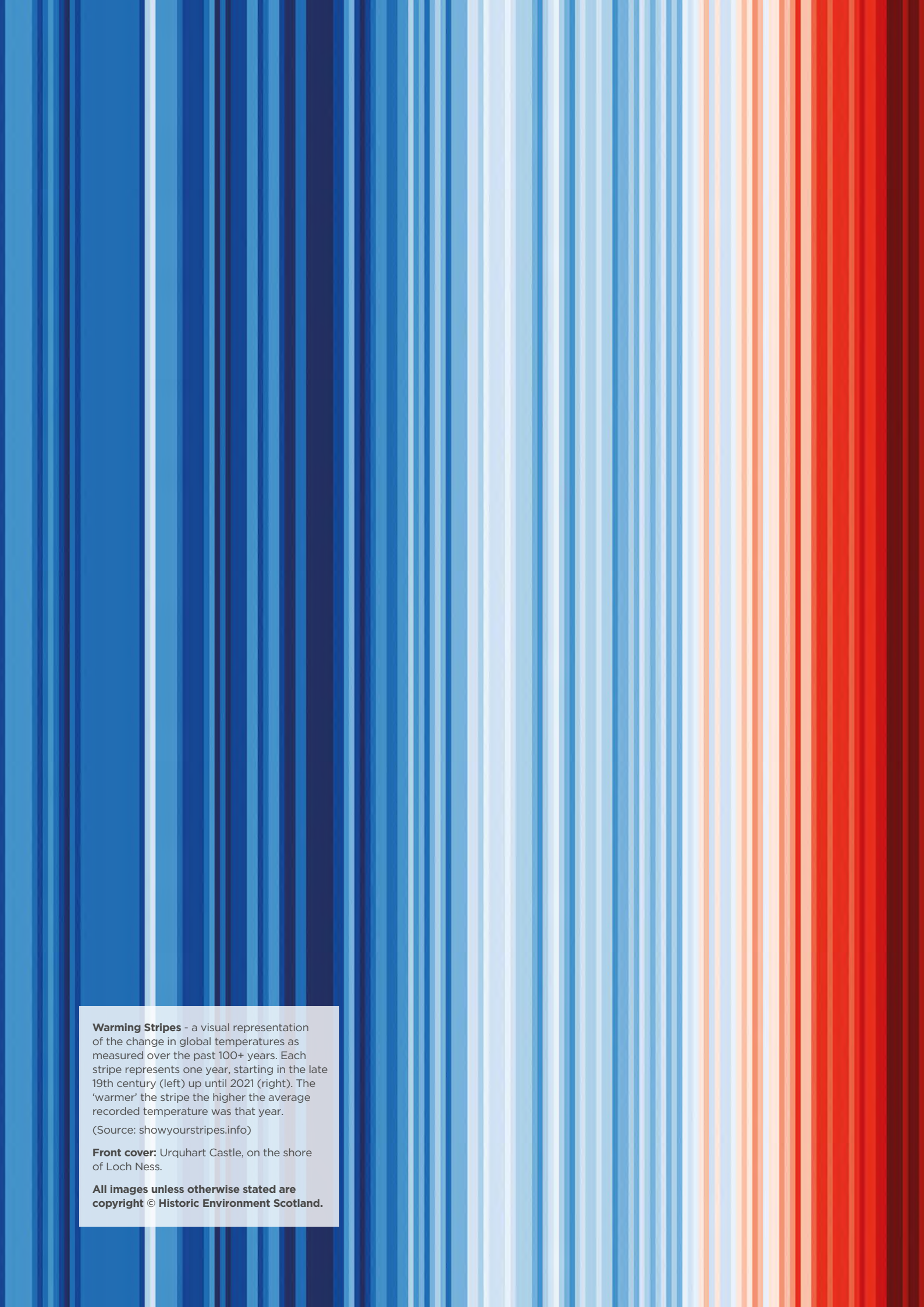
Waste and Resources Plan

Towards a circular economy (2022 - 2025)

HISTORIC ENVIRONMENT SCOTLAND | ÀRAINNEACHD EACHDRAIDHEIL ALBA



Warming Stripes - a visual representation of the change in global temperatures as measured over the past 100+ years. Each stripe represents one year, starting in the late 19th century (left) up until 2021 (right). The 'warmer' the stripe the higher the average recorded temperature was that year.

(Source: showyourstripes.info)

Front cover: Urquhart Castle, on the shore of Loch Ness.

TOWARDS A CIRCULAR ECONOMY

Our new **Waste and Resources Plan for Historic Environment Scotland (HES)** presents a step change for how we manage our waste and resources. It sets out a basis for how we will support Scotland to become a zero-waste society with a circular economy and do our part to tackle the climate emergency. The aim of this plan is to minimise our demand on primary resources by making the most of what we already have and maximising reuse and recycling. It sets us on a trajectory towards becoming a more circular organisation where we design circular principles, resource efficiency and waste reduction into everything we do in a way that is just and fair and enhances equalities at every opportunity.

Purpose

Making the most out of our resources is a crucial part of the solution to the climate and nature emergencies. Currently, the way we consume and throw away resources is not sustainable. The manufacture, use and disposal of resources contributes to over 80% of Scotland's carbon footprint, and globally resource extraction is the cause of more than 90% of biodiversity loss and water stress.

The purpose of this plan is to reduce the environmental impact of the waste we generate and the resources we use, whilst ensuring we are managing these in a way that is compliant, safe and fair. It sets out the guiding principles for how all of our waste and resources should be managed and the tangible actions we will take to accelerate progress towards our ambitious waste targets defined in the HES Climate Action Plan (CAP). It also explores how we can design or redesign our business models, projects and processes in a way that integrates circular principles across our entire supply chain.

The plan outlines how we will change the way we consume and manage resources so that we can reduce our dependence on raw materials, reduce waste and build resilience to supply chain disruptions. The plan is intended to prepare our organisation for the transition to the low carbon economy, future-proofing the delivery of our functions in a low carbon world. Beyond this it also looks to harness our spending and influence to support the wider societal just transition to a net zero circular economy.

Targets

15% reduction of all waste generated by 2025 against 2019-20 levels

33% reduction in food waste by 2025 against 2019-20 levels

70% recycling rate and no more than 5% to landfill by 2025

Zero biodegradable waste to landfill by 2025

Increase reuse rate

200 claimed adverts on **Warp-It** annually by 2025

Scope

This plan covers waste and resources management at HES. Throughout this plan, **waste** refers to any solid waste streams such as general waste, construction, electrical or hazardous waste generated by our activities either directly from ourselves or through contractors. **Resources** in this plan refers to the material resources used to deliver our functions. This includes goods, products or materials such as buildings, building materials, equipment, stationery, IT, furniture and printed goods. It excludes water and energy which are covered in our Carbon Management Plan.

Who is it for?

This plan is for everyone involved in delivering our functions who uses resources or generates waste. That will include all HES staff to some degree. The guiding principles of this plan should also be followed by our contractors, suppliers and partners within the services they are providing to us. It will be of particular use to those with responsibility for designing processes or projects, purchasers of goods and services and those who generate and/or manage waste. However, all of us have the responsibility no matter what role we undertake, to maximise resource efficiency and waste prevention in everything that we do.

What does it include?

This plan starts by giving an overview of the guiding principles that underpin our approach to waste and resources management, then in chapter 2 it gives some context to how our waste and resources are currently managed. Chapter 3 explains why we need this plan in relation to organisational, national and global drivers. Chapters 4 and 5 outline our targets and the key actions we will take to improve our performance against the guiding principles, these are structured under **6 key themes**:

1. Refuse, rethink, redesign
2. Reduce, repair, maintain
3. Share, reuse
4. Recycle, compost
5. Recover value, dispose
6. Compliance and health and safety

Finally, chapter 7 provides a number of tools to support the delivery of the actions including a purchasing flow chart and a compliance checklist.

All of us have the responsibility no matter what role we undertake, to maximise resource efficiency and waste prevention in everything that we do.

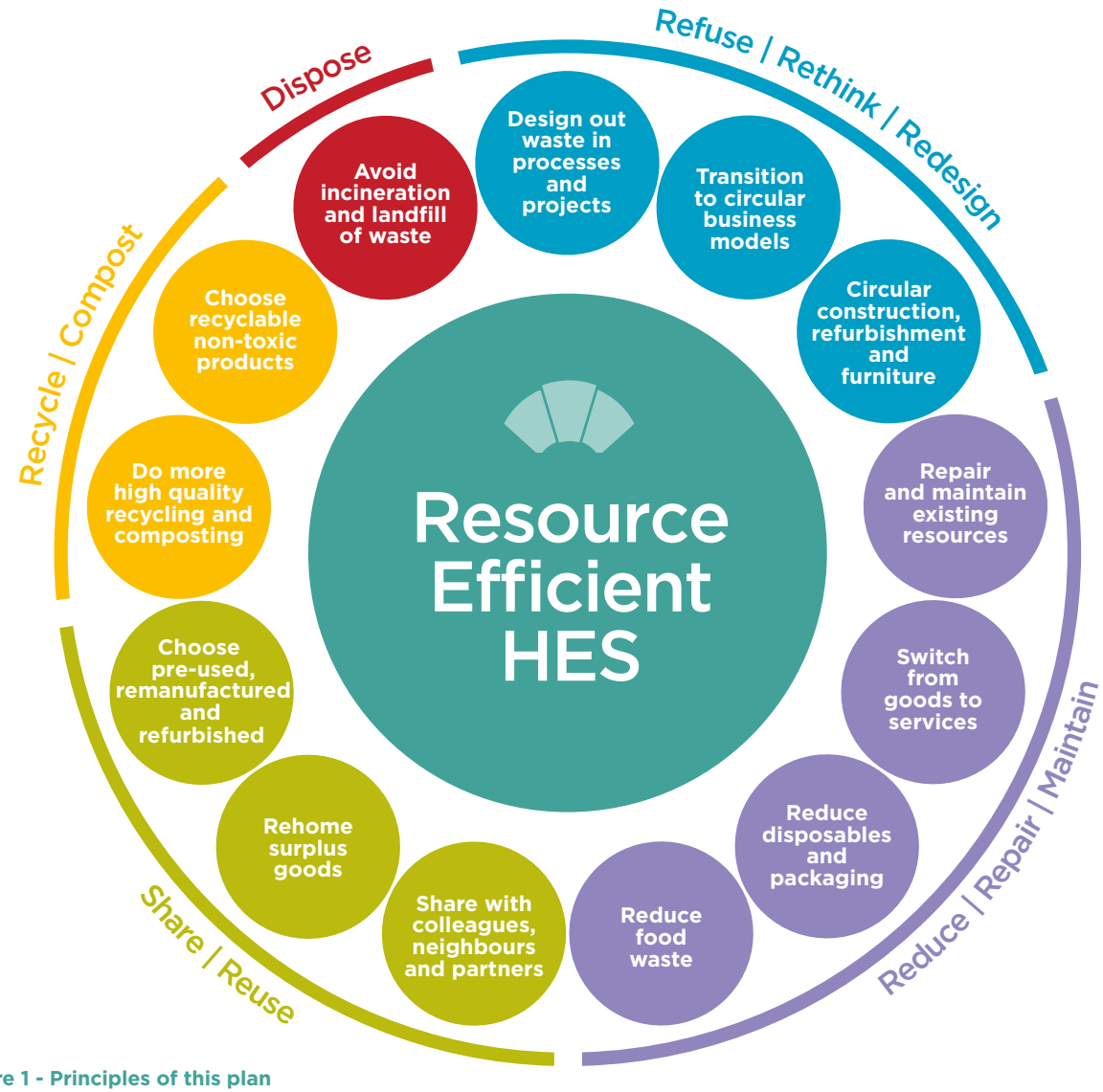


Figure 1 - Principles of this plan

This plan is for everyone involved in delivering our functions who uses resources or generates waste.


TOWARDS A CIRCULAR ECONOMY
BIKE RENTAL
NO DIG
Locally Sourced
Seasonal
Menu
Bottle Recycle
UNICORN CAFE
FOOD SCRAPS
WATER REFILL STATION
100% Recycled Material • Local Makers
Scottish History
TOY TAKE - BACK
My Tote is STIRLING
SPACE FOR HIRE
Sign up Below
Event
Time
Repair Workshop 9:00
Staff meeting 10:00
Makers meet-up 11:00
Kids crafts 13:00
Lunch
Craft Session @13
Lunch @14
Welcome
LIBRARY of THINGS
MAKERS MEET-UP
Materials Reuse Storage
SLATE
DEPOT
LAUNDRY
Cardboard Recycling
Green Waste Recycling
Printer Maintenance Schedule
Design Out Waste
Office Chairs
Remanufactured

FOREWORD

As the lead public body for Scotland's historic environment a key part of our mission is to protect and conserve the historic environment for future generations. Making things last, the central principle of the circular economy, is therefore already built into our organisational culture and we are no stranger to the importance of good design, repair and reuse.

