



# **Perth and Kinross Council**

## **Circular Economy Strategy**

### **SEA Environmental Report**

**December 2025**

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## Cover Note

<b>Part 1</b>				
1.1	An SEA Environmental Report is attached for the Perth and Kinross Council Circular Economy Strategy.			
1.2	The Responsible Authority is Perth & Kinross Council.			
<b>Part 2</b>				
<b>In the view of Perth &amp; Kinross Council</b> (please tick the appropriate box):				
2.1	<input checked="" type="checkbox"/>	<b>The PPS falls under the scope of Section 5[3] of the Act and requires an SEA under the Environmental Assessment (Scotland) Act 2005.</b>		
2.2	<input type="checkbox"/>	The PPS falls under the scope of Section 5[4] of the Act and requires an SEA under the Environmental Assessment (Scotland) Act 2005.		
2.3	<input type="checkbox"/>	The PPS does not require an SEA under the Environmental Assessment (Scotland) Act. However, we wish to carry out an SEA on a voluntary basis. We accept that, as the SEA is voluntary, the Consultation Authorities cannot guarantee a response containing their views within the statutory five week timescale.		
<b>Part 3</b>				
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<b>Signature</b>	Angela Harris			
<b>Date</b>	December 30th 2025			

## 1. Introduction

### 1.1 Requirement for SEA and the Purpose of the Environmental Report

The Environmental Assessment (Scotland) Act 2005 requires qualifying plans, programmes, and strategies, developed by public bodies, to be subject to Strategic Environmental Assessment (SEA).

As the Perth and Kinross Circular Economy Strategy (CES) deals with the subject matter of waste management, and is likely to result in significant environmental effects, both positive and negative in nature, it qualifies as requiring a Strategic Environmental Assessment under Section 5(3)(a)(i) of the 2005 Act. In accordance with the advice presented on page 9 of the [Scottish Government Strategic Environmental Assessment Guidance 2013](#) on 'How to apply the Environmental Assessment (Scotland) Act 2005', a decision was taken to proceed directly to a scoping assessment. Based on the assessment, a scoping report was prepared and sent to the Consultation Authorities (SEPA, NatureScot and Historic Environment Scotland) in August 2025, to enable the Consultation Authorities to form a view on the scope and level of detail that would be appropriate for the Environmental Report, as well as the consultation period proposed.

Responses from the Consultation Authorities, together with responses from the public consultation (which took place between September and October 2025) have been noted and where applicable addressed in this Environmental Report. A record of consultation authority recommendations and the Council's response/action taken can be found in Appendix 4.

Perth & Kinross Council has prepared this Environmental Report for the Perth and Kinross Circular Economy Strategy in accordance with the Environmental Assessment (Scotland) Act 2005.

### 1.2 Key Facts

The key facts relating to the Perth and Kinross Circular Economy Strategy are set out in Table 1 below:

**Table 1. Key CES facts**

<b>Name of Responsible Authority</b>	Perth and Kinross Council
<b>Title of Plan, Programme or Strategy (PPS)</b>	Perth and Kinross Circular Economy Strategy

<b>Purpose of PPS</b>	<p>Through the establishment of the Circular Economy (Scotland) Act 2024 and the publishing of <a href="#">Scotland's Circular Economy and Waste route map to 2030</a> in December 2024, the Scottish Government has demonstrated its commitment to a circular economy based on sustainable consumption, production, and resource management.</p> <p>Perth and Kinross Council policy and strategy needs to reflect this new legislative and national policy framework. The existing Perth and Kinross Council Waste Management Plan 2010 - 2025 is due to expire at the end of 2025, and in recognition of the national focus on the circular economy, the opportunity has been taken to incorporate and include the functions of the waste management plan within the scope of a wider circular economy strategy for Perth and Kinross. This will ensure that the Council is aligned to legislation and government policy and will provide a fresh impetus for further service improvement, including the provision of new services and a greater emphasis on public engagement and behaviour change.</p>
<b>What promoted the PPS (legislative, regulatory, or administrative provision)</b>	<p>Prompted by an action identified in the approved <a href="#">Perth and Kinross Climate Strategy and Action Plan</a> to develop a Perth and Kinross Waste and Circular Economy Strategy.</p>
<b>Subject</b>	Waste Management
<b>Summary of nature/ content of the PPS</b>	<p>The Circular Economy Strategy and accompanying Action Plan will set the vision for waste reduction and management within the wider scope of a circular economy, to build communities where everyone understands how to use resources responsibly and reduce waste.</p> <p>The strategy will focus on delivering action against a number of strategic priorities and objectives, with focus across 4 delivery areas. Each delivery area will be examined for how it currently contributes to delivering the circular economy in Perth and Kinross, the opportunities and challenges this presents, and setting, monitoring and reporting actions to implement this.</p>

<b>Area covered by PPS</b>	Perth and Kinross Council Area. See Map 1.
<b>Period covered</b>	2026 - 2031
<b>Frequency of updates</b>	To mitigate and support the impacts of future uncertainty on the Council's Circular Economy Strategy, regular reviews will take place to ensure plans remain relevant and responsive.
<b>Contact Point</b>	<b>For any enquiries relating to the Environmental Report and Strategy contact:</b> Angela Harris – <a href="mailto:aharris@pkc.gov.uk">aharris@pkc.gov.uk</a>
<b>Website Address</b>	<b>A copy of the Environmental Report and accompanying appendices can be accessed via the Council's <a href="#">SEA web page</a></b>

## 2. Perth & Kinross Council Circular Economy Strategy

### 2.1 Background and context

Perth & Kinross Council's [Corporate Plan 2022-27 \(December 2022\)](#)<sup>1</sup> adopted a vision for a Perth and Kinross "where everyone can live life well, free from poverty and inequality." The Corporate Plan sets out a list of local, regional, and national strategies and plans which provide the context for how we will deliver the priorities contained within it.

The development of a Circular Economy Strategy was identified as an action in the [Perth & Kinross's Climate Change Strategy and Action Plan](#)<sup>2</sup>, which itself contributes to the delivery of two Corporate Plan Priorities: tackling climate change, and a stronger and greener local economy. In addition, moving towards a circular economy will also contribute to the priority to tackle poverty, through local employment opportunities and access to lower cost options from reuse and more effective use of resources.

With the publishing of the Circular Economy (Scotland) Act 2024, and [Scotland's Circular Economy and Waste route map to 2030](#)<sup>3</sup> in December 2024, the Scottish Government has demonstrated its commitment to a circular economy based on sustainable consumption, production, and resource management. The route map lays the foundation to support sustainable public services, in particular to modernise recycling, reuse and waste services, co-designed with communities and local government.

The existing [Perth and Kinross Council Waste Management Plan 2010 – 2025](#)<sup>4</sup> was developed to work towards delivering Scotland's Zero Waste Plan targets at a local level. The Plan mapped out how the Council would at the local level: achieve the national recycling and composting rates; develop initiatives to control waste arisings and waste growth; determine the strategy for the procurement of residual waste treatment; determine the future financial implications for waste management; promote the circular economy where products and materials are kept in high value use for as long as possible; and address the greenhouse gas emissions associated with the waste sector. With the Plan due to expire at the end of 2025, and the national focus on the circular economy, a decision was taken to incorporate and include the functions of the waste management plan within the scope of a wider circular economy strategy for Perth and Kinross. This wider focus will also help to deliver Perth & Kinross Council's Corporate Plan Vision, by achieving places where everyone can live life well, free from poverty and inequality.

### 2.2 Vision, Aims and Objectives

The Perth and Kinross Circular Economy Strategy (CES) will set out Perth & Kinross Council's vision and strategic approach towards sustainable consumption, production, and resource management.

## Proposed strategic vision

*"In Perth and Kinross, we aim to build communities where everyone understands how to use resources responsibly and reduce waste. We take pride in making thoughtful choices that support the environment and improve our quality of life, by protecting nature, growing the economy, creating jobs, and strengthening our communities. Together, we are working toward a greener and more sustainable future."*

It aims to build on the successful implementation of the existing Waste Management Plan 2010-2025, whilst accounting for significant changes to the policy landscape that have developed since the Plan was adopted in 2010.

An update to Scotland's 2018-2032 Climate Change Plan sets out the Scottish Government's pathway to new and ambitious targets set by the Climate Change Act 2019. The Government plan recognises that we still have a significant challenge ahead to meet our ambitious emissions reduction targets. In 2020, emissions in the sector were around 1.9 megatonnes per year; and the aim is to reduce these emissions to 1.2 megatonnes by 2025, and 0.8 megatonnes by 2030.<sup>5</sup>

Achieving these milestones will require meeting ambitious waste reduction and recycling targets, including ending landfilling of biodegradable municipal waste, and significantly reducing food waste; and ensuring a more rapid transition to a fully circular economy in Scotland.

The Strategy follows the approach taken in Scotland's Circular Economy and Waste route map to 2030, with the adoption of the following five strategic aims and associated objectives as the focus for the Strategy, as seen in Table 2.

