



The Prince's  
Responsible  
Business Network



Report

# IN YOUR HANDS: GOING CIRCULAR FOR NET ZERO

August 2023

Leading with purpose towards a low carbon,  
resource-efficient economy



Report of Business in the Community  
Circular Economy Taskforce on its  
Leadership Roundtable Series

Funded by

**ARUP**

# REPORT

## IN YOUR HANDS: GOING CIRCULAR FOR NET ZERO

### REPORT ON THE CIRCULAR ECONOMY LEADERSHIP ROUNDTABLE SERIES

In 2022-23, Business in the Community's (BITC) Circular Economy Taskforce organised a series of roundtable meetings to discuss and agree on how to initiate and embed change. These roundtables were convened because the Taskforce recognised that companies are increasingly aware of circular economy approaches, but they struggle to assess the full benefit and embed these new approaches.

This report targets the senior leadership of companies of all sectors. It sets out what is required to create the right enabling conditions for change, and actions to affect the key levers to create a circular economy.

### EXECUTIVE SUMMARY

Circular economy practices are about keeping products and materials in use at their highest value - which means reusing, remanufacturing, or sharing products and, where that is not possible, recycling them back into materials - for as long as possible.

Recent WRAP research<sup>1</sup> shows that the adoption of a set of circular economy approaches in the UK would reduce emissions by two billion tonnes of CO<sub>2</sub>e by 2050, with this impact extending beyond the UK's borders to countries where products and materials used in the UK are sourced from. The economic opportunities are also high, with circular business models estimated to present a \$4.1 trillion global business opportunity.

Although there are signs of change, progress by businesses is limited. This is in part because impactful change requires collective action by businesses at different points across value chains. We must consider the need to go further and faster towards net zero nature-positive solutions. It is vital that businesses, including the finance sector, become circular economy leaders and rise to the challenge, capitalising on these opportunities. BITC and the participants of the roundtables hosted earlier this year, have identified a series of enablers and levers that can help businesses mainstream circular economy action together.



## Enablers

Enablers that can support businesses to deliver more impactful change include:

- ✓ **embrace systems thinking and collaboration:** think holistically in transitioning to a circular economy by considering how systems are connected, investing collectively in the required infrastructure, and collaborating with stakeholders
- ✓ **demonstrate authentic and bold leadership:** empower the entire organisation and external stakeholders to embrace emerging and disruptive strategies to create a circular economy
- ✓ **build a bank of data and information:** gather data, including on carbon and nature impacts, along with costs relating to material flows, as both are valuable for promoting and justifying circular solutions
- ✓ **communicate using a strong, clear narrative:** simplify circular economy concepts and the actions needed. Stress the value chain emission reductions and wider benefits
- ✓ **develop a compelling business case:** focus on how circular economy approaches can reduce risk from fluctuating commodity prices, and how possible policy changes could strengthen the business case.

## Levers

Key levers to accelerate a more circular economy include:

- a) **Organisational change: skills and culture:** a wide range of skills - from technical skills to sustainability skills - are needed to create a circular economy. These are often in short supply. However, relying on particular roles to create a circular economy is insufficient. Change needs to happen across each organisation from top to bottom. To create this change, companies should:
  - ✓ work with partners to develop specialist skills programmes
  - ✓ make use of the apprenticeship levy
  - ✓ empower staff and offer basic climate and circular economy training
  - ✓ establish internal groups to share ideas
  - ✓ rebrand jobs to improve the attractiveness of roles
  - ✓ set relevant targets at the highest level of the company.
- b) **Procurement and supply chain management:** consider circular economy in products and materials that organisations buy, and rethink procurement functions to consider how products are used and managed at end-of-life. Organisations can use their purchasing power to stimulate a wider shift to a circular economy across value chains. Companies should:
  - ✓ explore localisation of supply chains, and collaborative work to support the development of infrastructure
  - ✓ broaden the dominant view of procurement, moving beyond purchasing stuff and stressing its strategic importance
  - ✓ Encourage the use of the tools required for circular procurement: material passports, carbon labelling and certification
  - ✓ work collectively to bring the products needed onto the market at a decent cost (e.g., through [Joint Statements of Demand](#)).
- c) **Green Finance for the circular transition:** the disconnect between the mainstream finance sector and circular economy solutions could be addressed through greater disclosure of climate and

nature-related risks. To support the financing of circular economy ventures, businesses and investors should:

**All**

- ✓ communicate your circular economy ventures and their lower climate and nature-related risks (Taskforce on Climate-Related Financial Disclosures (TCFD) and next year’s Taskforce on Nature-Related Financial Disclosures (TNFD)), and their alignment with green taxonomy categories
- ✓ de-risk circular economy approaches including by working with insurers.

**Finance sector (asset owners, asset managers, intermediaries)**

- ✓ report proactively on the financing of circular businesses
- ✓ apply and explain how green taxonomies are being applied, with regard to circularity
- ✓ skill up staff so they understand low-carbon circular economy approaches
- ✓ seek to influence the policy framework as appropriate.

**d) Public policy: national and regional:**

A strong policy framework will accelerate the scale and pace of business action towards net zero and nature-positive action, recognised in the Government’s Resources and Waste Strategy<sup>ii</sup>. This will ensure a level playing field, and deliver the certainty required for investment. Areas to consider include:

- ✓ supplement net zero targets to reflect a consumption-related emissions approach
- ✓ put in place cross-departmental strategies, bringing in stakeholders where appropriate
- ✓ work with stakeholders to address the regulatory barriers to a local and global circular economy
- ✓ explore wider use of fiscal policy, including extended producer responsibility (EPR)<sup>iii</sup> and tax measures
- ✓ enhance product-related measures like eco-design standards and material passports.

## CONTENTS

|  | PAGE |
|--|------|
| EXECUTIVE SUMMARY                            | 1    |
| FOREWORD                                     | 4    |
| MESSAGE FROM THE LEADERS                     | 6    |
| INTRODUCTION                                 | 7    |
| STATE OF PLAY: HOW ARE COMPANIES PERFORMING? | 8    |
| THE DRIVERS                                  | 9    |
| THE CHALLENGES                               | 10   |
| THE ENABLERS                                 | 12   |
| LEVERS OF CHANGE: ACTIONS                    | 13   |
| CONCLUSIONS                                  | 17   |
| ACKNOWLEDGEMENTS                             | 19   |
| ANNEX: KEY FACTS                             | 20   |
| ENDNOTES                                     | 22   |

## FOREWORD

It is a great privilege to lead BITC's Circular Economy Taskforce at such a critical moment in time for both the net zero and biodiversity agendas. Businesses are central to all climate crisis solutions and as members continue to progress their adoption of circularity in their thinking, operations and supply chains, people and nature will be able to thrive together.

There are an increasing number of opportunities emerging from circular economy innovations that can support businesses in driving positive change to overcome the combination of challenges that otherwise threaten to overwhelm us.

The crises we are facing must be addressed collaboratively and holistically. Alongside cutting global emissions to net zero by 2050, we must consider our ecological emergency and support biodiversity promotion and the restoration of nature throughout our interventions. As the complex industry pressures of production and disposal continue to grow, as well as the repercussions of extensive pollution drastically impacting our land, water and air quality, there has never been a more critical time to act and implement multifaceted solutions.

We, as members of the businesses we represent, have the responsibility to mobilise and deliver circularity in our processes, moving from ideals to action and outcomes. By adopting circular principles, we can rethink the utilisation of all resources to maximise the value of our products and materials.

Over 70% of BITC members have made climate action commitments – this is a vital first action that enables us to be collaborative in our next steps. The time is now to rapidly pick up the pace to ensure we deliver on the targets we have set. By making large and ambitious strides, for example, through incorporating new business models and major shifts in product design, we can support each other's innovations, leading to future

opportunities for all. This is an exciting point for the circularity agenda – we now have the thinking, insights, and tools to reshape our economy.

