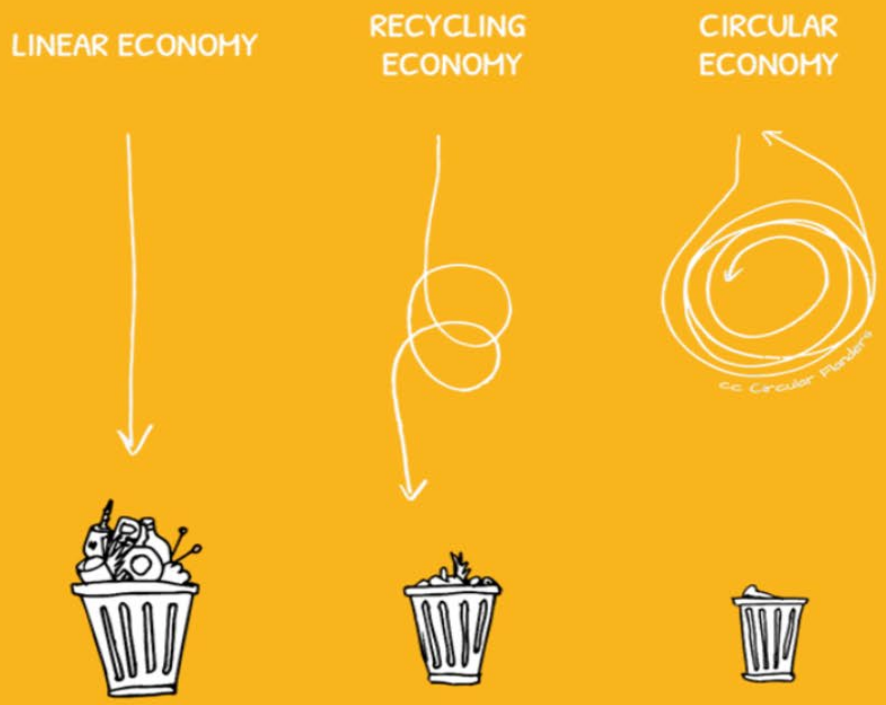
Designed for the post-16 education sector

eauc

2025

CIRCULAR ECONOMY GUIDE



Executive summary

The Circular Economy is an ill-defined concept, which has left the term open to interpretation. However, at its core, it refers to systems of production based on three main principles:

1. Eliminate waste and pollution
2. Circulate products and materials
3. Regenerate nature

It is a term that can be used to promote responsible production and consumption (Sustainable Development Goal 12), particularly in scenarios where "reduce, reuse, recycle" may be seen as outdated and uninspiring.

There are various national policy drivers across the UK and Ireland encouraging or mandating institutions to act on circular principles. While there are many challenges, there are also opportunities associated with shifting to a more circular model of operation. We will explore many of these considerations, alongside presenting a comprehensive action plan section covering:

- Leadership and governance
- Teaching, learning and research
- Estates and operations
- Partnerships and engagement
- Data collection and monitoring

This guide has been developed to enable staff in the UK and Ireland's post-16 education sector to understand:

- What the Circular Economy is
- The policy and legislative environment
- The challenges, but also the many opportunities, that going circular can create
- How individuals, teams and whole institutions can take action to become circular

To achieve this, the guide has six main sections:

1. **What is the Circular Economy?** Develop an understanding of the concept of the circular economy, how it goes beyond waste, and its main principles.
2. **Policy context.** Gain insights into the policy and legislative drivers putting the Circular Economy on the map across the UK, Scotland, England, Wales, Northern Ireland and the Republic of Ireland.

3. **Circular Economy and the post-16 education sector.** Understand the need for and benefits of adopting a circular model in your institution.
4. **The Challenge.** Transitioning to a circular model comes with its share of challenges. Outcompeting the current linear economic model is no mean feat. We list several of the challenges institutions report when trying to change their operations.
5. **The Opportunity.** Despite the challenges, there are many benefits of going circular. From reduced time spent picking up disposables littered on campus to procuring equipment that is more robust, lasts longer and is easily repaired, we list some of the main opportunities to be gained.
6. **Strategy and action planning.** Adopt a whole-institution approach to the circular economy through the five key areas of: Leadership and Governance, Teaching, Learning and Research, Estates and Operations, Partnerships and Engagement and Data Collection and Reporting.

Additionally, the guide provides inspirational case studies covering the whole institution.

It is hoped that, through this guide and associated action list, your institution will be able to enact circular principles, whatever your scale or budget, and reap the many benefits of going circular.

Contents

Background: we can't recycle ourselves out of the problem

The current approach to resource extraction, use and disposal goes far beyond the ability of the earth to regenerate resources and for communities to manage resource disposal in a safe way. The scale of the challenge means that we must change our approach to how we design, acquire, use and end the use of goods and services at our institutions. The circular economy offers an alternative.

Resource use

It is a fact that we use more resources than our planet can sustain, causing the climate to change and disrupting wildlife and biodiversity. Simultaneously, inequalities continue to rise within and between countries across the world (Inequality Inc., Oxfam 2024). This makes unsustainable resource use one of the biggest issues of our time.

Earth Overshoot Day, which marks the date when humanity has used all the biological resources that Earth regenerates during the entire year, has moved gradually from 29 December in 1971 to 24 July in 2025.

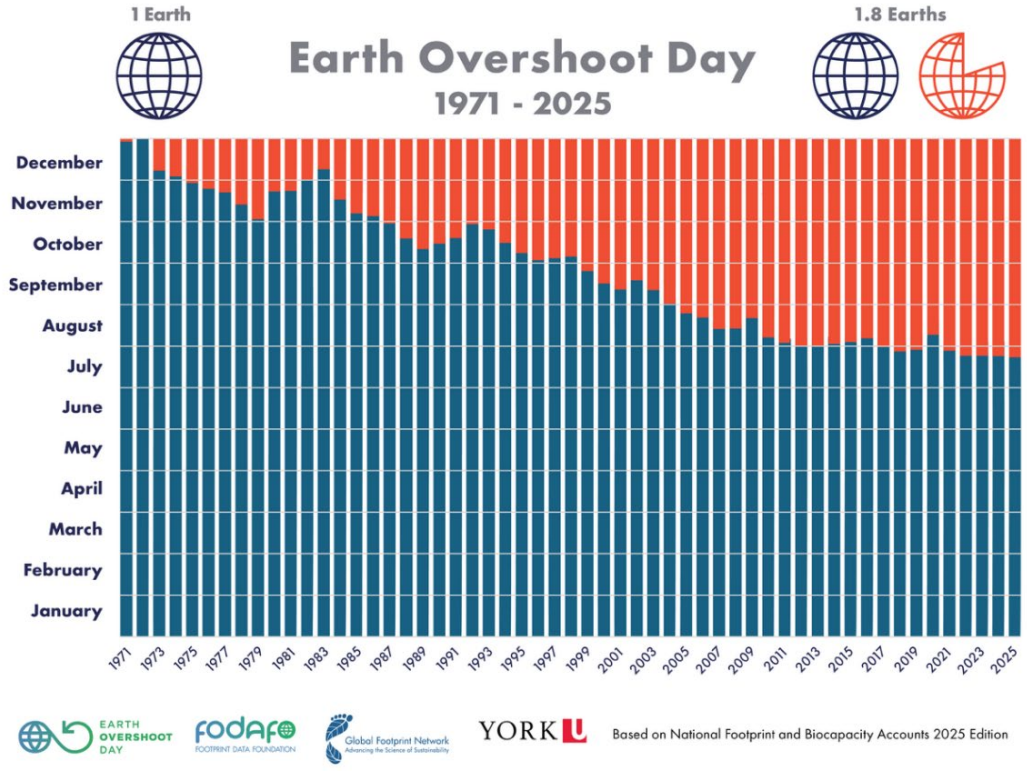


Image 1: In 2025, Earth Overshoot Day fell on 24 July.

However, the "overshoot" day is not equal between nations. Different countries have distinct resource consumption patterns. In 2025, if we were all to consume resources as quickly as Qatar, for example, we would overshoot on 6 February. In the United Kingdom, it would be 20 May. However, Uruguay does not reach its overshoot day until 17 December.

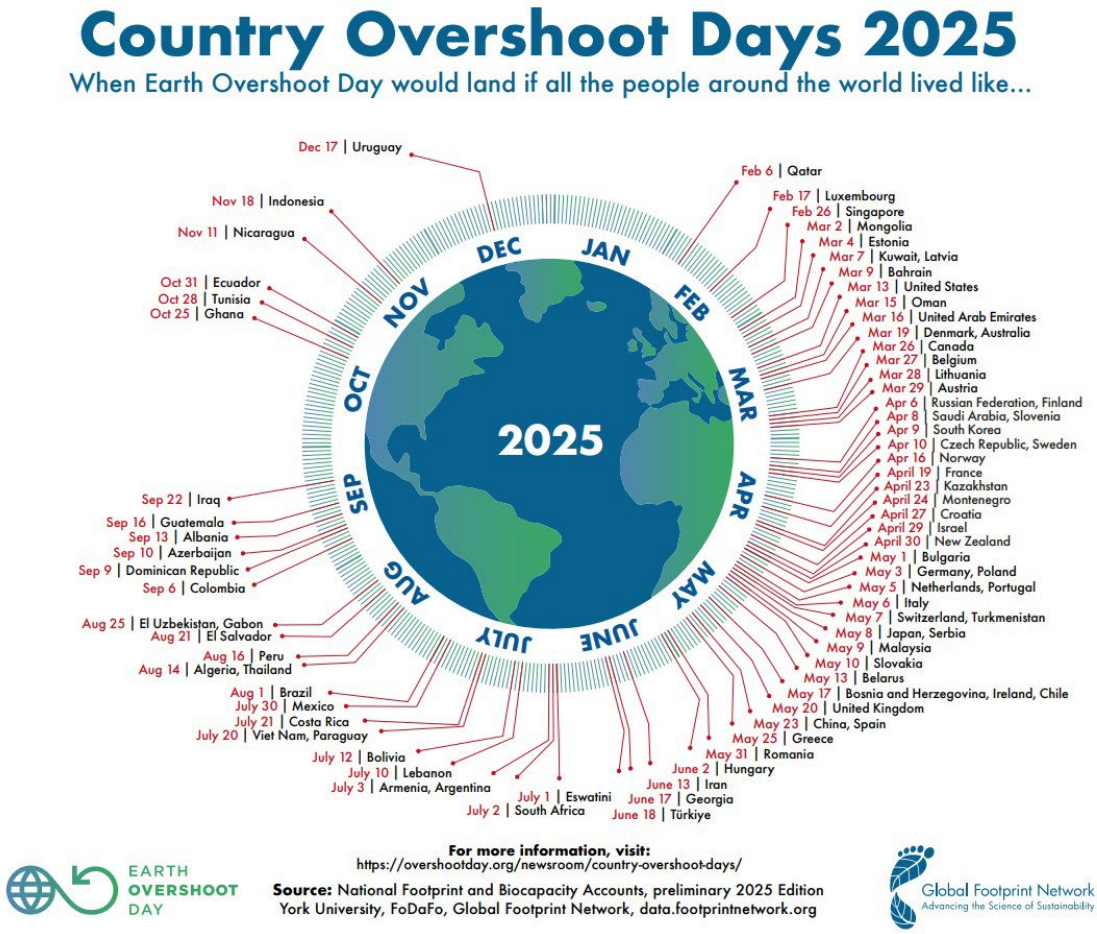


Image 2: Country Overshoot Days 2025 from the Global Footprint Network.

Another key concern is that of "waste colonialism", in which rich nations export waste to poorer countries, creating a range of waste management problems abroad. People are told that their waste is being recycled when in fact it is being left for others to deal with, causing pollution and, in some cases, killing people and animals (Climate Change & Fashion Waste Colonialism, Carbon Literacy Project 2023; Stop Waste Colonialism; 'Waste colonialism': world grapples with west's unwanted plastic, The Guardian). We have a moral imperative to both reduce our waste and ensure that any residual waste does not harm others. Unfortunately, there is a lot of greenwashing in this space, so we need to be vigilant and challenge claims that seem too good to be true (e.g. 'They lied': plastics producers deceived public about recycling, report reveals, The Guardian).

Climate change and scope 3 emissions

Scope 3 emissions refer to indirect greenhouse gas emissions that result from, for example, purchased goods, investments, and business travel. Scope 3 procurement or supply chain emissions (i.e. emissions from what we buy) account for the largest share of emissions in post-16 education institutions (EAUC Scotland college and university PBCCD analysis report 2023/24).