**Table 2. Proposed CES Strategic Priorities and Objectives**

<b>Strategic Priority 1 - Reduce and reuse</b>	
Objective 1.1	Work with our residents and businesses to change patterns of production, consumption and disposal
Objective 1.2	Improve circularity of the Tayside Food System to promote local, healthy eating and reduce food waste and food poverty
Objective 1.3	Reduce textile waste
Objective 1.4	Ensure Council services, including schools, model best practice to lead by example
<b>Strategic Priority 2 - Modernise recycling</b>	
Objective 2.1	Modernise household recycling and reuse services to maximise performance and meet evolving needs
Objective 2.2	Support businesses and commercial premises to reduce waste and maximise recycling
<b>Strategic Priority 3 - Decarbonise disposal</b>	
Objective 3.1	Understand the best environmental outcomes for specific wastes
Objective 3.2	Ensure there is an appropriate capacity to manage waste
Objective 3.3	Improve environmental outcomes for waste through innovation
Objective 3.4	Support the incentivisation of decarbonising waste
<b>Strategic Priority 4 - Strengthening the circular economy</b>	
Objective 4.1	Set the strategic direction and act as a regional catalyst for change
Objective 4.2	Grow the enabling environment to support and attract circular businesses
Objective 4.3	Encourage circular construction practices
Objective 4.4	Coordinate action across cross-cutting areas and robustly monitor, evaluate and report progress
<b>Strategic Priority 5 – Behaviour Change</b>	
Objective 5.1	Empower consumers and organisations to adopt circular behaviours

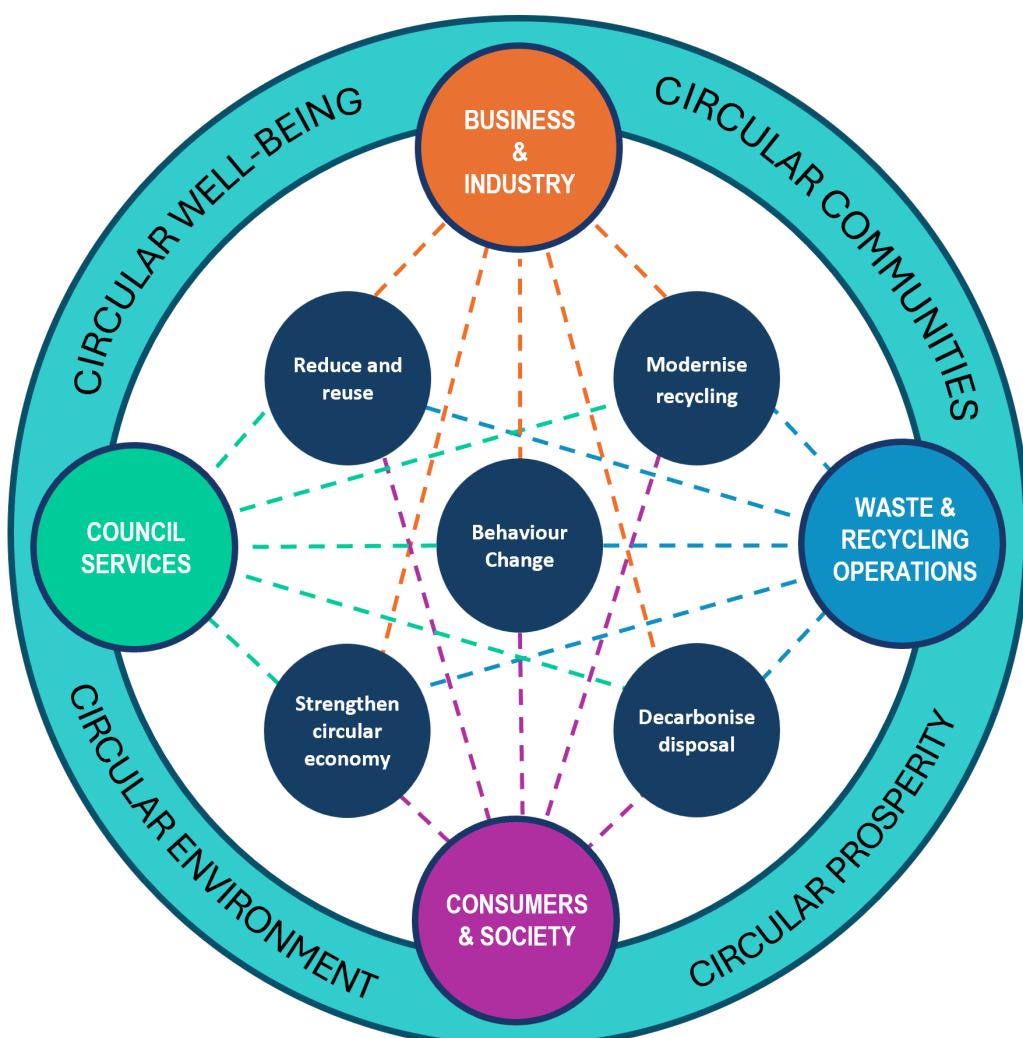
## 2.3 Key areas to deliver a circular economy

In delivering these priorities and objectives, the Council identified four key delivery areas that we have control or influence over. Sub-groups have also been established to provide expert knowledge and input into developing actions to deliver the four strategic priorities,

- Delivery area 1 - Waste and Recycling Operations
- Delivery area 2 - Council Services
- Delivery area 3 - Consumers and Society
- Delivery area 4 - Business and Industry .

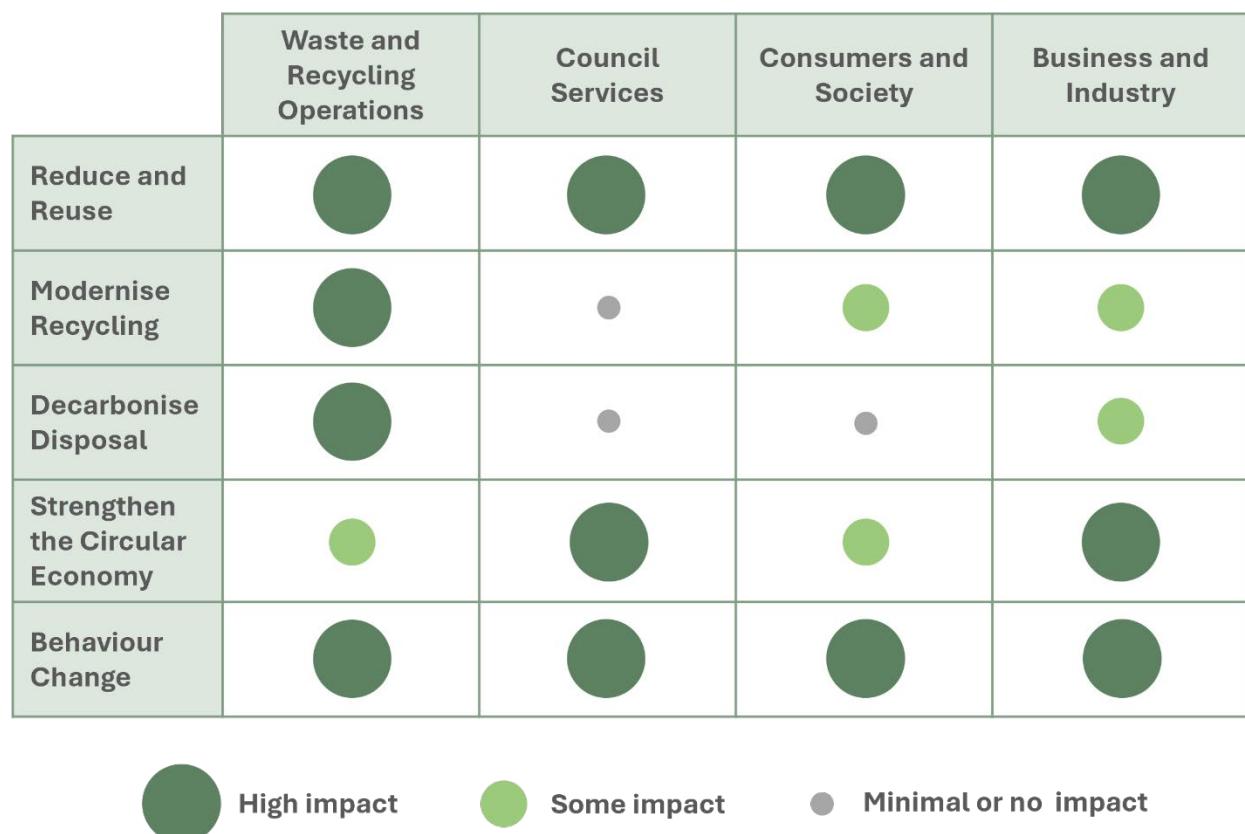
Although each delivery area will provide a varying degree of action for each strategic priority, the four delivery areas have been established to collectively deliver against the four strategic priorities as shown in Figure 1.

**Figure 1. Strategic Priorities and Delivery Areas**



Due to the interconnected nature of circular economy principles, in many cases the delivery areas will work with and across each other to deliver action with varying levels of impact (Figure 2.). Many of the actions from the CES Action and Delivery Plan will rely on input and support from more than one delivery area for success to be achieved. Whilst delivery areas 1, 2 and 4 will set the framework for delivering action, delivery area 3 ‘Consumers and Society’ will be key to the ongoing roll out and continued success of such action.

**Figure 2. Delivery Area level of impact on Strategic Priorities**



This section describes the connections typically associated with each delivery area and the circular economy, summarising how each area can help deliver a circular economy for Perth and Kinross.

## Delivery Area 1 – Waste and Recycling Operations

Waste and Recycling Operations includes services provided by the Council directly, such as household and business waste and recycling collections and reuse facilities; and those we contract to other service providers, particularly in the recycling and waste processing sector. These have a major role in facilitating and promoting a shift to a circular economy through:

Reducing waste
<ul style="list-style-type: none"> <li>• Implementing policies, programmes and campaigns that promote sustainable consumption, for example: avoiding waste from food, textiles and construction activities</li> <li>• Providing leadership and capacity to support all services in Perth and Kinross to improve their management of materials and to review policies and practices through the lens of circularity</li> </ul>
Promoting recycling and re-use
<ul style="list-style-type: none"> <li>• Setting recycling and reuse targets to improve performance</li> <li>• Making it easier for households and businesses to reuse and recycle and to manage their residual waste in a responsible way</li> </ul>
Modernising waste management
<ul style="list-style-type: none"> <li>• Investing in modern recycling and reuse infrastructure and services, to better manage waste and to create economic opportunities in the local reprocessing market</li> <li>• Using digital technologies to improve business insights and enhance communications to improve customer service and influence customer behaviour</li> </ul>
Decarbonising disposal
<ul style="list-style-type: none"> <li>• Incentivising more sustainable reprocessing and disposal practices and infrastructure, through procurement processes and economic development activities</li> </ul>
Providing strategic oversight and coordination
<ul style="list-style-type: none"> <li>• Developing new policies and strategies in line with national legislative and policy requirements</li> </ul>

- Monitoring and evaluating progress of targets and actions across a range of sectors and responding accordingly

### Community engagement

- Engaging with communities and individuals to help them to understand the key role that they play in the circular economy, and to take responsibility for their own waste impact
- Encouraging participation in reuse and recycling initiatives to foster a culture of sustainability.