The BITC Circular Economy Taskforce's series of Going Circular for Net Zero roundtables brought together visionary and innovative business leaders and practitioners. Outlined in the findings and recommendations of this report, we have tackled complexities around mainstreaming circular economy solutions in a way that safeguards our natural capital, minimises environmental harm and embeds social equity.

As a result of the series' successful discussions, we have developed and included a set of five foundational steps for businesses, maximising BITC's four levers for change.

The foundational steps are critical for achieving and quantifying real progress. This includes learnings around the adoption of systems thinking approaches as a requirement for systems change, as well as the need for bold, authentic leadership to create and motivate a skilled workforce. We set the scene for the utilisation of data being paramount to measuring our success, working hand in hand with communication strategies to provide clarity on the complex next steps we all face.

The three levers explored in detail include upskilling workforces, procurement and supply chain management, and financing the circular economy.

This means all employees across all businesses have a role to play, from Human Resources (HR) building capacity to finance teams applying green taxonomy and steering funds in the right direction. There is a unanimous understanding that we are in this situation together and only by collaborating extensively, can we deliver systems change and benefit from emerging opportunities as we move away from a linear economy.

The policy framework was also considered and areas in need of investigation were identified.

Finally, I would like to reiterate my thanks to all those involved in the series of roundtables that have informed this report. Businesses are at the heart of driving positive, inclusive change and the members of the BITC Circular Economy Taskforce are dedicated to supporting an agenda that brings people together and delivers benefit to all.

**Diane Emerson**

**Climate and Sustainability Director, UK, India,  
Middle East and Africa, Arup**



## MESSAGES FROM THE LEADERS

We're delighted to bring members together through our Circular Economy Taskforce to reflect on accelerating the transition to a circular economy. This can reduce emissions rapidly, generate new economic opportunities for business, and improve our resilience as a country. We hope sharing these reflections from business leaders on how to achieve change quickly will inform and support wider action on this important agenda.

**Sam Balch, Executive Director, Campaigns and Content, Business in the Community**

This report summarises many months of research and discussions focused on addressing the opportunities and challenges of embedding circular solutions in businesses of all shapes and sizes.

As a society, we need to accelerate our efforts in adopting circular principles to achieve a net zero economy by 2050. We must go beyond recycling and look at waste reduction, reuse and refill systems, and more importantly embrace designing products and materials with circularity in mind, in order to retain their long-term value and protect their embedded resources. Now is the time to be bold and ambitious in our actions if we are to take critical strides forward in our commitments to mainstreaming circular economy principles and practices. We are calling for cross-sector collaboration, open communication, as well as clear government policy and targets to facilitate this shift and allow businesses to make smart and sustainable investments now whilst there is still time to make a real difference.

It is vital that we collaborate and share knowledge so that we can make progress at a faster rate. Environmental leaders and businesses committed to sustainability must play a role in sharing their best practice, helping to inform and empower consumers and inspire the next generation of talent, providing them with the new skills to create the job pathways for a net zero resilient economy. There is much to do, but we have pockets of

exciting progress to showcase and build on, and it needs us all to want to change, to want to collaborate and to be willing to share. **Dr Adam Read, Chief External Affairs and Sustainability Officer for SUEZ Recycling and Recovery UK**

At Currys we don't just sell amazing technology; we save it too. And the way we do this is by giving technology a longer life – through repair, reuse and recycling. We're constantly looking at innovative ways to drive change and so we welcome this report from BITC. We encourage businesses and the government to consider what steps they can take to invest in our planet, reduce emissions and increase the re-circulation of materials. **Moira Thomas, Director of Group Sustainability and ESG, Currys plc**

## INTRODUCTION

Our leadership roundtable series is about what's needed to mainstream circular economy across the economy. Progress to date has been fragmented. It varies between sectors, and no sector is outstanding. However, the combined impact of current drivers indicates a wave of change is on its way and BITC members should aim to be on the right side of that wave.

This report sets out a series of recommendations in the form of enabling actions and levers that we are urging our members to use to effect change.

It builds on BITC's action on circular economy which began ten years ago with the report *Fortune Favours the Brave* which identified five innovation areas for sustainable growth, including circular economy, with an estimated value of £100 bn p.a. We moved on to *Smart Growth in the Circular Economy*<sup>iv</sup> and the *Waste to Wealth* Commitment, spearheaded by His Majesty The King which led to 145 organisations setting resource productivity targets.

Since then, BITC has focused on supporting members to implement circular approaches, including using procurement as a lever through the Interreg North Sea Region funded ProCirc project. We have convened communities of practice, run pilots, and co-created [Joint Statements of Demand](#) to mobilise procurement spending to support new circular products and services.

The circular economy is a key enabler in BITC's [Seven Steps for Climate Action](#) as a means of cutting Scope 3 emissions in particular. This year we published a [Circular Economy Routemap](#) setting out actions to embed circular economy in business, and last year, we published a [matrix of circular economy metrics for businesses](#) which when widely used will help with benchmarking.

Throughout, BITC has received support from its Circular Economy Taskforce, a group of leading businesses spearheading change.

In 2022, after assessing the current landscape and businesses' progress on the circular economy journey, BITC, together with the Taskforce, concluded that business is not seizing these opportunities enough. A discussion was needed to identify the key actions to overcome implementation challenges.

We're seeking to create a shared language for our members to aid collaborative action. We refer to circular economy practices throughout this document. As in BITC's Circular Economy Taskforce, and the [Circular Economy Routemap](#), we use this term to refer to circular business models that businesses can adopt to continue creating economic and social value in a way that is decoupled from the consumption of natural resources.

### BITC's definition of circular economy:

Products, services, and infrastructure are designed, produced, used, and managed at the end of life, to maximise the value of resources and minimise waste. This reduces demand for precious primary materials, lowering carbon emissions, reducing impacts on nature, and allowing the regeneration of natural systems.

Relevant activities are:

- circular design and production: design and produce products and materials with the aim of retaining long-term value and reducing waste; promoting dematerialisation by making products redundant or replacing them with a radically different product or service
- circular use: life extension and optimised use of products and assets during the use phase with the aim of retaining resource value and reducing waste to help improve usage and supporting service



- circular value recovery: capture the highest amount of value from products and materials in the after-use phase
- circular support: develop enabling digital tools and applications, education and awareness-raising programmes, and advisory services to support circular economy strategies and business models.

- net zero targets
- social value
- current and future legal compliance.

Key activities mentioned by businesses to align their products/services to circular economy practices include:

- packaging: developing packaging with a lower carbon footprint, introducing reusable packaging, having recycling targets/bonuses
- carrying out pilots for steel reuse
- new innovative health hardware designed to be more durable than existing alternatives and using lighter components.

Activities on working with their supply chain and customers included:

- embedding renewable energy, looking at responsible timber sources, and adding waste segregation requirements in the procurement framework
- sustainable product innovation
- reporting on TCFD and next year's TNFD requirements
- integrating circular economy in consultancy work.

Some of the other activities underway by Taskforce members include setting up reuse centres to resell products and materials, refurbishment of furniture and electronics, large-scale high-quality metal recycling, beverage bottle reuse pilots, circular wastewater management, and treatment of food waste. Case studies of other examples can be found on our [website](#).

Change is clearly happening, driven in part by Scope 3 emission reduction goals, however, challenges to scaling up circular activities remain.

## STATE OF PLAY: HOW ARE COMPANIES PERFORMING?

BITC has explored the performance of businesses on circular economy in key sectors using third-party reports, a series of interviews, and our [Responsible Business Tracker®](#) database for the year 2022.

Overall, there are clear signs of change and action, but progress seems mixed; and it is not easy to point to an outstanding sector.