We can see this visually in the University of Aberdeen's interactive Sustainability Dashboard for 2023/24. Scope 3 procurement emissions far eclipsed any other emissions category, coming in at 46%:

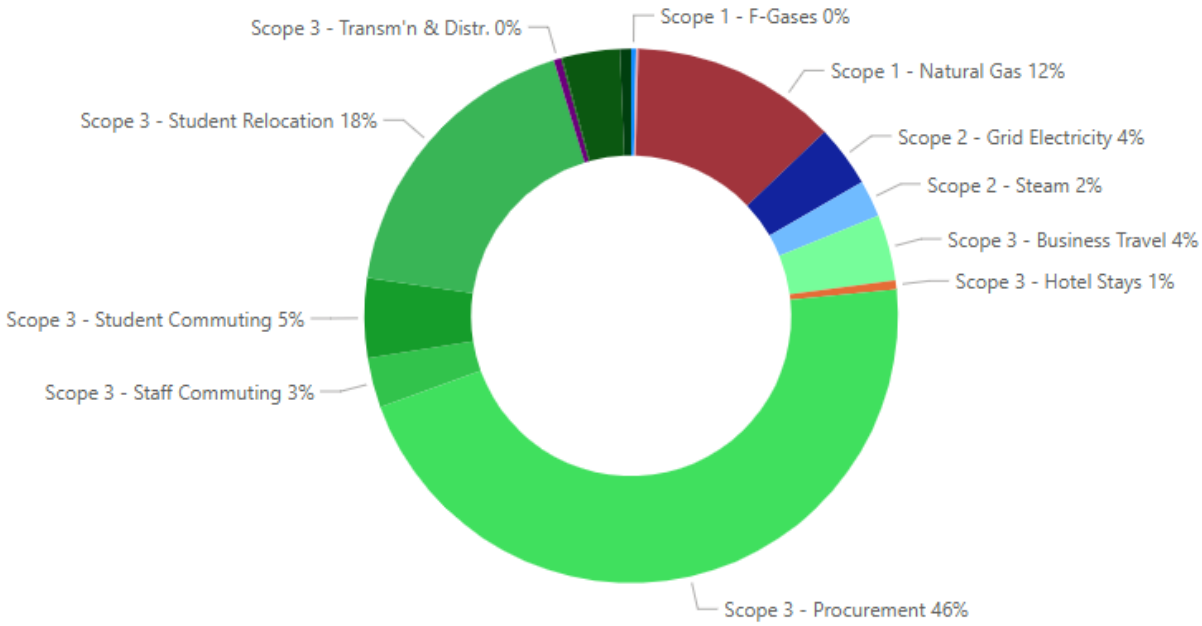


Image 3: University of Aberdeen's Sustainability Dashboard for 2023/24.

A circular approach

It is sometimes hard to imagine doing things differently. However, just a few generations ago, there was a far more circular culture in which people bought fewer, quality items that were built to last and be repaired. Although we cannot invent a time machine and return to this period, we are seeing glimmers of hope in our modern society.

You might have already come across circular principles in your daily life. This could include using durable crockery instead of disposable cups at a café, using a menstrual cup or period underwear instead of pads or tampons, taking an electrical item to a repair café instead of taking it to the recycling centre, or refilling your water bottle at a water fountain instead of buying water from a shop. Many people are moving towards a more conscientious, intentional model of spending, using, re-using and repairing items until they are finally recycled into their component parts.

With revelations of "recycled" waste being shipped overseas and dumped in developing nations, and food being wasted before it even hits the shelves due to "commercial beauty standards", it is clear it is time for change. The supply chain is by far the largest source of emissions for post-16 education institutions, but it also provides the sector with significant agency for change. We have created this guide to educate and inspire the next generation of thinkers to both deliver solutions that already exist and develop new ones to pioneer the way forward.

Image 4: At EAUC's annual conference at Sheffield Hallam University in 2025, the catering was served on crockery rather than disposable plates. Photography by Becky Payne.

1. What is the Circular Economy?

In broad terms, a circular economy is a holistic approach to resource creation and use, in which products, services and systems are designed to maximise their social, economic and environmental value, and minimise waste. As the term "circular" suggests, the aim is to have resources stay in circulation and in use, rather than using a linear approach to resources (take-make-use-dispose).

However, it is important to note that the term "circular economy" or "circularity" has been adopted by a diverse range of stakeholders with varying interpretations, motivations and priorities. Some consider the circular economy to be a complete system-wide economic transformation for good, whereas others view it as a method of driving business growth without true consideration of the wider sustainability impacts. As a result, there are **over one hundred definitions of the circular economy**. Importantly for us as sustainability professionals, in a study analysing 114 definitions of the Circular Economy, researchers from Utrecht University stated:

> "Our findings indicate that the circular economy is most frequently depicted as a combination of reduce, reuse and recycle activities, whereas it is oftentimes not highlighted that [Circular Economy] necessitates a systemic shift. We further find that the **definitions show few explicit linkages of the circular economy concept to sustainable development. The main aim of the circular economy is considered to be economic prosperity, followed by environmental quality; its impact on social equity and future generations is barely mentioned**." [Emphasis added].
>
> From Conceptualizing the circular economy: An analysis of 114 definitions, Kirchherr, Reike and Hekkert (2017)

We highlight this up front because we need to tread carefully around this term. Not all businesses selling your institution a circular solution will be doing it for sustainability reasons. With budget and staff resource limited, we need to ensure that our actions benefit our holistic sustainability ambitions. From here on, we will be taking a pragmatic, action-centred approach to the circular economy with post-16 education institutions. As long as we are mindful that our circular approach is **benefitting society and our sustainability goals**, the "circular" term is a good way to **drive momentum towards action on waste, procurement and other institutional goals**.

Note: For an insightful critique of the contributions of the circular economy to sustainability, we recommend reading "Critiques of the circular economy" from Corvellec, Stowell and Johansson (2022).

Three core principles

The circular economy is often associated with recycling. However, the core circular economy concept and model as defined by the Ellen MacArthur Foundation (EMF) has a strong emphasis on – and is largely driven by – designing out waste and pollution in the first instance. As they put it:

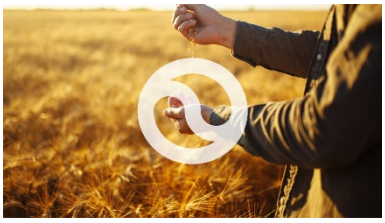
> "In the face of our current environmental challenges, recycling won't be enough to overcome the sheer amount of waste we produce. In a properly built circular economy, one should rather focus on avoiding the recycling stage at all costs. (…) Preventing waste from being created in the first place is the only realistic strategy"
>
> From Recycling and the Circular Economy: What's the difference?, Ellen MacArthur Foundation (accessed 2025)

According to the Ellen MacArthur Foundation, the circular economy is based on three core principles:

- **Eliminate** waste and pollution: Design products and services to eliminate waste and pollution.
- **Circulate** products and materials: Keep products and materials in use at their highest value.
- **Regenerate** nature: Support natural processes and regenerate natural systems.

Eliminate Waste and Pollution

Circulate Products and Materials



Regenerate Nature

Image 5: The Ellen MacArthur Foundation's Three Core Principles of the Circular Economy.

Circular systems are systems geared toward designing out waste in the first instance, making all efforts throughout the entire supply chain to use as few resources as possible. The next step is to keep those utilised resources in circulation for as long as possible. To do this, we must make efforts to maintain products, components and materials at the state that has the highest value (for example,

repairing over recycling). Finally, at the end of their life, materials are recovered and regenerated. Regenerative processes that support nature to thrive are key to designing and recirculating throughout the entire process. By doing this, the circular economy moves beyond the current linear economic model of "take-make-use-dispose" to "make-use-remake-regenerate".

Below are some examples of actions education institutions can take, framed around these three Circular Economy principles:

1. **Design out waste** – Ensure that products that are reusable and repairable are prioritised in all procurement decisions. Hire and rent rather than buying (service design). Choose sustainable construction materials and practices so materials can be recovered. Set up campus food facilities to use reusable dishes and redistribute surplus food, thereby sharing resources with your community (sharing is another important circular principle and provides not only an environmental benefit but a social one too).

2. **Circular materials** – Set up reuse hubs, libraries of things and repair stations or signposting. Ensure staff and students are educated about how to make the most of materials (including reuse, repair and recycling). Prioritise reusable, repairable and remanufactured items in procurement decisions. Manage waste to improve reuse and recycling and extend the life of materials and products.

3. **Regenerate nature** – Leave room for nature to thrive by minimising built spaces or repurposing current space into multi-use areas (e.g. unused library spaces could be used as library of things). Prioritise supporting food suppliers with sustainable farming principles that improve soil health (e.g. When Canteens Go Green, EAUC). Reduce greenhouse gases across all aspects of your institution to mitigate climate change and its damage to nature. Have a composting facility. Implement biodiversity and nature-friendly land use – for example, by rewilding spaces, establishing green roofs and prioritising growing plants that support biodiversity and the wider ecosystem on campus (see EAUC's Biodiversity Strategy and Action Plan Guide and Template for more information on this element).

It is important to note that these principles overlap and interact with each other.

Going beyond recycling and waste

In many practical discussions, the circular economy is strongly associated with recycling and waste. While avoiding waste and improving recycling are important, the circular economy goes far beyond this.

There are many benefits of switching to a circular model. It can reduce the amount of litter your Estates team has to manage, freeing up staff resources and making your campus more attractive; your institution will meet its net zero targets sooner, reducing offsetting costs; it can help you meet the commitments of programmes like the Concordat for the Environmental Sustainability of Research and Innovation Practice, opening up access to more research funding; it can help contribute to awards and positive rankings, putting your institution on the map for potential learners and colleagues; as well as many other opportunities.

Find out more in The Opportunity section.

Image 6: Recycling station at a college. This is a great recycling station, but it must be recognised that in a circular economy model, recycling is one of the very last stages of the cycle (Image: EAUC).

Case Study: Words of advice from a Circular Economy lecturer

Dr Lucy Wishart, Lecturer in Circular Economy & Sustainability Transformation and (Acting) Programme Director MSc in Circular Economy, University of Edinburgh

🔁 Definitions and Concepts

- **No single "circular economy"** – there are *multiple, localised circular economies* that operate differently from the large-scale global model.
- Preferred definition: **"A socio-technical imagination of the future"** – it's about intentionality with waste, not perfection or closed loops.
- Circular economy is an evolving, guiding *framework*, not a fixed model.

🏫 Institutions' Role in Circular Economy

- Universities and colleges act as **keystone institutions** in local CE systems:
  - Influence through **procurement, employment and space**.
  - Provide continuity where smaller, external CE initiatives face instability.
- Recommend reversing the traditional dynamic: **apply CE thinking internally first**, rather than only researching outward applications.

🔧 Top Action Priorities for Institutions

1. **Make waste and labour visible**: Show what's being thrown out and the work required to manage it.
2. **Focus on system-level interventions**:
   - E.g. don't just discourage single-use cups; address time, space, and scheduling that push staff/students toward disposables.
3. **Build and nurture local partnerships**:
   - E.g. Institutional teams (like Transition University of St Andrews) connect and stabilise local CE networks.

4. **Shift from individual behaviour change to structural solutions**.
5. **Challenge internal processes** (e.g. furniture replacement cycles, use of space) as CE opportunities.

📚 Teaching & Research Integration

- Emphasise **materiality** – understanding the *life of objects* and their agency.
- Circular economy overlaps with sustainability education (systems thinking, ethics, resilience), but has distinct focus on **"stuff"**.
- **Lack of pedagogy**: Circular economy education research is underdeveloped compared to climate change and energy transitions.

📊 Monitoring & KPIs

- **Avoid overemphasis on recycling or waste diversion**.
- Focus metrics on **reuse, repair**, and **system change**.
- Measuring impact should *inform action*, not replace it.
- Choose indicators carefully: "**Reporting is not the activity – it's a step toward change.**"

⚠️ Cautions & Critique

- CE is often used to **greenwash** or **enable business-as-usual models**.
- Be wary of claims like "CE is the solution to climate change."
- Keep the focus on **social, ethical and systemic impacts**, not just technological fixes.
- Visual models like the **Butterfly Diagram** (EMF) are useful but should be accompanied by critical interpretation.

2. National policy drivers

This section aims to outline the impact of circular economy policies on post-16 education institutions across the UK and Ireland, highlighting region-specific contexts and potential future developments affecting the sector.

While reading through legislative documents and policy, we have aimed to specifically filter for measures relevant to the post-16 education sector. Please note that the following pages only aim to direct you to relevant legislation and policy.

United Kingdom

Two key laws provide overarching guidance on the circular economy throughout all four nations: the Circular Economy Package and the Environment Act. Both demonstrate the government's ambitions to introduce more incentives, as well as legal requirements to push for a shift from linear to circular systems. This particularly affects design requirements, producer responsibility and waste management. By transitioning to operations guided by circular economy principles now, further and higher education institutions (FHEIs) can stay ahead of the current developments, prepare for more long-term solutions, and show their ambition and commitment to sustainability.

