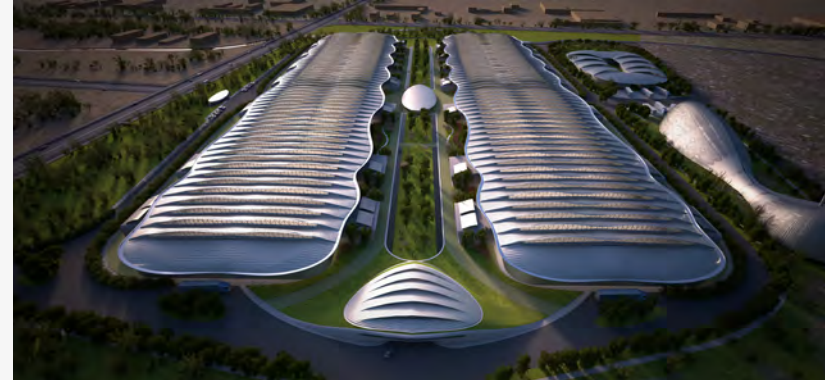
Circular Economy Strategy

Infinity Bridge

Zero-Waste Textile Factory



Zero-Waste Textile Factory Nagpur, India



Brief

To develop a water strategy with the aim of treating and maximizing reuse of industrial effluent.

Approach

- Close collaboration with the client's technical team and suppliers
- Technology review and development of integrated solution to reuse effluent
- Application of Industrial Symbiosis principles to reduce the factory's energy and waste balance

Outcomes

- Reuse of 99% of the effluent
- Reduction of energy use associated with water treatment by 50%
- Reduction of waste streams by 75%
- Additional value recovery from waste streams such as sludge
- Payback period of 2 years compared to standard approaches and technologies

Client Morarjee Textiles Ltd

Scale Local Manufacturing

Service Integrated Environmental Strategy Development

Circular Economy Strategy

Infinity Bridge

Zero-Waste Textile Factory

Case Studies:

Developer Clients

In response to client demand and changes in legislation, designers and contractors are starting to put in place commitments and policies related to the Circular Economy. Many contractors recognise the potential benefits that come with innovating and developing new approaches to the way they design, construct, maintain and decommission buildings – but like many designers, are unsure how to do this effectively in practice.

We facilitate collaboration and enable designers and contractors to fundamentally rethink design and construction methods, and business models. We support skills and capacity development, and provide technical design expertise.

Developer Clients

55 Baker Street

Clifton House,
Buxton Road

The Clove POE

PLACE/Ladywell

St Mark's Sports Hall

St Mark's Sports Hall

Developer Clients



55 Baker Street London



Brief

To develop the old Marks & Spencer's headquarters in central London into a new urban centre.

Approach

- Proposal to preserve and enhance the existing building, realising benefits from refurbishment over new build
- Engineering-led design and delivery

Outcomes

- Reuse of 70% of the original structure, saving resources, avoiding waste, saving money and reducing the construction programme by one year
- Removal of the core to create a far more flexible building and addition of 30% total lettable area
- Enhanced energy performance from new and coherent glazed facades that can be upgraded in the future
- 70% reduction of construction-related carbon emissions and more significant savings over the whole life cycle of the building

Client London & Regional

Scale Building

Service Design and Delivery

55 Baker Street

Clifton House,
Buxton Road

The Clove POE

PLACE/Ladywell

St Mark's Sports Hall

St Mark's Sports Hall



Clifton House, Euston Road London



Brief

To enhance the refurbishment of an existing 1930s mixed-use steel frame building through the addition of three new floors on top.

Approach

- Parallel sequencing of structural construction works
- Exploration of external structural reinforcement instead of internally disruptive construction
- Lightweight strategies to govern material and structural choices

Outcomes

- Retention of the building and 50% increase in floor area
- Additional structural capacity without alterations of the existing foundations
- Reduced construction programme and cost
- Partial occupation during the construction works

Client Romulus Construction
Scale Building
Service Design and Delivery

59 Baker Street

Clifton House,
Euston Road

The Clove POE

PLACE/Ladywell

St Mark's Sports Hall

St Mark's Sports Hall



The Clove POE London



Brief

To assess the environmental performance and comfort of our refurbished office and its potential to facilitate high quality work.