These principles are now becoming increasingly important in the fight to tackle the climate and nature emergencies. The manufacture, use and disposal of resources contributes to over 80% of Scotland's carbon footprint, and resource extraction is the cause of over 90% of global biodiversity loss and water stress. Already the socio-political landscape is seeing global supply chain disruption and volatility becoming more regular occurrences, and with climate change these are likely to increase.

The circular economy is a way we can build resilience to these challenges. To move away from a dependence on energy intensive new materials, towards an economy where things are built to last and can be repaired and reused.

In HES our journey towards a circular economy has already started and this plan gives many examples of the fantastic initiatives that are taking place across our organisation driven by our dedicated people and our partners. But we must do more. We can eliminate waste and reduce our dependence on new materials through rethinking or redesigning our processes, and our project designs need to integrate circular principles at the earliest stages. We must work collaboratively to support and enable our suppliers to innovate their products and services in a way that is fair, circular, and sustainable.

A circular economy in Scotland won't just happen by itself. We all need to contribute to make it happen, and HES has an important role to play. This landmark plan sets out the core values that will define our approach to managing waste and resources going forward. By embedding responsible consumption into everything that we do as an organisation, we can help drive the transition and at the same time maximise the benefits that the historic environment can deliver to society.

Alex Paterson
Chief Executive

A circular economy in Scotland won't just happen by itself. We all need to contribute to make it happen, and HES has an important role to play.

Stanley Mills, a historic water powered cotton mill, inspired by its history has run sowing workshops for the local community to help build up skills to repair and revive textiles.

CONTENTS

1. THE GUIDING PRINCIPLES THAT DEFINE OUR APPROACH TO WASTE AND RESOURCES MANAGEMENT

Our approach to waste and resources management outlined in this plan is based on a number of guiding principles. These principles are the key driving force behind current best practice and align with the direction of travel for Scotland to become a zero-waste society with a net zero circular economy.

These principles are:

- The waste hierarchy
- The circular economy
- Sustainable purchasing
- Supplier engagement
- Fairness, equality, and inclusion
- Compliance and health and safety

Engagement campaigns at our head office cafe reduced disposable cup use by 80% and allowed us to remove disposables entirety.

1.1 THE WASTE HIERARCHY

The waste hierarchy ranks resources and waste management options according to what is best for the environment. This plan is structured around the waste hierarchy and aims to move our waste up the hierarchy, away from waste and towards prevention.

The waste hierarchy gives top priority to preventing waste in the first place. This can be done through rethinking or redesigning how processes or projects are done to eliminate the things that become waste, by prolonging the life of the things we already have, or by sharing and reusing resources. If prevention is not possible, then the next option is to recycle or compost, and only as a last resort to dispose (Figure 2).

To be effective, the waste hierarchy should be considered as early as possible, for instance within the design of projects or processes.

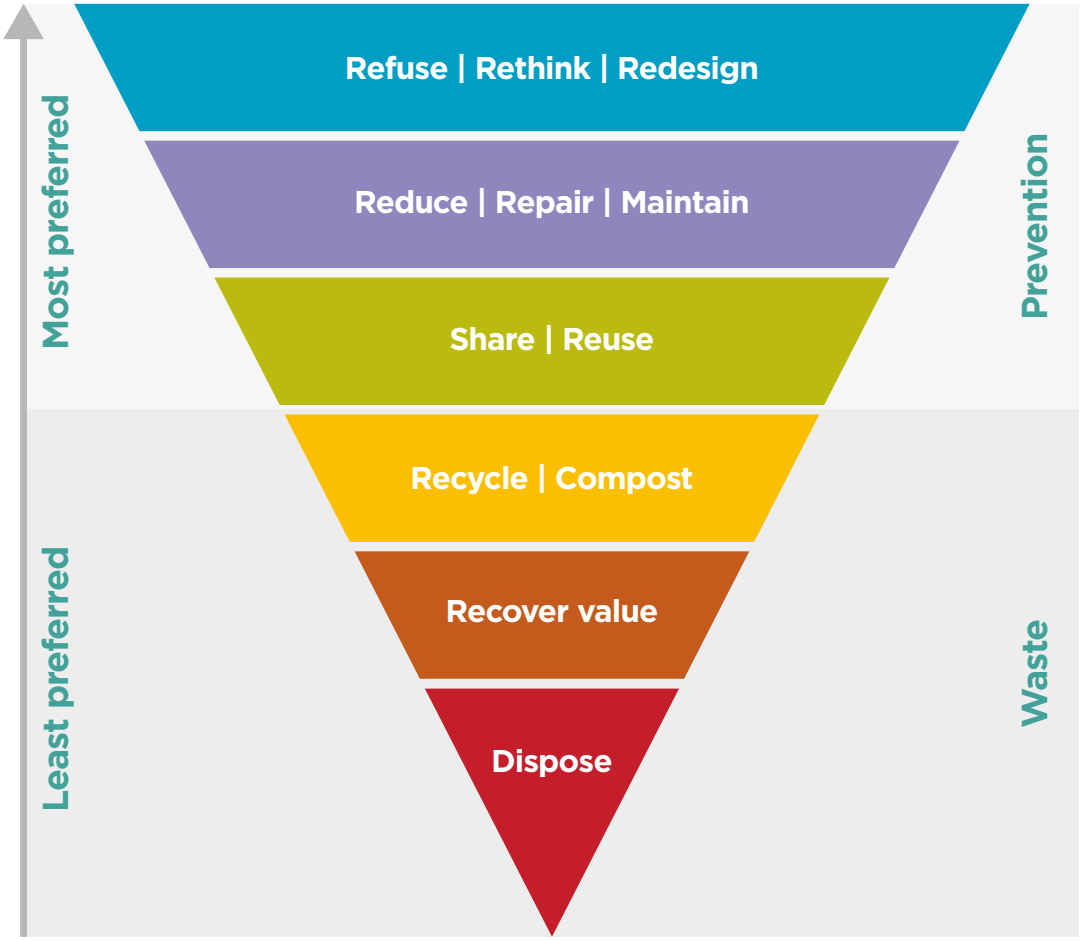


Figure 2 - The waste hierarchy

1.2 THE CIRCULAR ECONOMY

In a circular economy, materials and products are kept in use rather than thrown away. It represents a shift from a linear economic model of 'take, make, dispose', towards an approach where materials and products are designed to last longer and be maintained, repaired, upgraded, reused and recycled in a continual loop (figure 3).

The circular economy is based on three main principles:

1. Design out waste and pollution
2. Circulate products and materials (at their highest value)
3. Regenerate nature

(Ellen MacArthur Foundation, 2022)

The circular economy is a crucial part of the solution to the climate and nature emergencies. It gives us the answers for how we can reduce the amount of waste we generate, and the negative environmental impacts associated with extraction of new materials.

For HES, the circular economy is about redesigning our business models, services and projects in a way that **eliminates waste entirely, ends our dependence on new materials**, and **enables the reuse of materials**.

Taking these steps will help us to become more efficient, less wasteful and increase our organisational resilience – making us less susceptible to supply chain disruption and ensuring we are prepared for the low carbon economy. We can also help to drive the wider transition in Scotland by supporting the development of sharing networks and investing in repair and maintenance services and in goods that are long-lasting, pre-used and remanufactured.

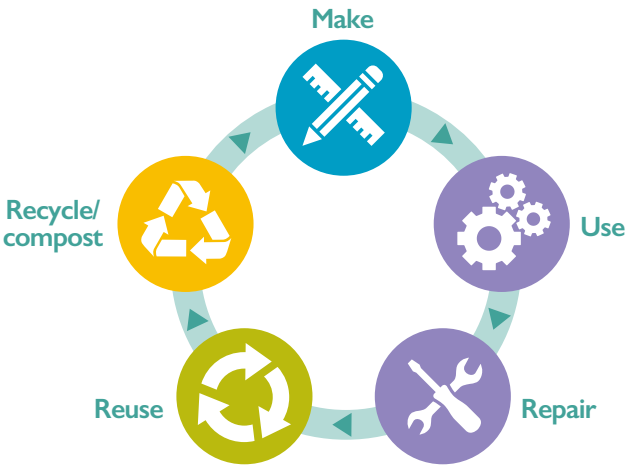


Figure 3 - The circular economy

Transitioning to a circular economy is a journey, it won't happen overnight, and it involves everyone to contribute. We have a key role to play in this transition and this plan aims to set the direction of travel for this journey.

CASE STUDY

Investing in skills in repair and maintenance of the historic built environment:
Much of our work to protect the historic environment for now and for future generations also supports the transition to a circular economy in Scotland. For instance, our work to invest in training for traditional skills such as stone masonry is key to ensuring that the historic built environment is maintained and stays standing well into the future, and ultimately preventing these buildings from becoming waste. With 20% of our homes in Scotland built using traditional materials, having this skill base is Scotland is fundamental to prolong the life of our existing buildings as well as to retrofit them for energy efficiency.

1.3 SUSTAINABLE PURCHASING

Making the right decisions when purchasing goods and services is important to enable us to apply the waste hierarchy. Strategies to eliminate waste when purchasing include:

- buying less
- choosing goods that are remanufactured, long lasting and repairable
- specifying minimal, reusable and recyclable packaging.

The HES Procurement Strategy has a strong focus on delivering both environmental and social value through our purchasing and emphasises the need to consider whole-life costing of goods and services rather than just upfront cost.

Tools that can be used to identify the environmental and social impacts of the resources we purchase include life cycle impact mapping (LCIM) and life cycle assessment (LCA).

Further guidance and tools for public sector procurement is available via the Scottish Government's Sustainable Procurement Tools Platform which provides guidance, templates and checklists to support decision making that maximises environmental and social benefits. The tools include a sustainability test and life cycle mapping. The Scottish Procurement Policy Note SPPN/3/2022 also provides a useful overview of how to take account of climate and circular economy considerations in public procurement.

CASE STUDY

Including environmental requirements within our tender for Minor Archaeological Services to Properties in Care:
Many of our tender specifications include environmental requirements, and teams are further exploring how to expand this and make them meaningful by using the Scottish Government Procurement Tools. Recently our Cultural Resources Team explored the impacts associated with the delivery of minor archaeological services and used this to inform specific requirements within the tender. Requirements included carbon reduction, waste minimisation and using low impact materials such as non-hazardous substances and materials containing recycled content that can be recycled at end of life.

Archaeological excavation work on our estate

1.4 SUPPLIER ENGAGEMENT

Working closely with our supply chain is an effective way to drive resource efficiency and waste reduction.

This can range from requesting less packaging to supporting and enabling suppliers to transition towards circular business models such as setting up ways to use pre-used or recycled materials, providing repair or remanufacturing services or taking back goods they have supplied at end of life.

Supporting our supply chain to innovate in this way is mutually beneficial. It helps us to meet our climate targets and at the same time enables our suppliers to develop resilient business models that are ready for the low carbon circular economy.

CASE STUDY

Packaging reduction, garment refurbishment and enhancing equalities with our uniform suppliers:
Much of the workwear we purchase is guaranteed for long life. However, with seasonally opening sites to allow this to happen in practice, the uniforms contract management team worked with our supplier to develop a process for refurbishing garments between seasons to prolong their useful life. They also successfully eliminated the need for each individual garment to be wrapped in plastic when being delivered to our sites.

Working closely with our supplier has also led to the development of a brand-new pregnancy panel which zips into the waterproof jackets they supply for us and ensures that mums to-be are not excluded from participating and working in the outdoors. These panels can also be refurbished and used again and again. Following successful trials with HES staff, the supplier has now rolled out the pregnancy panel across their entire range and for all their customers.

Steward at Stirling Castle

1.5 FAIRNESS, EQUALITY AND INCLUSIVITY

All decisions we make on managing waste and resources should be designed and delivered in a way that is fair and inclusive.

There are already huge inequalities in access to resources and the cost-of-living crisis is only going to further accentuate this. Furthermore, our un-sustainable consumption of resources will have unfair consequences for future generations, burdening them with resource scarcity, economic volatility and dangerous waste.

Today we have a very real moral obligation to manage our resources efficiently and ensure nothing goes to waste and to ensure any surplus resources are redistributed back into it is redistributed back into the economy to those that need them the most. We also have an opportunity to proactively tackle injustices when we are rethinking and redesigning how we deliver our functions in a circular economy by 'designing in' ways to advance equalities, diversity and inclusion at the same time.

An awareness of inequalities in our society helps us to understand the impacts of our decision-making on people. We must include people and reach out to underrepresented groups and communities to make our processes more inclusive. Our ambitions in this area are outlined in our HES Equalities Outcomes and Mainstreaming Report.