The Responsible Tracker® shows:

- over half (51%) of BITC members that responded have teams responsible for the management of circular economy issues
- a fifth (21%) have invested in the development of new circular business models
- over a quarter (27%) of members have made progress against their internal resource efficiency KPIs across the previous year<sup>v</sup>
- over two thirds (66%) of respondents have taken at least one action to make progress around circular economy issues.

Drawing on a series of interviews undertaken to assess progress, we learnt that drivers for developing a resource efficiency or circular economy plan are:

## THE DRIVERS

The three roundtables were held over the course of a year from July 2022 to July 2023. They were attended by representatives of 35 organisations from various sectors, including Chief Sustainability Officers (CSO), directors, and managers. Participants had a shared understanding of what is driving them to prioritise circular economy approaches:

- **Supply chain disruptions:** supply chain management is increasingly focused on creating greater resilience rather than focusing on lean operations. This follows turbulent events such as COVID-19, Brexit, and the Ukraine War. Energy and material security will be key.

**“THE ANCHOR POINT OF THE ROUNDTABLE SHOULD BE RESILIENCE, TAKING ON BOARD VOLATILE COMMODITY PRICES”** **Kate Jackson, Arup**

- **Carbon emissions benefits:** resource-efficiency solutions and material substitution measures can bring multiple benefits, saving up to 100 million tonnes of carbon territorial emissions<sup>vi</sup> and deliver up to 20% of the effort required to reach Carbon Budget 5, and 25% in Carbon Budget 6 for industry.

**“CONSUMPTION AND EXPLOITATION OF RESOURCES IS THE STRONGEST DRIVER OF CARBON DIOXIDE EMISSION”** **Marcus Gover, WRAP**

- **Scarcity of critical materials:** materials like neodymium and lithium will be crucial for the Net Zero transition. Lithium is vital for

battery production and reached an all-time high price in December 2022<sup>vii</sup>.

- **Inflation and cost of living crisis:** getting more use out of products through reuse, repair, refurbishment, and initiatives such as repair cafés and the Library of Things<sup>viii</sup> have a huge potential for cost savings and bring affordability to consumers. These models can also create local jobs and improve community cohesion.

**“THE COST-OF-LIVING CRISIS POSES AN AMBITIOUS AGENDA OF ENSURING THAT NOTHING IS BURNT OR BURIED”**

**Ann Beavis, Crown Worldwide**

- **Green finance taxonomies:** green taxonomies set the bar for investments that can be defined as environmentally sustainable, mitigating climate-related risks and helping to tackle greenwashing. The potential of these as a driver to scale reliable investment into circular businesses and ventures is significant.



**"SUEZ IS A GREAT EXAMPLE OF EMBRACING AND ACTIVELY IMPLEMENTING CIRCULAR INITIATIVES. THIS COMMITMENT IS EVIDENT IN THEIR PARTNERSHIP WITH COMPUTERS 4 CHARITY, WHERE THEY DONATE ALL THEIR SURPLUS IT EQUIPMENT. THROUGH OUR COLLABORATION, WE EXTEND THE LIFESPAN OF THESE DEVICES, GOING BEYOND MERE COSMETIC REFURBISHMENT. OUR DEDICATED TEAM REBUILDS AND UPGRADES THEM, ENSURING THEY ARE READY TO BE REDEPLOYED TO SCHOOLS, CHARITIES, AND COMMUNITY CAUSES ACROSS THE UK. THIS ENSURES THEIR IT DEVICES ARE GIVEN A TRUE SECOND LIFE, EMPOWERING THOSE IN NEED WHILST CONTRIBUTING TO A MORE SUSTAINABLE AND INCLUSIVE FUTURE."**

**George Cook, Chief Executive,  
Computers 4 Charity**



## THE CHALLENGES

While discussions revealed that participants recognised the benefits of transitioning to a circular economy, though there were varying interpretations of the term, it was understood that change is not always easy.

The challenges raised included:

- setting business targets in the absence of clear targets at a government level, as well as public policy frameworks still in development
- few collaborative structures to facilitate systemic change
- developing business-leadership capacity for transformative change, particularly on regenerative thinking and creating a mindset for systemic change
- the financial viability of circular business models was questioned under the current policy and risk landscape, though it was recognised that circular economy solutions have the potential to bring down costs
- a perceived duty to maximise profits in the short term was also regarded as a hurdle.