## Delivery Area 2 – Perth and Kinross Council Services

Council services have a major role in facilitating and promoting a shift to a circular economy through:

### Resource efficiency and waste reduction

- Designing buildings that are energy-efficient and have a lower environmental footprint, utilising renewable energy sources (such as solar panels and energy-efficient lighting systems) and improving insulation and heating systems in housing and property. Also helps improve living conditions and promote social equity
- Implementing procurement practices that promote whole life decision making and optimise the use of natural resources by reducing material waste, energy consumption, and water usage throughout the supply chain
- Promoting resource efficiency through increased use of electric, hybrid and other low-carbon vehicles in the Council's fleet, reducing emissions and reliance on fossil fuels.

### Responsible consumption through reuse, repair and recycling

- Designing and constructing for durability, repair and upgradability so products and materials are kept in use for as long as possible, leading to reduced waste. For example, by reducing the need for improvements/renovations or new construction of buildings and spaces; adopting modular building design for easier disassembly, reuse and repurposing for different uses over time; innovation in medical equipment across the health and social care sector
- Improved and joined up project planning to optimise the use of materials and resources to reduce excess and waste – for example, on-site recovery and reuse of road surface materials or off-site road patching or verge filling

- Promoting circular construction practices through reusing building components and materials from demolition projects, repurposing old or discarded materials, and recycling of building construction waste materials (such as concrete, steel, wood)
- Adopting maintenance and repair regimes to extend the lifespan of existing equipment and exploring business models that promote the leasing and sharing of equipment and materials or offer Product-as-a-Service (PaaS). This helps avoid upfront costs of purchasing equipment and technology and offers a wider range of smart energy efficient solutions (such as smart street lighting, smart bin sensors for bins in public spaces and smart irrigation systems for greenspaces).

### Community Engagement and Education

- Organising, supporting and promoting local events and initiatives that help inform local communities how to implement circular practices through behaviour change, for example - upcycling projects, repair cafes, recycling drives, sharing surplus produce from community food growing initiatives.
- Promoting increased participation in recycling and positive behavioural change by residents through waste management campaigns such as 'Stick to the Six'.
- Improving knowledge and skills development around the circular economy by hosting workshops and educational programs to raise awareness of circular economy principles and how they can be incorporated into daily life. Promoting alongside the curriculum provides opportunities to learn for future careers in sustainable engineering and construction, environmental science, and green business practices.
- Providing opportunities for volunteering, for example – litter picks, park clean-ups, tree planting, biodiversity and conservation activities, community food growing and gardening.
- Fostering collaboration among local businesses, organisations, and residents in support of circular projects and initiatives – for example, tool and equipment sharing networks.

### Delivery Area 3– Consumers and Society

Consumers and society have a major role in shaping and driving the success of the circular economy through:

Responsible consumption through reuse, repair and recycling

- Buying/using second-hand and pre-owned items or participating in swap events. Repairing and fixing items instead of replacing them and avoiding them being disposed of.
- Reducing waste by only buying new products when they are needed and consciously ensuring these products are durable, repairable, made from sustainable materials, and use minimal or recyclable packaging.
- Appropriately recycling and managing waste correctly

#### Supporting Circular Businesses

- Consciously choosing sustainable brands and companies that practice circular economy principles and choosing to support and use those who offer take-back schemes and return used products for recycling or refurbishing.

#### Community engagement and education

- Raising awareness of circular economy practices and products with friends and family and supporting initiatives that promote the circular economy.
- Participating in local events and initiatives such as community clean-up events, repair cafes, and recycling drives.

### Delivery Area 4 – Business and Industry

Business and industry have a key role in facilitating and promoting a shift to a circular economy through:

#### Reduced use of primary resources

- Adopting processes that prioritise resource efficiency and waste minimisation
- Improving energy efficiency by implementing energy-saving measures and utilising renewable energy sources
- Reducing waste production by recycling and recovering materials.

#### Maintaining the highest value of materials and products

- Designing products that last and are easily repairable and upgradable
- Using recycled and renewable materials to reduce waste
- Remanufacturing, refurbishing, and reusing products and components
- Operating circular supply chains so materials are continuously reused
- Investing in technologies and systems for recycling and recovering materials

- Promoting product life extension through maintenance and repair services

### Changing utilisation patterns

- Offering products as a service rather than for new sales (for example, leasing or subscription schemes).
- Adopting sharing models such as reuse and sharing platforms
- Creating take-back programmes to encourage consumers to return products for recycling and refurbishing
- Engaging with consumers to inform and encourage their participation in the circular economy.

### Leading through collaboration and innovation

- Working in partnerships to collaborate with other businesses, government, and organisations to innovate and implement circular practices.
- Investing in new technologies and business models that support the circular economy
- Supporting and advocating for regulations that foster a circular economy.

## 3. Approach to the Assessment

### 3.1 Key stages and approach

The following approach has been used to develop the Circular Economy Strategy:

**1. Scoping Report** - this established the scope and approach of the SEA, including the initial environmental topics to include, the context (a review of other plans, programmes, and strategies and the environmental baseline), and the assessment methodology. The Scoping Report was submitted to the statutory consultees on **25<sup>th</sup> August 2025** for a 35 day consultation period. A copy of the [Scoping Report](#) was uploaded to the SEA page of the Council's website for public viewing.

**2. Statutory Consultation** - the statutory consultees were consulted on the Scoping Report. Feedback was received from each of the consultees and has been incorporated into this Environmental Report. Appendix XX lists the suggested amendments and improvements from the consultees and provides details of how the Council has responded and action undertaken.

**3. Public Consultation** - a draft Perth and Kinross Council Circular Economy Strategy (CES) was published for consultation, covering the period 8<sup>th</sup> September 2025 to 24<sup>th</sup> October 2025. 91 individual responses were received. Feedback from the consultation has been incorporated into this Environmental Report. Following the consultation, it was decided that a further 5<sup>th</sup> CES strategic priority should be added to address 'Behaviour Change'.

**4. Environmental Assessment** - carried out as detailed in Scoping Report to identify, describe, and assess the likely significant direct, indirect, cumulative and synergistic environmental effects of the CES against the SEA core topics.

**5. Environmental Report preparation and consultation** - prepared in December 2025 to outline the findings from the environmental assessment, consistent with the requirements of Schedule 3 of the 2005 Act. A copy of this Environmental Report will be sent to the statutory consultees via the SEA Gateway, and a copy will also be uploaded to the SEA page of the Council's website. An advert outlining the decision will also be placed within a local newspaper in the Perth and Kinross area in early January.

**6. Final consultation** - the final CES strategy will be submitted to the Perth and Kinross Council Climate Change and Sustainability Committee mid-February 2026 for approval, alongside the finalised Environmental Report (accounting for any significant changes to the CES as a result of the environmental assessment consultation).

**7. Post Adoption Statement** - a statement outlining how the assessment and consultation responses have been considered within the finalised plan will be produced towards the

end of February/beginning of March once the final version of the CES has been agreed and adopted.

**8. Monitoring** - an ongoing exercise to determine the impacts of the CES and evaluate its success in achieving its aims and objectives, including monitoring the effects of implementation and responding to any significant environmental effects which may arise as a result.

### 3.2 Scope of the assessment

Table 3 below summarises our determination for scoping individual SEA Topics in or out of the assessment.

The original Scoping Report determination submitted to the Consultation Authorities on 25<sup>th</sup> August 2025 contained 4 proposed strategy priorities. This was based on a range of issues the CE was likely to cover on the environmental baseline and the current and potential environmental issues in the Strategy area. Also taken into account was the original scoping determination from the Scottish Government's SEA Environmental Report for the second draft Route Map Consultation.

Feedback from Historic Environment Scotland on the Scoping Report consultation highlighted the potential for the CES to have significant effects on the historic environment and recommended that this SEA topic area be scoped into the assessment. The Council is in agreement and has scoped 'Cultural Heritage and the Historic Environment' into the Environmental Assessment.

Following the public consultation of the draft CES strategy in September/October 2025, the Council has decided to add a 5<sup>th</sup> strategic priority around Behaviour Change. All SEA topics have been scoped in for assessment against Behaviour Change with the exception of 'Landscape and visual impacts'. As with the scoping of the 4 original strategic priorities against 'Landscape and visual impacts', it was felt that behaviour change as a strategic priority would not have any significant adverse effects on landscapes and visual impacts and has therefore been scoped out for assessment.

**Table 3: Scope of the Environmental Assessment**

Perth and Kinross Circular Economy Strategy Objectives					
SEA Topic	Reduce and Reuse	Modernise Recycling	Decarbonise Disposal	Strengthening the Circular Economy	Behaviour Change
Biodiversity, Flora, and Fauna	In	In	In	In	In

Perth and Kinross Circular Economy Strategy Objectives					
SEA Topic	Reduce and Reuse	Modernise Recycling	Decarbonise Disposal	Strengthening the Circular Economy	Behaviour Change
Population and Human Health	In	In	In	In	In
Soil	In	In	In	In	In
Water	In	In	In	In	In
Air	In	In	In	In	In
Climatic Factors	In	In	In	In	In
Material Assets	In	In	In	In	In
Cultural Heritage and the Historic Environment	In	In	In	In	In
Landscape and visual impacts	Out	Out	Out	Out	Out

Table 4 below summarise the reasons why individual SEA Topics have been scoped in or out of the assessment. This is based on a range of issues the Circular Economy Strategy is likely to cover, on the environmental baseline, and the current and potential environmental issues in the Strategy area.