CASE STUDY

Using our waste to support charities who deliver initiatives that enhance local inclusion:

The Glasgow Cathedral works team donated old scaffolding planks to local charities who use reclaimed timber to make furniture and provide local people a means to generate a sense of community and the chance to engage in meaningful work.

Our IT team also donated some old computers and monitors through Warp-It to charities that refurbish and donate them to refugees and run free IT literacy courses in local libraries.

Joiner at the Galgael workshop in Glasgow using our old scaffolding planks.

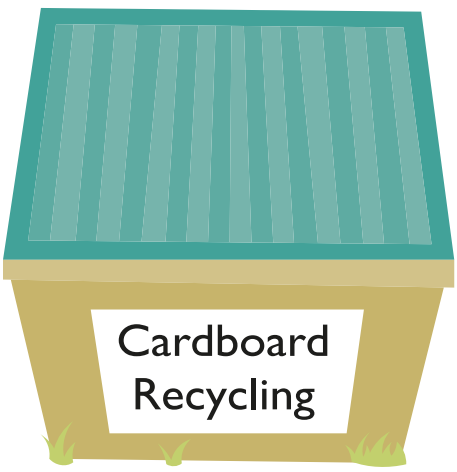
We have a very real moral obligation to manage our resources efficiently and ensure nothing goes to waste.

1.6 COMPLIANCE AND HEALTH AND SAFETY

All of our waste and resource management activities need to be compliant and take the upmost care to uphold the health and safety of everyone.

Waste is highly regulated due to its potential to cause damage to people and the environment. As a waste producer there is extensive waste management legislation at Scottish and UK level, alongside various technical documents that we must comply with. This includes our Duty of Care (outlined below) as well as obligations in relation to recycling, food waste, hazardous waste, packaging regulations and other existing and emerging circular economy regulations. The key legislation related to this plan is outlined in Appendix 1.

All waste activities must be risk assessed. Supporting information around risks can be found in the can be found in the Waste Management Checklist in the Tools section of this plan. More extensive health and safety guidance for waste activities is provided by the Health and Safety Executive (HSE).



Our duty of care as a waste producer

We have a legal Duty of Care to produce, store, transport and dispose of our waste without harming the environment.

We must:

- Apply the waste hierarchy.
- Store waste securely so it does not cause litter, attract vermin or leak into the environment.
- Label bins clearly so waste goes in the right place.
- Segregate key recyclables (paper, cardboard, metal, glass and plastic) for separate collection.
- Maintain the quality of dry recyclables presented for separate collection.
- Present food waste for separate collection unless exempt.
- Transfer only to registered carriers taking it to an authorised facility.
- Use waste transfer notes for all waste movements and keep on record for two years.
- Separate hazardous waste and use consignment notes when moving.
- Know how our waste is being managed and where it goes, from the point of discard to its final destination.

For more details on carrying out our Duty of Care in practice see the Waste Management Checklist in the Tools section of this plan.

Segregating our recycling at source and keeping it clean and dry helps to give it a higher chance of being recycled into something of high quality.

2. A BACKGROUND TO WASTE AND RESOURCES MANAGEMENT AT HES

The Level 3 Award in Energy Efficiency Measures for Older and Traditional Buildings is run at the Engine Shed and recommends retaining existing materials and using natural insulation materials. An approach that is good for these buildings and for the environment.

As a waste producer we have a duty of care to manage our waste in a way that doesn't harm the environment. We have over 100 waste producing sites across Scotland and a large variety of waste streams. We also use a lot of material resources to deliver our functions, with our annual spend on goods and services being around £32 million with approximately 2,500 suppliers.

Waste management at HES

Operational waste management

Most of the waste collections for the HES estate are currently managed by our contracted waste broker, who arrange collections for all waste types (including hazardous waste) and provide us with waste data, compliance documentation and expertise on best practice waste management. Guidance on using this contract for HES staff is available in the Waste Contract Buyers Guide or by contacting waste@hes.scot.

There are a small number of services with other contractors that are still managed directly by HES, for instance in rural areas where direct regional management is more effective.

Day to day management of waste collections is overseen by the regional HES Planning and Resources Managers in Operations Directorate, with support from site managers and staff.

What waste streams do we generate at HES?

The wide range of functions across our organisation means we have a complex supply chain and varied waste streams. This includes construction and demolition waste from our site conservation work, wastes generated by our shops and cafes, and some specialist wastes from our labs and archives.

Prior to the pandemic we generated around 1,100 tonnes of waste each year[1]. This mainly constituted of municipal waste (60%) and construction and demolition waste (33%) (Figure 4).

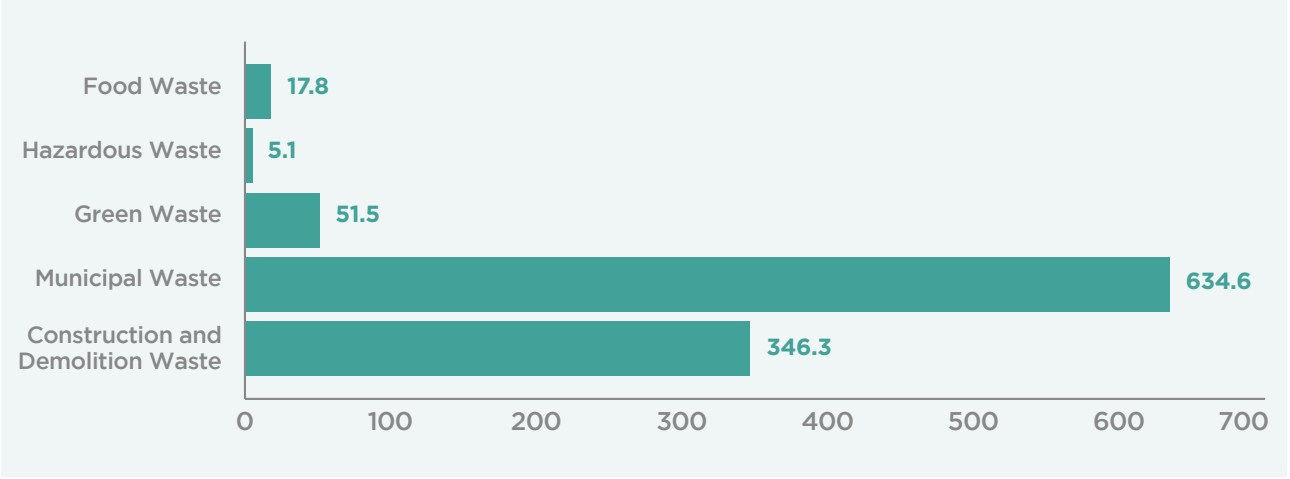


Figure 4 - Tonnes of waste types generated by HES in 2019-20

1. Currently our waste data does not include waste generated by and disposed of by our contractors. As work to our properties and buildings is undertaken through a mixture of in-house and contracted work, then our true waste footprint is likely to be higher than estimated.

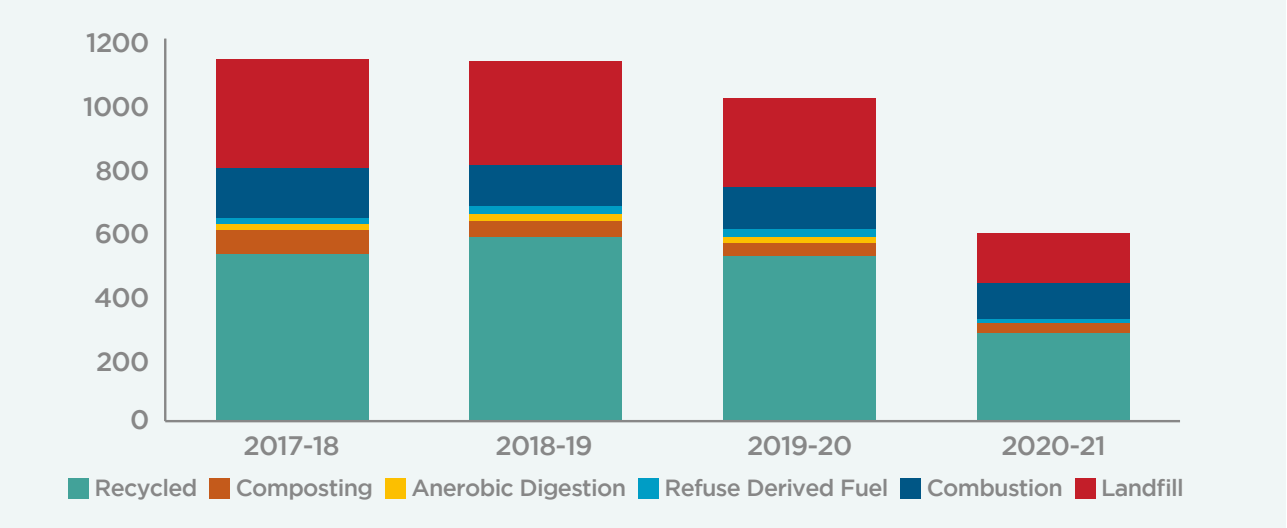


Figure 5 - HES waste generated and processing methods 2017-21

For the last 5 years our recycling rate has stayed around 55%[2]. This rate includes both recyclables segregated on site and those recovered from our general waste at material recovery facilities. Over the same period the proportion of our waste sent to landfill has been between 25–30%, and the proportion going to incineration with energy recovery has been between 10–15%.

In recent years our waste footprint has been changing, along with our changing circumstances. During 2020-21 the amount of waste we generated dropped by around half due to home working, site closures and paused work caused by the pandemic (Figure 5). The ongoing upheaval from the pandemic, along with closures of sites due to high level masonry assessments, means that the amount and types of waste we generate will continue to change in the coming years.

Progress made to reduce the environmental impact of our waste

Our last waste and resources management plan was published in 2013. Since then, we have made many improvements to try to reduce the environmental impact of our waste and support climate change targets. This includes taking on a new centralised waste broker, rolling out recycling collections across all waste generating sites, installing source segregating recycling bins, running engagement campaigns for staff and eliminating some of our largest non-recyclable waste streams.

CASE STUDY

Removing disposable cups from our head office café:

Over a number of years, we worked with our catering contractor to run engagement campaigns to reduce disposable cup use in our office café. These cups were non-recyclable and made up a large percentage of our waste. The campaigns led to an 80% reduction in use and enabled us to remove these cups from sale entirely in 2018, preventing around 26,000 disposable cups from being disposed of to landfill or incineration each year.

One of the campaigns in our head office cafe.

2. This includes waste processed by recycling, composting and anaerobic digestion.

Improvements during this time have not been captured well through our waste data due to poor data quality caused by difficulties in capturing consistent data from over 55 individual contractors. Part of our new waste broker's contract will be to provide more consistent data from which we can better measure progress.

Material resources management at HES

In this plan, material resources refers to any products or materials that we, or our suppliers, use to deliver our organisational functions. For instance, buildings, building materials, equipment, stationery, IT, furniture, and printed goods. This plan excludes water and energy, which are covered in our Carbon Management Plan.

Management of our resources is devolved to the departments who either purchase them or are responsible for their maintenance. Our influence over material goods used by us and our supply chain relies on contractual specifications, supplier engagement or purchaser choice.

The impact of our resources

Greenhouse gas emissions from our purchased goods and services alone account for around 17,000 tonnes CO2e annually. This is more than six times greater than the emissions from our energy use. When taking all of our emissions sources into account (excluding visitor travel, which dwarfs our other sources), purchased goods and services and waste make up 79% of our total carbon footprint. This is extremely significant and must be tackled.

Progress made to reduce the environmental impact of our resources

Sustainable purchasing, underpinned by the Sustainable Procurement Duty, has been a priority for HES for many years and has recently been accelerated via the new HES Procurement Strategy 2022. We have been using the Scottish Government Sustainability Tools for some larger contracts; however, this could be rolled out much further. We have also successfully explored how to integrate circular principles into some contracts, including for uniforms and PPE, where we have included refurbishment and repair of garments as part of the contract and encouraged the use of recycled content.

Many of our construction or conservation projects have taken steps to reduce the quantity of new materials used and to use local, natural and sustainability sourced materials. For instance, the Engine Shed construction used pre-used materials sourced from local demolitions for stone repairs, interior cladding, and furniture. Building local networks was central to finding these materials and led to valuable ongoing partnerships.

We have also recently commissioned an investigation into our supply chain to identify carbon hot spots in order to prioritise actions to tackle these emissions.

CASE STUDY

Circular design for Doune bridge:

A new bridge in Doune that now links the local village with the castle was designed so it can be repaired and ultimately deconstructed at end of life. To keep embodied carbon low, the timber was sourced locally from a neighbouring estate, and it was manufactured off-site which also reduced waste. Recycled aggregate concrete was used for the foundation works, and the stone came from surplus materials that had been stored at HES depots. To increase the structural performance of the local timber, a laminating technique was used however, in future exploring alternatives options to adhesive lamination would further reduce embodied carbon of the material.