# IN YOUR HANDS: GOING CIRCULAR FOR NET ZERO

Figure: Systems Thinking Overview

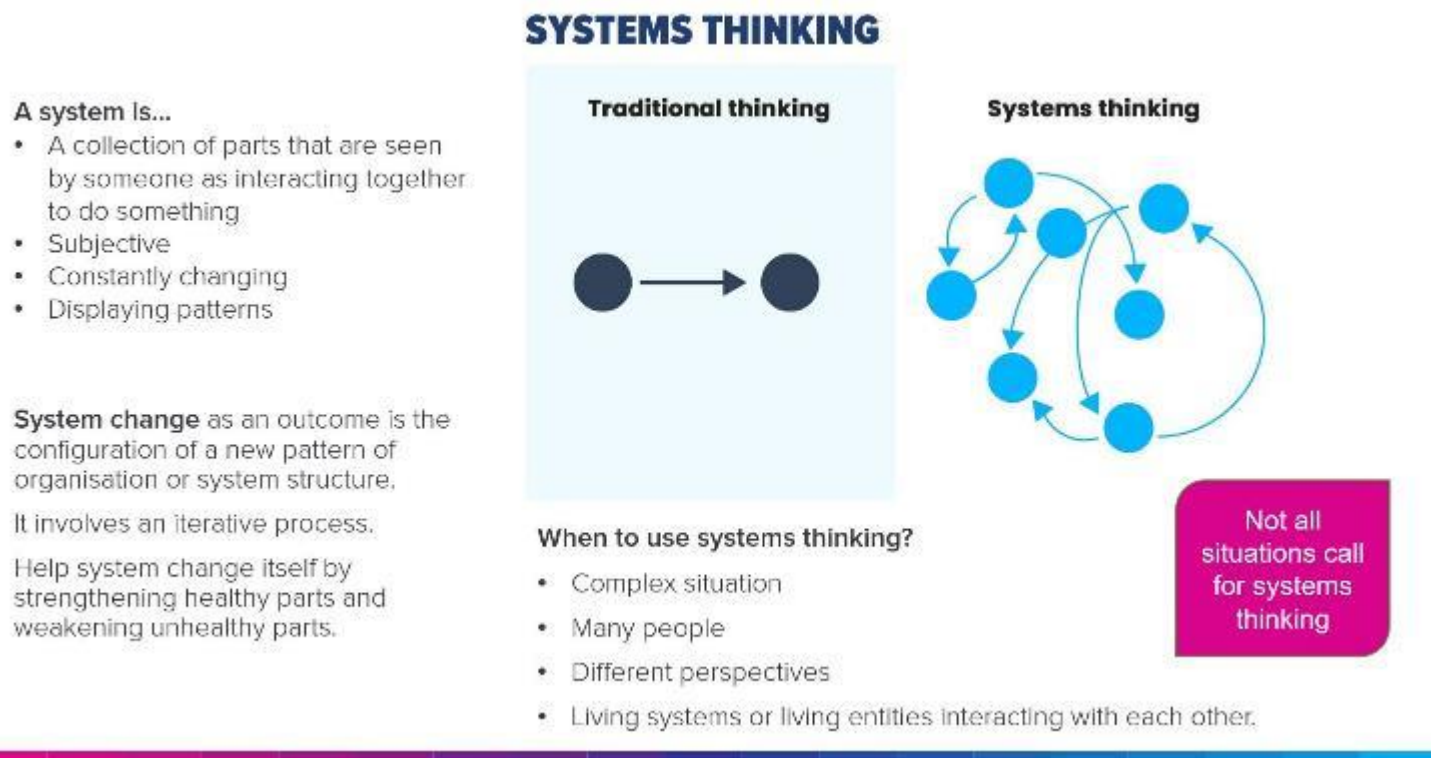
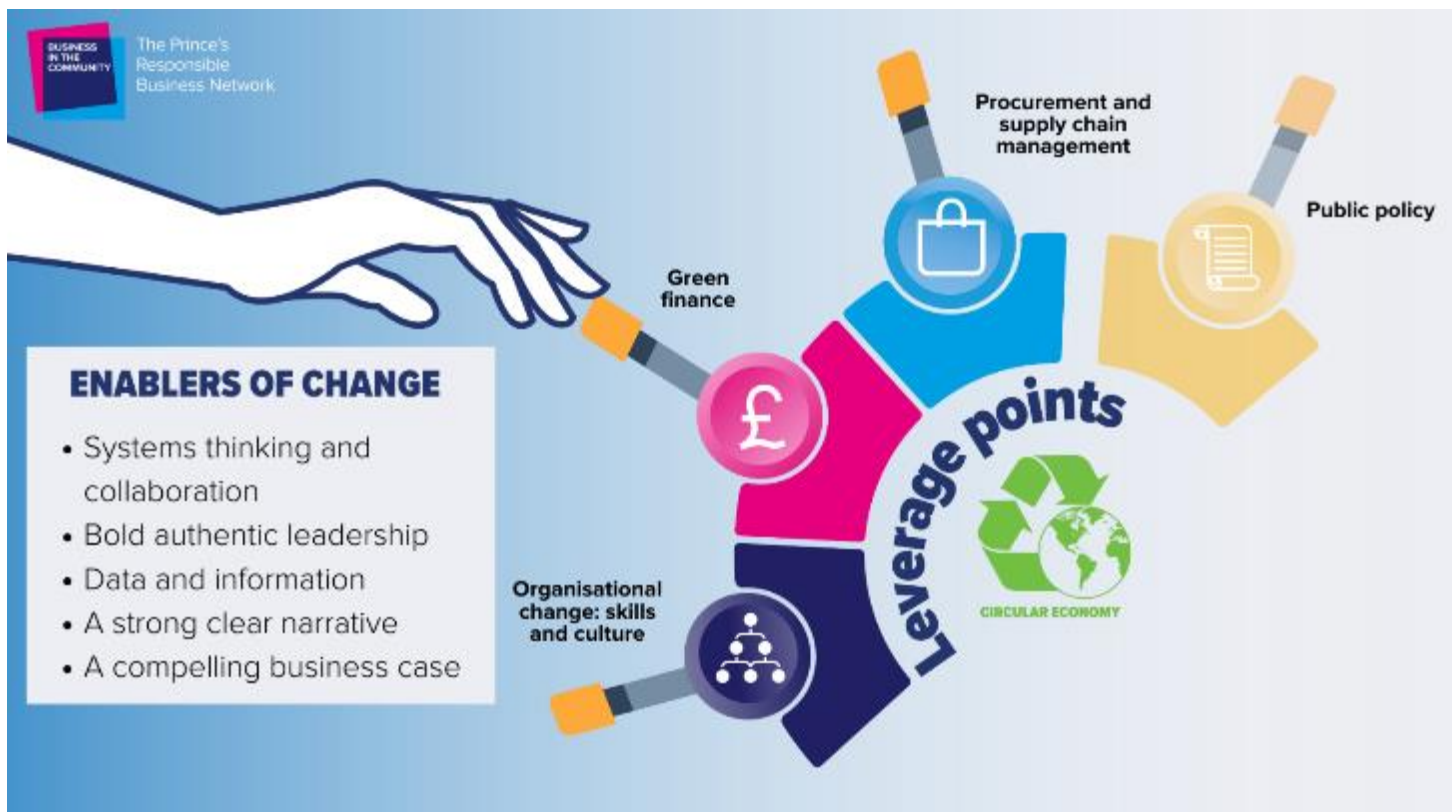


Figure: Enablers of change and Leverage points





## THE ENABLERS

During the roundtables, several key foundational steps called enablers emerged that are crucial for achieving a transition to a more circular economy. These are explained below.

### a) Embrace systems thinking and collaboration

- A value chain should be looked at as a system. This means considering how different activities and stakeholders are dependent on one another.
- Without this, circular opportunities can be missed. For example, if electronics are designed to be hard to disassemble, they will be difficult to repair and remanufacture.
- Businesses should be willing to spread the cost of investment in circular infrastructure, e.g., reverse logistics and take-back schemes, across all businesses that will benefit throughout a value chain. A supportive policy framework can further lower the costs.
- Systems thinking involves recognising the wide range of actors affected by the change and minimising unintended consequences. Applying Just Transition principles, essentially about minimising harm to the most vulnerable who may lose out from change, is vital.

### b) Demonstrate authentic and bold leadership

- Bold and authentic leadership empowers the whole organisation, as well as external stakeholders, to engage in circular initiatives.
- Authenticity is important: actions cannot credibly be promoted without doing them yourself.
- A Chief Sustainability Officer with visibility over the breadth of a company, and who can ensure linkages between different functions, enables bold leadership.
- Environment, Social and Governance (ESG) frameworks that enable benchmarking are key

for an authentic understanding of how a business is performing relative to peers. CDP's rating system focuses on the quality of reporting, not on the progress a company is making. Data such as Sustainalytics ESG Risk Ratings<sup>ix</sup> that spans more than 14,000 companies may enable comparison.

- Bold leadership involves actively seeking a policy framework that supports transitioning away from a linear economy. Clear policy direction allows businesses to more confidently make investment decisions.

**“THERE IS VALUE IN SETTING AMBITIOUS HIGH-LEVEL TARGETS TO LIMIT THE USE OF PRIMARY MATERIALS AND TO FOCUS ON THE HIGHEST IMPACT SECTORS OR MATERIALS.”** [Neelam Melwani, Deloitte](#)

**“IN JUST 30 YEARS, POLICY ENABLED RECYCLING RATES TO INCREASE FROM 0 TO 40%, AND ARE CURRENTLY WORKING ON REACHING 70%. HOWEVER, MORE DISRUPTIVE CHANGE IS REQUIRED TO GET BEYOND RECYCLING ...”** [Adam Read, SUEZ](#)

### c) Build a bank of data and information

- The benefits of data to galvanise and build the business case for circular solutions were stressed. The types of data mentioned included: lifecycle carbon and nature impacts, costs relating to circular processes and material flows, and business performance to enable benchmarking.
- Challenges include a lack of clear definitions, so data does not aid comparability e.g., for lifecycle assessments. However, businesses

can still draw on what is available. There are multiple data sources to inform a circular transition, including [ONS's data](#) and [DEFRA's waste data](#).

- Businesses can help build this data bank by collaborating to agree on definitions, writing up case studies that include hard facts and figures, and sharing learning from failure as well as success.

**“SYSTEMIC CHANGE WILL REQUIRE A MINDSET SHIFT, IN PARTICULAR THE DISTINCTION TO BE MADE BETWEEN THE ENERGY WE USE AND THE EMBODIED ENERGY IN THE MATERIALS WE CONSUME. RESEARCH SHOWS THAT IN THE UK THE EMBODIED ENERGY IN COMPLEX COMMERCIAL BUILDINGS MAY BE EQUIVALENT TO 30 TIMES ANNUAL OPERATIONAL ENERGY USE, OR 45% OF THE WHOLE LIFECYCLE CARBON OF ITS STRUCTURE”** × [James Close, Natwest](#)

#### d) [Communicate using a strong clear narrative](#)

- Simplification of language and communication regarding the circular economy concept is important.
- The action needed can also be simplified: the scale of the change can seem dauntingly complex. Companies in the lead should share in-depth learning on what worked and what didn't.
- Boards and employees often regard circular economy as being about managing waste and being unrelated to net zero. This narrative needs re-writing. For faster business uptake of

circular economy approaches, the common outcome of emissions reductions needs to be recognised, plus the co-benefits of circular economy solutions.