Approach

- Quantitative analysis of environmental data from sensors over an 18-month period
- Qualitative analysis of the perceived quality of work spaces through occupant satisfaction surveys

Outcomes

- Perceived productivity is related to overall comfort levels, but no specific environmental factors
- Short- and long-term recommendations for:
 - leasing arrangements of adaptable interiors to improve space utilisation
 - procuring MEP services on service contracts to improve performance

Client The Useful Simple Trust
Scale Building
Service Post Occupancy Evaluation

59 Baker Street

Clifton House,
Euston Road

The Clove POE

PLACE/Ladywell

St Mark's Sports Hall

St Mark's Sports Hall



PLACE/Ladywell Lewisham



Brief

To deliver temporary housing on a vacant council-owned brownfield site while long-term redevelopment undergoes planning.

Approach

- Close collaboration across the supply chain
- Implementation of Modern Methods of Construction
- Holistic strategy to minimise delivery time, reduce waste, acknowledge semi-skilled construction and deconstruction, and maximise the long-term quality of low-cost homes

Outcomes

- UK's first temporary, modular and relocatable pop-up housing village
- Meanwhile utilization of vacant plot
- High-quality temporary housing for low-income families
- Prefabricated modules for repeated reassembly in the future
- Modules exceed space requirements by 10%
- Reduced construction time, costs and waste generation

Client	SIGI
Scale	Building
Service	Design

55 Baker Street

Clifton House,
Buxton Road

The Clove POE

PLACE/Ladywell

St Mark's Sports Hall

St Mark's Sports Hall



St Mark's Sports Hall Hounslow



Brief

To develop a robust and lasting sports facility under budgetary constraints.

Approach

- Pared-back, elegant and simple approach to materials and detailing
- Structural concept based on efficiency, assembly, disassembly and reuse

Outcomes

- High-quality, low-maintenance and low-cost building
- Rapid construction on site
- Natural ventilation and photovoltaics minimise operational cost

Client	St Mark's School, Hounslow
Scale	Building
Service	Design and Delivery

55 Baker Street

Clifton House,
Buxton Road

The Clove POE

PLACE/Ladywell

St Mark's Sports Hall

St Mark's Sports Hall



Selfridges Flagship Store London



Brief

To update the store's building structure for modern requirements and provide future flexibility, while keeping the greatest extent of the retail area operational.

Approach

- Forensic analysis of the building's structure
- Focus on constructability in constrained spaces and limited construction times
- Close collaboration with demolition and temporary works contractors

Outcomes

- Enhanced main entrance and award-winning vehicle access
- Upgraded supports for an original 1930 steel building
- Conversion of adjacent office floorplate to escalator-linked retail
- Reduced programme and full store operation during construction

Client Selfridges

Scale Building

Service Design and Delivery

55 Baker Street

Clifton House,
Buxton Road

The Clove PDE

PLAGE/Ladywell

St Mark's Sports Hall

St Mark's sports Hall

Case Studies:

Product Manufacturers

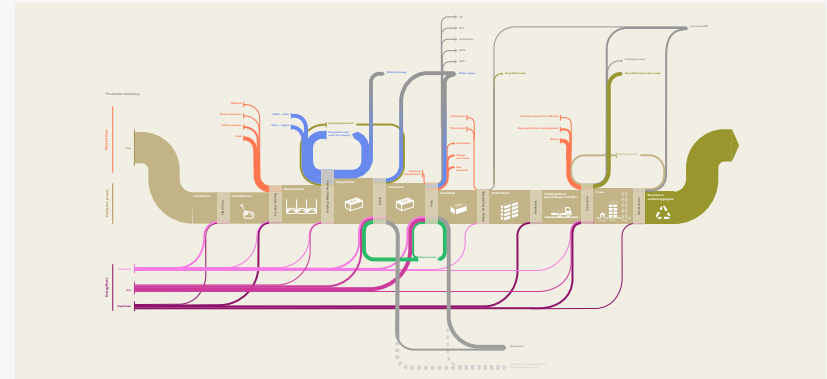
Product manufacturers are developing **Circular Economy products and business models, from façade, flooring and ceiling to lighting and services solutions. A significant opportunity exists for innovation within the supply chain of construction products to meet growing demand, but only very few materials are currently designed for reuse.**

We have worked with a number of building product companies to help them redesign their material so that they use less carbon and can be reused at the end of a life cycle.

Product Manufacturers



Circular Products Design Sprint



Brief

To develop proposals for a modular prefabricated building product.