The new bridge at Doune.

3. WHY DO WE NEED THIS PLAN?

The gardens and wildflower meadows at Stirling Castle are helping to regenerate nature.

Strengthening our actions around resource efficiency is central to tackling the climate emergency, future-proofing our operations and supporting the wider societal transition towards a low carbon circular economy. This plan will:

Ensure we are compliant with our legal obligations and our Duty of Care

As a waste producer there is extensive waste management legislation at Scottish and UK level, alongside various technical documents that we must adhere to. This includes our Duty of Care as outlined above, as well as obligations in relation to recycling, food waste, hazardous waste, packaging regulations, recycling of electricals and batteries, implementing the new Deposit Return Scheme and other existing and emerging circular economy regulations. The key legislation related to this plan is outlined in Appendix 1.

Non-compliance can result in legal action, fines, pollution events, risk to health and safety and reputational damage.

Make us a high performing organisation, reduce costs, increase resilience and prepare us for the low carbon economy

Resource efficiency will reduce unnecessary costs. We have already saved over £50,000 since 2018 by increasing our resource efficiency through using Warp-It (Waste Action Re-Use Portal). Waste is also expensive to manage, process and clean up. Our waste collections cost us around £250,000 per year, with added costs associated the clearance of litter and flytipping.

We also need to ensure we are ready for the transition to the low carbon economy as identified in Climate Ready HES. Moving away from resource intensive and fossil fuel dependant supply chains and business models will increase our resilience, protecting us from fluctuating resource and waste management costs and will help to future-proof the delivery of our functions in a low carbon economy.

Make sure we are doing our part to ensure the worlds resources last for future generations

Humanity currently uses resources at a rate 50% faster than they can be regenerated by nature. The pressures of population growth, climate change and environmental degradation, is placing increasing stress on finite, non-renewable resources such as fossil fuels and minerals (European Commission, 2020).

In Scotland we are using more resources than most. If everyone in the world lived and consumed as we do in Scotland, we would require the resources of three planets (SEPA, 2016). This is unsustainable. To ensure that future generations continue to have access to essential resources we must act now to shift the balance.

Our historic collections can teach us how to value and care for our resources.

Support the reduction of greenhouse gas emissions and reach net zero

As a public body we have a social, moral, economic and legal obligation to tackle the climate emergency or face catastrophic consequences. Resource efficiency is one of the most effective ways we can reduce our carbon emissions. This is because production and consumption of goods, materials and services is carbon intensive and the cause of around 80% of Scotland's carbon footprint (Scottish Government, 2019). In HES our greenhouse gas emissions from purchased goods and services and waste accounts for around 79% of our carbon footprint, and therefore is a priority area to tackle.

Ensure we meet our waste targets outlined in the HES Climate Action Plan and contribute to Scotland's targets

Scotland has committed to becoming a zero-waste society with a circular economy and has set ambitious targets to reduce waste by 15%, recycle 70% of waste, and end landfilling of biodegradable municipal waste all by 2025. Our targets align with these, and this plan sets out how we aim to achieve them.

Scottish Government is also in the process of developing a route map to outline how Scotland will meet these targets in a way that maximises carbon saving potential. Scottish Government has recently banned various single-use plastic items and is currently working on implementing a Deposit Return Scheme, introducing a charge for disposable cups, and reforming the packaging extended producer responsibility regime. This upcoming strategy and legislation will be key to defining our responsibilities going forward.

Contribute towards a just transition towards a low carbon circular economy for Scotland

Scotland's Circular Economy Strategy sets out the ambition to move towards a circular economy, where products and materials are kept in high value use for as long as possible.

The Strategy recognises that a more circular economy will benefit:

- **The environment** – cutting waste and carbon emissions and reducing reliance on scarce resources.
- **The economy** – improving productivity, opening up new markets and improving resilience.
- **Communities** – more, lower cost options to access the goods we need with opportunities for social enterprise.

Scotland's updated Climate Change Plan further strengthens ambitions with a vision that by 2032 we will have transformed our relationship with waste and consumption in Scotland with an economy designed to reduce, reuse, and repair materials. It also highlights the key role public sector procurement and collaboration will play in realising these ambitions.

As a public body working within resource intensive industries such as tourism and construction, we have a unique opportunity to work collaboratively with suppliers, stakeholders, and other public bodies to support innovation that will enable the transition to a circular economy. Policies within these sectors are increasingly including actions to bolster circular economy ambitions; for instance, Scotland's upcoming National Planning Framework 4 encourages sustainable design and use of resources, such as circular economy approaches to construction and development including material and component reuse. Scotland's upcoming Circular Economy Bill will also be key to defining our role going forward.

Support the prevention of catastrophic biodiversity loss

The extraction of materials and food is the cause of more than 90% of global biodiversity loss and water stress (UN and International Resource Panel, 2019). Preventing the need to extract more resources by making the most of the resources we already have, and by rethinking how we source resources, can help to prevent biodiversity loss and support Scotland's Biodiversity Strategy.

Sourcing goods is explored further in Scotland's updated Climate Change Plan which highlights how nature-based solutions, such as high nature value farming, can provide sustainable ways to source food and timber.

Prevent burdening future generations with hazardous, dangerous and difficult waste to deal with

Waste is polluting and causing harm to our environment and this can impact our health. Landfills are dangerous to health and must be continually managed to prevent leakage and pollution (Brand *et al.*, 2018). Furthermore, plastic pollution is a global problem and is threatening our environment, our economy and human health. In Scotland alone, about 110 million plastic pieces from land-based littering ends up on the seabed each year (Marine Scotland, 2020).

Changing the materials we use to avoid those that are hazardous, non-reusable and non-recyclable will ensure that future generations do not have to clear up dangerous and expensive waste. Instead, we can leave behind a legacy of high quality and valuable resources which can be reused or remanufactured for generations.

Contribute towards a litter free Scotland and the positive social outcomes this has

Litter is caused in part by our wasteful culture. Scotland's environmental quality is at its lowest point in a decade, contributing to poorer physical and mental health, a higher fear of crime and negatively impacting the local economy (KSB, 2020). Litter can also cause barriers to visiting, engaging with and enjoying Scotland's heritage.

Designing out the types of wastes that become litter such as low value disposable items prevents these materials from ever becoming litter in the first place. This plan supports our commitments outlined in the HES Litter Prevention Action Plan.

Scotland has committed to becoming a zero-waste society with a circular economy

4. OUR TARGETS

Apprentice stonemason at Stirling Castle. Training in traditional skills such as this is essential to ensure we can continue to repair and maintain buildings.

This plan aims to deliver the following targets:

15%
reduction of all waste generated by 2025 against 2019-20 levels

33%
reduction in food waste by 2025 against 2019-20 levels

Increase reuse rate
200 claimed adverts on Warp-It annually by 2025

70%
recycling rate and no more than 5% to landfill by 2025

Zero
biodegradable waste to landfill by 2025

Delivering organisational and national targets

The above targets include those set out in the HES Climate Change Action Plan (CAP) and align with Scotland's national targets, with the addition of targets for reuse and biodegradable waste. These two new targets reflect ambitions set out in the 2020 update to Scotland's Climate Change Plan 2018 - 2032.

We have chosen to set a baseline of 2019-20 for our targets opposed to earlier years chosen for the national targets. This is because the 2019-20 data we hold provides our most accurate estimates compared with the data for the following year which fluctuated due to the pandemic. National waste figures are not showing regular incremental improvements in these areas since 2011 therefore we will not be disadvantaged by using a later baseline.

An ambitious and flexible approach

These targets will be challenging to meet and they directly reflect the ambitious nature of the Scottish targets for which it is understood that they can only be met in full with large scale, significant and rapid systems change.

Incremental goals that measure progress towards our targets have been set for each year of this plan. These will be reviewed year on year to allow flexibility to respond to operational changes and to stay up to date with national waste and climate change ambitions.

'We are facing a climate and nature emergency. We need to do more to meet our waste reduction and recycling targets and reach net zero by 2045.'

(Scottish Government, Delivering Scotland's Circular Economy – Route map to 2025 and beyond: Consultation).

5. OUR ACTION PLAN

Prolonging the life of things is what we do. Our painting conservator ensuring these valuable resources last for the next generation.

Our actions are structured under 6 key themes, the first 5 are defined by the waste hierarchy. The themes are:

1. Refuse, rethink, redesign
2. Reduce, repair, maintain
3. Share, reuse
4. Recycle, compost
5. Recover value, dispose
6. Compliance and health and safety

Figure 6 - The key themes and principles which outline how we will manage our waste and resources

5.1 REFUSE, RETHINK, REDESIGN

This is the most preferred option when applying the waste hierarchy as it prevents waste by eliminating it before it has been generated. Our actions here are grouped under three principles:

Design out waste in our processes and projects

This means designing or redesigning how we deliver our functions and projects in such a way that eliminates waste generated in the short and long term across our whole supply chain. For instance, rethinking how a process works in practice so that material goods are eliminated or minimised. Or only using goods and materials that are long lasting, repairable, and reusable and ultimately 100% recyclable or compostable.

CASE STUDY

Designing out paper tickets:

A redesign of our ticketing system in 2017 removed the need for our 200,000 members to get a paper ticket for entering our sites. This saved around a quarter of a million tickets being printed every year. It helped to reduce both litter and queuing times, and brought ongoing savings on printing costs. Read our case study for more information.

Scanning tickets at Edinburgh Castle

Transition to circular business models

Circular business models are those which are built on sharing, reuse, repair and refurbishment. For instance, this could include hiring of bikes, providing a refill service, or repairing goods. The benefits of these kinds of business models are that they don't rely on the use of new materials to run and therefore tend to be more resilient and foster customer loyalty.

CASE STUDY

Retail transforming waste into a valuable resource:

Our retail team have been working with a Scottish start-up to transform one of their best-selling products, a fridge magnet, into a product that supports a local circular economy. The project is identifying ways to use post-consumer plastics from the local area to manufacture the magnets. It is also considering take back arrangements and recyclability of the magnets after use.

Magnets made from locally recycled plastic

Circular construction, refurbishment, and furniture

Our operations

The principles in this plan also apply to buildings. Keeping them in use through **repair and maintenance** is our main priority and maximising their use by **sharing our spaces** means fewer new buildings need to be built. When we need additional space or buildings, **reusing existing buildings is our first priority**, and building new being considered only as a last resort.

Construction and demolition waste accounts for around half of all waste in Scotland. To tackle this, our ambition is to embed circular principles into all of our construction, conservation and refurbishment projects. This means **using fewer new materials** and **designing out waste** that will be generated during a project and in the future.

The Guide to Designing out Construction Waste for Design Teams outlines how to integrate circular principles throughout the life cycle of a project. In addition, tools such as **deconstruction audits** and Site Waste Management Plans should be used to plan in advance what waste will be generated, so steps can be taken to reduce this. Further strategies such as linking up with other local construction projects, both internally and externally, can help to share materials and resources and access local pre-used materials.

Embodied carbon is an important consideration for works and all our major refreshment and new build projects must look to measure this and apply the embodied carbon benchmarks outlined in the Net Zero Public Sector Buildings Standard.

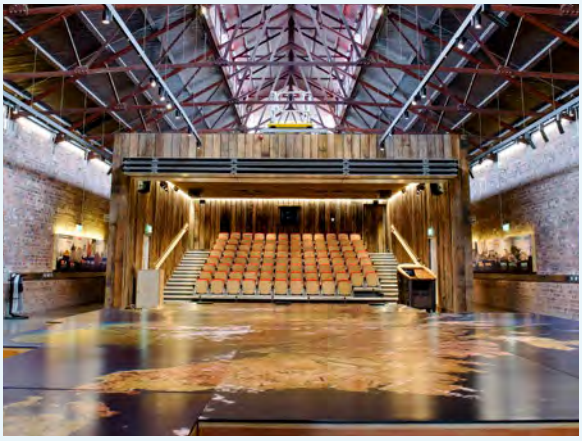
Furniture is another key element of consideration for us because around 30% of greenhouse gas emissions from the lifetime of a commercial building comes from furniture. Therefore, **reusing and remanufacturing furniture** can help to mitigate this, whilst also being cheaper and the same quality as new.

CASE STUDY

Circular construction at the Engine Shed:

A key part of the initial brief for the Engine Shed refurbishment project was sustainability. This meant that everyone involved in its delivery could integrate circular principles into the design, procurement, and construction of the building from the outset. This included:

- **Sustainable procurement:** brief and contracts included sustainability standards.
- **Material retention:** existing roof structure, windows and walls retained.
- **Adaptability:** no load bearing internal walls allows layouts to be altered easily in future.
- **Pre-used materials:** used for auditorium cladding, masonry repairs and furniture.