**Table 4: Reasons for scoping decision**

SEA Topic	Scope IN/OUT	Implications for CES
<b>Biodiversity, Flora, and Fauna</b>	IN	The CES is likely to have a positive impact on biodiversity, flora and fauna, as the plan vision advocates for decision making that supports the environment and protects nature. Implementing the proposed CES objectives is expected to contribute towards reducing greenhouse gas emissions locally.
<b>Population and Human Health</b>	IN	Implementing the CES will help relieve pressure that a growing population will have on waste operations and infrastructure and help contribute towards more efficient waste collection and disposal solutions, particularly in rural areas. This, along with action to address littering and fly-

		tipping, will assist in improving resident satisfaction with street cleanliness and refuse collection.
<b>Soil</b>	<b>IN</b>	<p>The CES is likely to have a positive impact in relation to reducing activities which risk pollution, disruption, and degradation of soils, helping to safeguard and improve soil quality locally.</p> <p>Increased repair and maintenance of products, components, and materials as a result of the CES has potential to increase the amount of pollutants that may negatively affects soils, through runoff etc.</p>
<b>Water</b>	<b>IN</b>	<p>On the whole, limiting production and disposal of goods and products is anticipated to improve sustainable water use through limiting unnecessary water-intensive processes. Levels of water pollution are likely to fall due to an expected decrease in residual waste arisings (and therefore disposal) as well as a fall in demand for material extraction and product manufacturing, all of which contribute to water pollution risks.</p> <p>Increased cleaning and maintenance of existing reusable goods and products may cause an increase in water use, and increased recycling may use more water through specific recycling processes.</p>
<b>Air</b>	<b>IN</b>	<p>The CES is likely to contribute to an improvement in air quality from less pollution resulting from reduced material extraction, manufacturing, and disposal. This in turn is likely to reduce emissions of key pollutants as well as nuisance such as odour and noise. Emissions associated with Energy from Waste facilities may impact air quality.</p>
<b>Climatic Factors</b>	<b>IN</b>	<p>Reducing food waste throughout the farm to fork supply chain is likely to reduce greenhouse gas emissions associated with food.</p> <p>Circular economy principles aim to reduce the use of virgin material and high energy intensive production.</p> <p>There is potential for increased greenhouse gas emissions from energy and resource use associated with maintaining and repairing existing products, and in the processing of recyclate into secondary materials.</p>

<b>Material Assets</b>	<b>IN</b>	<p>The CES will build on the Council's successful existing Residual Waste Contract Award to provide a long-term solution for the ban on landfilling of municipal waste. It will also encourage greater use of local recycling facilities and reuse of construction and demolition material onsite, as well as greater levels of reprocessing. It will also promote measures to reduce food waste, and reduce levels of litter and fly-tipping so materials are kept in use for longer.</p> <p>The CES is aligned with the ongoing Asset Management Review of Waste &amp; Recycling Infrastructure to establish investment requirements to support a sustainable (monetary &amp; carbon) operational asset base</p> <p>Measures will be promoted to incorporate sustainable design and construction for durability, repair and upgradability so products and materials are kept in use for as long as possible.</p> <p>There is potential for adverse impact from increased resource use (from energy and virgin materials) due to processing recyclate into secondary materials.</p>
<b>Cultural Heritage and the historic environment</b>	<b>IN</b>	<p>By encouraging circular behaviours, the CES objectives directly support the retention of historic environment assets by reducing demand for new construction and demolition, which often threaten heritage structures. Repair, reuse, and refurbishment practices extend the life of existing buildings and infrastructure, preserving cultural and historical value while reducing embodied carbon emissions associated with new builds. Indirectly, circular principles encourage adaptive reuse and sensitive retrofitting for energy efficiency, integrating heritage assets into modern use without compromising their integrity.</p>
<b>Landscape and visual impacts</b>	<b>OUT</b>	<p>The CES will help reduce production of virgin materials through reduced material extraction activity, such as tree felling, which could negatively impact local landscapes, resulting in losses of natural character and diversity.</p> <p>A reduction in litter and fly-tipping is likely to reduce negative visual impacts and safeguard or improve the appearance of local landscapes and areas of natural beauty.</p> <p>A more efficient food system is likely to lead to a reduction in the area of land used to produce wasted food throughout the</p>

		supply chain (from farming to disposal) and this may help avoid adverse effects on landscapes and visual impacts. However, any waste reduction is likely to have minimal impact on landscape and visual impacts.
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### 3.3 Proposed SEA Objectives

The SEA Directive does not require the identification of specific SEA Objectives, but their development is recognised in practice as an effective way in which the environmental effects of the relevant plan, programme, or strategy can be described, analysed, and compared. Identifying SEA Objectives is also a useful way of focusing the collation of the baseline data and helps with the establishment of realistic indicators which can be monitored, to help highlight any effects as a result of implementing the Strategy.

It should be noted that whilst the CES SEA Objectives are in some instances either similar or complementary to the overall goals of the CES, they are separate to the Strategy's aims and objectives and have been developed via the SEA process with a focus on social, economic, and environmental issues.

The SEA Objectives were been developed by closely following the Scottish Government's [SEA Environmental Report](#) published alongside the second draft Route Map Consultation document in January 2024.

**Table 5. SEA Objectives for Assessment**

ID	Objective
<b>Biodiversity, flora and fauna</b>	
SEA1	Avoid adverse impacts to habitats and species
SEA2	Protect, maintain, and enhance biodiversity
<b>Population and human health</b>	
SEA3	Create conditions to improve health and reduce health inequalities
SEA4	Protect and improve human health and wellbeing through improving the quality of the living environment of people and communities
SEA5	Increase sustainable access to essential services, employment, and the natural and historic environment
<b>Soils</b>	
SEA6	Safeguard and improve soil quality, quantity and function, particularly high value agricultural land and carbon-rich soils
<b>Water</b>	
SEA7	Ensure the sustainable use of water resources
SEA8	Limit water pollution to levels that do not damage natural systems
<b>Air</b>	

SEA9	Avoid adverse impacts to air quality
SEA10	Reduce emissions of key pollutants and improve air quality throughout Perth and Kinross
SEA11	Reduce levels of nuisance e.g. noise, vibration, dust, odour, and light
<b>Climatic factors</b>	
SEA12	Avoid new Greenhouse Gas (GHG) emissions
SEA13	Reduce GHG emissions in order to meet Scotland CO2 emissions reduction target of net zero by 2045
<b>Material assets</b>	
SEA14	Avoid adversely impacting on material assets (e.g. water, heat, energy and flood protection infrastructure etc.)
SEA15	Reduce 'leakage' of material to landfill or energy recovery or as litter
SEA16	Reduce use and promote sustainable management of natural resources
<b>Cultural heritage and the historic environment</b>	
SEA 17	Promote or enable the retention, maintenance and sustainable use or re-use of historic buildings and infrastructure
SEA18	Make the historic environment more climate resilient and to reduce emissions from the historic environment

### 3.4 Environmental Principles

The assessment in this SEA will follow the guiding principles in Section 13(1) of the Continuity Act. These are:

- The principle that protecting the environment should be integrated into the making of policies;
- The precautionary principle as it relates to the environment;
- The principle that preventative action should be taken to avert environmental damage;
- The principle that environmental damage should as a priority be rectified at source; and
- The principle that the polluter should pay.

The assessment objectives encompass the principles that environmental damage should be prevented or reduced by the policy in question. The assessment highlights any priorities set out in the proposed policy that may be expected to cause environmental damage. The proposal itself is guided by many of these principles. The CES is designed to minimise the negative environmental impact of our production, consumption and disposal and to maximise the economic value derived from material use without increasing our environmental impacts, thus aligning with the principle to integrate the protection of the environment into the making of policies. The CES sets out our approach to Product Stewardship, the design of which has been influenced by the 'Polluter Pays' principle.

Finally, the Strategy promotes preventative action by addressing issues at source by focusing on reducing the extraction and use of non-renewable resources in the first instance. The influence of design in shaping these outcomes will also be acknowledged where appropriate.

### 3.5 Assessment Methodology

The Scoping Report set out how the Council proposed to undertake the environmental assessment using a thematic/objective-based approach with a traditional matrix. It proposed the assessment would use evaluation criteria based on the Council's CES Strategic Priorities and Objectives to assess the potential for significant environmental effects, both positive and negative, as a result of delivering the CES Objectives. Where potential significant effects were identified, they would be further evaluated using a matrix and determination criteria to determine their significance in terms of reversibility or irreversibility of effects, risks, duration - permanent, temporary, long-term, short-term and medium-term - and cumulative - direct, indirect, secondary and synergistic. Following the assessment, a framework of measures would be considered to allow the monitoring of any significant environmental effects that may occur as a result of the Strategy being implemented. The monitoring framework would draw from the list of relevant indicators which have previously been identified in the Scoping Report for each of the SEA Objectives, covering all of the scoped in key SEA topic areas, and would be included in the Environmental Report.

The section below details the environmental assessment as set out in section 3.5 above.

## 4. Environmental Baseline

### 4.1 Introduction to the Baseline

The identification of the current environmental baseline conditions for the CES area, and their likely evolution, is an important part of the SEA process. A knowledge and understanding of existing conditions, and the consideration of their significance helps with the identification of those issues which the Strategy should be addressing and allows it to be successfully implemented and monitored.

The Environmental Assessment (Scotland) Act 2005 requires the likely evolution of the environmental baseline for the area, in the absence of the Strategy being implemented, to be considered. This is useful in assessing the significance of effects, particularly for those conditions which may already be improving, or worsening, and the rate of that change. The type of data collected for the SEA Environmental Report will largely be determined by:

- The environmental topic to which it relates
- The SEA Objectives
- The aspects of each environmental topic “scoped in” for the basis of the assessment
- The level of assessment proposed
- The environmental data available

### 4.2 Environmental Baseline and Related PPS

The environmental baseline helps build a picture of the social, economic, and environmental characteristics of an area, and the key environmental issues or challenges which it faces.

#### 4.2.1 Environmental Baseline Characteristics for Perth and Kinross

This section provides a summary of the overall current State of the Environment in Perth and Kinross described against the SEA Environmental Topic areas. The majority of information has been taken from [Perth and Kinross Council's Quality of Life Dashboard](#), which contains individual source information, graphical representation and interpretation, and hyperlinks to all data used to support each indicator.

Perth & Kinross Council is 1 of 32 Local Authorities across Scotland, bordering Aberdeenshire, Angus, Argyll and Bute, Clackmannanshire, Dundee, Fife, Highland, and Stirling Council areas. It has a geographical area of 5,286 KM<sup>2</sup> (including the area of Perth and Kinross within the Cairngorms National Park).