Circular Economy Package

The Circular Economy Package (CEP) is a collection of EU laws introduced in 2020 to reduce waste, improve recycling, promote resource efficiency and encourage practices such as reuse, repair and remanufacturing. Its overarching aim is to support the transition from a traditional linear economy, where resources are made, used and discarded, to a circular economy that keeps materials in use for as long as possible. Although the UK is no longer part of the EU, it has retained many of the CEP's environmental ambitions by adapting and integrating most of its measures into national policies across the four nations (see pages 16-19). These policies and strategies support and implement elements of the CEP, such as:

- Increasing recycling rates
- Reducing landfill
- Collecting waste separately
- Encouraging repair and reuse

While FHEIs are not the main focus of the CEP, they are still affected through UK laws and public-sector expectations shaped by it, especially as they produce various types of waste. Therefore, institutions must:

- Follow the Waste Hierarchy, which prioritises waste prevention, followed by reuse, recycling and, only as a last resort, disposal
- Store and dispose of waste safely and legally
- Manage electronic and hazardous waste, especially in labs
- Larger institutions may fall under Producer Responsibility regulations, particularly for packaging waste

As public-sector bodies, many FHEIs are also expected to lead by example, even where not legally required. Thus, it is good practice to separate waste into appropriate streams to support national recycling and landfill reduction goals, consider environmental impacts in procurement decisions and to enhance waste reporting systems to align with evolving regulatory definitions and targets.

Environment Act 2021

The CEP is backed by the UK's Environment Act, which establishes a legal framework for resource efficiency and waste reduction. This includes powers for:

- **Extended producer responsibility (EPR),** which applies across the whole UK and requires producers to pay the full net cost of managing their packaging waste.
- **Deposit return schemes (DRS),** which place a redeemable deposit on specific drinks containers that can be claimed when the item is returned to a collection point, such as a local supermarket. These are being introduced in England, Scotland and Northern Ireland in 2027.
- **Consistent waste collection,** which aims to standardise waste and recycling services across local authorities in England, ensuring all households and businesses have access to the same core set of recyclable materials. This includes mandatory separate food waste collections and clearer labelling to reduce contamination and improve recycling rates.

Recently, legislation on waste management and recycling has also changed in England and Wales. From 31 March 2025, the Separation of Waste (England) Regulations 2025 requires all workplaces to separate their waste before it is collected, including any waste produced by employees, customers and visitors. This includes:

- Dry recyclable materials (plastic, metal, glass, paper and card)
- Food waste
- Non-recyclable waste (also called residual waste)

The WRAP website, funded by DEFRA, provides specific guidance to education institutions. It also includes a waste calculator, which gives you the potential cost of waste collection services along with ideas to improve waste efficiency.

England

The Resources and Waste Strategy for England (2018) is the core circular economy document for England, and is underpinned by the aforementioned Environment Act 2021. It focuses on reducing waste, increasing resource productivity, reforming waste management (through EPR, consistent collections, DRS) and promoting eco-design and reuse. It positions public bodies, such as colleges and universities, as leaders in utilising green public procurement practices, reducing waste and using sustainable products.

The Environment Secretary, Steve Reed, has also recently pledged to introduce a new Circular Economy Strategy in Autumn 2025. The strategy will be supported by the Circular Economy Taskforce, an independent expert advisory group which was introduced in November 2024 with the purpose of supporting the government in creating a circular economy strategy for England. The strategy will cover five key sectors: agri-food, the built environment, chemicals and plastics, transport and electronics. Considering institutions are connected to each of these sectors, it is recommended that they monitor the strategy's development closely and take proactive steps toward embedding circular economy principles in their operations.

These strategies are supported by the Waste Management Plan for England, which includes commitments to double resource productivity by 2050, reuse materials and minimise and manage waste to reduce their impact on the environment. Thus, FHEIs are legally required to manage waste according to the Waste Management Hierarchy, ensuring proper handling, storage and disposal. They are also strongly recommended to:

- Implement waste management plans that set out targets for prevention, reuse, recycling and reduction.
- Adopt circular economy principles by treating waste as a resource to improve efficiency and reduce environmental impact. Many have already set specific waste reduction and recycling targets, such as reducing waste per student and staff member and increasing recycling rates.

Scotland

Scotland has taken significant steps to introduce circular economy principles into legislation. Areas of priority include managing waste and food waste, reducing consumption, increasing reuse and repair, and sustainable procurement and construction.

Specifically, Scotland's first circular economy strategy, Making Things Last, implemented in 2016, goes beyond waste and recycling to focus on design for durability, reuse, repair, remanufacture, as well as business models that support product life extension. Public bodies such as post-16 education institutions are

encouraged to adopt circular procurement practices and support reuse and repair networks.

This strategy is underpinned by the recently passed Circular Economy (Scotland) Act (2024). The Act aims to provide the legislative framework required to support Scotland's transition to a zero waste, circular economy through significantly increasing reuse and recycling rates, and modernising and improving waste and recycling services. Based on the Act, the Scottish Government has produced a circular economy and waste route map to 2030 which outlines the government's 11 implementation priorities while also setting out clear timelines and budget predictions.

As implementation of the act develops, FHEIs should understand that they may soon be legally required to:

- Report on material use or circular economy performance
- Reduce consumption of single-use items
- Implement waste prevention measures

The Scottish Government also provides funding to Zero Waste Scotland (ZWS) to liaise with public sector organisations, businesses and communities to research and implement waste-reducing initiatives. Additionally, Business Energy Scotland's free support for Small and Medium-sized Enterprises is available to charity organisations, including Students' Unions and Associations, and includes opportunities to apply for interest-free loans to install resource efficiency measures. Institutions can also promote this scheme to their local suppliers.

Wales

In Wales, Beyond Recycling: A Circular Economy Strategy for Wales (2021) sets out the ambitious goal to become a zero-waste, net-zero carbon nation by 2050. The strategy consists of six core themes:

- Driving innovation in materials use
- Upscaling prevention and reuse
- Building on the recycling record
- Investing in infrastructure
- Enabling community and business action
- Aligning Government levers

Through emphasis on green job creation, community and citizen involvement and a strong focus on public procurement, the strategy aims to build on the country's national recycling rate and ensure that resources are managed in a sustainable and equitable way.

Key targets include:

- By 2025, there will be a 26% reduction in overall waste, a 50% reduction in avoidable food waste, zero waste going to landfill and 70% of waste will be recycled.
- By 2050, there will be a 63% reduction in overall waste.

As there is a very strong public focus, institutions are expected to engage in various ways – from applying circular procurement principles to engaging students and staff in waste reduction and partnering on community-scale reuse and repair projects. Furthermore, FHEIs are expected to support and deliver accredited training in circular economy skills, such as eco-design, repair and remanufacturing. They will need to work with professional bodies, addressing skills gaps and aligning apprenticeships with Wales's economic needs, while ensuring safety in areas like electronics reuse.

This is supported by the Welsh Government's Towards Zero Waste strategy, which outlines a plan to achieve zero waste by 2050 through waste prevention, sustainable consumption and maximising recycling, with intermediate milestones set for 2025. The strategy emphasises behaviour change, eco-design and collaboration across sectors to reduce waste, eliminate landfill and create a resource-efficient economy. For universities and colleges, this strategy encourages:

- Adopting sustainable waste management practices
- Integrating eco-design principles into curricula
- Promoting behaviour change among students and staff

Institutions are also expected to contribute by reducing waste, increasing recycling rates and supporting green procurement initiatives.

Northern Ireland

The government in Northern Ireland held a consultation on its draft Circular Economy Strategy in 2023. The strategy will aim to transition to a sustainable, innovative and inclusive economy by 2050, with key targets to reduce the annual material footprint to 8 tonnes per person and achieve net zero emissions.

The strategy includes 12 key proposals grouped under five policy goals:

- **Collaborate for system change**: Promote behaviour change, create clusters and networks for collaboration and develop a circular economy monitoring framework.
- **Design out waste**: Embed circular economy principles in public procurement and support businesses in adopting circular design.
- **Manage resources to retain value**: Establish platforms and hubs for sharing goods and materials, and maximise the value of materials locally through reuse, repair and reprocessing.

- **Stimulate system change with funding, incentives and penalties**: Launch a circular economy funding programme and create a regulatory framework to incentivise circular practices.
- **Invest in innovation, research and skills**: Increase research and development for material valorisation, embed circular economy principles in education and design future skills programmes to support a just transition.

Universities and colleges are noted to play a critical role in research, innovation and skills development, through supporting circular design, reprocessing technologies and education programmes to prepare society for this transformation.

This strategy will build on already existing legislation which incorporates circular economy principles. This includes the:

- Environmental Improvement Plan (EIP) for Northern Ireland which focuses on sustainability, biodiversity, climate resilience, waste reduction and the transition to a circular economy, while emphasising collaboration across government, communities and businesses. Universities and colleges are said to play a critical role in fostering environmental awareness, research and innovation, although no specific statutory duties are placed on them.
- Waste (Circular Economy) (Amendment) Regulations (Northern Ireland) 2020 transposes the EU CEP into Northern Ireland law, updating waste management policies to align with EU directives and including new definitions, waste hierarchy priorities and recycling targets. It amends legislation to promote sustainable waste practices, reduce landfill use and enhance recycling and reuse efforts. For FHEIs, these regulations may require adjustments to waste management practices, including implementing separate waste collection systems, promoting recycling and reuse initiatives, and ensuring compliance with updated environmental standards.
- Climate Change Act (Northern Ireland) 2022 which establishes a legal commitment for Northern Ireland to achieve net zero greenhouse gas emissions by 2050. This is stated to be partially met through several key circular economy principles, particularly in the areas of waste reduction, recycling and green job creation. For example, the Act mandates that at least 70% of waste must be recycled by 2030; a Just Transition Commission must be established; green jobs and supporting sectors like reuse, repair and remanufacturing must be supported; and responsible production and consumption must be emphasised. While not all FHEIs are explicitly listed in the initial schedule of reporting bodies, those with public functions or statutory undertaker status may fall under these reporting obligations.

Ireland

The Circular Economy Strategy 2022–2023, "Living More, Using Less", is Ireland's first whole-of-government circular economy strategy. Its key goals are to encourage a shift away from linear consumption (take–make–dispose), decouple economic activity from material use, and embed circular practices across production and consumption. It came about as a commitment in the Waste Action Plan for a Circular Economy, which acted as a new roadmap for waste planning and management, shifting focus away from waste disposal to the preservation of resources by creating a circular economy.

The strategy is underpinned by the Circular Economy and Miscellaneous Provisions Act 2022, which places a statutory duty on the government to ensure ongoing development of circular economy policy. Key measures include:

- Encouraging the use of **reusable and recyclable alternatives** instead of wasteful single-use items
- Changing the **Environment Fund** into a **Circular Economy Fund** to support more recycling and green projects
- Making **waste separation and pay-by-weight charging mandatory** for businesses, as is already the case for households
- Improving regulations to make it **easier and safer to reuse materials** instead of treating them as waste

This act also places duties upon public bodies – from mandatory green public procurement (GPP) reporting obligations to encouragement to buy reused, refurbished or recycled products, and measure and report resource consumption.

Green Tenders – Action Plan on Green Public Procurement provides further guidance on planning and implementing GPP by highlighting existing best practice and outlining further actions to boost green public procurement. For example, education institutions are encouraged to:

- Integrate IT into teaching and learning across all subjects to support digital education
- Prioritise high-speed broadband access, ensuring your institution is connected to fibre-powered internet
- Maximise value from ICT investments by collaborating with other institutions to pool procurement and reduce costs

Other key plans to note are the National Waste Management Plan for a Circular Economy 2024-2030, which includes clear goals, strategies and measures to help the waste and resource sector tackle circular economy challenges and speed up the shift to more sustainable, circular practices. Although most of the responsibilities are placed upon government agencies, FHEIs should be aware that they are expected to lead by example in reducing waste and promoting sustainability. This means integrating circular economy principles into procurement, construction and daily

operations, such as prioritising reusable materials, improving waste segregation and reducing landfill use. Colleges may also be required to align with national and regional waste strategies and meet stricter compliance standards overseen by the Environmental Protection Agency (EPA).

Lastly, the National Food Waste Prevention Roadmap 2023-2025 aims to encourage waste prevention across key sectors in the food supply chain, thereby cutting food waste by 50% by 2030. To track progress, Ireland will establish a national baseline and implement a robust system for measuring and reporting food waste, aligned with EU and UN commitments. The roadmap includes interim targets, enhanced data collection and priority actions developed through collaboration across sectors. It promotes food waste segregation, donation and redistribution, supports innovation and research, and encourages green public procurement. Thus, FHEIs should lead by example by:

- Measuring and reducing campus food waste
- Supporting food donation and redistribution
- Integrating sustainability into catering and procurement practices
- Educating students on responsible consumption

Case Study: University of Dundee: Supporting reuse through space use and procurement processes

Trudy Cunningham, Environment, Sustainability & Waste Manager, University of Dundee

Overview

At the University of Dundee, Trudy Cunningham leads a wide-ranging circular economy initiative rooted in reuse, redistribution and strong community partnerships. Through inventive resource management, she saves the university significant costs, reduces carbon emissions and supports students, staff and local organisations — all without a formal team.

Key Initiatives and Impacts

1. Furniture Reuse Store

- Trudy manages a campus-wide reuse system for office furniture and equipment.
- This system saves around **80 tonnes of carbon** annually.
- Redistribution of items avoids landfill, saves procurement costs and eliminates the need for external storage rentals.
- Partnerships with charities (e.g., Dundee Cycle Hub) extend impact to the wider community.