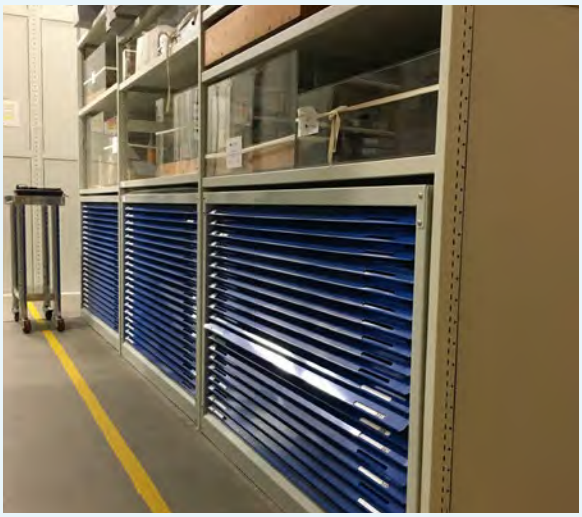


The Engine Shed auditorium (above) and front desk (below) both clad in pre-used timber.

CASE STUDY

Designing furniture for reuse in the Archives:

Recently the Archives Team were looking to purchase more shelving units. They chose to go for shelves that could be fully dismantled and erected elsewhere without damage, specifically important as the archives are being relocated in the coming years. They also rehomed existing planchests from another part of the organisation and had the shelving designed and built around them.



Rehomed planchests

CASE STUDY

Low carbon retrofit for the historic built environment:

Our Guide to Energy Retrofit of Traditional Buildings produced by the Technical Research Team sets out how to retrofit traditional buildings in such a way that retains existing materials, minimises disruption and uses breathable and mainly naturally derived materials. This guidance is aimed at anyone working with traditional buildings such as homeowners, local authority building control officers, architects, designers and installers.

Our wider influence

Beyond our own operations we have an opportunity to encourage circular principles within refurbishment and conservation projects. For instance, we should be considering how we might do this through our research, our grants and wider funding programme and also via our role within the planning system.

CASE STUDY

Supporting a circular economy via our role within the planning system:

Protecting existing buildings so they remain valued places and don't become waste is part of our organisational mission. Through our role within the planning system for listed buildings our Casework Teams have been recommending the retention of existing buildings and fabric and the salvage of fittings or materials wherever possible to further support circular economy outcomes. An example of this was the Bell Street Stables project in Glasgow where a former cleansing department and police stables was converted into flats. Here much of the existing fabric and fittings were retained, including a rare horse ramp, horse stalls and the cast iron pend gates.

Bell Street Stables, Glasgow. Image by: Andrew Lee

Success measure	Base line	Year 1 target (2021-22)	Year 2 target (2022-23)	Year 3 target (2023-24)	Year 4 target (2024-25)
15% reduction of all waste generated by 2025	1020.5 t[3]	979.7 t	940.5 t	902.9 t	867.4 t

Actions – Refuse, Rethink, Redesign

1. **Budget holder responsibility:** Budget holders given responsibility to drive the use of the purchasing and waste hierarchies.
2. **Design out waste in projects and processes:** Plan how to reduce waste in projects and processes before procurement takes place, considering waste generated before, during and after the work.
3. **Develop circular business models:** Identify ways to transition towards circular business models for HES functions.
4. **Upskill in circular purchasing:** Deliver guidance and annual training on circular purchasing.
5. **Use circular principles in specifications, contracts, Service Level Agreements and Access Agreements:** Integrate waste reduction into all contracts and agreements and increase contracts that include take-back clauses for physical goods and packaging.
6. **Design out construction waste:** Deliver training in how to design out construction waste in conservation projects and integrate this into project briefs at the outset.

3. Tonnes of waste baseline is set using 2019-20 data to reflect pre-COVID-19 conditions.

Construction and demolition waste accounts for around half of all waste in Scotland. To tackle this, our ambition is to embed circular principles into all of our construction, conservation and refurbishment projects.

5.2 REDUCE, REPAIR, MAINTAIN

This is the second-best option when applying the waste hierarchy as it prevents waste by reducing it, and by prolonging the life of the goods and materials we already have. This can be done through our own organisational processes or by working with our suppliers. Our actions here are grouped under four principles:

Repair and maintain existing resources

Prolonging the life of our existing resources through repair and maintenance means they don't have to be replaced as often. This can apply to all resources, from buildings to tools and IT. Drawing up regular maintenance schedules can support this. Strategies to enable this include only purchasing resources that can be repaired, and developing agreements with suppliers or local repair centers to provide a repair service.

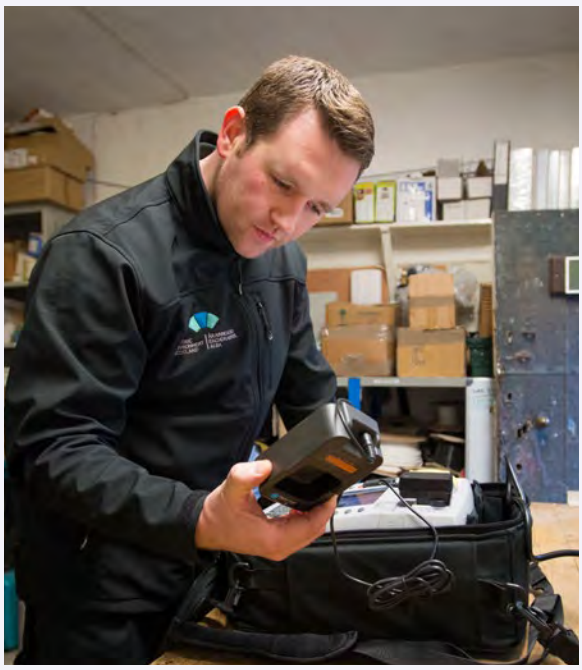
Switch from goods to services

This means switching from buying products outright to hiring or leasing them under a service contract. It involves the manufacturer retaining ownership of the goods and therefore being responsible for its maintenance and disposal. This incentivises manufactures to design goods which are long lasting, repairable and which have material value at the end of their life. This model has been gaining traction in product industries where buying outright has previously been the norm, for example lighting or tyres.

When entering into a leasing model we must ensure that the lessor is able to demonstrate that their business shares our environmental ambitions. Where this model is not suitable, exploring options with the supplier to commit to taking back their goods and/or packaging at end of life is another approach that can be taken to support producer responsibility.

CASE STUDY

Regular maintenance schedules prolonging the life of our tools and equipment:
The tools and equipment inventories at our works depots make sure that they undergo regular services. This not only helps to prolong their life, but also helps to keep us compliant with safety regulations. It also means we have a record of what we own and where it is located, which can help to enable sharing of equipment across teams.



Maintaining equipment at Stirling Castle.

Reduce disposables and packaging

Disposables and packaging make up the majority of our everyday waste with 10 million tonnes of packaging produced in the UK ever year (SEPA, 2022), and most of it being single use. Measures to tackle this in Scotland include a recent ban on problematic single-use plastic items, the forthcoming Deposit Return Scheme for drinks containers and the reform of extended producer responsibility for packaging expected in 2024. Taking steps to reduce the packaging, we use and receive and tackling disposables will support this and also reduce our waste and associated costs.

Reduce food waste

Food production and waste has a significant carbon and environmental footprint. Growing, processing and transporting is resource and carbon intensive, and when it is wasted and sent to landfill it releases methane, a greenhouse gas many times more potent than carbon dioxide. Currently, almost one third of all food and drink in Scotland is wasted. Some of these emissions can be avoided by recycling food waste (through anaerobic digestion or composting). However, cutting down on food waste is the most effective way to mitigate these negative environmental impacts.

CASE STUDY

Enabling visitors to use reusables:

In 2018 we signed up to the Refill Scheme which helped us to raise awareness of where and how our visitors or passers-by can fill up their water bottles for free. This enabled and encouraged the use of reusables for our millions of visitors every year. We also launched a 25p discount for visitors using reusable cups for take away hot drinks at our shops and cafes.

Success measure	Base line		Year 1 target (2021-22)	Year 2 target (2022-23)	Year 3 target (2023-24)	Year 4 target (2024-25)
33% reduction in food waste by 2025[4]	Edinburgh Castle	20.2 t[5]	18.3 t	16.5 t	15.0 t	13.6 t
	Stirling Castle	13.0 t	11.8 t	10.6 t	9.6 t	8.7 t
	HQ[6]	13.1 t	11.9 t	10.7 t	9.7 t	8.8 t

Actions – Reduce, Repair, Maintain

7. **Prolong life of existing resources:** Ensure machinery and equipment is subject to regular maintenance schedules.
8. **Create resource plans:** Create / update asset registers and understand resource flows for key areas such as IT, furniture, construction materials, machinery and equipment in order to develop long term resource plans that implement the waste hierarchy.
9. **Reduce construction packaging:** Integrate packaging reduction and take-back clauses into tenders and contracts.
10. **Explore hire and leasing:** Increase the amount of 'product as a service' contracts over buying outright and develop best practice guidance for this.
11. **Tackle use of disposables:** Reduce disposables used at our sites, including cups.
12. **Reduce food waste:** Work with catering contractor to identify ways to reduce food waste arising.
13. **Reduce waste at events:** Identify and implement actions.
14. **Celebrate waste prevention successes:** Via internal and external communications.

4. Targets only set for sites already with a separate food waste collection. As and when other sites with cafés have this set up, they will be included within this section.
5. All food waste baselines are set using 2019-20 data to reflect pre-COVID-19 conditions.
6. Longmore House and John Sinclair House.

5.3 SHARE, REUSE

Making the most of the resources we already have by sharing or rehoming them is resource efficient, reduces waste and means we need to buy fewer new things. It also reduces our costs and can help us to build valuable partnerships and networks within our local areas. Reuse is where a product or material is used again in its current form, as opposed to recycling where materials are shredded or crushed and then processed to make materials for new goods. Our actions here are grouped under three principles:

Share with colleagues, neighbours, and partners

Sharing existing resources means we can make the most of them and buy fewer new things. This can include sharing resources that don't get used often within the organisation as well as exploring opportunities to share with neighbours and partners. For instance, this could be spaces within buildings, vehicles or equipment. Our online platform, Warp-It (Waste Action Re-use Portal), can be used to facilitate the sharing of resources in this way through the loan facility.

Rehome surplus goods

When goods or materials are no longer required every effort should be made to find a new home for them. Warp-It can also be used for this. The platform makes it easy to give away most things including office equipment, furniture and stationery internally or with partners or charities for free. Anyone who claims items is responsible for arranging collection of those goods.

Charities can sign up for free to Warp-It. Warp-It facilitates the legal and safe transfer of ownership of goods through the terms and conditions. Staff access to the HES portal is available via the intranet, and all staff are encouraged to sign up.

CASE STUDY

Deconstruction to enable material reuse: Repairing and maintaining buildings is our first priority, but in very few cases buildings can't be saved. When this was the case for some outbuildings at Stanley Mills, to mitigate this loss of resources, the project team developed a comprehensive method statement for the demolition contractor requiring them to deconstruct and salvage as much material as possible. High quality timber, slate, bricks, and ironwork were carefully taken down and stored at site and are now available to other HES works teams who can use this material in works across the estate.

Storing materials at our Kildrummy Depot.

Choose pre-used or remanufactured

Second hand isn't second best. Often pre-used goods can be higher quality than what you can get new, and remanufactured goods are always at least the same quality as new. Choosing pre-used or remanufactured products over new will help us to reduce our carbon footprint and, in most cases will save us money. Warp-It is a tool that can be used to source pre-used items from other local organisations for free. Warp-It should be checked before any purchase is made, you can claim anything from stationery to furniture. Warp-It saves you time, money and carbon.

The remanufacturing industry is growing rapidly, with numerous suppliers now specialising in furniture and IT refurbishment for instance. When we invest in these goods that are refurbished locally, it also supports the local economy and supports the wider societal transition to a circular economy.

CASE STUDY

Towards circular IT:

Our IT team have recently purchased some remanufactured laptops. As well as reducing our demand on the raw materials that go into making new laptops, this has also meant we can avoid the long wait times for new laptops caused by global supply chain issues. The remanufactured laptops are restored to a like-new quality in look and performance and come with a 3 year warranty. This move is building our resilience to supply chain disruption as well as supporting the advancement of circular supply chains within the IT sector.