### *Biodiversity, flora and fauna*

The diverse wildlife and habitats of Perth and Kinross are highly valued local and international resources. Tourism based on the area's unique wildlife contributes greatly to the local economy. Climate change also may have a profound effect on many of our habitats, with mountain habitats highlighted as being particularly at risk and could virtually disappear if temperatures increase significantly. In 2023, 76% of protected nature sites features within Perth and Kinross were classified as being of favourable condition.

There are 8 Special Protection Areas (SPAs) wholly or partially within Perth and Kinross covering 232,318.36Ha in total (includes Cairngorms Massif SPA, only part of which is within Perth and Kinross). In 2023, 60% of SPAs were classified as being of favourable condition. There are 4 RAMSAR designated nature sites within Perth and Kinross. In 2023, 85% were classified as of favourable condition and 15% as unfavourable. There are 92 Biological SSSI sites within Perth and Kinross covering a total area of 51193.91Ha; 13 Geological SSSI sites covering a total area of 616.68Ha, and 7 Mixed SSSI sites covering a total area of 19197.29Ha. In 2023, 77% of Sites of Special Scientific Interest (SSSIs) within Perth and Kinross were classified as being of favourable condition.

There are 22 Special Areas of Conservation (SACs) wholly or partially within Perth and Kinross covering (75,691.17Ha in total). In 2023, 76% of SACs within Perth and Kinross were classified as being of favourable condition. Montane habitats in Perth and Kinross designated for Special Areas of Conservation (SACs) include: Ben Lawers, Ben Heasgarnich, Beinn a 'Ghlo, and Drumochter Hills. In 2023, 75% of SAC designated montane habitats were classified as being of favourable condition.<sup>6</sup>

In 2018, the National Forest Inventory for Scotland recorded woodland cover in Perth and Kinross as 18.5% (98098.95 ha) of the total land area, with 50% of cover being from conifers. Of the total land area, 25.1% is from native woodland species.<sup>7</sup>

The [Tayside Local Biodiversity Action Plan \(TLBAP\) 2016 – 2026](#) focuses attention on the conservation and enhancement of the region's natural heritage, including Key Species and Habitats of local importance.

Local Invasive Non-Native Species (INNS) projects provide area-based figures for specific rivers or species, rather than whole-authority coverage. Within Perth and Kinross there have been large, localised infestations, with a 2019 survey of the River Earn catchment recording over 50,000 m<sup>2</sup> of Japanese knotweed infestation.<sup>8</sup> Perth & Kinross Council is working in partnership with the Scottish Invasive Species Initiative (SISI) to create a control programme to remove giant hogweed, Japanese knotweed, white butterbur, and American skunk cabbage from the River Almond. Through the Development Management process and Planning for Nature Statutory Guidance, the Council requires INNS management plans to be submitted detailing eradication plans where INNS are present on site. As part of the

largest PKC construction project, the Cross Tay Link Road, the contractor BAM facilitated removal of INNS along the Perth Lade in September 2023.<sup>9</sup>

### *Population and Human Health*

On 30 June 2023, the population of Perth and Kinross was 152,560. This is an increase of 0.9% from 151,130 in 2022. Over the same period, the population of Scotland increased by 0.8%. Between the period 2018 to 2028, the population of Perth and Kinross is projected to increase by 1.0% from 151,290 to 152,779, which compares to a projected increase of 1.8% for Scotland as a whole.<sup>10</sup> The growing population will present challenges for all community plan partners - council, health, police, fire and rescue, enterprise, college and voluntary services – both in terms of infrastructure and simply in increased demand for services including waste disposal, recycling and collection. Perth City, located on the banks of the River Tay, is the principal settlement within Perth and Kinross and accounts for around 30% of the Perth and Kinross population. The Perth and Kinross Area is predominantly rural, with a population split of 67.1%/32.9% Rural/Urban.<sup>11</sup>

Remote rural communities pose many challenges in terms of access to, and delivery of, essential services. The collection of waste is an important service provided by the Council and requires systems in place to meet the needs of residents. There is a wide variety of properties in Perth and Kinross, from large, detached properties with substantial land to multi-occupancy properties, mainly found in the town centres of Perth, Blairgowrie, Kinross, Pitlochry and Crieff. This range of properties creates issues as to the types of waste collected and what services can be offered.

In 2024, an estimated 30,000 residents were living below the poverty line, with 27,200 in deep or very deep poverty.<sup>12</sup> 13% of children under 16 were living in relatively low-income families<sup>13</sup>, 16% of all households were identified as workless<sup>14</sup>, and 10% of adults were earning less than the real living wage<sup>15</sup>. In 2020, 20.97% (39 out of 186) of all datazones are ranked in the Scottish Index of Multiple Deprivation (SIMD) 40% most deprived; 3.76% (7 out of 186) are within the 15% most deprived, and 1.61% (3 out of 186 datazones) are within the 10% most deprived. 23.66% (44 out of 186 datazones) are within the 20% least deprived areas in Scotland. The most deprived areas within Perth and Kinross can be found in Perth, and Blairgowrie East.<sup>16</sup>

Local environmental quality within communities is good. In 2023/24, Perth and Kinross was awarded a Street Cleanliness score of 97%, compared to the Scotland average of 92%. Since 2013/14, resident satisfaction with street cleanliness has shown a declining trend in-line with the trend across Scotland, although it is consistently higher than the Scotland average. For the period covering 2021-24, 66% of residents surveyed were satisfied with local street cleanliness, compared to 58% for the Scotland average. The proportion of adults satisfied with local refuse collection in Perth and Kinross shows a declining trend, mirroring the trend for the average across Scotland. For the period 2021-24, 82% of adults surveyed were satisfied with local refuse collection, compared to 78% for the Scotland

average.<sup>17</sup> In 2023, 44% of residents surveyed perceived issues with rubbish and fouling, compared to 59% for the Scotland average. In 2022, 95% of residents were satisfied with their neighbourhood as a place to live, equalling the Scotland average.<sup>18</sup>

Since 2010/12, life expectancy rates in years have remained favourable and steady both females and males in Perth and Kinross. This follows the trend for the Scotland average but remains consistently higher. Life expectancy rates for females remain higher than for males. In 2021/23, Perth and Kinross life expectancy rates were: 83 years for females and 79 for males (compared to the Scotland average of 81 for females and 77 for males).<sup>19</sup>

### *Soil*

The distribution of soils in Perth and Kinross closely follows the areas topography. In the northern upland areas, soils are mostly high organic matter, poorly draining peats or peaty soil. The southern lowlands however are mostly nutrient and organic matter rich brown soils.

11.6% (62,000Ha) of the Perth and Kinross Area (excluding the area of Perth and Kinross within the Cairngorms National Park) is occupied by Prime Quality Agricultural Land (Classes 1 to 3.1) – with the majority of Prime Quality Agricultural Land located in the south and eastern areas of Perth and Kinross. In 2016, 58983.89Ha of Class 1 Nationally Important Soils were classified in Perth and Kinross, 294373.70Ha of Class 2 Nationally Important Soils and 22685.4Ha of Class 5 Soils.<sup>20</sup>

Soil in the area contributes significantly to the economy through its role providing:

- the basis of agricultural and forestry industries
- underpinning nationally and internationally rare habitats
- protecting water from the effects of many pollutants
- storing carbon
- contributing to biodiversity

Historically, waste disposal, along with industrial processes and former garages has caused the majority of land contamination within Perth and Kinross, however in comparison with many other areas in Scotland, Perth and Kinross has remained relatively unaffected.

### **Peatland**

Bog associated peatland plants have an important role to play in the storage of carbon by photosynthesising carbon dioxide from the atmosphere. Years of intensive land management practices involving peat cutting, afforestation, drainage or water abstraction, have led many bogs to degrade and dry out. Increased summer temperatures due to climate change are causing drought, leading to further bog degradation along with increased carbon

emissions (from both wildfire carbon emissions and the reduced ability to store atmospheric carbon).

In 2014, 62.8% of Scotland's total area of blanket bog habitat lay within the boundary of Perth and Kinross. Of that, 35% were in the dominant category and 65% in the sub-dominant category. In 2019, protected nature designated Blanket Bogs found to be in favourable condition were Beinn a'Ghlo (SAC), Rannoch Moor (Ramsar), Wetherhill (SSSI). Ben Lawers (SAC) and Drumochter Hills (SAC) were classified as unfavourable condition. SSSI Raised Bogs in favourable condition were Carsebreck and Rhynd Lochs, Forest of Alyth Mires, and Methven Moss, with Connachan Marsh in a recovering condition.<sup>21</sup>

## Water

### Drinking Water and Consumption

In 2023, there were 626 Private Water Supplies (PWS) within Perth and Kinross serving a population of 23,132. 78% of PWS achieving E. coli testing compliance.<sup>22</sup> The trend for water consumption per household in Perth and Kinross remains fairly stable and follows the trend across Scotland. In 2023/24, 362 litres of water were consumed daily per household in Perth and Kinross, compared to 359 litres for the Scotland average.<sup>23</sup>

### Surface Water

Since 2015, overall surface water quality has been classified as high or good in Perth and Kinross stayed above 92%. In 2023, 94% were classified as high or good and 6% as moderate. Since 2007, surface water chemistry in Perth and Kinross has passed classification with 100% high/good. Since 2015, overall surface water ecology classified as high or good quality in Perth and Kinross remained above 60%. In 2023, 64% were classified as high or good, 26% moderate, and 9% poor or bad. Since 2015, the overall condition of those classified surface waters assessed for Alien species as high or good quality in Perth and Kinross has remained above 90%. In 2023, 94% were classified as high or good, and 6% moderate.<sup>24</sup>

### Surface Water – River Tay Catchment Area

The River Tay Catchment Area is identified as a priority catchment, containing some of Scotland's most important waters for conservation, drinking water, bathing and fishing - with the catchment area including inland (rivers and lochs), transitional and coastal waters. In 2020, the following surface water pressures were identified as affecting surface waters within the Perth and Kinross area of the River Tay Catchment: Electricity and heat production (20), Mixed rural land use (5), Crop production (2), Dairy production (1), Finfish aquaculture (1), Livestock production (1), and Water supply and wastewater (1). The River Tay is designated a SAC for Atlantic salmon, sea lamprey, river lamprey, brook lamprey, clear-water lochs and otters, and is also important for the protected freshwater pearl mussel.