2. Free Shop (Student Support)

- This is the **longest-running free shop in Scotland** (16+ years).
- It offers clothing, kitchenware, academic supplies and sanitary products to students and cleaners.
- It is stocked with donations, lost property and surplus goods.
- It emphasises dignity, accessibility and practical support—especially for vulnerable or lower-income students.

3. Procurement & Policy Influence

- No new furniture purchases under £25,000 can be made without consulting Trudy
- Playing an active role in **framework agreements** with suppliers like Recycle Scotland and Claremont to source refurbished goods
- Advocating for design durability and long production runs to allow for repair, not replacement

4. Waste & Supply Chain Innovations

- New waste contract includes **rebates for clean plastics** and metal, turning waste into revenue or useful products (e.g. benches)
- Championing bulk purchasing and packaging reduction (e.g. sanitary towels in boxes of 1,000)
- Tracking resource use with detailed spreadsheets to quantify impact

5. Educational Integration

- Delivering lectures to engineering and sustainability students on e-waste, material recovery and circular thinking
- Emphasising relevance to SDGs, ecological footprint and real-world case studies
- Encouraging creative reuse (e.g. cable trays repurposed as shed or cleaning racks)

Barriers & Lessons Learned

- **Storage & logistics**: Matching large-scale furniture needs (e.g. new buildings) with available reused stock remains a challenge.
- **Cultural change**: Academic resistance to non-matching or reused furniture, especially in grant-funded projects.
- **Digital tools**: Web platforms for internal reuse struggled due to low engagement from staff. Personal relationships proved more effective.

Top Tips from Trudy

- **Barter and network**: Build reciprocal relationships with charities and suppliers
- **Think creatively**: Every item has potential for repurposing
- **Track data**: Maintain simple logs to demonstrate impact
- **Understand human behaviour**: Convenience, presentation and cleanliness all affect uptake
- **Use policy to create leverage**: Tie approvals and procurement rules to reuse processes

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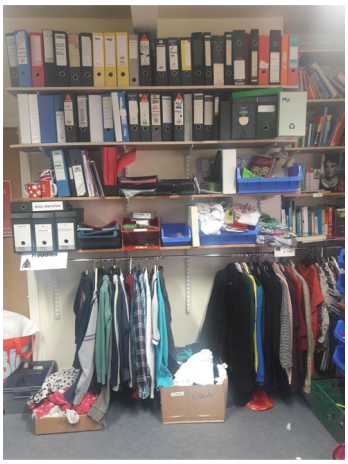
Notable Outcomes

- Over **600kg of furniture** saved from landfill in a single project
- Free shop supports **students' wellbeing**, dignity and affordability
- Reduced waste and **enhanced procurement efficiency**
- Built good links with local charities and small businesses
- Cultural shift on campus towards sustainability and circular thinking

To read more about the University of Dundee's circular initiatives, EAUC published a blog on their measures to tackle period poverty with the use of recycled and reuseable period products.



Images 7 and 8: Free shop (left) and furniture store (right) at the University of Dundee

3. The Circular Economy and post-16 education

It is unrealistic in the current economic climate that the post-16 education sector will be able to become fully "circular". The governmental and business supporting infrastructure is still in its early stages. However, the sector can do its best with what resources and influence we do have. The post-16 education sector is one of the most trusted sources of information for climate change (Scottish Climate Survey 2024: main findings) and collectively we teach nearly 5 million learners per year (Higher education in numbers, Universities UK; Overview of the UK's further education sector, Prospects). Our institutions can not only contribute towards a circular economy by changing how we procure, use or produce resources, but also through our influence on individuals and wider society (Transition Towards a Circular Economy, Qu and colleagues 2021). When we combine our efforts, what we can achieve is considerable.

In this guide, we have split up the five main areas for impact into:

1. **Leadership and governance**
   - Universities, colleges and other education and training providers are often seen as innovative and at the forefront of change. We have strong potential to influence wider processes by exemplifying how a transition to the circular economy can be achieved.
   - Having a strong, costed strategy and action plan and dedicated space to carry out teaching, operations and engagement activities is key.

2. **Teaching, learning and research**
   - How institutions teach about resource production and management, both in their formal curriculum (i.e. through the courses and modules they offer) and through their hidden curriculum (i.e. how a campus operates and the impressions that creates) can have a significant influence on individuals and systems.
   - Evidence based research for the efficacy of circular solutions is one of the leading drivers for change in the professional sphere.

3. **Estates and operations**
   - Whether this is in procurement, waste management, catering or other areas, how we put circular principles into practice is one of the key areas we have control over.
   - When students and staff see institutions operate in more sustainable ways, this is likely to spill over into their personal and (future) work lives, further helping to achieve net zero and sustainability targets.

4. **Partnerships and engagement**
    - Due to the interconnected nature of the supply chain, we cannot act in silos. Forming strategic partnerships is key to unlocking change.
    - Bringing suppliers, colleagues, learners and community members along for the journey is crucial. Without a good engagement strategy and a clear "why", actions may backfire.

5. **Data collection and reporting**
    - To ensure we are improving on our baselines, taking select data to monitor progress is important.

Image 9: Colleges teaching the skills of the circular economy to the next generation of learners. Image EAUC.

Case study: University of Stirling Students' Union: The Green and Blue Space

After successfully applying for Climate Challenge Funding (CCF) from Keep Scotland Beautiful, University of Stirling Students' Union established the Green and Blue Space in 2013. This award-winning student-led sustainability hub leads several core projects including a zero-waste food outlet called the Food Hive, a reuse scheme called Fair Share, a food pantry that saves food from going to waste called the Community Food Initiative, a community garden, a community wildflower meadow, workshops and campaigning. In May 2025, the Green & Blue Space also became Scotland's first Green Office.

Over its first 12 years the Fair Share scheme has reused or recycled over 46 tonnes of unwanted materials. At the end of each semester, the Green and Blue Space organises donation points for students leaving university accommodation to donate unwanted homeware, kitchenware, clothing and electrical items. These are then collected, quality checked, PAT tested and either resold back to the community or recycled. All income generated by the Green and Blue Space goes back into sustainability projects on campus, allowing the Students' Union to employ 4 dedicated Student Staff to run the project along with the Sustainability Development Coordinator.

The Fair Share scheme provides multiple benefits, including:

- Diverting reusable and recyclable materials from general waste streams, reducing University waste management costs and cleaning staff time (few items to remove in residences)
- Supporting the Students' Union's work towards Net Zero
- Providing the community with an accessible place to purchase homeware at an affordable price – this particularly supports international students who need to get fully set up in a new residence
- Creating volunteering and placement opportunities for students and community members
- Generating income to support 4 part-time student staff positions coordinating the Green & Blue Space's sustainability initiatives

Image 10: University of Stirling Students' Union's Green and Blue Space (Credit: Gabi Brame).

4. The challenge

In this section we discuss a few of the main challenges to the sector adopting circular principles. This list is not exhaustive, but includes the main concerns that come up repeatedly in EAUC's knowledge exchange fora:

1. **Knowledge**
    - The term "circular" is an ill-defined concept, which has left the term open to interpretation. There are over 114 definitions of the circular economy all with varying levels of sustainability principles underlying them. This creates confusion and can lead to people "switching off" due to the complexity of the topic. For example, the widely used "Butterfly" Diagram of the Circular Economy is not easily understandable by most people and requires substantial explanation.

2. **Skills**
    - The circular economy needs people with the skills to implement the principles in procurement exercises, sort and refurbish resources, estimate the "value" of second-hand products, and spot quality and durability. We need volunteer managers, communications experts, academics, researchers, lecturers and more to be versed in the language and implications of the circular economy and be willing to share that expertise with the institutional community.
    - We need a mix of practical and professional skills, paid employees and volunteers.

3. **Creativity and imagination**
    - A fundamental aspect of the circular economy is re-imagining what else could be done with resources deemed as "waste" or single-use. We need to imagine alternatives to buying new. This requires forward planning, reimagining the future and many creative solutions. We need lateral thinkers.

4. **Wider supporting infrastructure**
    - There are many aspects of circularity that are outside of an institutions' control – for example, taxation, market value, consumer trends, inflation, procurement law, political agendas, number of specialist waste processing facilities and more.
    - **Waste infrastructure:** Appropriate investment in waste infrastructure is needed to enable Estates professionals to take a more circular approach to

waste management. If there aren't appropriate recycling and reuse centres to send waste to, it will likely be incinerated. Some Local Authorities are "locked-in" to contracts with incineration plants meaning they have no choice but to incinerate or be fined, also known as "deliver or pay" (Burning rubbish now UK's dirtiest form of power, BBC).

- **Internalised environmental costs:** Our linear economy currently externalises the environmental cost of products. For a circular economy to work effectively, we need to internalise these costs (Circular Economy Practices Will Not Automatically Phase Out the Linear Economy, Future Earth).
- **Labelling:** There are many environmental labels out there with varying levels of credibility. Verifiable and standardised certification would make it easier for the consumer to make an informed choice.
- **Improved product testing and regulation:** Many items are wasted purely because they are found to be of sub-par quality in their use and/or overall safety. A more precautionary approach involving increased product testing should be applied. This is especially applicable to online stores such as Amazon, eBay and other large online marketplaces (Protect Online Shoppers, Which?)"
- **Pesticide use post-Brexit:** The UK has loosened restrictions on pesticide usage post-Brexit. An investigation by The Guardian revealed that more than 100 food items are now allowed to carry higher pesticide residues, including some potential human carcinogens.

5. **Desirability and aspiration**
   - With corporations highly invested in convincing the public to buy bigger, better, newer products, desirability and aspiration drive much of consumer behaviour – including that of your colleagues and learners.

6. **Time and staff resource**
   - It takes time and staff resource to sort materials, talk to different departments and join up thinking and processes. For example, short notice to clear and re-furnish spaces can result in quality items being binned with replacement equipment bought new. However, with dedicated staff members working to embed circularity across the institution, this can be avoided.

7. **Space**
   - Space is a very widespread concern. Going circular requires areas to store items on campus (e.g. items cleared from halls in May need to be stored before being redistributed in September). Additional space may be needed to keep large items while they await refurbishment.

8. **Health and safety**
    - There are health and safety challenges when dealing with waste, especially when recycling is contaminated. We don't want colleagues risking their health by reaching into bins to intercept incorrectly placed items.

9. **Money**
    - As we know, finances are tight in the post-16 education sector. Funding to implement these schemes, especially behaviour change initiatives, is in quite short supply.
    - Furthermore, dedicated funding is needed to teach the skills necessary to the next generation. Funding cuts to colleges actively harm and reduce the skilled workforce needed for the circular economy.

10. **Procurement legislation**
    - The procurement process is not always conducive to choosing the most circular provider. This could be due to length of contracts, tender criteria, supplier choice etc. It takes time and effort to liaise with procurement teams to find good solutions to these challenges.

11. **Spend-based carbon accounting**
    - The current main supply chain emissions tools (e.g. the HESCET tool) are largely based on spend categories of product. In the short-term, this type of emissions accounting doesn't always reward spending more on a more circular product.

12. **Habits**
    - Old habits die hard, as they say. It can be hard to change behaviours without incentives to encourage this.

13. **Outcompeting the linear model**
    - We currently live in a linear economy. Future Earth outlines the challenges of phasing out the linear model in favour of the circular economy.

14. **Washing facilities**
    - Dishwashing facilities and places to launder are often barriers to implementing circular solutions.

15. **Out-sourcing of services**
    - Many institutions outsource their services to contractors. This means trusting these external contractors to understand and comply with your circular

procedures and policies. In some cases, you may need to bring services in house to maintain control.

16. Monitoring

- There is no standard measurement of circularity. It would be helpful to devise a monitoring framework that standardises the measurement of reuse rates, avoided spend or other relevant metrics. Avoiding the purchase altogether is at the top of the waste hierarchy, followed by reusing, but it is most common to report recycling and incineration rates. Recycling should be one of the last options in a circular economy.
- With regards to regenerating nature, we don't currently have a standard baselining measure of biodiversity across the UK and Ireland, making it difficult for institutions to accurately track and measure improvements in this area. There is a national shortage of experts in the entomology (insects), mycology (fungi) and botany specialisms, among others, often as a result of cuts to university and college courses due to funding constraints and lack of government ambition in this area.

For further reading on the challenges of going circular, please see Scotland's Circular Economy Practices Ecosystem: Barriers to businesses being more circular, published by Zero Waste Scotland (2024). Alongside the guide, there is also a helpful webinar discussing the topic.

Thankfully some of these challenges are being overcome. But we must acknowledge some of the real challenges facing institutions. Some challenges may be more pressing than others depending on context.