Success measure	Base line		Year 1 target (2021-22)	Year 2 target (2022-23)	Year 3 target (2023-24)	Year 4 target (2024-25)
Increase reuse rate (number of claimed adverts on Warp-It)[7]	Internally claimed	1 advert[8]	25	50	75	100
	Externally claimed	0 adverts	25	50	75	100

Actions – Share, Reuse

15. **Increase IT device efficiency:** Consolidation and reallocation of unused devices to areas of active need.
16. **Increase internal sharing:** Increase cross organisational sharing of resources.
17. **Increase external sharing:** Foster sharing networks with external partners, stakeholders and neighbours and increase number of external organisations as 'friends' on Warp-It.
18. **Increase use of Warp-It:** Redistribute surplus resources for reuse over disposal.
19. **Raise awareness of Warp-It:** Via regular internal communications.
20. **Deliver Warp-It training and provide resources:** Deliver sessions for staff and intranet resources
21. **Identify waste streams for reuse:** Work with our waste contractor to identify these.
22. **Increase reuse over recycling for IT:** Develop a disposal policy for IT that focuses on reuse.
23. **Implement circular furniture management:** Identify furniture reuse and remanufacturing suppliers to work with and integrate their use within our facilities and new building/ refurbishment projects.
24. **Enable use of reusables:** Implement infrastructure to enable us, our contractors and our visitors to use reusables rather than disposables.

7. Warp-It is the HES online resources redistribution platform which can be accessed via the HES intranet. See Warp-It section below.
8. Set using 2020-21 data to reflect home working arrangements which may affect the ability to rehome office resources on Warp-It. In 2019-20 prior to COVID we had 104 internally claimed adverts and 60 externally claimed adverts. Adverts can include one or multiple items.

5.4 RECYCLE, COMPOST

If waste cannot be prevented, then every effort should be made to ensure it is recycled or composted. Recycling goods and materials mean that they are broken down and then made into a new product, preventing these materials from become waste. Our actions here are grouped under two principles:

Do more high-quality recycling and composting

High quality recycling is where we keep our recycling clean and dry, and segregate it from general waste and food waste at source, to prevent contamination. This is important to try to retain the value of the material for as long as possible and give a higher chance that the materials can be recycled into something that is of high quality, as opposed to down-cycling. Avoiding contamination of our recycling also means we save money from this waste having to go to landfill or incineration.

Straightforward reuse of goods is preferable to recycling, as it doesn't involve the break down and processing of constituent materials as recycling does, and therefore requires less energy.

For bulky goods, textiles, or construction and demolition waste, if reuse is not possible, then recycling of these via licenced waste contractors should be sought. Electrical goods and other hazardous materials must be kept separate from other wastes. In rural or island communities, it is sometimes worth exploring options with the local community to organise a joint collection for bulky items to make it cost effective and fuel efficient for waste companies to collect these items in one go.

Recycling of food waste can be done either through Anaerobic Digestion (AD) or through composting provided by a licenced waste contractor. Green waste can be composted either by a licenced contractor or by ourselves on our sites as long as the correct regulations are followed (see the waste management compliance checklist in the tools section of this plan). On site composting is a fantastic way for us to turn our waste into a valuable resource. In rural or island communities it is worth engaging with the local communities to see if there are any local community composting schemes which HES could support and use.

CASE STUDY

Staying up to date with new recycling opportunities:
Staff in our Green Champions Network have been initiating crisp packet recycling at their sites in an effort to capture a waste stream that's not commonly recycled. Having a network like this is crucial to trialling new and innovative recycling initiatives on the ground.

Choose recyclable and non-toxic products

Many goods in our economy are not designed to be recycled, or the infrastructure is not there to allow it to happen. Therefore, when they reach the end of their useful life there is no choice but for them to be disposed of to landfill or incineration, losing the value of their constituent materials from the economy forever. When purchasing goods, it's better to choose those that can be recycled. These tend to be those that are single material rather than composite and also those which are made of non-toxic materials.

CASE STUDY

Rethinking bags:

Our shops have been phasing out plastic bags and switching to 100% recyclable paper bags made using non-toxic inks. We also incentivise shoppers to bring their own reusable bag by selling them in our shops and by charging a fee for all disposable bags.

Success measure	Base line		Year 1 target (2021-22)	Year 2 target (2022-23)	Year 3 target (2023-24)	Year 4 target (2024-25)
70% recycling rate by 2025[9]	All waste	55%[10]	57.5%	60%	65%	70%
	Municipal waste only[11]	21%[12]	25%	30%	35%	40%

Actions – Recycle, Compost

25. **Reduce non-recyclable goods:** Integrate purchasing checks to remind buyers to choose recyclable goods at point of purchase.
26. **Reduce non-recyclable packaging in construction projects:** Include this as a specification in all tenders and contracts and undertake supplier engagement.
27. **Maximise high quality construction waste recycling:** Work with our waste contractor and suppliers to identify opportunities.
28. **Reduce non-recyclable retail packaging:** Work with suppliers to specify this.
29. **Undertake waste audits:** Undertake compositional audits of our general waste to identify waste streams to recycle.
30. **Set up site recycling reporting:** Set up regional reporting on recycling via our waste contractor.
31. **Expand recycling collections:** Ensure all sites have regular recycling collections.
32. **Improve recycling infrastructure:** Improve bin provision at relevant sites.
33. **Provide recycling bins at all events:** Including for food waste when catering is provided.
34. **Increase food waste recycling:** Implement food waste recycling at all sites with cafes.
35. **Implement disposable cup recycling:** Implement at Edinburgh Castle and Stirling Castle.
36. **Raise awareness of recycling:** Provide staff guidance.
37. **Prepare for the Deposit Return Scheme:** Undertake our obligations as set out in Scotland's new Deposit Return Scheme.
38. **Increase best practice composting:** Identify sites where we can implement on site composting and develop best practice guidance.

9. Includes recyclable materials that have been recycled and also biodegradable materials that have been composted or digested, i.e., composting and anaerobic digestion.
10. Set using 2019-20 data to reflect pre- COVID-19 conditions.
11. As our new waste contractor provides 100% recycling of construction waste and this constitutes over half of our waste, it means our recycling rate is inflated when construction waste increases. A municipal waste only target has been set to drive improvements in other waste streams. Municipal waste accounts for household or office waste. It does not include green waste or food waste.
12. Set using 2019-20 data to reflect pre- COVID-19 conditions.

5.5 RECOVER, DISPOSE

These are the least preferred options for waste management, as they involve losing the materials entirely from our economy.

Avoid incineration and landfill of wastes

Landfill is the most carbon intensive waste management option. Landfills are expensive and difficult to manage and also can cause pollution of land. In recent years landfilling of waste has reduced because there has been a shift to incineration. Some benefit can be made from incineration if it involves energy recovery, however it also means the raw materials used to make the materials being incinerated are lost to us forever, so although this is slightly better than landfill it should only be a last resort. We should aim to keep landfill and incineration low in order to reduce the negative environmental impacts of our waste and resources.

Visiting a waste processing facility where some of our waste is taken.

Success measure	Base line	Year 1 target (2021-22)	Year 2 target (2022-23)	Year 3 target (2023-24)	Year 4 target (2024-25)
No more than 5% waste to landfill by 2025	27.3%[13]	21.8%	16.3%	10.8%	5%
Zero biodegradable waste to landfill by 2025[14]	15.3 tonnes[15]	15.3	10	5	0

Actions – Recover, Dispose

39. **Improve incineration data:** Work with our waste contractor to set up monitoring of waste to incineration with energy recovery.
40. **Keep incineration low:** Work with our waste contractor to identify ways to move waste which is being incinerated up the waste hierarchy.
41. **Reduce landfill waste:** Work with our waste contractor to identify opportunities to reduce landfill waste.
42. **Improve landfill data:** Set up measuring and monitoring of landfill waste with our waste contractor.
43. **Measure biodegradable landfill waste:** Undertake explorative work to understand how to eliminate our biodegradable waste going to landfill, and set annual goals.

13. Set using 2019-20 data to reflect pre-COVID-19 conditions.
14. This does not include soils, it only includes 100% of our food, green and wood waste going to landfill plus 33.5% of our municipal waste going to landfill. This is an average percentage for food waste within kerbside household residual waste from WRAP, National Household Waste Composition 2017, accessed www.wrap.org.uk/sites/default/files/2021-10/WRAP-national-household-waste-comparison-2017.pdf
15. Set using 2021-22 data as this was the first time we were able to calculate this figure.

5.6 COMPLIANCE AND HEALTH AND SAFETY

Waste must be stored, carried, processed, treated and disposed of in a way that is compliant and safe. When managing waste at our sites, the following standards apply.

Bins, skips and other containers

Our bins segregate wastes, are clean, secure, clearly labelled and safely located to prevent waste from escaping, and to encourage use and recycling.

Storing and processing waste

Our waste activities are compliant, licenced and risk assessed.

Segregating waste at Stirling Castle.

Transporting waste

Our waste is transported safely, securely and efficiently by licenced contractors and to licenced processing sites accompanied by appropriate transfer documentation.

Health and safety

Our waste management activities are risk assessed to identify and mitigate risks. Each situation or task should have its own specific risk assessment undertaken to ensure all possible risks are identified on a site and situation specific basis. All incidents should be reported on the HES Health and Safety system PRIME. The Health and Safety Executive can provide more detailed information on risks associated with managing waste.

For a more detailed list of standards see the checklist below in the Tools section. Some guidance on waste related health and safety risks are provided here, but this is not a fully comprehensive list.

Actions – Compliance

44. **Provide waste compliance training:** Train all HES Regional Waste Leads and other key staff in waste compliance and review regularly.
45. **Develop a compliance register:** Develop an iterative compliance register.
46. **Undertake annual waste reporting:** As part of our annual Public Bodies Climate Change Reporting Duties.

Actions – Health and Safety

47. **Provide hazardous waste training:** Deliver training to key staff.
48. **Undertake risk assessments for all regular collections:** Our waste contractor to undertake risk assessments for the collection of waste for all sites with regular waste collections.

6. TOOLS

Using Warp-It to rehome goods has prevented us generating over 10 tonnes of waste equivalent to 52 tonnes of carbon or 22 cars off the road. We have also saved more than £52,000, and donated over £63,000 worth of goods to charities since 2018.

6.1 LINKS TO USEFUL TOOLS AND RESOURCES

Procurement resources

Scottish Government's Sustainable Procurement Tools

Scottish Procurement Policy Note SPPN 3/2022: Public procurement - taking account of climate and circular economy considerations

Warp-It – Share, claim and donate resources for free

Construction resources

Circular Buildings Toolkit – Developed by Arup and Ellen Macarthur Foundation

Designing Out Construction Waste: A guide for project design teams

Net Zero Public Sector Buildings Standard

Site Waste Management Plan Template

Waste management resources

Netregs – Guidance on waste management for businesses

Scottish Environmental Protection Agency (SEPA) – Guidance from the waste regulator

Health and Safety Executive (HSE) – Guidance on waste management health and safety

HES Plans and Policies

Climate Ready HES Adaption Plan

HES Climate Action Plan 2020-2025

HES Procurement Strategy 2022

HES Litter Prevention Action Plan

6.2 SUSTAINABLE PURCHASING IN 20 SIMPLE STEPS

Start

Rethink need
Do we really need it? Can we use something we already have?

Invest in digital
Can you use digital technology rather than physical goods?

Share or borrow
Build neworks to share or borrow goods, spaces, knoweldge etc

Hire or lease
Check if you can hire the product as a service

Longevity
Choose quality products that last, can be maintained and repaired

Plan disposal
Negotiate end of life options and costs with contractors when purchasing

Reuse and recyclability
Ensure products can be reused or recycled

Maximise recycled content
Take pressure off our finite raw materials

Check certifications
Such as EU Ecolabel, FSC or equivalents

Go non-toxic
Choose non-polluting materials to support public health

Go low carbon
Buy low carbon. Ask for environmental policies and/or Environmental Product Declarations

Buy Scottish
Invest in Scotland's economic recovery. You have supplier choice under 50k

Invest in green solutions
Support the green recovery by investing in green products and services

Buy ethical
Check your supply chain adheres to ethical standards

Support communities
Choose SMEs, social enterprises and supported businesses

Boost circularity
Invest in the reuse, repurposing, recycling and recycled content sectors

Support existing suppliers
Encourage and enable low carbon innovation

Source local
Use local supply chains and low carbon delivery methods

Think resilience
Ensure products are robust enough to withstand changes in our climate

Spread the word
Share your experiences to support others

Finish

Key - colours represent themes from the HES Climate Action Plan

- Circular economy
- Landscape and biodiversity
- Energy and carbon
- Sustainable procurement
- Sustainable transport
- Climate impacts and adaption
- Partnership working

6.3 WASTE MANAGEMENT CHECKLIST

The following checklist should be used to check waste management standards and compliance. It covers standards for waste containers, storage, processing, transport and health and safety. It can be used by anyone involved in managing or handling waste generated by our organisational functions, either directly by HES staff or contractors. It is particularly relevant for site staff, works teams and facilities.