- There is a need to take employees and customers along on the circular economy journey. Unequivocal messages encourage being part of the solution.

#### e) [Develop a compelling business case](#)

- Organisations should seek to embed circularity into their core business model. Running circular operations on the side means insufficient investment and support.
- It was agreed that there is generally a good business reason for action, in particular, to break the link with fluctuating primary material costs. However, it is often hard to calculate the returns on investment.
- The need to de-risk investment in the eyes of investors - sceptical about radically different business models - was considered important, demonstrating to funders that risks are reasonable and manageable, especially for start-ups and Small and Medium-sized Enterprises (SMEs).
- Be aware of potentially higher upfront investment and build this into the business case.

## LEVERS OF CHANGE: ACTIONS

Across the three roundtables, detailed discussions were facilitated on the three themes that BITC had identified as potential levers for change. They are:

- organisational change: skills and culture.
- procurement and supply chain management: skills and enabling tools
- green finance: for the circular transition.

The insights that emerged are explained below.



## a. Organisational change: skills and culture

### Skills

- People will often not skill up for a job when few of those jobs exist, and employers do not create jobs when relevant skills are in short supply. However, 8.6% of jobs in London and 9.7% of jobs in Scotland are currently circular<sup>xi</sup>, even if they are not widely recognised as such, and an increase in the number of circular jobs is expected<sup>xii</sup>.
- Participants considered that businesses have a responsibility, at least in part, to build the skills to sustain a circular transition.
- Employees with traditional skills, such as upholsterers, are very challenging to recruit. Rebranding these technical skills as green skills may create interest in younger generations.
- Higher education institutions, universities, colleges, and businesses should work together to plan for new skills that will be required and create the job pathways for a net zero resilient economy.
- When they started selling a circular luxury watch<sup>xiii</sup>, Watches of Switzerland found that foundational training on the principles of a circular economy, as well as a certain level of environmental literacy, was required for sales staff to properly inform customers about the benefits of the product.
- Specialist training is needed for players higher up the value chain. Designers, architects, and manufacturers can unlock genuine circular solutions, for instance, by designing for disassembly or deconstruction.
- The apprenticeship levy can be leveraged for present and future workforce training. The Climate Change Committee (CCC) has included this recommendation in its reports<sup>xiv</sup>. BITC's [Employment and Skills](#) programme has drawn on the London Progression Collaboration

(LPC)'s finding that more than £3.3 billion was returned to the Treasury in the last three years<sup>xv</sup>.

### Culture

- Adam Read, SUEZ, recommended that organisations promote knowledge sharing and learning internally. For example, at SUEZ, internal groups have been created to share ideas around social innovation and technology.
- Adam suggested that businesses be aware of what motivates people, their intrinsic and extrinsic motivations, with the former being about doing something because it is inherently enjoyable and extrinsic motivation, about achieving a separable outcome<sup>xvi</sup>.
- For some people social value is a stronger motivator than environmental benefits. There is scope to make more use of existing regulatory requirements such as the Social Value Act<sup>xvii</sup> to engage more employees in circular initiatives.
- More can be made of the resourcefulness of employees to connecting the dots with circular solutions as an enabler of net zero and as a solution to the cost-of-living crisis, according to Ann Beavis, Crown Worldwide.
- The performance appraisal system may be useful in helping shift behaviours and thinking aligned with circular economy.
- Organisational transformation requires the whole business to be engaged from the top to the bottom. Top-level leadership can set high-level targets to give people clarity on what to work towards.

### Key actions

- [work with partners to develop specialist skills programmes](#)
- [make use of the apprenticeship levy](#)
- [empower staff and offer basic climate and circular economy training](#)
- [establish internal groups to share ideas](#)

- rebrand jobs to increase the attractiveness of roles
- set relevant targets at the highest level of the company.

## b) Use purchasing power to drive change

- As a partner in the ProCirc project, funded by Interreg, BITC has focused on using procurement to shift towards a circular economy. This relates to procuring products that businesses use, as well as the sourcing of materials and components for products that businesses make.
- Procurement teams are hesitant to make changes that may disrupt the supply chain's resilience. However, globalized supply chains are becoming less resilient due to increasing natural hazards and resource scarcity, circular approaches should be seen as a solution to this.
- Circular procurement offers benefits such as saving material costs, securing access to resources, and localising material sourcing. It helps promote nature conservation and create local jobs.
- It is supported by a number of existing and emerging statutory provisions, including:
  - material passports, which store characteristics of materials and guide their reuse, can help close the loop for example for spent products, buildings, and waste.
  - certification and regulation to ensure the trustworthiness of recycled products and materials.
- Rethinking language and communication around procurement is crucial, firstly emphasizing the procurement process as covering the entire life of assets not just the acquisition, and secondly, the strategic importance of the role.

- Although subsidies are not a long-term solution to initiating and embedding a circular economy, they could significantly support the required transition away from a raw material base.

## Key actions

- explore localisation of supply chains, and collaborative work to support the development of infrastructure
- broaden the dominant view of procurement, moving beyond purchasing stuff and stressing its strategic importance
- encourage the use of the tools required for circular procurement: material passports, carbon labelling, certification
- work collectively to bring the products needed onto the market at a decent cost (e.g., through [Joint Statements of Demand](#)).

## c) Finance

The discussion on finance was positioned with BITC's provocation that there is a disconnect between the finance sector (asset owners and asset managers) and those innovating in the circular economy field. This is aligned with the challenges outlined by UNEP<sup>xviii</sup>. Insights that emerged were around four pertinent themes: risks, reporting and taxonomies, skills, and policy.

## Climate and Other Risks

- Investors and asset owners are failing to fully recognize the lower climate-related risks of circular economy ventures, according to James Close, Head of Climate Change at NatWest Group.
- There are new circular economy-specific funds but these are small in comparison with overall ESG Funds<sup>xix</sup>. According to the Ellen MacArthur Foundation, equity funds with the circular economy as a sole or partial investment on average performed 5% points better than their benchmarks<sup>xx</sup>.
- With the UK being the first country to mandate TCFD disclosure for large businesses, climate risk

may increasingly become a driver for circular economy solutions<sup>xxi</sup>.

- Businesses need to demonstrate to investors that circular approaches have an appropriate level of risk and return. Uncertainty in relation to new business models creates risk in the eyes of investors<sup>xxii</sup>.
- Legal difficulties create an element of risk. Once the perception that a producer will run into legal difficulties has been addressed, the finance sector will more willingly explore these options.
- Insurance companies have a role in de-risking circular business models through third-party verification and providing insurance policy clauses that do not impede circular solutions.

## Reporting and Taxonomies

- Businesses should be proactive in anticipating future requirements by starting to incorporate resource efficiency/circularity and nature impacts in their corporate reporting.
- Banks can report on the circular ventures they fund.
- The Green Finance taxonomies<sup>xxiii</sup> were considered a driver for action.
- As the intermediary between people and the goods they buy, banks have an important role to play in unblocking barriers to circular business models.

## Skills and Mindset

- The finance sector needs to enhance its knowledge by skilling up employees so that they can assess what may be innovative approaches and which may have longer-term returns<sup>xxiv</sup>.
- Ann Beavis, from Crown Worldwide, emphasized that circular economy language needs to be more accessible to businesses to attract investment.

## Policy

- Encouraging investors to channel funds into these businesses requires a supportive policy framework.

## Key actions for business

### All

- communicate your circular economy ventures and their lower climate and nature-related risks (TCFD/TNFD), and their alignment with green taxonomy categories
- de-risk circular economy approaches including by working with insurers.