5. The opportunity

A circular economy model has many benefits for universities and colleges, including, but not restricted to:

Strategic and compliance benefits

- **Reduces Scope 3 emissions** through reuse, repair and hire-based procurement. Procurement emissions (also known as supply chain emissions) account for the largest share of institutional emissions (EAUC Scotland college and university PBCCD analysis report 2023/24). On a national level, over 80% of Scotland's carbon footprint stems from material consumption and waste (Circular Procurement, Zero Waste Scotland).
- **Increased institutional resilience** achieved through reducing the amount of resources needed and from shortened supply chains. This reduces the risk of supply chain disruption caused by climatic and geopolitical events.
- **Prepares institutions for future legislation** aligned with national net-zero and CE goals (see National Policy Drivers section).
- **Enhances reputation** and **supports institutional sustainability targets** and commitments. Taking action to embed circularity across your institution is an effective and credible way to demonstrate your commitment to both internal and external stakeholders.
- **Avoids internal tensions** between sustainability claims and day-to-day operations. Unease can arise within the campus community when overarching institutional sustainability commitments do not align to student and staff experience of operational resource management.

Financial benefits

- **Improved competitiveness in securing external research funding**, for example via the Concordat for the Environmental Sustainability of Research and Innovation Practice, which is increasingly being linked to departmental and institutional sustainability criteria.
- **Generates long-term savings** via circular procurement models. Zero Waste Scotland estimates a potential £3bn in savings per year across Scotland. Circularity cuts procurement costs by extending the lifespan of resources (e.g. furniture, IT, lab equipment). Furthermore, for vocational courses, using deadstock or second-hand material reduces the cost of buying virgin material (e.g. Glasgow Kelvin College's Bridal Fashion project). By reducing scope 3 emissions, you can also reduce the amount spent on carbon offsets.

- **Reduces waste management expenses** and potential fines due to non-compliance (i.e. Environment Agency charge proposals for simpler recycling consultation).

Benefits for students and communities

- **Enhances learning** through embedding CE in curricula and volunteering opportunities. This helps to reduce the negative social and environmental impacts of consumption of products on campus, whilst also supporting skilled job creation within communities.
- **Raises sustainability awareness** across campus communities, encouraging a wider approach to more sustainable ways of living. Reuse hubs, particularly in high footfall areas are a great, visible "shop front" for sustainability action e.g. University of Stirling Students Association's Green and Blue Space, Transition University of St Andrews StAndReuse.
- **Supports social equity and job creation** in local circular ecosystems (Societal Impacts, Zero Waste Scotland). This can be through the redistribution of surplus food (e.g. partnerships with charities such as FareShare), diverting useable clothes from waste streams through swap shops (e.g. ECSA Swap Shop), reusing bedding (e.g. University of St Andrews sustainable bedding packs) and sharing skills and materials (e.g. Transition University of St Andrews Skillshare and Tool Share). These initiatives build community, distribute resources to those who need them and help those affected by the cost-of-living crisis to save a greater share of their money. This is particularly important now, as students face increasingly severe financial hardship, with the Royal College of Nursing reporting that some student nurses are sleeping in their cars and using food banks.
- **Aligns with decolonisation and social justice principles** by addressing global waste inequality (Climate Change & Fashion Waste Colonialism, Carbon Literacy Project; Stop Waste Colonialism; 'Waste Colonialism': world grapples with west's unwanted plastic, The Guardian).

Wider environmental benefits

- **Boosts biodiversity** through localised, low-impact practices in the "Regenerating Nature" principle. For assistance with embedding this at the institutional level, see EAUC's Biodiversity Strategy and Action Plan Guide and Template.

Additional opportunities

- **Thought leadership**: Institutions can position themselves as pioneers of sustainable transformation and shape discourse on the circular economy. With

the establishment of its Exeter Centre for Circular Economy, the University of Exeter has become a leader in this new and emerging field.

- **Institutional awards and rankings**: Strong CE performance contributes to positive visibility.
- **Curriculum innovation**: Embedding CE in teaching, research and operations creates unique learning models and stimulates innovative thinking.
- **Reputation and recruitment**: Sustainability is a growing unique selling point for learners and staff. Institutions that do not shift to a circular economy approach alongside wider sustainability actions are likely to become less competitive in attracting learners and expertise.

Image 11: Dundee and Angus College Water Refill Station. Image: EAUC.

6. Strategy and action planning

Every institution is different, and the move towards increased circularity will take different shapes depending on the institutional context. To account for this and ensure this guide is as relevant as possible for a variety of contexts, this section will address what institutions can do by highlighting a range of potential actions. The aim is to stimulate thought and discussions around how different actions can be taken in your institutional context (considering your structures, buildings, resources, etc.)

This chapter will prompt reflection on how circular principles can be implemented in the following areas:

- Leadership & governance
- Teaching, learning and research
- Estates and operations
- Partnerships and engagement
- Data collection and reporting

There are many examples of good circular strategies and action plans in the sector. Glasgow Caledonian University's Circular Economy Plan and Implementation Document, University of Warwick's Circular Economy webpage, and RMIT University, Australia's Circular Economy Plan all provide excellent inspiration. We spotlight two particularly comprehensive plans below – those of the University of Exeter and the University of the West of England.

Spotlight: Strategy and Action Planning Best Practice

Spotlight on: The University of Exeter's Circular Economy and Sustainable Resource Management Strategy

This strategy is one of the most comprehensive we've seen. It clearly and concisely explains the Circular Economy and it has a clear vision, principles and objectives. It links in with other strategic agendas – both internal and external – with a clear governance and reporting framework. It defines the scope of the strategy, includes a baseline estimate, followed up with targets, KPIs and a plan to deliver on the strategy over the six years until 2030. We would highly recommend reading it for inspiration.

Image 12: Front cover of the University of Exeter's Circular Economy and Sustainable Resource Management Strategy 2024-2030.

Spotlight on: The University of the West of England (UWE Bristol)'s Circular Economy Plan

The University of the West of England (UWE Bristol) have also developed a very comprehensive Circular Economy Plan. In this plan, we particularly like the focus on waste prevention through sustainable procurement activity, with a clear focus on market engagement and the steps needed from issuing the tender to end of contract. Their actions are also SMART, with clear timeframes, responsibilities and anticipated costs. They have a detailed strategy for action on plastics and a detailed appendix section for further information. Though the design is plainer than that of Exeter's plan, the detail is to be commended, and we thoroughly recommend reviewing it.

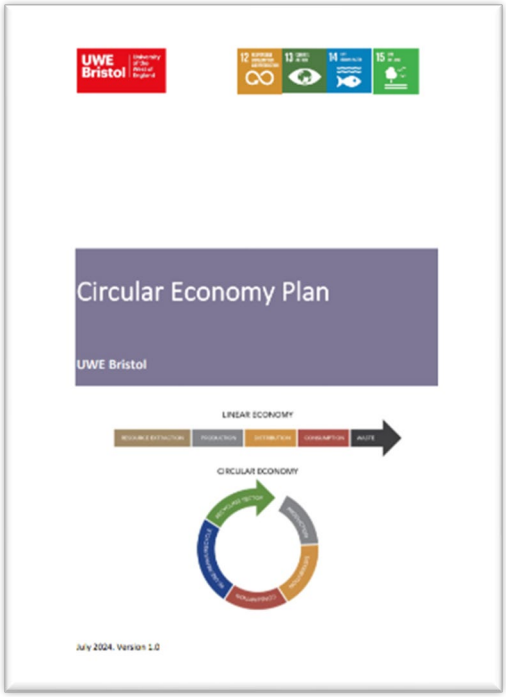


Image 13: Front cover of the University of the West of England (UWE Bristol)'s Circular Economy Plan.

Leadership and governance

Overarching goal: Leadership and governance structures and processes enable and facilitate circularity and positively hold the institution to account when challenges or barriers arise.

Key areas and actions:

1) Ensure circularity is included in the institutional sustainability strategy

Embed circular principles into the institutional sustainability strategy and ensure the latter is fully incorporated into the overall institutional strategic vision and plan.

2) Integrate circular principles across institutional structures

Adapt current and future policies and institutional strategies to include circular aspects. Some of the key policies include procurement, estates, waste management, sustainability, learning and teaching, and research.

3) Create a strategic vision

Ensure this vision is not just about waste management, but includes regeneration of nature, social equity, diversity and inclusion.

Develop a whole institution approach covering the five key areas of leadership and governance; teaching, learning and research; estates and operations; partnerships and engagement; and data collection and reporting.

4) Develop a costed, SMART action plan

Include paid staff resource to carry out the actions. This work should not be tagged on to existing portfolios. Include costs for training, space etc. too.

5) Become a signatory to the Concordat for the Environmental Sustainability of Research and Innovation Practice.

6) Incorporate Biodiversity and Carbon Literacy Training into senior leader and board continued professional development (CPD)

Embed quality sustainability training such as Biodiversity Literacy Training and Carbon Literacy Training into senior leadership and board member development plans. Senior leadership team members and board champions with sustainability within their remit can also join EAUC's Leadership Lab.

7) Create opportunities for all staff to engage with quality CPD on sustainability, including the circular economy

Develop quality internal staff CPD modules on sustainability and consider making these mandatory. EAUC members can also access the Sustainability Champions Learning Pack, a self-directed learning resource which serves as a stepping-stone towards wider sustainability awareness and action.

8) Ensure there are appropriate governance structures in place to monitor delivery of the circular action plan and strategy

Create or develop a Circular Economy Working Group that formally connects to the institutional sustainability committee or similar.

Establish a sustainability lead on the institutional board whose role it is to champion and challenge the institution's sustainability action, including circular economy, supported using board-level KPIs (see Data collection and reporting section for more details on KPIs). The Circular Economy Action Plan should be reviewed on a regular cycle (e.g. annually).

Additional recommended actions:

9) Adopt or strengthen use of sustainable banking and finance

Update your institutional investment policy to divest investments from portfolios that actively harm people and planet, including fossil fuels (e.g. Fossil free campaign victories, People & Planet).

Support the University of Cambridge's Banking Engagement Forum and collaborative campaign to create a market for cash products from the financial services sector that do not contribute to the financing of fossil fuel expansion.

Consider participation in the Taskforce on Nature-related Financial Disclosures (TNFD) initiative.

10) Policy influence: Use your institutional influence to ensure circular principles are included in wider national policy and practice.

Sign up to Department for Environment, Food and Rural Affairs (DEFRA)'s Circular Economy Newsletter to keep up to date with the latest changes at the governmental level.

Submit institutional responses to relevant consultations and calls for evidence. UK-wide policy papers and consultations can be found on the Government's website.

The Aldersgate Group champion a competitive and environmentally sustainable economy and send out informative news bulletins on the latest happenings of parliament. Sign up to their bulletins and contribute to the relevant consultations when they arise.

For Scottish institutions, review EAUC Scotland's quarterly policy briefs to gain an overview of the newest policy developments and consultations around sustainability.

Case Study: Zero Waste Scotland Circular Construction Retrofit Training Programme

With Deborah Mooney, Consultant (Education and Skills), Zero Waste Scotland

Summary:
Zero Waste Scotland (ZWS) developed a Circular Construction Retrofit training programme to support college lecturers, educators and training providers – as well as other stakeholders such as students and tradespeople – to integrate circular principles into their construction teaching and practice. This second iteration of the training programme took place in early summer 2023, after the first iteration in 2020. The training programme is developed based on sector feedback and is free to attend.

Aims of the training:

- Encourage training providers to embed circular principles into their teaching.
- Creating an understanding of how circular construction retrofit can reduce the amount of embodied carbon in buildings.
- Demonstrate the vast variety of opportunities for circular construction retrofit, as well as the benefits, to support a more circular mindset.
- Deepening knowledge around topics such as reducing waste, material use, maintenance of retrofits and existing buildings, and more.

Using sector input for training development:

General feedback from the sector showed that there is a need for increased awareness raising about Circular Economy Principles, as Deborah states:

"Not everyone in the further education sector knows what Circular Economy is and how it applies. As it's quite an abstract, high-level term, it is sometimes seen as 'highbrow'. This is also an issue in the construction sector more widely. We have found that some people might already be applying circular principles and are even talking about it – but are sometimes not connecting it with the term 'Circular Economy'."

This feedback will inform the development of the training programme and ensure the terminology is made more tangible and widely understood. To collect more sector views, a survey ran in February and March 2023. These measures and considerations are an excellent example of learner needs-based training development.

Format and accessibility of the training:

The training is held in the format of several half-day sessions. Participation in the training is free, and, to ensure maximum accessibility across Scotland and beyond, recordings and training materials are available online (for the link please email Deborah below). This work has since been used to inform a Circular Economy module ZWS developed for The Retrofit Academy's Retrofit Designer Course.

Who can take part?

The training, while mainly designed for college lecturers and educators in the field of construction, is also open for students and tradespeople to join.

Top tip:

Zero Waste Scotland recommend the following for those who want to support their educators to integrate circular principles into their teaching practice:

"Have a look at examples of good practice elsewhere, whether they are from construction [...] or not: you might be encouraged to adopt some similar circular practices. You or your students could have that lightbulb moment: you never know when inspiration will strike! There is some great, innovative circular work being done in Scotland and worldwide."

Thank you to Deborah Mooney who provided an interview for this case study. Please email deborah.mooney@zerowastescotland.org.uk for more information.

Teaching, learning and research

Overarching goal: Ensure that students, teaching staff and researchers gain knowledge, skills and values around circular systems and principles.