BINS, SKIPS AND OTHER CONTAINERS Our bins segregate wastes, are clean, secure, clearly labelled and safely located to prevent waste from escaping and to encourage use and recycling.		
Segregation of wastes	**Y/N**	**Action needed**
Recycling is collected separately to general waste		
There are appropriate containers to allow waste to be segregated at source (e.g., within the office)		
Recycling is kept clean and dry and free of food residue in order to keep it high quality		
Hazardous waste including waste electrical equipment (WEEE), batteries, lightbulbs, sharps, paint and oil are collected separately from other wastes. *Some hazardous wastes will require specialised containers for safety. Consult with the waste contractor regarding this.*		
Preventing waste from escaping	**Y/N**	**Action needed**
Waste is not escaping or leaking into the environment		
Bins are robust enough to prevent waste escaping during weather events, or due to vermin		
Wheelie bins have lids that can be securely sealed to prevent waste blowing out		
Skips are either covered or use a netting to ensure waste does not escape		
Containers are lockable to prevent vandalism, arson or flytipping		
Hazardous waste is kept in the correct containers *For instance, sharps in sharp boxes, chemicals in secure COSHH cabinets with built in bunds (trays to capture spills). Check with the waste contractor what should be used.*		

Bins, skips and other containers continued

Signage	Y/N	Action needed
All waste containers display clear signage to show what waste type goes in		
Internal bins use Historic Scotland or Historic Environment Scotland branded signage, accessed on the HES intranet or by emailing waste@hes.scot		
All trade bins have labels provided by the waste contractor		
Upkeep and cleanliness	**Y/N**	**Action needed**
Containers are kept clean and tidy and in good working order. They should be cleaned when necessary.		
Litter bins are cleaned regularly to ensure they are user friendly and to detract wasps and other pests.		
Location	**Y/N**	**Action needed**
Recycling bins are located together to maximise recycling and avoid contamination of waste.		
Litter bins are located in areas of high footfall to maximise use and prevent litter.		
Trade containers are located in a secure area. *If they are kept within a locked area, please let the waste contractor know how to access them by providing the code or a spare key.*		
Containers do not block access points or fire escape routes.		
Containers are located away from open flames and heat sources, to prevent fire risk.		
External wheelie bins are located away from buildings to reduce spread of fire.		
New containers	**Y/N**	**Action needed**
When new containers are required, always consider pre-used or refurbished containers first.		
Choose locally manufactured containers which are hard-wearing and will withstand the climate. Consider other pressures they may face, such as whether they would be at risk of catching fire, or of being vandalised.		

Bins, containers and skips good practice examples

Internal bins
These recycling bins are clean, clearly labelled and positioned in a bank to encourage use and avoid contamination. Ready-made and branded labels can be downloaded from the HES intranet, or by email waste@hes.scot

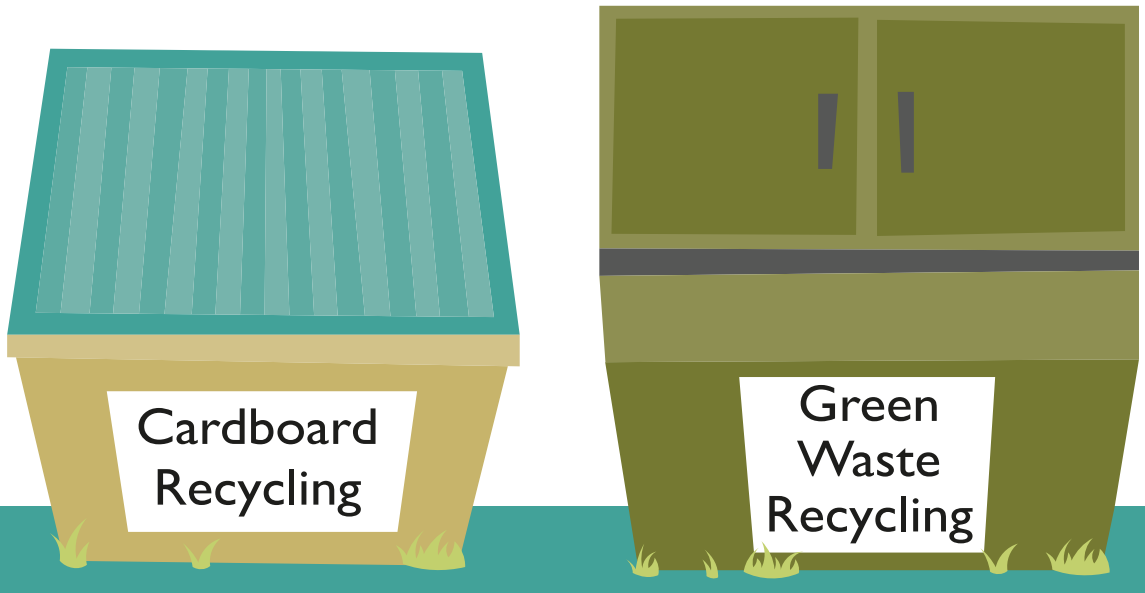
Skips
This skip clearly labelled, covered to prevent waste escaping and the area around it is clean and tidy to prevent accidents. It is also located next to the other skips collecting segregated wastes and located in a secure locked compound.

Trade bins
This wheelie bin is clearly labelled and has a 'mixed recycling' label on the bin itself provided by the contractor. It is robust and covered to prevent waste escaping and it is lockable.

STORING AND PROCESSING WASTE Our waste activities are compliant, licenced and risk assessed.		
Storing waste	**Y/N**	**Action needed**
Waste is not stored on the site for longer than necessary. *Skips should be replaced every 3 months as a minimum.*		
Any waste stored on site has the necessary licence or permit acquired from SEPA. *Further information on what is required can be found here: www.sepa.org.uk/regulations/waste/activities-exempt-from-waste-management-licensing*		
Processing waste	**Y/N**	**Action needed**
Waste is processed by licenced sites only. *Licences are known as Waste Management Licences (WML) or Pollution Prevention and Control permits (PPCs). These can be checked by asking the contractor to provide evidence of holding one of these licences. Any waste collections arranged by Enva have already been checked.*		
Waste processed at HES sites has a relevant licence, permit or exemption. *Processing includes activities such as sorting, composting, heating, chipping, compressing or recycling. Information on licences or permit from SEPA can be found here: www.sepa.org.uk/regulations/waste/activities-exempt-from-waste-management-licensing*		
Waste is not burnt or buried at our sites.		
Composting waste	**Y/N**	**Action needed**
On site composting has the necessary licence or permit from SEPA and follows their guidance and regulations. *Some composting activities are covered by applying for an exemption under paragraph 12. Further information can be found here: www.sepa.org.uk/regulations/waste/composting/*		
On site composting has the necessary Scheduled Monument Consent or Planning Permission. *Check with your local planning authority or by emailing HES consents at hmenquiries@hes.scot*		

Storing and processing waste continued

Machinery	Y/N	Action needed
Any waste activities undertaken by machinery (such as balers or compactors) are sufficiently licenced by SEPA. *Check if this activity requires a licence or permit, some activities are covered by applying for an exemption under paragraph 11: www.sepa.org.uk/regulations/waste/activities-exempt-from-waste-management-licensing*		
All machinery is risk assessed, regularly maintained and kept clean and in good working order.		
Staff are trained, competent and supervised where necessary.		
Reuse	**Y/N**	**Action needed**
Key staff are signed up to use Warp-It and use it to share, redistribute and donate surplus resources safely. *HES staff can access our portal here.*		



TRANSPORTING WASTE Our waste is transported safely, securely and efficiently by licenced contractors and to licenced processing sites.		
Licencing	**Y/N**	**Action needed**
All waste movements use a licenced waste carrier. *HES is licenced as a Professional Collector and Transporter of Waste authorised to transport wastes generated by HES.* *Licences for contractors or persons transporting waste can be checked here: www2.sepa.org.uk/wastecarriers*		
All waste is taken to a site with a Waste Management Licence. *Enva can provide this, otherwise ask to see a licence or check with SEPA: www.sepa.org.uk/contact/contact-us-by-email*		
All vehicles transporting waste are insured and road worthy.		
Transfer documentation: Waste Transfer Notes and Consignment Notes	**Y/N**	**Action needed**
All non-hazardous waste movements are covered by a Waste Transfer Note (WTN) which are kept on file for 2 years. A copy should be kept at the site and emailed to waste@hes.scot. *For ENVA collections these are held centrally. Otherwise, ask the contractor for this documentation. If you need to complete one yourself, instructions and a template can be found here: www.netregs.org.uk/environmental-topics/waste/duty-of-care-your-waste-responsibilities/waste-transfer-notes-and-how-to-complete-them*		
All hazardous waste movements are covered by a Consignment Note (CN) which are kept on file for 3 years. A copy should be kept at the site and emailed to waste@hes.scot. *Hazardous waste is sometimes referred to as 'special waste' in Scotland. Often CNs will be arranged for by the waste contractor. If not, then they can be purchased from SEPA - www.sepa.org.uk/regulations/waste/special-waste*		
Preventing waste from escaping when in transit	**Y/N**	**Action needed**
Waste is well secured when in transit to prevent it from blowing away or falling off the vehicle.		
If a contractor has dropped waste when transporting it, report it immediately to the company or to SEPA on 0800 80 70 60.		

Transporting waste continued

Access	Y/N	Action needed
All vehicle movements to transport waste are risk assessed.		
All vehicle movements follow site advice or Site Traffic Management Plans that are in place. *Vehicle movements and access can be challenging at some historic sites and should be done with care and planning.*		
Distances	**Y/N**	**Action needed**
Efforts are made to ensure waste is processed locally to avoid unnecessary greenhouse gas emissions from transportation.		
Vehicles transporting waste are driven efficiently to minimise greenhouse gas emissions.		

HEALTH AND SAFETY Our waste management activities are risk assessed to identify and mitigate risks.		
Be safe when dealing with hazardous or potentially hazardous waste Hazardous wastes (also known as 'special waste') can include any waste or substance that can cause harm to you or the environment, such as chemicals, oil, sharps, leaking batteries, asbestos, silica, some waste electricals and so on.	**Y/N**	**Action needed**
Hazardous waste management is risk assessed.		
Guidance on how to manage, collect and dispose of hazardous waste has been sought from our waste contractor.		
Hazardous wastes are collected in the right container. *For instance, sharps in sharp boxes, chemicals in secure COSHH cabinets with built in bunds (trays to capture spills). Check with the waste contractor what should be used.*		
All key staff are aware of procedures in the event of a hazardous waste spill.		
The correct equipment and PPE to clear spills, such as spill kits, is available and regularly checked.		
In the event of a spill, there is a way that the area can be secured to prevent others from accessing it whilst a specialist waste contractor is sought.		
Procedures for spills are continually updated.		
Be safe when dealing with flytipping and/or litter HES is responsible for arranging the clearance of flytipping on the land we manage. The Local Authority clears litter from public land and landowners from private land.	**Y/N**	**Action needed**
Litter or flytipping clearances are risk assessed.		
If flytipped or littered waste is unidentifiable or has the potential to include hazardous materials such as chemicals, sharps or asbestos, Enva is contacted to provide professional waste removal services to clear it. *Advice on clearance of this type of waste can be sought from the waste contractor. Beware of corrugated asbestos sheets which are commonly flytipped.* *If flytipped waste is potentially hazardous and near a water course, SEPA should be informed on 0800 80 70 60 (e.g., fridge by a river).*		
Appropriate PPE is available for clearing waste.		
All flytipping and littering incidents are reported on the HES Health and Safety system PRIME.		
All flytipping is reported on Dumb Dumpers via 0300 777 2292 or online: www.zerowastescotland.org.uk/DumbDumpers		

Health and safety continued

Be alert around waste vehicles	Y/N	Action needed
All waste vehicles and movements are risk assessed.		
All staff are aware they must be alert around waste vehicles and must never walk behind them or out of sight of the driver.		
Waste vehicles avoid reversing. If this is not possible the risk assessment should ensure that the area is clear of pedestrians and a banks person used to ensure the way is clear.		
Waste movements are managed in line with any site vehicle management plans.		
Have the right training	**Y/N**	**Action needed**
Manual handling training for lifting *Anyone handling waste should undertake the IOSH Working Safely training or equivalent. For more information get in touch with healthandsafety@hes.scot*		
Be trained to use any waste machinery	**Y/N**	**Action needed**
Use of all waste machinery such as balers or compactors is risk assessed.		
All persons using waste machinery are trained to use the equipment correctly and safely.		
Incidents, accidents and near misses	**Y/N**	**Action needed**
All incidents are reported on the HES Health and Safety system PRIME.		
Keep up to date with health and safety guidance	**Y/N**	**Action needed**
The HES Health and Safety intranet pages are regularly checked for updates: https://hescot.sharepoint.com/sites/Workinghere/SitePages/Health,-safety-and-security.aspx		
The HSE Waste Management pages are checked regularly for waste specific health and safety advice and updates: www.hse.gov.uk/waste		

7. KEY TERMS AND REFERENCES

ANAEROBIC DIGESTION (AD)
A waste process whereby biodegradable wastes such as food is broken down (or digested) in the absence of oxygen by micro-organisms. This produces biogas which is used for energy such as electricity, heat and fuel and digestate which is used for organic fertiliser and other agricultural uses.