### Finance sector (asset owners, asset managers, intermediaries)

- report proactively on the financing of circular businesses
- apply and explain how green taxonomies are being applied, with regard to circularity
- skill up staff so they understand low-carbon circular economy approaches
- seek to influence the policy framework as appropriate.

Discussions in these areas led to consideration of the public policy framework which would enable the use of these levers by businesses.

### d) The policy and administrative framework

Several comments on the policy framework have been raised in other sections. We have drawn these ideas together here for key departments in the UK government, and across the devolved nations, to consider:

### Greater focus on consumption-related emissions

- Corporate net zero targets are on a consumption basis, i.e., including Scope 3 emissions released outside the UK. Government policy and targets supplementing territorial net zero targets could reinforce this,

helping to drive action that generates a substantial reduction in total emissions.

## Cross-departmental strategies

- The Welsh Government's working across departments to incorporate circular economy as a cross cutting theme in the Net Zero Wales Carbon Budget 2 was acknowledged.
- BITC's network is well-positioned to support the Government to develop strategies for resource efficiency/resource security, that relate to climate and other goals.

## Addressing regulatory barriers to reuse and recycling

- These include barriers relating to the movement of products and materials and the end of the waste regime.

## Fiscal policy measures to consider environmental damage

- The commonly held view is that currently, it is often not economically attractive to apply circular economy thinking to some business models.
- Fiscal policy measures can be used to identify the simplest ways to include environmental impact in prices and shift the market. Possible mechanisms to achieve this include extended producer responsibility, tax policy (e.g., reducing VAT rates on retrofits and repair), and innovation funding.

## Product-related requirements

- Development of relevant product policies which include the right to repair (eco-design regulations<sup>xxv</sup>), as well as labelling requirements, encourage improved product design that supports a second-hand market. Well-recognised standards for second-hand products to enable testing and assurance would help, as would material passports that show the material content of products and enable traceability.

## Key areas for government to consider

- supplement net zero targets to reflect a consumption-related emissions approach
- put in place cross-departmental strategies, bringing in stakeholders where appropriate
- work with stakeholders to address the regulatory barriers to a local and global circular economy
- explore wider use of fiscal policy, including extended producer responsibility (EPR)<sup>xxvi</sup> and tax measures
- enhance product-related measures like eco-design standards and material passports.

## CONCLUSIONS

The roundtable presentations made a powerful case for adopting circular economy approaches, with multiple drivers in place.

Analysis of BITC data and third-party reports<sup>xxvii</sup> reveals that market disruptors and start-ups are driving circular economy actions, even though they may not be labelled as such. Companies like Uber, eBay, and Gumtree are already leading the way.

Larger companies have been slower to embrace circular economy practices due to external challenges such as the public policy frameworks and the weak ecosystem for change, as well as internal challenges related to culture and mindsets. Corporate reports do not aid comparability hindering benchmarking.

To embed change, businesses should take on board the enablers as well as the levers available. The enablers are:

- embrace systems thinking
- provide authentic and bold leadership
- enhance the data and information available to understand trends

- communicate a strong and clear narrative
- build a solid business case.

The three key levers explored and actions developed: skills and culture change, procurement/supply chain management, and finance, were regarded as important. Engaging the financial services sector proved challenging in the realm of green finance, suggesting a disconnect between the sector and circular economy action, in part relating to the public policy framework.

To support businesses on their journey, BITC collaborated with members to develop a [Circular Economy Routemap](#) for businesses, outlining steps that can support organisational change. The routemap also includes a maturity matrix, acknowledging that businesses will continue to improve over time.

## How BITC can help you

- Use BITC's [Circular Economy Routemap](#) to develop a circular economy plan for your business
- Participate in our [Leadership Teams and Taskforces](#) to influence the national debate, and share best practice and learning with others
- Collaborate with other businesses on action-learning projects, including identifying the needs of a net zero workforce in your organisation, and circular fit-outs
- Benefit from [Advisory support](#) on embedding circular economy practices to achieve your net zero targets, and taking action on key elements in this report
- If you are not a member, [join us!](#)

## ACKNOWLEDGEMENTS

This report arises out of the BITC Circular Economy Taskforce's work to communicate the benefits and opportunities of circular economy practices and to facilitate a discussion on how to make that change happen.

BITC would like to thank the companies who have attended the roundtables over the past year, including Arup, Crown Worldwide UK&I, Hydrock, Sodexo, Veolia, Kloeckner Metals UK, Orbit Group Ltd, Bain & Co, Southern Water, Longevity Partners, UPS Ltd, WRAP, One Stop Stores, Watches of Switzerland Group, Deloitte LLP, Ryder Architecture Ltd, AWE, Encirc, CBRE UK Ltd, EDF Energy, Recycling Lives Limited, Environment Agency, Clarion Housing Group, Jacobs, Computers 4 Charity, TJX Europe, Keenan Recycling Ltd, Sedgewick, VVB Engineering, Compleat Food Group, Suez, Diageo, Allianz, KPMG, Department for Energy Security & Net Zero.

In particular, we would like to thank Arup for their financial sponsorship of this initiative and to Diane Emerson, Director, and Kate Jackson, for chairing the sessions.

We also acknowledge the support of the Interreg North Sea Region ProCirc Project in providing co-funding towards the roundtable series.

Report and event series co-funded by



EUROPEAN UNION

### BITC Circular Economy Taskforce 2022/23

Anglian Water

Arup

Crown Worldwide

JLL

Keenan Recycling

Mayborn

Recycling Lives

Ricardo

Suez

### Partners

Defra

DESNZ

Environmental Agency

WRAP

Welsh Government

Report authored by: Maya de Souza, Circular Economy Director and Emma Weaver, Campaign Officer.

Supported by: Peter Ramsey, Circular Economy Manager; Enrique Ogly, Research and Knowledge Coordinator; and Talia Simmons, Campaign Officer.



## ANNEX: KEY FACTS

The way in which we currently use material resources is deeply problematic, but there are opportunities for change.

Global material extraction has tripled since 1970<sup>xxix</sup>. Without transformative change, extraction will almost double by 2060<sup>xxx</sup>. As shown in the 2023 Circularity Gap Report<sup>xxxi</sup> UK demand for virgin resources will continually increase, breaking 2015 levels of material extraction and going above 100 billion tonnes per year.

Improving material efficiency mitigated the growth of material use from 1970 to 1990. Since then global material productivity initially stagnated and then declined over the last two decades<sup>xxxii</sup>. Since 1998, the UK's material footprint (see chart I on the next page) has been more than 1,000 Mt almost every year, currently sitting at roughly the same levels as in 1990<sup>xxxiii</sup>.

UK demand for goods and services has driven up carbon emissions, although this increase was offset by progress on efficiency in the use of materials and the decline of the carbon intensity of materials<sup>xxxiv</sup>.

Supply chain disruptions and commodity volatility have become more frequent - US steel prices rose 250% from the pre-pandemic low<sup>xxxv</sup>. Fertiliser prices have shot up and, although currently easing, prices remain at historical highs<sup>xxxvi</sup>. Overuse is putting us at risk of running out of some essential resources<sup>xxxvii</sup>.

Circular Economy solutions are estimated to present a \$4.1 trillion global business opportunity<sup>xxxviii</sup>. The UK generates approximately 222 million tonnes of waste<sup>xxxix</sup> per annum, which could be utilised at a higher value.

The linear economy approach to resource management drives 90% of biodiversity loss and 50% of climate impacts<sup>xl</sup>, while the consumption and exploitation of resources being the strongest driver of carbon dioxide emissions, accounting for 62% of global greenhouse gas emissions<sup>xli</sup>.