Key areas and actions:

1) Understand current levels of teaching staff knowledge on the circular economy and support knowledge development and confidence

Evaluate the current knowledge and confidence levels of teaching staff around circular economy principles. Provide support to further develop their knowledge and skills. Activities, resources and opportunities to support this include:

- The Ellen MacArthur Foundation provides guidance on learning to apply circular economy thinking, including teaching resources and learning opportunities.
- Encourage staff to have a look at guidance around Education for a Circular Economy – for example, as laid out by Kirchherr & Piscicelli (2019) in their article Towards an Education for the Circular Economy (ECE): Five Teaching Principles and a Case Study.
- Read the Global snapshot of circular economy learning offerings in higher education report (2018) to gain insight into the international circular education landscape.
- Use the Zero Waste Scotland construction retrofit course case study as an example for curriculum development.
- Raise staff awareness of existing networks focused on teaching circular topics such as the Circular Economy Teaching & Learning group on LinkedIn.
- Direct staff to the EAUC Education for Sustainable Development (ESD) Community of Practice for guidance around teaching for sustainability, including circular aspects.

2) Embed circularity principles into existing learning and research opportunities

Learning takes many forms across institutions. Key areas and actions include:

- **Modules and classes:**
  Identify and target existing courses and modules where circular economy topics can be naturally integrated. This could include construction, economics,

business, finance and hospitality, among others. Prioritise areas where integration would be impactful and engagement is likely. For example, West Lothian College developed their ECOHOUSE, a state-of-the-art training facility that supports the development of skills, knowledge and practical experience in sustainable construction, as well as efficient and effective renewable energies.

Establish partnerships with businesses for guest speakers or sourcing materials. For example, Glasgow Kelvin College's fighting fast fashion bridal project used dresses donated by Bijoux Bridal in Hamilton, South Lanarkshire, which is managed by former student Rebecca Kennedy.

Develop or offer courses focused on the Circular Economy. Some prominent examples include the University of Exeter's Circular Economy education offering, including a six-week Circular Economy Masterclass, and the University of Edinburgh's MSc in Circular Economy.

Open selected courses to the wider public. For example, the ANZA (Awareness of Net Zero Actions) Certificate in Construction with Chesterfield College is perfect for beginners and those wishing to enhance their skills.

- **Research practice:**
  Improve lab efficiency and sustainability using frameworks like the Laboratory Efficiency Assessment Framework (LEAF). LEAF is a standard set by University College London (UCL) to improve the sustainability and efficiency of laboratories. See it in practice via the webinar recording of EAUC Scotland's Winter Forum on Sustainable Laboratory Practice (2024). The speakers shared experiences of embedding sustainability within lab practices to support strategic sustainability objectives and alignment with the Concordat for the Environmental Sustainability of Research and Innovation Practice. It includes in depth examples from:

    - University of Aberdeen - Climate Assembly: Sustainable Labs
    - University of Strathclyde - Sustainable Labs 50% Incentive Fund
    - UKRI - New platform to assist in sustainable research at UKRI
    - University of Glasgow - Fume cupboards and sustainable lab practices
    - University of Oxford - Achieving 100% LEAF accreditation in departments

  Other examples of LEAF accredited laboratories include: University of Bristol and University of Exeter.

Additional recommended actions:

3) Encouraging research on circular economy topics

Promote research on circular economy topics within your institution – for example, the University of Edinburgh's Carbon-Loop Sustainable Biomanufacturing Hub (C-Loop).

Launch student competitions focused on circular projects.

Seek and promote funding opportunities for circular research.

Foster collaborations with external organizations for joint research e.g. through the Michelin Scotland Innovation Parc, Dundee.

4) Placements and internships

Collaborate with businesses and communities to offer circular-themed placements and internships and offer similar internships within your institution.

Transition University of St Andrews managed six biodiversity interns who volunteered around two hours of their time a week to assist with all things nature – from wildlife surveys to practical conservation tasks. This contributed to the Regenerating Nature principle of the circular economy.

The Glasgow University Environmental Sustainability Team (GUEST) is a team of highly motivated student interns employed by the university to improve sustainability on campus.

5) Establish and build networking opportunities for shared learning

Build networks internally and externally with researchers, institutions, and organizations in the circular economy space.

Collaborate through networks such as the Industrial Biotechnology Innovation Centre (IBioIC), a networking and support organisation that connects industry, academia and government to bring biotechnology processes and products to the global market.

Collaborate with The National Manufacturing Institute Scotland (NMIS) which is accelerating productivity to grow the economy, develop a vibrant workforce, and create happier, healthier, greener communities.

Image 14: Colleges are instrumental at teaching the next generation the skills to reuse and repair items, conduct green retrofits and install green technologies (Image: EAUC).

Case Study: University of Edinburgh – Circular IT Equipment Reuse

With Alan Peddie, Sustainability Training Manager, University of Edinburgh

Overview

The University of Edinburgh has developed a successful circular IT reuse system to extend the life of electronic equipment, reduce e-waste and support community causes. The initiative began with grassroots efforts and evolved into a system embedded in university practice, saving over **£1.2 million** in avoided purchasing costs over 8 years.

Key Highlights

Project Scope

- Around **1,200 IT devices reused annually**, representing approximately **50% of all university PCs** reaching end-of-life
- Devices are either **redeployed internally** or donated to organisations via a partnership with **The Edinburgh Remakery**, a social enterprise
- Supports internal needs (staff/students) and external charities, including schools and refugee projects (e.g. Ukraine donations)

Drivers and Origins

- Initiated through practical need: building clearances revealed surplus equipment
- Evolved into a semi-structured programme, supported by a small team and embedded into wider university waste policy

Key Enablers

- **Dedicated IT reuse officer**: Role funded initially by Zero Waste Scotland, now permanent
- **Data security solutions**: Collaboration with IT and SEPA to ensure devices are wiped appropriately, overcoming key legal and privacy barriers

Partnerships

- Collaboration with **The Edinburgh Remakery** to refurbish and redistribute surplus devices
- Supported by janitorial and facilities staff, especially during larger building clearances
- Engages local organisations through a **community engagement programme**, which handles external reuse requests

Cultural Shift

- Project success driven by **passionate individuals**, not initially embedded in business strategy
- Messaging focused on simplicity and impact: "Don't let perfection be the enemy"

Challenges

- **Storage constraints**: Only a small room for IT surplus, requiring efficient turnover
- **Bulk furniture**: Due to size and logistics, typically redirected elsewhere
- **Cultural buy-in**: Needed reassurance for senior staff and collaboration across departments (waste, IT, facilities)

Impact

- **£1.2 million** in avoided costs since 2014
- Reduction in e-waste and environmental footprint
- Direct social benefit through community redistribution and student support (e.g. emergency device provision)
- Helped influence policy, including the university's **Zero Waste by 2030** commitment

Top Tips

- Start small – begin with items like stationery or basic IT gear
- Use existing relationships to build momentum
- Embed processes in existing systems (e.g. procurement, facilities)
- Invest in roles and partnerships that support reuse (e.g. IT technician, social enterprise)
- Communicate success to sustain support and scale impact

Learn more

For more information, watch Alan speak about this project at the EAUC Scotland Spring Forum and Annual General Meeting 2024.

Image 15: Pupils holding IT equipment. This IT Reuse: Circular economy in action project was awarded "Highly commended" at the 2023 Green Gown Awards.

Estates and operations

Overarching goal: Align all estate and operational decisions with the principles of designing out waste, recirculating materials and regenerating nature.

Key areas and actions:

1) Improve space utilisation to support circular economy outcomes

Use institutional spaces and land in alignment with circular principles. Examples include University of Dundee's Case Study and Coventry University's "Transforming Coventry" project which removed two buildings to make way for greenspace.

Identify and repurpose areas for sharing and reuse. Examples include tool libraries like Transition University of St Andrews's Tool Share or donation spaces like the University of Stirling Students' Union's Green and Blue Space.

2) Facilitate and promote sustainable energy management and use

Promote energy-saving behaviours institution-wide using guides and behaviour change strategies. EAUC's Saving Energy – a guide for the FHE sector provides some tips.

Improve energy efficiency across campus with initiatives such as improved insulation (cavity, loft and flooring), LED lighting, smart heating controls, double or triple glazing of windows and draught-proofing.

Implement actions to switch to renewable energy sources. This could include switching gas boilers to electric, joining district heating schemes, installing solar PV, electric vehicle and cycle charging stations. For further ideas and to join with other energy management professionals working to decarbonise the estate, join EAUC's Energy and Water Community of Practice.

3) Regenerate nature through your estates and operations

For a comprehensive guide on regenerating nature on your campus, please see the EAUC Biodiversity Guide and Template. We list a few ideas to get you started here:

- Identify adaptable spaces to implement biodiversity-supportive measures like insect hotels, planting schemes and support for threatened species, such as the Hedgehog Friendly Campus initiative. Set up planters in paved or space-limited areas.

- Designate space for campus or community gardens and collaborate with students for maintenance.
- Use institutional land to promote biodiversity through projects like wildflower meadows (e.g. Swansea University's Buzz across the Bay project), orchards, woodland planting and peatland restoration (e.g. the University of Edinburgh's Forest and Peatland programme).
- Evaluate artificial surface use (see Plastic Pitches - The problem, Fidra) and consider alternatives.

4) Embed the circular economy within retrofit and new-build construction activity

Integrate circular principles into both new builds and refurbishments, and educate relevant teams using resources such as:

- UK Green Building Council (UKGBC)'s Net Zero Whole Life Carbon Roadmap
- The Net Zero Public Sector Buildings Standard
- Scottish Infrastructure Circular Economy Forum (SICEF)'s White Paper (now part of the Forum for Circular Infrastructure)
- The Netherlands's Circular Buildings: constructing a sustainable future

Design adaptable, multipurpose buildings to reduce spatial and material demands, including reusing existing structures where possible. The Urban Agenda for the EU's Sustainable and Circular Reuse of spaces and buildings handbook provides guidance on this.

Develop or update strategies and policies to embed circular goals into construction planning.

5) Integrate circular economy principles within procurement and the use of goods and services

Set clear circular practice and policy requirements for all new contracts, investments and collaborations (e.g. MIT's waste contract).

Collaborate with procurement teams to support circular goals. See the Spotlight on Circular Procurement with APUC section for more details and tips.

Join EAUC's various procurement networks, such as the Sustainable Procurement Networking Cafe and the Responsible Procurement Group. These groups both link to many sustainable procurement guides and resources.

More theme/area specific actions include:

- **Hiring rather than buying**
  Design services and operations to maximise shared and hired resources.

  Explore shared transport initiatives with partners or student groups. The EAUC's Business Travel Guide goes into this in more depth. CoMoUK support the development of shared modes.

  Investigate and implement "as-a-service" models (e.g. lighting, laptops, lab equipment). Circular Computing's Remanufacturing as a Service model provides one example of this.

  Use equipment-sharing guidance to inform lab procurement and planning (e.g. EAUC and HEPA's Equipment Sharing Guidance for laboratory equipment briefing note).

  Investigate how your laboratory teams could book time to use nationally significant equipment such as the Diamond Light Source in Oxfordshire.

- **Equipment and furniture**
  Develop policies to ensure maximum recirculation and longevity of furniture, IT equipment and materials. Examples include:
  - Flooring: circular flooring at the University of Surrey and the University of Edinburgh's Old College revamp with Interface
  - Lab equipment resale: Keele University's resale of pharmaceutical testing stations via UniGreenScheme
  - Furniture reuse: services such as WARP IT and Recycle Scotland
  - Circular IT: Glasgow Kelvin College choosing to upgrade existing PC equipment instead of purchasing new computers and University of Edinburgh's Circular IT Equipment Reuse case study
  - More examples can be found in the archived EAUC Waste Management Topic Support Network meeting recordings

- **Catering and food waste**

  Source food sustainably and prioritise quality over quantity. You could do this with a verified accreditation scheme such as the Soil Association's Food for Life Served Here standard or using self-assessment tools such as Menus of Change.

  Evaluate current food waste handling and identify redistribution opportunities. Work with students and local communities to improve food recovery and

sharing systems (e.g. Abertasty, The University of Strathclyde's Too Good to Go initiative and Edinburgh College's Community Fridge project).

Explore composting and anaerobic digestion for biodegradable waste (e.g. City of Glasgow College's Rocket Compost case study).

Implement practical changes inspired by case studies mentioned in EAUC's blog When Canteens Go Green, including sustainability labelling on menus.

- **Sustainable period products**

  Provide and promote recycled or reusable period products (e.g. University of Dundee's Period Poverty project).

- **Waste Management**

  Audit current waste management practices to identify how they align with circular principles. Paulo Cruz from Glasgow Caledonian University outlined how their Waste Composition Analysis assists with this monitoring in a Waste Management Topic Support Network meeting in May 2025.

  Collaborate with your waste contractor to access data and co-design waste-reducing systems.

  Use contractors who support upstream waste reduction and track progress with regular audits.

Spotlight on Circular Procurement with Advanced Procurement for Universities and Colleges

This section was written with support from Advanced Procurement for Universities and Colleges (APUC).