Approach

- Multi-day, mixed-methods workshop programme
- Engagement of leaders from across the business and external industry experts

Outcomes

- Material flow mapping of existing production processes
- 3 distinct proposals with complimentary qualities and the potential of coming to market within a few years
- Increased awareness among the senior leadership for additional opportunities related to circular products and the anticipated shift in the market

Client Wienerberger

Scale Product

Service Opportunity Identification



The Great Recovery



Brief

To investigate the impact of design in a circular economy

Approach

- Deep research challenges related to material sourcing and component recovery across whole life of products
- Practical engagement of manufacturing, waste management, science, tech and design sectors

Outcomes

- Active programme of workshops and tours to observe and investigate challenges and barriers
- New set of tools for circular economy design approach

Client Innovate UK and RSA

Scale Product

Service Engagement

Case Studies:

Industry Institutions

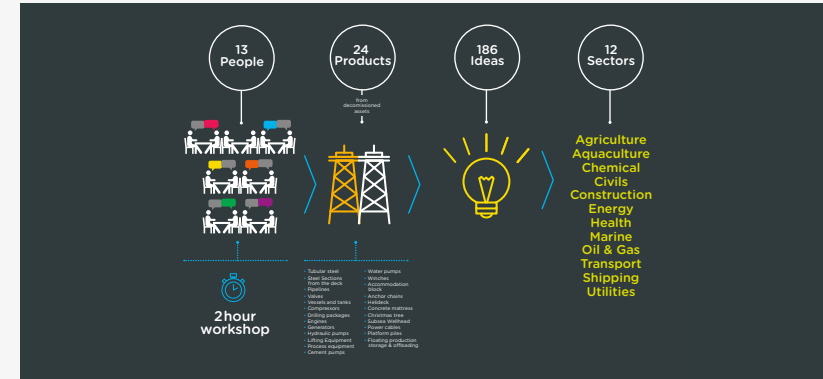
Industry institutions have a significant role to play in raising awareness about the opportunity presented by the Circular Economy, highlighting risks of continuing with the outdated linear economy model, providing practical guidance and helping to overcome barriers.

We have worked with a range of clients including the RSA Great Recovery, the Green Construction Board and Zero Waste Scotland on various commissions from campaigns, training and opportunity studies for entire sectors.

Industry Institutions



Oil & Gas Rig Decommissioning Zero Waste Scotland



Brief

To identify opportunities for improving material reuse and reducing annual costs of £1.8bn in the North Sea oil and gas decommissioning sector.

Approach

- Engagement with industry through workshops to generate ideas and build relationships
- Assessment of solutions in the context of both economic and environmental benefits
- Analysis of the local economy with a view of potential for material circularity and development of skills and expertise

Outcomes

- 186 ideas for reuse, reconditioning and recovery of materials, components and equipment
- 7 specific and practical recommendations to the government for facilitating the transition to a circular and value-adding economy

Client Zero Waste Scotland through The Great Recovery

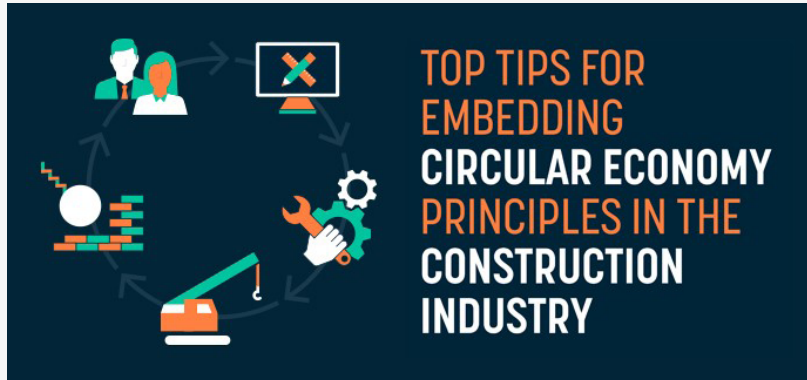
Scale Sector

Service Opportunity Identification



Circular Economy Top Tips

Green Construction Board



Brief

To develop an online resource of Top Tips for embedding circular economy principles in the construction industry.

Approach

- Development of concise definitions of practical tips and conditions for success
- Collaboration with Thomas.Matthews to design content and enable information to be easily accessible

Outcomes

- 4 key recommendations for the sector and tailored approaches for clients, design teams, contractors, material and product manufacturers and demolition contractors
- Published as primary industry resource for embedding Circular Economy principles into projects

Client Green Construction Board

Scale Sector

Service Guidance

Oil and Gas Rig
Decommissioning

Circular Economy Top Tips

Our Clients Include



Get in touch and become more circular

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