**“ONCE WE UNDERSTAND THAT NATURAL RESOURCE USE IS AT THE HEART OF THE TRIPLE PLANETARY CRISIS, WE CAN UNLOCK MAJOR OPPORTUNITIES TO DELIVER SOLUTIONS WHICH ADDRESS ALL ASPECTS OF THE CRISIS TOGETHER.”**

**xlii Janez Potocnik and Izabella Texeira, Co-chairs of the International Resource Panel**

### What can businesses achieve?

According to WRAP, resource efficiency through a circular approach could provide 100 MtCO<sub>2e</sub> reductions by 2032<sup>xliii</sup> in the UK's territorial emissions. It would lead to a reduction of 2,000 MtCO<sub>2e</sub> by 2050 on a consumption basis. This is important to note: circular economy impacts are much larger if the emissions throughout the value chain - the embodied emissions of products and services - are also taken on board.

WRAP's top actions are tackling food waste, reducing the carbon in our diets, switching from goods to services, maximising the use of existing products, designing lightweight products to reduce transportation emissions, increasing recycling, and use of low carbon materials<sup>xliiv</sup>. The huge potential to reduce emissions on a consumption basis stands out. On a territorial basis, the potential reductions are still high but not in the same league.

Turning to the benefits of the natural environment we depend on, circular economy approaches to tackle the five key drivers of biodiversity loss, including reducing the amount of land needed to provide resources, managing renewable resources for the long term, and designing out pollution at every stage of a product's life cycle<sup>xliv</sup>.

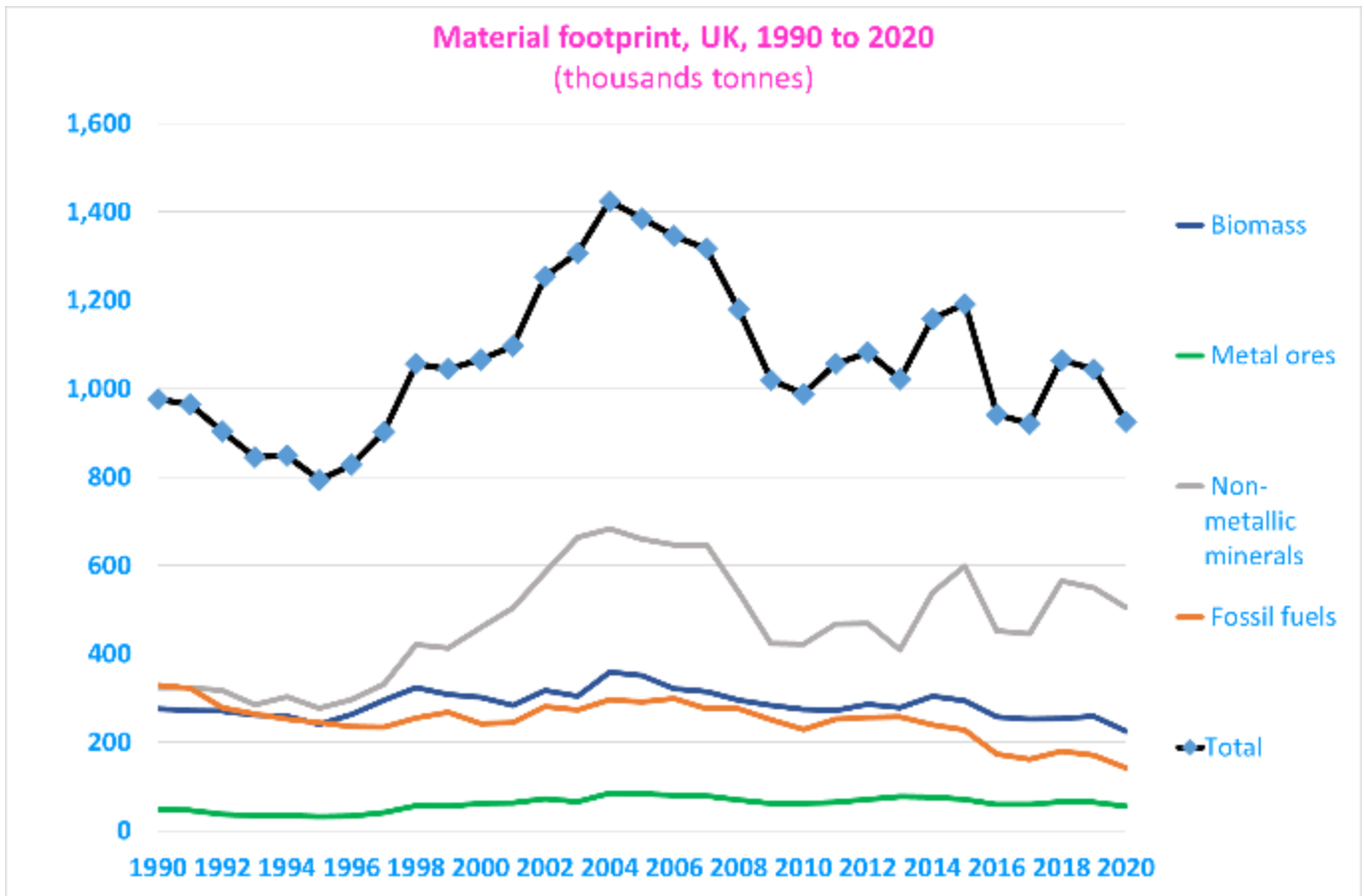


Chart I: UK Material footprint, 1990 to 2020

Source: Material footprint in the UK - Office for National Statistics

## ENDNOTES

---

- <sup>i</sup> Net zero: Why resource efficiency holds the answers. (2021). Retrieved from <https://wrap.org.uk/resources/report/net-zero-why-resource-efficiency-holds-answers>
- <sup>ii</sup> Department for Environment, F. & R. A. (2018). Retrieved from <https://www.gov.uk/government/publications/resources-and-waste-strategy-for-england>
- <sup>iii</sup> Organisation for Economic Co-operation and Development (OECD). (N.d.). Extended Producer Responsibility. Retrieved from [Extended Producer Responsibility - OECD](https://www.oecd.org/extended-producer-responsibility/)
- <sup>iv</sup> Business in the Community. (2022). Smart Growth in the Circular Economy. Retrieved from <https://www.bitc.org.uk/wp-content/uploads/2022/06/2016Smart-Growth-In-The-Circular-Economy.pdf>
- <sup>v</sup> Business in the Community. (2022a). Responsible Business Tracker Report 2019-202. Retrieved from <https://www.bitc.org.uk/wp-content/uploads/2020/05/BITC-Report-RBTrackerreport2019-2020-webready-May2020.pdf>
- <sup>vi</sup> Net zero: Why resource efficiency holds the answers. (2021). Retrieved from <https://wrap.org.uk/resources/report/net-zero-why-resource-efficiency-holds-answers>
- <sup>vii</sup> Trading Economics. (2023). Lithium Prices. Retrieved from <https://tradingeconomics.com/commodity/lithium#:~:text=Historically%2C%20Lithium%20reached%20an%20all,updated%20on%20May%20of%202023>
- <sup>viii</sup> Library of Things. (N.d.). Retrieved from <https://www.libraryofthings.co.uk/>
- <sup>ix</sup> The Groceries Code Adjudicator Act. (2012). Retrieved from <https://www.legislation.gov.uk/ukpga/2012/3/enacted#:~:text=An%20Act%20to%20require%20public,contracts%3B%20and%20for%20connected%20purposes>
- <sup>x</sup> Institution of Civil Engineers. (2015). Embodied Energy and Carbon. Retrieved from <https://www.ice.org.uk/engineering-resources/briefing-sheets/embodied-energy-and-carbon>
- <sup>xi</sup> United Nations Environment Programme (2020). *Financing Circularity: Demystifying Finance for Circular Economies*. <https://wedocs.unep.org/20.500.11822/34120>
- <sup>xii</sup> Circle Economy. (2020). Jobs & Skills in the Circular Economy: State of Play and Future Pathways. Retrieved from <https://www.circle-economy.com/resources/jobs-skills-in-the-circular-economy-state-of-play-and-future-pathways#:~:text=Through%20the%20lens%20of%20the%20initiative%27s%20three%20core,that%20enables%20people%20and%20the%20planet%20to%20thrive>
- <sup>xiii</sup> Swithinbank, R. (2023). The mission: “create the most circular watch.” Retrieved from <https://www.nytimes.com/2023/04/04/fashion/watches-id-geneve-switzerland.html>
- <sup>xiv</sup> Committee on Climate Change. (2023b). A Net Zero Workforce. Retrieved from <https://www.theccc.org.uk/publication/a-net-zero-workforce/>
- <sup>xv</sup> Institute for Public Policy Research (IPPR). (2022). Over £3 billion in unspent apprenticeship levy lost to treasury “black hole,” new data reveals. Retrieved from <https://www.fenews.co.uk/skills/over-3-billion-in-unspent-apprenticeship-levy-lost-to-treasury-black-hole-new-data-reveals/>
- <sup>xvi</sup> Ryan, R., & Deci, E. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, 25(1), 54-67. Retrieved from [https://selfdeterminationtheory.org/SDT/documents/2000\\_RyanDeci\\_IntExtDefs.pdf](https://selfdeterminationtheory.org/SDT/documents/2000_RyanDeci_IntExtDefs.pdf)
- <sup>xvii</sup> Social Value Act Information and Resources. (2012). Retrieved from <https://www.gov.uk/government/publications/social-value-act-information-and-resources/social-value-act-information-and-resources>
- <sup>xviii</sup> United Nations Environment Programme Finance Initiative. (2012). *Financing Circularity*. Retrieved from <https://www.unepfi.org/publications/financing-circularity/>
- <sup>xix</sup> Ibid. See p.17