The potential of procurement for circularity

While the exact procedures vary between institutions, there is a lot of potential for circular economy principles to be considered when purchasing new goods, works and services.

Circular procurement is utilising purchasing power to achieve maximum positive ecological, social and economic impact throughout the life of the product. Circular procurement should consider the product from design stage through to disposal.

As part of the procurement process, institutions can:

- **Check need:** Ensure new goods are only bought when really needed
- **Check asset availability:** Check whether the needed goods already exist elsewhere in the institution (or within partner organisations or institutions) and could be moved
- **Consider reuse:** Evaluate if buying second hand is an appropriate option
- **Consider quality:** Choose products that are repairable and likely to have a longer life
- **Consider provider:** Choose goods or services from circular producers and providers (for example, check whether suppliers are using circular materials within the production and whether they are looking at modular innovations to the product to make it easier to re-manufacture/upgrade)
- **Consider end of life stage:** While procurement tends to mainly consider the sourcing stage, there are ways that we can procure better to include the end-of-life stage (for example, consider whether the product could be leased or rented from a service like EGG Lighting, or whether the supplier has a take-back scheme)

A helpful lens to look at the various aspects of procurement is to use the 3 levels of circular procurement as shown below:

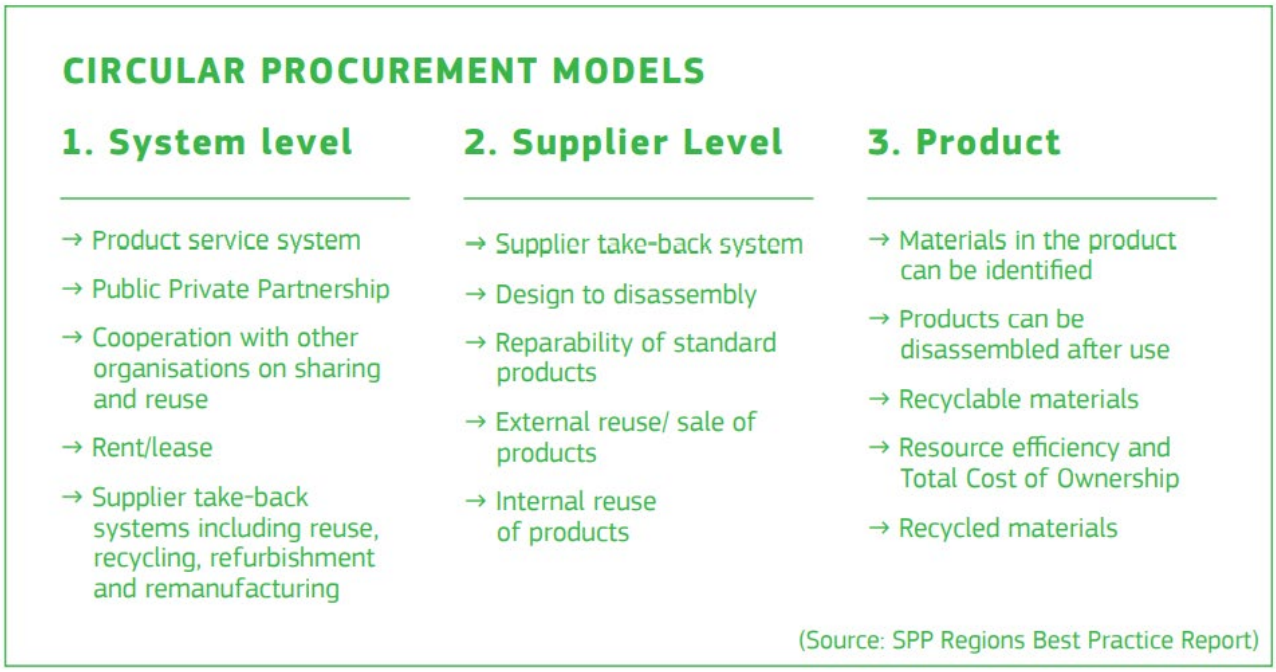


Image 16: Adapted from the Sustainable Public Procurement (SPP) Regions (SPP Regions) Circular Procurement Best Practice Report.

How to implement circular procurement

While procurement has a large potential to aid institutions efforts to become more sustainable and circular, procurement teams are not able to support circular procurement on their own. **Collaboration from departments and support through institutional policies is crucial.**

For example, ensuring that things are reused rather than bought new requires a review of resources – and therefore anticipation and time. If requirements are submitted with little time until the goods or services are needed, it becomes difficult for the procurement team to discuss, research and evaluate circular possibilities and options.

Institutional policies can help to support sustainable procurement – for example, by requisition requests having to be reviewed by a sustainability team or individual before the order goes through to procurement.

Another approach is to link in with procurement *before* final purchasing decisions are made and involve them in the process of finding the right options. Building in a more proactive, rather than reactive response can ensure that the suppliers are on board and can deliver a sustainable alternative. By working interdepartmentally, a greater impact can be made.

Learn more:

- Circular Economy training by Zero Waste Scotland (ZWS): ZWS have developed net-zero training modules in partnership with City of Glasgow College covering sustainable procurement and supply chains
- Scottish Government Sustainable Procurement Guidance: Find guidance that links into a variety of fields with high relevance for sustainable procurement practices (request a login via your institution)
- Ellen McArthur Foundation: circular economy procurement framework: This resource follows the basic outline of the procurement journey and illustrates the key circular intervention points
- The Chartered Institute of Procurement & Supply has a comprehensive set of resources on circular procurement including models, webinars and podcasts (membership is required to access all resources)
- ZWS Procuring for Circular Economy - Category & Commodity Guidance: This is an introduction to the role of the procurement of goods and services in supporting the essential transition to a circular economy

Thank you to Rica MacDonald from APUC who spoke to us and contributed to this section. If you want to know more about circular procurement considerations within the APUC Frameworks, get in touch with Rica and the APUC Responsible Procurement Team via rmacdonald@apuc-scot.ac.uk.

Case Study: Borders College - A win-win-win cleaning product refill system

With Katrina Fitzgerald, Jake Dixon and Robert Hewitt from Borders College.

Overview

Since August 2022, Borders College has switched to a refill system for cleaning products that allows substantial savings, both in waste and cost. The dilutable cleaning product Oleonix (sourced through Cromwell Tools Ltd) is offered in two concentrations – one for windows, one for everything else – on several refill stations across their buildings, which in turn are refilled and appropriately diluted from a large container with the undiluted product. Cleaning staff simply refill their reusable bottles with the respectively diluted product at the refill stations – saving not only over 4,000 plastic bottles per year (environmental win), as well as several thousand pounds (financial win), but also having a variety of benefits for cleaning and management staff (social win).

Background

Scottish Borders Campus currently produces 75 tonnes of waste each year, with an average recycling rate of 55% (data provided by Borders College). Borders College set up a Waste Management Working Group as it is committed to managing waste responsibly, reducing waste sent to landfill and maximising reuse and recycling. Switching to a cleaning product that could be refilled, rather than continuously buying new bottles, was a relatively straightforward undertaking that was led by Katrina Fitzgerald, Jake Dixon, Robert Hewitt and others.

Savings

Annual and five-year waste reduction:

Product	Annual waste savings (number of items)	Five-year waste savings (number of items)
Plastic containers	4,308	21,540
Cardboard boxes	822	4,110
Wooden pallets	24	120
Deliveries	24	120

Financial: The College will save £24,860.40 over the next 5 years.

Overcoming challenges - the products & space

One downside the College saw with the Oleonix product was that it was unperfumed, which was seen as a potential stumbling block for the introduction with cleaning staff. However, after some discussion, Oleonix agreed to offer a fragranced product, with the college staff collectively choosing their favourite of 3 options.

Another challenge was space – specifically, where to safely store a large Intermediate Bulk Container (IBC), as well as determining the costs and dimensions of an adequate Spill Pallet. Through collaboration with various staff members and campus management, these issues were overcome, and the refillable system has been in place and functioning since August 2022.

Finances

While an investment in an IBC, spill palette, dosing system and bottles is necessary, the savings will likely make this more than worth it. The College estimates it will save £24,860 over the next 5 years, almost £5,000 per year – and this does not include calculations for rising fuel prices or inflation. The project also is scalable depending on the size of the institution.

Circular aspects

- **Designing out waste**: By using a refill system, waste is avoided by the design of the system
- **Recirculating materials**: Bottles and other materials are reused rather than discarded, keeping materials in the loop for as long as possible

Further benefits

- Using one product in two dilutions for everything – rather than a whole palette of different cleaning products – is preferred by cleaning staff
- Saves cleaners going back and forth to central storage
- Protects from delivery shortages which many institutions have experienced (e.g. during the pandemic)
- Helps to resolve regular cleaning product storage and unloading issues
- Saves management and procurement staff time that would otherwise be spent on deliveries, as product needs to be reordered much less frequently
- Reduced carbon footprint
- Reduced necessity for COSHH assessments
- Improved sustainability and environmental criteria of cleaning product

Top tip

While storage space for a large container may at first seem daunting, staff involved in this project said: "The benefits of using this single source product far outweighed any negative we could foresee". Collaborating with the product provider and maintaining good communication with campus management and cleaning staff – as well as involving these staff in decisions where possible – was key to the success of this project.

Reflective questions

1. What cleaning products are you using and who oversees this decision? Could you initiate a conversation to switch to a more circular approach?
2. How could you integrate a new approach to cleaning products with other circular and sustainability initiatives?

Image 17: The bulk bought container of Oleonix disinfectant cleaner at Borders College (Image: Borders College).

Partnerships and engagement

Overarching goal: Work with partners to support and energise colleagues and learners to catalyse institutional integration of circular principles.

Key actions:

1) Establish or further develop community partnerships

Establish partnerships with local communities and organisations to promote circular practices. The partnership between the University of Leeds and the Yorkshire Circular Lab is a great example. Furthermore, RemakerSpace is a Cardiff Business School and PARC Institute not-for-profit initiative dedicated to enabling the circular economy and ending planned obsolescence by extending the lifecycle of products.

Identify local community spaces (e.g. remaker spaces) for collaboration. For example, The Kernel in St Andrews brings together community and university groups focussed on growing, tool sharing, skill sharing, Men's Shed, energy projects and more. The Eco Hub, also in St Andrews, is another great example of "town and gown" collaboration on circular initiatives, promoting student participation in community-based circular projects.

2) Develop engaging communications materials for students and staff

Create communications that are eye-catching and fun to engage audiences, like the Recycle Your Electricals campaign in Image 18 below. Other examples of good creative communications include Hazaar – a student-focused campaign promoting responsible consumption with engaging and exciting content – and Hubbub.

Ensure information is easily accessible on websites, social media and on campus. Target your campaigns in relevant places – for example, signs promoting reusable menstrual products placed on the backs of toilet doors or posters advertising bike repair sessions placed in cycle shelters. Campaigns can also be shared on digital screens in waiting areas or campus cafés where lots of people are likely to gather. Digital media could include prominent links on internal and external webpages, posting about circular initiatives on social media accounts or working with key community influencers to role model circular habits. Work with your communications team and students' association to develop an engaging campaign.

Inspire with positive stories (Positive News and Conservation Optimism are good models for this) to help reimagine the future. Developing events based around envisioning the future will help develop circular thinking and unlock the art of the possible. The Ministry of Imagination is a great example of this.

Image 18: Recycle Your Electricals campaign on social media starring a hypnotising cat. Depending on your audience, tongue-in-cheek messages will sometimes achieve better engagement than more serious campaigns, particularly with students.

3) Use food as a tool for engagement and partnership working

Connect food initiatives on campus to the 3 circular economy principles. In March 2025, Glasgow Caledonian University (GCU) and BaxterStorey, the University's catering partners, achieved Food for Life Served Here Silver certification, making GCU the first higher education institution to receive the silver award. Read more about GCU's sustainable food initiatives including integration of Fairtrade and their Implementation Plan.

Redistribute surplus food to students and local communities (e.g. Abertasty, The University of Strathclyde's Too Good to Go initiative and Edinburgh College's Community Fridge).

Support regenerative food production projects like Growhampton by offering space and visibility.

Encourage students to lead growing, cooking and redistribution efforts – for example, through initiatives like Edinburgh College's community gardens at their Milton Road and Sighthill campuses, which gained recognition at the Green Gown Awards 2015 in the Student Engagement category.

4) Facilitate topic-specific awareness raising and behaviour change campaigns

Develop and launch campaigns focussed on singular issues to deepen understanding on key issues and promote behaviour change. Increase the impact of campaigns by linking in with learning and teaching, and wider events. For example, University of Loughborough's Climate Cup used sports as a mechanism to raise awareness of sustainability issues. Glasgow Kelvin College won an International Green Gown Award in 2024 for their Fighting Fast Fashion Project which brought in engagement with fashion students, a college-wide clothing swap shop and business engagement to raise awareness of the impacts of fast fashion.

5) Harness student perspectives to identify key circular issues

Support learners to design and lead interventions that promote sustainable, resource-efficient behaviour. Students often have the best perspective on how institutions can support students to behave in more sustainable, resource-efficient ways. This could be through working with the Students Association (e.g. University of St Andrews Students Association Environment Subcommittee), holding student focus groups, presence at key events and more.