The condition of surface water ecology located within the Perth and Kinross area of the River Tay Catchment has remained stable since 2015, with classification of high/good over 60%. The condition of surface waters located within the Perth and Kinross area of the River Tay Catchment that were assessed for fish barriers has remained stable since 2007, with classification of high/good over 80%. The condition of surface water quality located within the Perth and Kinross area of the River Tay Catchment has remained stable since 2015, with classification of high/good over 90%. Chemical surface water quality remains at 100% pass.

<sup>25</sup>

## Groundwater

The whole of the Perth & Kinross Council Area is a ground water drinking protected area (SEPA 2014).<sup>26</sup>

## Air

Air quality in most areas of Perth and Kinross is generally good. The main cause of instances of poor air quality is emissions from road traffic. The UK Government has set maximum annual mean target of 18 µg/m<sup>3</sup> for Particulate Matter (PM10).

Since 2004, air quality in Perth and Kinross has steadily improved. From 2017, all Perth and Kinross locations monitored for Particulate Matter (PM10) have fallen below the maximum annual mean target of 18 µg/m<sup>3</sup>. This continued in 2023, with the exception of Perth Atholl St which rose above the maximum annual mean target with a recording of 21 µg/m<sup>3</sup>. All Perth and Kinross locations monitored for Nitrogen dioxide (NO<sub>2</sub>) have fallen below the maximum annual mean target of 40 µg/m<sup>3</sup>. This continued in 2023 for all sites. However, although remaining under the maximum annual mean target, Perth Atholl St has shown an increasing trend since 2020.<sup>27</sup>

## Climatic Factors

Since 1990, increased levels of mean annual rainfall and mean annual maximum temperature have been recorded for key gauging stations across Perth and Kinross. Mean annual rainfall and mean annual maximum temperature measured over the 30-year period 1991-2020 both show an increase for all climate stations across Perth and Kinross when compared to levels for the period 1961-1990.<sup>28</sup>

The effects of increased flooding have been experienced by communities across Perth and Kinross, and approximately 10% of homes and businesses in Perth and Kinross are now considered to be vulnerable to flooding. In recent years, increased incidences of flash flooding in urban areas, as well as river flooding, have occurred. Communities throughout Perth and Kinross including Perth, Comrie, Alyth, Aberfeldy, Almondbank, Kinross, Milnathort and Pitlochry have been affected. There have also been landslips and closures of the rail line north and south of Perth due to flooding, as well as increased scour on bridges.<sup>29</sup>

The gases that contribute most to the greenhouse effect are carbon dioxide, methane, nitrous oxide and fluorine compounds. Since 2005, total combined area-wide greenhouse gas emissions (kt CO<sub>2</sub>e) in Perth and Kinross have declined for all sectors. Land Use, Land-Use Change and Forestry (LULUCF) associated emissions continue to increase, showing a positive improving trend towards reducing overall CO<sub>2</sub> emissions from forestry and peatland management. In 2022, 56% of the total combined greenhouse gas emissions were from Carbon dioxide, 31% from methane, and 13% from nitrous oxide. In 2022, 36% of all net area-wide greenhouse gas emissions (excluding LULUCF) were from Transport, 31% Agriculture, 17% Domestic, 6% Commercial, 5% Waste Management, 3% Industry, and 2% Public Sector. Agriculture remains the main source of methane and nitrous oxide emission, whilst Transport is the largest emitter of Carbon dioxide.<sup>30</sup>

### *Material Assets*

#### **Waste Management**

In 2024, 71,456 tonnes of household waste was generated by Perth and Kinross households. 51% of household waste was recycled in Perth and Kinross, compared to 44% for the Scotland average. 43.1% was diverted from landfill (not recycled) and 6% of household waste was sent to landfill (lower than the Scottish average of 11%). The carbon impact per person (tCO<sub>2</sub>e) from household waste in Perth and Kinross remains steady and consistently below the Scotland average. In 2024, 131,661 tonnes of Carbon dioxide equivalent (tCO<sub>2</sub>e) were generated from household waste in Perth and Kinross.

In 2023/24, 20,140 tonnes of organic household waste was collected by Perth and Kinross Council. Of this, 19020 tonnes were from organic garden waste and 1,120 from organic food and drink waste. The total carbon impact of household organic waste per person in Perth and Kinross was 179.4 tonnes of CO<sub>2</sub> equivalent (tCO<sub>2</sub>e). Of this, 169.5 tCO<sub>2</sub>e were from organic garden waste and 9.9 tCO<sub>2</sub>e from organic food and drink waste.<sup>31</sup>

Although still high, the proportion of adults satisfied with local refuse collection in Perth and Kinross shows a declining trend, mirroring the trend for the average across Scotland. For the period 2021-24, 82% of adults surveyed were satisfied with local refuse collection, compared to 78% for the Scotland average.<sup>32</sup> 5535 fly-tipping reports were made to Perth and Kinross Council between 2019/20 and 2022/23.

In 2021, 121,552 tonnes (t) of business waste were generated in Perth and Kinross, with the following five waste types accounting for 80% (97,276 t): Household and similar wastes 19% (23,335 t), Wood wastes 18% (22,228 t), Vegetal wastes 17% (20,661 t), Mixed and undifferentiated wastes 14% (16,586 t) and Common sludges 12% (14,466 t).<sup>33</sup>

### *Cultural Heritage and the historic environment*

Listed on Historic Environment Scotland's [Historic Designations Portal](#) in 2024, there are 3918 designated Historic Environment Features in Perth and Kinross, comprising: 3119

Listed Buildings, 754 Scheduled Monuments, 41 Gardens and Designed Landscapes, and 4 Battlefields.

There are currently 36 designated Conservation Areas in Perth and Kinross (2023) and approximately 15,472 undesignated archaeological sites/remains contained on the Council's Historic Environment record.<sup>34</sup>

As well as being an asset in its own right, the cultural heritage of Perth and Kinross is key in promoting tourism across Perth and Kinross and providing jobs and work for local businesses in its protection and restoration. In 2021, sustainable tourism within Perth and Kinross contributed a turnover of £275 million within Perth and Kinross and £110 million in labour costs (employing approximately 9000 people). In 2023, 96% of all sustainable tourism businesses were registered as Small to Medium Enterprises (SMEs) of less than 250 employees.<sup>35</sup>

#### *Landscape and visual impacts*

The landscape within Perth and Kinross is divided into two main units: highlands and lowlands, reflecting geology, topography, vegetation, and land use. The key landscape character areas are: mountains of the highlands and islands (43%), highlands and islands glens (23%), agricultural lowlands of the north-east (10%), lowland hills (8%), and upland igneous and volcanic hills (8%).<sup>36</sup>

There are 4 National Scenic Areas within Perth and Kinross (Loch Rannoch and Glen Lyon, Loch Tummel, River Tay, and River Earn).<sup>37</sup>

There are 5 Wildland Areas within or intersecting the area: Breadalbane/Schiehallion, Lyon/Lochty, Ben Lawers, Rannoch/ Nevis/ Mamoers/ Alder, and Cairngorms. A large proportion of Perth and Kinross (19%) is within the top fifth of overall relative wilderness values. Comparatively just 5% of Scotland falls within this quintile.<sup>38</sup>

There are 11 Special Landscape Areas (SLAs) spread across Perth and Kinross. They consist of a range of highland and lowland areas covering 144,400Ha or around 27% of the Area.<sup>36</sup>

The Historic Land Use Assessment (HLA) Project identified some 55 individual historic land-use types. The majority of the region has been identified as rough grazing and rectilinear fields. The second largest areas consist of coniferous and woodland plantation, and managed woodland (nearly 100,000Ha).<sup>39</sup> The historic character of the environment is important to quality of life and sense of identity, and it is a vital contributor to the economy through the attraction of visitors.

#### **4.2.2 Environmental Issues identified**

The following environmental issues and problems in Table 6 below were identified as a result of an evaluation of the environmental baseline, alongside implications for the CES.

**Table 6. Environmental issues identified**

SEA Topic	Environmental Issues	Implications for CES
<b>Biodiversity, Flora, and Fauna</b>	<ul style="list-style-type: none"> <li>There are a significant number and range of locally and internationally important natural heritage assets across Perth and Kinross which must be protected, and where possible enhanced.</li> <li>Nature based tourism contributes greatly to the local economy.</li> <li>Many habitats, particularly montane (mountain) habitats, are at risk from Climate Change and could disappear if temperatures increase significantly.</li> <li>25% of woodland cover is native woodland species.</li> </ul>	The CES is likely to have a positive impact on biodiversity, flora and fauna, as the plan vision advocates for decision making that supports the environment and protects nature. Implementing the proposed CES objectives is expected to contribute towards reducing greenhouse gas emissions locally.
<b>Population and Human Health</b>	<ul style="list-style-type: none"> <li>Perth and Kinross has a large rural population (67%)</li> <li>The population of Perth and Kinross is predicted to increase</li> <li>Life expectancy is also increasing across Perth and Kinross, with implications for an ageing population</li> <li>Approximately 20% of population live in poverty, with child poverty showing an increasing trend</li> <li>Resident satisfaction with street cleanliness and local refuse collection is worsening, with rubbish and fouling identified as problematic</li> </ul>	Implementing the CES will help relieve pressure that a growing population will have on waste operations and infrastructure and help contribute towards more efficient waste collection and disposal solutions, particularly in rural areas. This, along with action to address littering and fly-tipping, will assist in improving resident satisfaction with street cleanliness and refuse collection.
<b>Soil</b>	<ul style="list-style-type: none"> <li>A large part of Perth and Kinross is covered by Prime Quality Agricultural Land and other nationally important carbon rich soils and peatland. There is potential for irreversible loss of</li> </ul>	The CES is likely to have a positive impact in relation to reducing activities which risk pollution, disruption, and degradation of soils, helping to safeguard and improve soil quality locally.