- <sup>xx</sup> United Nations Environment Programme Finance Initiative. (2020a). Financing the Circular Economy: Capturing the Opportunity. Retrieved from <https://emf.thirdlight.com/file/24/Om5sTEKOn0YUK.Om7xpOm-gdwc/Financing%20the%20circular%20economy%20-%20Capturing%20the%20opportunity.pdf>
- <sup>xxi</sup> GOV.UK. (2021). UK to enshrine mandatory climate disclosures for largest companies in law. Retrieved from <https://www.gov.uk/government/news/uk-to-enshrine-mandatory-climate-disclosures-for-largest-companies-in-law>
- <sup>xxii</sup> Steinbrenner, M. (2023). Retrieved from <https://neosfer.de/en/financing-circular-economy/>
- <sup>xxiii</sup> European Commission. (N.d.). EU Taxonomy for Sustainable Activities. Retrieved from [https://finance.ec.europa.eu/sustainable-finance/tools-and-standards/eu-taxonomy-sustainable-activities\\_en](https://finance.ec.europa.eu/sustainable-finance/tools-and-standards/eu-taxonomy-sustainable-activities_en)
- <sup>xxiv</sup> Sustainable Business Network (SBN). (2023). NZ's Financial System: A Major Barrier to a Low-Carbon Circular Economy. Retrieved from <https://sustainable.org.nz/learn/news-insights/nz-s-financial-system-a-major-barrier-to-a-low-carbon-circular-economy/>
- <sup>xxv</sup> GOV.UK. (2023). Placing Energy-Related Products on the UK Market. Retrieved from <https://www.gov.uk/guidance/placing-energy-related-products-on-the-uk-market>
- <sup>xxvi</sup> Organisation for Economic Co-operation and Development (OECD). (N.d.). Extended Producer Responsibility. Retrieved from [Extended Producer Responsibility - OECD](https://www.oecd.org/extended-producer-responsibility/)
- <sup>xxvii</sup> World Bank. (2022). From Climate to Circular: The Circular Economy as a Solution to the Global Climate Crisis. Retrieved from <https://documents1.worldbank.org/curated/en/09942500622229520/pdf/P174596025fa8105a091c50fb22f0596fd1.pdf>
- <sup>xxviii</sup> BDO. (2023). Circular Economy Investment Report 2022. Retrieved from <https://www.bdo.co.uk/getmedia/6db0efe4-9889-40c9-ba54-18ee3830e838/Circular-Economy-Investment-Report-2022-May-23.pdf.aspx>
- <sup>xxix</sup> International Resource Panel. (2022). Global Resources Outlook. Retrieved from <https://www.resourcepanel.org/reports/global-resources-outlook>
- <sup>xxx</sup> International Resource Panel. (2022). Global Resources Outlook. <https://www.resourcepanel.org/reports/global-resources-outlook>
- <sup>xxxi</sup> Circle Economy. (2023). Circularity Gap Report 2023. Retrieved from <https://www.circularity-gap.world/2023>
- <sup>xxxii</sup> United Nations Environment Programme. (2016). Global Material Flows and Resource Productivity: Assessment Report for the UNEP International Resource Panel. Retrieved from <https://www.unep.org/resources/report/global-material-flows-and-resource-productivity-assessment-report-unep>
- <sup>xxxiii</sup> Office for National Statistics (ONS). (2023). Material Footprint in the UK. Retrieved from <https://www.ons.gov.uk/economy/environmentalaccounts/datasets/materialfootprintintheuk>
- <sup>xxxiv</sup> CIEMAP. (2018). Resource Efficiency Metrics: Briefing Note. Retrieved from <https://ciemap.leeds.ac.uk/wp-content/uploads/2018/09/CIEMAP-Briefing-Note-Resource-Efficiency-Metrics.pdf>
- <sup>xxxv</sup> Boston Consulting Group (BCG). (2022). Gauging Risks of Raw Material Price Volatility. Retrieved from <https://www.bcg.com/publications/2022/gauging-risks-of-raw-material-price-volatility>
- <sup>xxxvi</sup> International Monetary Fund (IMF). (2023). Financing the Circular Economy. Retrieved from <https://www.imf.org/-/media/Files/Publications/IMF-Notes/2023/English/INSEA2023002.ashx>
- <sup>xxxvii</sup> The Guardian. (2023e). Scientists warn of "phosphogeddon" as fertiliser shortages loom. Retrieved from <https://www.theguardian.com/environment/2023/mar/12/scientists-warn-of-phosphogeddon-fertiliser-shortages-loom>
- <sup>xxxviii</sup> World Economic Forum (WEF). (2019). It's Time for the Circular Economy to Go Global, and You Can Help. Retrieved from <https://www.weforum.org/agenda/2019/01/its-time-for-the-circular-economy-to-go-global-and-you-can-help/>
- <sup>xxxix</sup> Department for Environment, F. & R. A. (2018). Retrieved from <https://www.gov.uk/government/publications/resources-and-waste-strategy-for-england>
- <sup>xl</sup> Ellen MacArthur Foundation. (2021). Biodiversity Report. Retrieved from <https://ellenmacarthurfoundation.org/biodiversity-report>
- <sup>xli</sup> Circle Economy. (2021). Circular Economy Interventions to Go Beyond the Existing Climate Action in Developing Countries. <https://www.circle-economy.com/resources/circular-economy-interventions-to-go-beyond-the-existing-climate-action-in-developing-countries>

<sup>xiii</sup> International Resource Panel. (2022). Making Climate Targets Achievable. Retrieved from

<https://www.resourcepanel.org/reports/making-climate-targets-achievable>

<sup>xiii</sup> Net zero: Why resource efficiency holds the answers. (2021). Retrieved from <https://wrap.org.uk/resources/report/net-zero-why-resource-efficiency-holds-answers>

<sup>xiv</sup> Net zero: Why resource efficiency holds the answers. (2021). Retrieved from <https://wrap.org.uk/resources/report/net-zero-why-resource-efficiency-holds-answers>

<sup>xiv</sup> Ellen MacArthur Foundation. (2021). Biodiversity Report. Retrieved from

<https://ellenmacarthurfoundation.org/biodiversity-report>