Additional recommended actions:

6) Allocate visible space for circular initiatives

Create dedicated space on campus for circular initiatives such as Lancaster University's ReStore Shop and University of Stirling Students' Union's Green and Blue Space which are physical sustainability shops on campus. Abertay University's Students Association's Abertaysty, a pop-up food sharing and cost-of-living initiative, is also in a prominent position on campus to ensure visibility and awareness.

Collaborate with students to set up donation and collection systems at term ends. For example, students from the University of Limerick's Environmental Society set up a "Happy Market" where students buy and sell second-hand items towards the end of term.

Case Study: Glasgow Caledonian University – Embedding the Circular Economy in University Operations

With Paulo Cruz, Head of Operational Sustainability, Glasgow Caledonian University.

Overview

Glasgow Caledonian University (GCU) is integrating circular economy (CE) principles into its daily operations by shifting from a traditional waste management model to a proactive, systems-based approach that prioritises reuse, repair and reduction. Led by Paulo Cruz, Head of Operational Sustainability, GCU is tackling barriers creatively and embedding circular thinking across procurement, infrastructure, catering and student engagement.

Key Circular Economy Initiatives

1. Evolving from Waste to Circularity

- Transitioned from a basic recycling plan to a comprehensive CE strategy
- Focus shifted to reducing unnecessary procurement, increasing reuse and maximising asset life (e.g. printers, furniture, water coolers)

2. Reuse and Redistribution

- Engaged platforms like Warp It and UniGreenScheme to repurpose unused items
- Created informal reuse networks (e.g. lab and catering sharing containers)

3. Procurement and Contracts

- Advocated for extended-life service models (e.g. printers and laundry machines)
- Influenced suppliers to offer maintenance and refurbishment over replacement
- Inserted sustainability clauses into tenders (e.g. catering, grounds maintenance)

4. Resource Efficiency in Estates

- Reduced building alterations and furniture churn through better internal space planning
- Promoted reconditioned lab equipment and furniture where feasible
- Highlighted carbon impacts of new vs. reused furniture and equipment

5. Repair and Technician Empowerment

- Encouraged technicians to repair equipment (e.g. mannequins, vision science tools) using spare parts from reuse schemes
- Tackled loss of repair culture by mentoring junior staff

6. Catering and Food Systems

- Reduced meat content in menus without marketing it directly ("stealth sustainability")
- Partnered with suppliers providing returnable containers and sourcing from regenerative or organic producers
- Planning to carbon footprint menus and educate staff on sustainable food decisions

7. Behavioural and Cultural Change

- Simplified sustainability communications: "reduce, reuse, recycle" remains the core framework
- Used surveys and pilot projects to engage students and understand receptiveness (e.g. mug libraries, ugly mug cafés)

Challenges and Barriers

- **Procurement Frameworks**: Standard contracts limited service model lifespans (e.g. 5–7 years), hindering long-term reuse
- **Storage and Consistency**: Difficulty matching reused items (e.g. white goods) with uniformity expectations in student residences
- **Communication and Engagement**: Complex initiatives (e.g. reusable cup schemes) failed due to poor messaging or low uptake
- **System Design**: Current systems often exclude reuse from processes (e.g. uniform portals, procurement approvals)

- **Cultural Resistance**: Apathy from some departments and confusion about what's allowed (e.g. giving items to reuse schemes)

Top Tips from GCU

- **Start with easy wins**: Stationery, furniture and lab containers are great starting points.
- **Fix systems, not just items**: Embed circularity into contracts, procurement and everyday decision-making.
- **Simplify messages**: Use plain language and clear frameworks.
- **Build relationships**: Technicians, caterers and procurement staff are essential allies.
- **Support repair culture**: Fund small repair projects and empower practical staff.

Impact

- Significant reductions in waste tonnage since pre-COVID years
- Low-cost, high-impact reuse practices embedded in culture
- Early efforts evolving into broader institutional strategies tied to biodiversity, food, and sustainability goals

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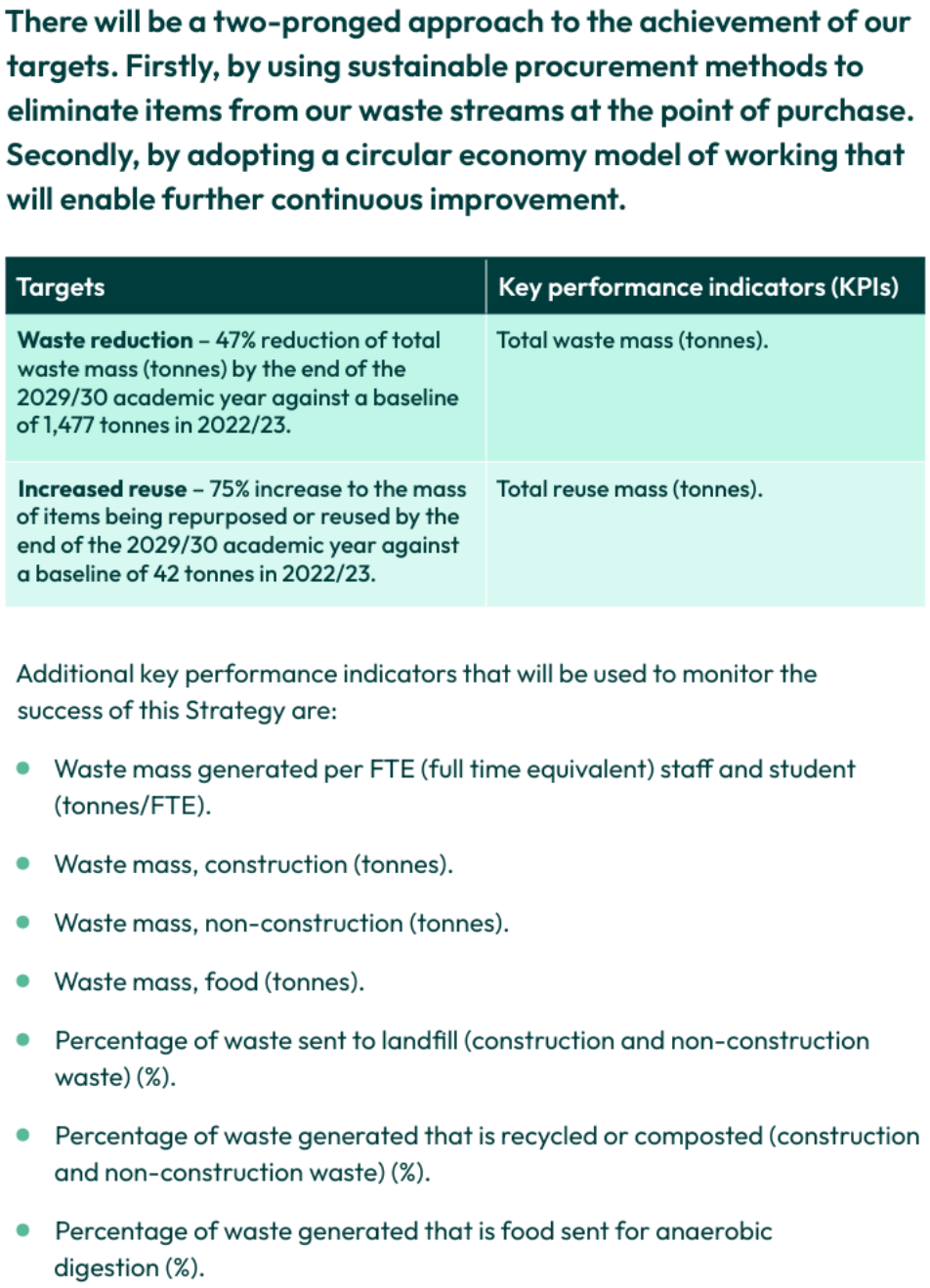
To find out more about GCU's Circular Economy work, please see:

- Glasgow Caledonian University's (GCU) Circular Economy Plan and Implementation Document
- Waste Management TSN recording from May 2025 in which Paulo outlined how their Waste Composition Analysis assists with this monitoring

Data collection and reporting

There isn't currently a standard monitoring framework for the circular economy in post-16 education. Thus, institutions have the freedom to choose the Key Performance Indicators (KPIs) that work best for their Circular Economy Strategy.

The University of Exeter, for example, have chosen to focus on measuring waste reduction and increased reuse. In the image below, they detail their approach:



There will be a two-pronged approach to the achievement of our targets. Firstly, by using sustainable procurement methods to eliminate items from our waste streams at the point of purchase. Secondly, by adopting a circular economy model of working that will enable further continuous improvement.

Targets	Key performance indicators (KPIs)
Waste reduction – 47% reduction of total waste mass (tonnes) by the end of the 2029/30 academic year against a baseline of 1,477 tonnes in 2022/23.	Total waste mass (tonnes).
Increased reuse – 75% increase to the mass of items being repurposed or reused by the end of the 2029/30 academic year against a baseline of 42 tonnes in 2022/23.	Total reuse mass (tonnes).

Additional key performance indicators that will be used to monitor the success of this Strategy are:

- Waste mass generated per FTE (full time equivalent) staff and student (tonnes/FTE).
- Waste mass, construction (tonnes).
- Waste mass, non-construction (tonnes).
- Waste mass, food (tonnes).
- Percentage of waste sent to landfill (construction and non-construction waste) (%).
- Percentage of waste generated that is recycled or composted (construction and non-construction waste) (%).
- Percentage of waste generated that is food sent for anaerobic digestion (%).

Image 19: Circular Economy Key Performance Indicators in the University of Exeter's Circular Economy and Sustainable Resource Management Strategy 2024-2030.

You could alternatively focus on:

- Reduced supply chain emissions
- Reuse rates on a more micro scale, for example:
    - Ratio of events catered with reuseable crockery vs disposables
    - Volume of food redistributed after events or from catering outlets
    - Volume of reuseable or reduced packaging items sold at commercial outlets on campus
    - Volume of student items redistributed from the end of term clear-outs to students and/or community members at the beginning of term
    - Volume of produce gleaned from local farms – e.g. Transition University of St Andrews (scroll down to gleaning section)
    - Amount spent on disposables – this could be in laboratories, catering, teaching supplies and more
- Reduced number of skips
- Reduced investment in harmful industries (e.g. fossil fuels, weapons etc.)

For further ideas on the monitoring of the Circular Economy, please see:

- Ellen Macarthur Foundation's Measurement and reporting for the circular economy overview
- UWE Bristol's monitoring approach
- Glasgow Caledonian University's (GCU) Circular Economy Plan and Implementation Document
- Waste Management TSN recording from May 2025 in which Paulo Cruz from GCU outlined how their Waste Composition Analysis assists with this monitoring
- RMIT University, Australia's Circular Economy Plan

If you would like to view how the EU monitors the Circular Economy across its nations, please see the EU Circular Economy Monitoring Framework.

Next steps

We have presented a lot of information in this guide. If it all seems like a bit much, here are some ideas of where to start.

- **Learn about the circular economy**. Inform yourself about circular economy principles to create a base of knowledge and confidence to build on. This guide is designed to help you gain a basic understanding of circular economy principles in post-16 education institutions, and we link to a variety of resources for further reading throughout this guide. See the department-specific action areas and case studies for examples to get inspired on what actions are possible for your context.
- **Get senior management buy-in**. To achieve the holistic embedding of the circular economy across institutions, it is crucial to have senior management buy-in. If presently there isn't buy-in, develop a sound, bespoke business case for it. Access resources on how to build a business case for the circular economy in Higher Education and the EAUC guide to Making the Business Case for Sustainability.
- **Form a team**. Create a cross-departmental task force that will oversee and manage this transition. This should include all relevant strategic partners. Before starting work, determine how much knowledge of circular principles stakeholders have. They may need additional training and information sessions to support sound understanding of the concept.
- **Create an action plan**. The task force group should create an action plan to implement a circular economy model at their institution. While ultimately the goal is to have the circular economy model embedded in all areas, this road map will look different for each institution. You could use our template as a base and modify for your specific context.
- **Track progress and adjust**. Make sure there are evaluative steps and reports on the action plan's progress. A circular design is never complete, and processes will need to be adjusted as the institution changes naturally over time.
- **Inspire others.** Share knowledge with other institutions and use institutional influence to encourage the community to transition to a circular economy together.

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We would like to acknowledge the contributions of the following people and organisations in the creation of this guide. It was a true team effort.

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Image credits

The front page graphic has been compiled in CanvaPro using an image from Circular Flanders via Remake Scotland.

The final page image is of Rory Hill, Sustainability Project Manager – Joint Sustainability Partnership, EAUC trialling a Deposit Return machine (Credit: EAUC).

All other images have been credited below the respective figure.

Contact us

Do you have a circular economy case study from your institution? Would you like it included in this guide? Share it with EAUC via info@eauc.org.uk.

Found a broken link or a gap in information? This guide was published in August 2025 and will be reviewed on a regular basis. Please email us about any errors or omissions.

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