	<p>soil through development, contamination, compaction, or erosion. The Area's most important soils should be protected from development and enhanced and restored (where appropriate)</p>	<p>Increased repair and maintenance of products, components, and materials as a result of the CES has potential to increase the amount of pollutants that may negatively affect soils, through runoff etc.</p> <p>Extraction of peat for horticultural use has a major impact on peatlands. Reducing and/or eliminating the extraction of peat for horticultural use will have a positive impact for biodiversity and climate.</p>
<b>Water</b>	<ul style="list-style-type: none"> <li>Over 60% of the surface waters within Perth and Kinross achieved moderate to high water quality status in 2020. However, there are rivers in the north, north west, east and south of the Council Area which achieved poor or bad water quality status.</li> </ul>	<p>On the whole, limiting production and disposal of goods and products is anticipated to improve sustainable water use through limiting unnecessary water-intensive processes. Levels of water pollution are likely to fall due to an expected decrease in residual waste arisings (and therefore disposal) as well as a fall in demand for material extraction and product manufacturing, all of which contribute to water pollution risks.</p> <p>Increased cleaning and maintenance of existing reusable goods and products may cause an increase in water use, and increased recycling may use more water through specific recycling processes.</p>
<b>Air</b>	<ul style="list-style-type: none"> <li>Air pollutant levels for Particulate Matter (PM<sup>10</sup>) and Nitrogen dioxide (NO<sub>2</sub>) within the area have improved in recent years,</li> </ul>	<p>The CES is likely to contribute to an improvement in air quality from less pollution resulting from reduced material extraction, manufacturing, and disposal.</p>

	although NO <sub>2</sub> levels are increasing for Atholl Street in Perth.	This in turn is likely to reduce emissions of key pollutants as well as nuisance such as odour and noise. Emissions associated with Energy from Waste facilities may impact air quality.
<b>Climatic Factors</b>	<ul style="list-style-type: none"> <li>• Agriculture accounts for 31% of net CO<sub>2</sub> emissions of all net area-wide greenhouse gas emissions and remains the main source of methane and nitrous oxide emissions</li> <li>• Waste, industry and public sector emissions collectively account for 10% of net area-wide greenhouse gas emissions</li> </ul>	<p>Reducing food waste throughout the farm to fork supply chain is likely to reduce greenhouse gas emissions associated with food.</p> <p>Circular economy principles aim to reduce the use of virgin material and high energy intensive production.</p> <p>There is potential for increased greenhouse gas emissions from energy and resource use associated with maintaining and repairing existing products, and in the processing of recyclate into secondary materials.</p>
<b>Material Assets</b>	<ul style="list-style-type: none"> <li>• 44% of household waste is currently disposed of via landfill</li> <li>• 6% of collected organic waste is from food and drink waste</li> <li>• Incorrect disposal of waste by fly-tipping is an increasing problem</li> </ul>	<p>The CES will build on the Council's successful existing Residual Waste Contract Award to provide a long-term solution for the ban on landfilling of municipal waste. It will also encourage greater use of local recycling facilities and reuse of construction and demolition material onsite, as well as greater levels of reprocessing. It will also promote measures to reduce food waste and reduce levels of litter and fly-tipping so materials are kept in use for longer.</p> <p>The CES is aligned with the ongoing Asset Management Review of Waste &amp; Recycling Infrastructure to establish investment requirements to support a sustainable (monetary &amp; carbon) operational asset base</p>

		<p>Measures will be promoted to incorporate sustainable design and construction for durability, repair and upgradability so products and materials are kept in use for as long as possible.</p> <p>There is potential for adverse impact from increased resource use (from energy and virgin materials) due to processing recyclate into secondary materials.</p> <p>Increased recycling and/or composting green waste can contribute to the spread of INNS such as Japanese Knotweed and Himalayan Balsam. Measures should be included to ensure this risk is mitigated (e.g. heat treatment/checking for contamination on site prior to moving etc. This should apply to all waste, both domestic and commercial.</p>
<b>Cultural Heritage and the historic environment</b>	<ul style="list-style-type: none"> <li>There are a significant number of cultural heritage assets across Perth and Kinross which must be protected from development, and where possible enhanced. The historic character of the environment is important to quality of life and sense of identity, and it is a vital contributor to the economy through the attraction of visitors. If not managed properly, increased visitor numbers and activities can harm the environment around heritage sites. This includes pollution, habitat destruction, and increased waste.</li> </ul>	<p>The CES objectives will collectively lead to the promotion of more efficient and sustainable waste management practices, which will help reduce waste. However, any waste reduction is likely to have minimal impact on cultural heritage and the historic environment.</p>
<b>Landscape and visual impacts</b>	<ul style="list-style-type: none"> <li>There are a significant number of locally and nationally important</li> </ul>	<p>The CES will help reduce production of virgin materials</p>

	<p>landscapes across Perth and Kinross which must be protected from development, and where possible, enhanced. This includes the agricultural lowlands of the north-east, coniferous and woodland plantations, and managed woodland. The landscape character of the environment is important to quality of life and sense of identity, and it is a vital contributor to the economy through the attraction of visitors.</p>	<p>through reduced material extraction activity, such as tree felling, which could negatively impact local landscapes, resulting in losses of natural character and diversity.</p> <p>A reduction in litter and fly-tipping is likely to reduce negative visual impacts and safeguard or improve the appearance of local landscapes and areas of natural beauty.</p> <p>A more efficient food system is likely to lead to a reduction in the area of land used to produce wasted food throughout the supply chain (from farming to disposal) and this may help avoid adverse effects on landscapes and visual impacts.</p>
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### 4.3 Relationship with other Relevant PPS

The review of plans, programmes, and strategies (PPS) as part of the SEA process is a useful way of ensuring that the relationship between these documents, and the Circular Economy Strategy, is fully explored. It also helps to ensure that the relevant environmental protection and sustainability objectives are considered through the SEA.

Reviewing PPS can also provide appropriate information on the baseline for the Strategy area, and the key environmental and/or sustainability issues. There are several national and local PPS in place or expected in the near future that help shape our targets and govern our proposed approach. A summary of these is detailed in Table 7.

Plans, programmes, and strategies above the national level have in most cases been excluded from the summarised analysis. This is mainly because it is assumed that all relevant international, European and UK environmental legislation has already been incorporated into nation, regional and local legislation, frameworks, strategies, and guidance.

A summary of the review for some of the most pertinent documents to the Circular Economy Strategy has been provided below.

**Table 7. Relevant national policies and strategies**

National PPS	Impact on Circular Economy
Scotland's Zero Waste Plan (2010)	<p>Recognised that a zero waste Scotland has an important role in helping to achieve the targets set in the Climate Change (Scotland) Act 2009. The Plan set the following specific targets:</p> <ul style="list-style-type: none"> <li>• recycling 70% of all waste by 2025</li> <li>• a ban on biodegradable waste to landfill by 2025.</li> <li>• no more than 5% of waste going to landfill by 2025.</li> </ul>
<a href="#"><u>Scotland's Climate Change Plan (2020)</u></a>	<p>The Plan sets out a vision for a Circular Scotland and identifies a range of actions needed to ensure Scotland meets its duties under the Climate Change Act. These cover the following related areas:</p> <ul style="list-style-type: none"> <li>• Building the circular economy</li> <li>• Driving down food waste</li> <li>• Reducing waste sent to landfill</li> <li>• Improving waste data</li> <li>• Reducing emissions from closed landfill sites</li> <li>• Promoting efficiency of energy from waste plants</li> <li>• Encouraging reprocessing investment</li> <li>• Preventing waste.</li> </ul>
<a href="#"><u>Scotland's circular economy and waste route map to 2030 (2024)</u></a>	<p>The route map identifies the priorities to 2030 that will help Scotland to progress to a circular economy and maximise the positive impact of the Circular Economy (Scotland) Act 2024 for communities across Scotland.</p>
<a href="#"><u>Scotland's National Strategy for Economic Transformation (2022)</u></a>	<p>Identifies the Circular Economy as an area of new market opportunity for the wellbeing economy - 'generating new, well-paid jobs from a just transition to net zero. This will help with a Community Wealth Building (CWB) approach to promote local economic development through more productive and innovative businesses, industries, regions, communities and public services</p>
<a href="#"><u>Procurement Reform Act (2014)</u></a>	<p>Includes a requirement for contracting authorities to consider how they can improve economic, social and environmental</p>

	wellbeing through regulated procurement and to act in a way to secure this.
<b>Local PPS</b>	<b>Impact on Circular Economy</b>
<a href="#"><u>Perth &amp; Kinross Council Corporate Plan (2022 – 2027)</u></a>	<p>The Plan sets out a vision for a Perth and Kinross, ‘where everyone can live life well, free from poverty and inequality’. To transform this vision into action, seven interdependent corporate priorities have been established:</p> <ul style="list-style-type: none"> <li>• Working in partnership with communities</li> <li>• Tackling poverty</li> <li>• Tackling climate change and supporting sustainable places</li> <li>• Developing a resilient, stronger and greener local economy</li> <li>• Enabling our children and young people to achieve their full potential</li> <li>• Protecting and caring for our most vulnerable people</li> <li>• Supporting and promoting physical and mental wellbeing.</li> </ul> <p>The Circular Economy Strategy will set the path for working in partnership with communities to scale up reuse and resource sharing options to support the wellbeing economy and tackle poverty. It will facilitate working with business and industry to develop a stronger and greener local economy, all whilst tackling climate change and supporting sustainable places.</p>
<a href="#"><u>Perth &amp; Kinross Climate Change Strategy and Action Plan (2021)</u></a>	<p>The Plan contributes to several of the Corporate Plan priorities, with particular focus on ‘tackling climate change and supporting sustainable places’ and ‘developing a resilient, stronger and greener local economy’. It outlines the initial route map to take us to a net zero carbon and climate resilient Perth, with focus on the following areas of the Waste and Circular Economy Theme:</p> <ul style="list-style-type: none"> <li>• Ensure alignment with the Scottish Government Climate Change Route map</li> <li>• Promoting a rapid transition to a Circular Economy</li> <li>• Developing and delivering thematic action plans for the high carbon emissions materials</li> <li>• Improving our recycling services</li> <li>• Maximise value from waste by reducing waste sent to landfill.</li> </ul>