BIODEBRADABLE WASTE
Organic waste such as food, drink and garden waste.

CIRCULAR ECONOMY
Part of the solution to our global climate emergency where products, services and systems are designed to maximise their value and minimise waste.

COMPOST
The product of the natural decomposition of organic matter in the presence of air.

CONSIGNMENT NOTE
A legal document that records the details of transporting hazardous waste. All hazardous waste movements should have a consignment note and these should be stored for a minimum of 3 years. They are purchased through SEPA and normally arranged by the waste carrier.

CONSTRUCTION AND DEMOLITION WASTE
Waste produced as a result of construction or demolition works, including improvement, repair and alteration works.

CONTAMINATION
The presence of an incompatible item or material in a specific waste stream (e.g. glass in a paper recycling bin). This lowers the quality of the recycling and can in some cases lead to these materials being no longer recyclable. Contamination will often incur a fine or extra charge to the waste producer.

DESIGN OUT WASTE
Designing a project or process in such a way that eliminates any waste being generated.

DOWN CYCLING
Where materials are recycled into a product of a lower quality that the original item.

HAZARDOUS WASTE
Waste which due to its chemical or physical composition has properties which according to legislation renders it ‘hazardous’. In Scotland hazardous waste is sometimes referred to as ‘Special Waste’.

HOUSEHOLD WASTE
The type of waste generated in the home. Can include waste from domestic premises, caravans, houseboats, residential homes, campsites, prisons, schools, colleges and universities.

LIFE CYCLE ASSESSMENT
Assessment to measure environmental impacts from the life cycle of goods and services.

LIFE CYCLE IMPACT ASSESSMENT
Identifies the social and environmental impacts from the full life cycle of a product or service.

MATERIAL RECOVERY FACILITY (MRF)
Waste management facility designed to segregate waste into different waste types for recycling.

MATERIAL RESOURCES
Material resources in this plan refers to any products or materials that we, or our suppliers, use to deliver our organisational functions.

MUNICIPAL WASTE
Includes household waste and similar waste from businesses.

PROCESSES
The way we deliver organisational functions.

PRODUCER
Someone or an organisation who creates waste, or carries out an activity resulting in a change in the nature or composition of the waste.

PRODUCER RESPONSIBILITY
Making sure businesses that manufacture, import and sell products are responsible for their end of life environmental impact.

PROPERTIES IN CARE
A collection of monuments, which define significant aspects of Scotland's history, brought into care for their long term preservation and public benefit. Managed by Historic Environment Scotland on behalf of the Scottish Ministers.

RECOVER or RECOVER VALUE
The process of capturing energy from waste through incineration or otherwise.

RECYCLING
Any recovery operation by which waste materials are reprocessed into new products, materials or substances. It includes the reprocessing of organic material (composting) but does not include energy recovery, refuse derived fuels or backfilling operations.

REFURBISHING
Repairing and cleaning products to made them look new again.

REGISTERED WASTE CARRIER
Transports controlled waste and is registered to do so with the regulator SEPA.

REGULATOR
The organisation which is legally required to monitor and control activities which keep, treat, deposit or dispose of controlled waste. In Scotland this is SEPA.

REMANUFACTURE
A process that returns a used product to the same quality as new with a highly reduced environmental impact.

RESOURCES
See 'material resources'.

REUSE
Any operation by which products or components that are not waste are used again for the same purpose for which they were conceived.

SEGREGATION
The separation of waste materials to allow for better recycling or disposal.

WASTE
Any material resource that is discarded at any stage in the business process, and is defined through legislation.

WASTE AUDIT
The systematic data collection to identify all wastes produced by a company, department or process.

WASTE BROKER
A waste broker makes arrangements for the collection, recycling, recovery or disposal of waste on behalf of others. The waste broker must be registered with SEPA and has a shared responsibility with the waste producer to ensure compliance with the requirements of the Duty of Care. This includes applying the waste hierarchy.

WASTE HIERARCHY
The priority for dealing with waste for the benefit of sustainability and environment protection, starting with waste prevention and ending with disposal.

WASTE MINIMISATION
Reducing or preventing the production of waste materials.

WASTE TRANSFER NOTE
Legal document to cover the transporting of non-hazardous waste between two parties.

WHOLE LIFE COSTING
The total cost of an asset over its whole life. Taking account of the initial capital cost, as well as operational, maintenance, repair, upgrade and eventual disposal costs.

REFERENCES

Brand, J. H. et al. (2018) *'Potential pollution risks of historic landfills on low-lying coasts and estuaries', WIREs Water,* 5 (1).
Available at: https://doi.org/10.1002/wat2.1264 (Accessed: 17 November 2022).

Ellen MacArthur Foundation (2022) *What is the circular economy?*
Available at: https://ellenmacarthurfoundation.org/topics/circular-economy-introduction/overview (Accessed: 17 November 2022).

European Commission (2020) *Developments and forecasts of aggravating resource scarcity.*
Available at: https://knowledge4policy.ec.europa.eu/foresight/topic/aggravating-resource-scarcity/more-developments-relevant-aggravating-resource-scarcity_en (Accessed: 17 November 2022).

Keep Scotland Beautiful (2020) *Time for a new approach to tackling litter.* Towards a Litter-ate Scotland 2020.
Available at: https://www.keepscotlandbeautiful.org/media/1566897/leq-2020-report-final-041220.pdf (Accessed: 17 November 2022).

Marine Scotland (2020) *How much plastic enters Scottish seas and where does it come from?*
Available at: https://www.gov.scot/binaries/content/documents/govscot/publications/factsheet/2019/11/marine-scotland-topic-sheets-ecosystems/documents/plastic-in-scotlands-seas-published-january-2020/plastic-in-scotlands-seas-published-january-2020/govscot%3Adocument/Topic%2Bsheet%2B151%2Bv1%2B-%2BHow%2Bmuch%2Bplastic%2Benters%2BScottish%2Bseas%2Band%2Bwhere%2Bdoes%2Bit%2Bcome%2Bfrom.pdf (Accessed: 17 November 2022).

Scottish Government (2016) *Making Things Last: a circular economy strategy for Scotland.*
Available at: https://www.gov.scot/publications/making-things-last-circular-economy-strategy-scotland (Accessed: 17 November 2022).

Scottish Government (2019) *Scotland's carbon footprint: 1998-2016.*
Available at: https://www.gov.scot/publications/scotlands-carbon-footprint-1998-2016/pages/4 (Accessed: 17 November 2022).

Scottish Government (2020) *Securing a green recovery on a path to net zero: climate change plan 2018–2032 - update.*
Available at: https://www.gov.scot/publications/securing-green-recovery-path-net-zero-update-climate-change-plan-20182032 (Accessed: 17 November 2022).

SEPA (2016) *One planet prosperity: our regulatory strategy.*
Available at: https://www.sepa.org.uk/one-planet-prosperity (Accessed: 17 November 2022).

SEPA (2022) *Packaging waste.*
Available at: https://www.sepa.org.uk/regulations/waste/packaging-waste (Accessed: 17 November 2022).

UN and International Resource Panel (2019) *Global resources outlook. 2019: natural resources for the future we want.*
Available at: https://www.resourcepanel.org/reports/global-resources-outlook (Accessed: 17 November 2022).

8. APPENDIX I – LEGISLATION

We have a legal obligation, a **Duty of Care**, to manage our waste responsibly. We must know how our waste is being managed and where it goes. As a waste producer, our responsibility for our waste extends from the point of discard of the waste to the final treatment, recycling or disposal by the waste management contractor.

There is extensive waste management legislation at Scottish and UK level. In addition, various technical documents produced by the UK or Scottish Government and/or the Regulator, must be adhered to. The key legislation related to this plan are as follows. This list is being continually changing and updating. For the most recent information see: www.netregs.org.uk/legislation/scotland-environmental-legislation/

The Waste (Scotland) Regulations 2012. Commonly known as Zero Waste Scotland Regulations were brought into force on 1st January 2014. The regulations introduce several important new requirements including the obligation on businesses to recycle glass, metal, plastics, paper and card. There is also a ban on sending segregated materials for incineration or to landfill. Waste contractors must provide services that enable high quality recycling. It also introduces the requirement for urban-based food businesses (those that produce, prepare or sell food) to present food waste for collection. The definition of "urban" is set out in the Scottish Government's rural-urban classification system.

The Environmental Protection Act 1990. The EPA stipulates the actions that all stakeholders must follow to control any pollution to the air, water and land. The Act regulates the management of waste and the control of emissions to the environment. The EPA introduces and imposes the Duty of Care upon any business or person that produce, carries, keeps, treats, disposes or imports controlled waste to undertake their operations in safe manner that protects both human and environmental health. The Act also contains provisions addressing statutory nuisances including litter and flytipping.

The Environmental Protection (Duty of Care) (Scotland) Regulations 2014 SSI 4. Requires a transfer note to be signed by the transferor and transferee of waste, specifies information to be included and requires copies to be kept for two years. Includes the use of SIC codes. Enables the use of electronic waste transfer notes (EDoc system).

Waste Management Regulations 1996 SI 634. Sets out activities that require waste management licenses, and activities that are exempt, but which must be registered as such with the Scottish Environment Protection Agency.

Waste Batteries (Scotland) Regulations 2009 SSI 247. Aims to reduce the impact on the environment of the manufacture, distribution, use, disposal and recovery of batteries. Places obligations on distributors of batteries who sell or supply 32 kilograms or more of portable batteries a year to take back waste batteries from customers free of charge.

Waste Information (Scotland) Regulations 2010 SSI 435. Requires businesses to provide waste data returns to the Scottish Environment Protection Agency upon request.

Waste Framework Directive (2008/98/EC). Defines the meaning of wastes and basic principles of waste management. Introduces the waste hierarchy: to reduce, reuse, recycle, recover and to only then dispose of wastes.

The Waste Electrical and Electronic Equipment (Amendment) Regulations 2018. This requires producers of electrical and electronic equipment to register and cover the costs of collecting, treating, recovering and disposing of equipment when it reaches the end of its life.

Special Waste Amendment (Scotland) Regulations 2004. Defines special waste and sets out controls on labelling, packaging and separating it. Also requires consignment notes to be completed when special waste is transferred and producers to keep a register of documents for at least three years.

Code of Practice on Litter and Refuse (Scotland) 2018. Stipulates the obligations upon HES to maintain the cleanliness of their sites in terms of litter and flytipping, with resolution time periods.

The Packaging (Essential Requirements) Regulations 2015. This requires producers of packaging waste to contribute towards recovering and recycling a proportion of the packaging produced.

The Producer Responsibility Obligations (Packaging Waste) Amendment (Scotland) Regulations 2020. These Regulations cover design and manufacturing aspects of packaging in the EU market. They set material specific recycling targets on obligated producers for paper, aluminium, steel and wood as well as the specific re-melt target for glass.

The Single Use Carrier Bags Charge (Scotland) Regulations 2014. By law, all retailers in Scotland must charge a minimum of 10p for each new single-use carrier bag.

The Deposit and Return Scheme for Scotland Regulations 2020. Under Scotland's Deposit Return Scheme regulations, all retailers who sell, to consumers on their premises, in-scope drinks for take away must operate a return point. This scheme will come into effect in 2022.

Environmental Protection (Single-use Plastic Products) (Scotland) Regulations 2021. This legislation came into effect on 1 June 2022. It will make it an offence to manufacture and to supply the following single-use items: plastic cutlery (forks, knives, spoons, chopsticks), plates, straws, beverage stirrers and balloon sticks; food containers made of expanded polystyrene; and cups and other beverage containers made of expanded polystyrene, including their covers and lids.

Thermal Treatment of Wastes Guidelines 2018. Requires a contractor to further treat wastes at incineration sites to extract additional recyclate material unless it can be shown that this would be economically disadvantageous and that all efforts are being made to separate recyclate from general waste at HES sites.

Control of Substances Hazardous to Health Regulations 2002. The occupational use of nanomaterials is regulated under the Control of Substances Hazardous to Health (COSHH). COSHH is the law that requires employers to control substances that are hazardous to health and includes nanomaterials. Most businesses use substances, or products that are mixtures of substances. Some processes create substances. These could cause harm to employees, contractors and other people.

Developing long-term purchasing and management plans for resources such as IT can help us and our suppliers transition towards a circular economy.

Historic Environment Scotland is the lead public body established to investigate, care for and promote Scotland's historic environment.

We are committed to ensuring this publication is accessible to everyone. If you need it supplied in a different format or language including Gaelic, please get in touch.

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