	<p>Specific actions (detailed in Appendix A) were added to the action plan in 2021 to address the requirements of the Scottish Government's Circular Economy Routemap.</p>
<p><a href="#"><u>Perth &amp; Kinross Council Waste Management Plan (WMP)</u></a> (2010 – 2025)</p>	<p>Established in November 2010 to promote and implement sustainable municipal solid waste management policies for Perth and Kinross, while minimising the overall environmental impact of waste by managing it in the most environmentally acceptable and economically efficient way, through the provision and co-ordination of appropriate wastes management facilities and services.</p>
<p><a href="#"><u>Perth &amp; Kinross Council Transformation and Change Strategy (TCS)</u></a> (2022/23 – 2027/28)</p>	<p>Aims to 'support the delivery of services to the people of Perth and Kinross, particularly those in greatest need'.</p> <p>Workstream 4 focuses on developing a Circular Economy Strategy to inform the future transformation of the Council's waste and recycling operations and associated infrastructure and/or major contracts expenditure, together with sustainable economic development activity with local businesses.</p>
<p><a href="#"><u>Perth and Kinross Economic Action Plan</u></a> (2025 – 2025)</p>	<p>Sets out the approach Perth and Kinross Economic Partnership will take to grow a stronger, greener, fairer and more sustainable economy for Perth and Kinross, with the key objectives of:</p> <ul style="list-style-type: none"> <li>• Supporting local businesses to grow and attract jobs and investment</li> <li>• Tackling inequalities</li> <li>• Supporting the transition to net zero.</li> </ul>
<p><a href="#"><u>Perth and Kinross Council Sustainable Procurement Strategy</u></a> (2024 – 2029)</p>	<p>The was approved in June 2024. It reflects the Council's dedication to 'sustainability, economic growth, and the well-being of the people in Perth and Kinross', putting sustainability at the heart of public procurement. Though sustainable procurement processes, it commits the Council to providing additional economic, social and environmental benefits to the people of Perth and Kinross. The strategy has 6 key aims, the two most relevant include:</p> <ul style="list-style-type: none"> <li>• Economy and local wealth building - <i>using our buying power to promote local economic growth, to then create jobs and help tackle poverty within our area</i></li> </ul>

	<ul style="list-style-type: none"> <li>• Protecting our Environment - <i>supporting a fair transition to net zero and minimising our environmental impact.</i></li> </ul>
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## 4.4 SEA Topics, Objectives and Indicators

SEA objectives already highlighted in section 3.3 above. The majority of potential indicators listed in Table 8 below are, on the whole, representative at the Perth and Kinross area level. Following the public consultation of the draft Circular Economy Strategy and consultation of this report by the Consultation Authorities, a final CES delivery and action plan has been developed. It is anticipated that once developed, the monitoring framework associated with this will highlight further potential local level (for both Perth and Kinross area and Perth and Kinross Council) indicators to assess the SEA objectives as part of the SEA Environmental Report process.

**Table 8. SEA Topics, Objectives and Indicators**

ID	SEA Objective for Assessment	Potential Indicator	Data Source
<b>Biodiversity, flora and fauna</b>			
SEA 1	Avoid adverse impacts to habitats and species	% of designated protected nature sites features (SAC, SPA, SSSI, RAMSAR) within Perth and Kinross classified as being of favourable condition	SEPA <a href="#">Protected Nature Sites</a> NatureScot <a href="#">Sitelink website</a>
		% of designated protected montane nature sites features (SAC, SPA, SSSI, RAMSAR) within Perth and Kinross classified as being of favourable condition	

		% woodland cover of total land area of Perth and Kinross and % of this that is native woodland species	SEPA <a href="#">Scotland's Environment – National Forest Inventory Protected Nature Sites</a> NatureScot <a href="#">Ancient Woodland Inventory</a>
SEA 2	Protect, maintain, and enhance biodiversity	Achievement of Tayside Biodiversity Action Plan targets	Perth and Kinross Council
		Designated sites in favourable condition	NatureScot <a href="#">Sitelink website</a>
<b>Population and human health</b>			
SEA 3	Create conditions to improve health and reduce health inequalities	% of Perth and Kinross data zones ranked in the Scottish Index of Multiple Deprivation (SIMD) as being in the 40%, 20% and 15% most deprived	Scottish Government <a href="#">Scottish Index of Multiple Deprivation (SIMD)</a>
		Life expectancy rates in years for females and males in Perth and Kinross	National Records of Scotland (2024) <a href="#">Life Expectancy in Scotland 2021-2023</a>
		% of children under 16 were living in relatively low-income families	UK Government, Department for Work and Pensions <a href="#">Children in low income families: local area statistics</a>

		% of all households identified as workless	Office for National Statistics <a href="#">Workless Households</a>
		% adults earning less than the real living wage	Office for National Statistics <a href="#">Number and proportion of employee jobs with hourly pay below the living wage</a>
		Number of listed community food growing sites	Perth and Kinross Council <a href="#">Growing spaces data</a>
		Number of local larders providing food support through free and reduced price food	Perth and Kinross Council <a href="#">Community larders data</a>
SEA 4	To protect and improve human health and wellbeing through improving the quality of the living environment of people and communities	Street Cleanliness score and % resident satisfaction with street cleanliness	Improvement Service <a href="#">Local Government Benchmarking Framework</a>
		% of residents satisfied with local refuse collection	
		% of residents surveyed perceiving issues with rubbish and fouling	Scottish Government <a href="#">Scottish Household Survey</a>
		% of residents satisfied with their neighbourhood as a place to live	
		Number of fly-tipping reports made to Perth and Kinross Council	Perth and Kinross Council Waste Management data

SEA 5	Increase sustainable access to essential services, employment, and the natural and historic environment	Resident satisfaction with local green or blue space	Scottish Government <a href="#">Scottish Household Survey</a>
<b>Soil</b>			
SEA 6	Safeguard and improve soil quality, quantity and function, particularly high value agricultural land and carbon-rich soils	Total Ha of Nationally Important Soils (by Class) in Perth and Kinross to be in favourable / functioning condition	<a href="#">Carbon and peatland 2016 map - Scotland's soils</a> SEPA
		Total Ha of Prime Quality Agricultural Land	<a href="#">National scale land capability for agriculture - Scotland's soils</a> SEPA
<b>Water</b>			
SEA 7	Ensure the sustainable use of water resources	Annual average household water consumption	Environmental Information Request Scottish Water
SEA 8	Limit water pollution to levels that do not damage natural systems	% of surface waters in Perth and Kinross classified as good water quality status and above ( <i>split by chemical and ecological quality</i> )	<a href="#">SEPA Water Classification Hub</a>
		% Water-dependent designated Protected Nature Sites (SAC, SPA, SSSI, RAMSAR) in favourable condition	<a href="#">SEPA Protected Nature Sites Application</a>
<b>Air</b>			

SEA 9	Avoid adverse impacts to air quality	% change in tCO2e of waste emissions in Perth and Kinross	SEPA <a href="#">Household Waste Data</a>
SEA 10	Reduce emissions of key pollutants and improve air quality throughout Perth and Kinross	% change in monitored air quality achieving annual mean concentration for Nitrogen dioxide (NO2) and Particulate Matter (PM10)	Air Quality in Scotland <a href="#">Site data</a>
SEA 11	Reduce levels of nuisance e.g. noise, vibration, dust, odour, and light	Number of noise and odour complaints to Perth and Kinross Council	Perth and Kinross Council Environmental Health data
<b>Climatic factors</b>			
SEA 12	Avoid new Greenhouse Gas (GHG) emissions	Carbon impact per person (tCO2e) from household waste in Perth and Kinross	SEPA <a href="#">Household Waste Data</a>
SEA 13	Reduce GHG emissions in order to meet Scotland CO2 emissions reduction target of net zero by 2045	<p>Total combined greenhouse gas emissions for Perth and Kinross (<i>split by Carbon dioxide, methane and nitrous oxide</i>)</p> <p>% share of the total Carbon dioxide emissions for Perth and Kinross (<i>split by transport; land use, land use change and forestry; agriculture; domestic; commercial; waste management; industry; and public sector</i>)</p> <p>% share of the total methane emissions for Perth and Kinross (<i>split by transport; land use, land use change and forestry; agriculture; domestic; commercial; waste</i>)</p>	<p>Department for Energy Security &amp; Net Zero <a href="#">UK local authority and regional carbon dioxide emissions national statistics</a></p>

		<p><i>management; industry; and public sector)</i></p> <p>% share of the total nitrous oxide emissions for Perth and Kinross (<i>split by transport; land use, land use change and forestry; agriculture; domestic; commercial; waste management; industry; and public sector</i>)</p>	
<b>Material assets</b>			
SEA 14	Avoid adversely impacting on material assets (e.g. water, heat, energy and flood protection infrastructure etc.)	% of surface waters in River Tay Catchment Area classified as good water quality status and above ( <i>split by chemical and ecological quality</i> )	SEPA <a href="#">Water Classification Hub</a>
SEA 15	Reduce 'leakage' of material to landfill or energy recovery or as litter	% of household waste sent to landfill	SEPA <a href="#">Household Waste Data</a>
		Number of fly-tipping reports made to Perth and Kinross Council	Perth and Kinross Council
SEA 16	Reduce use and promote sustainable management of natural resources	Tonnes of household waste generated per person in Perth and Kinross	SEPA <a href="#">Household Waste Data</a>
		% of household waste recycled in Perth and Kinross	SEPA <a href="#">Household Waste Data</a>
		Tonnes of organic household waste (% <i>split by garden, food and drink</i> ) collected by Perth and Kinross Council	SEPA <a href="#">Household Waste Data</a>

		Tonnes of business waste generated in Perth and Kinross ( <i>% split by Household and similar wastes, Wood wastes, Vegetal wastes, Mixed and undifferentiated wastes, and Common sludges</i> )	SEPA <a href="#">Business Waste Data</a>
SEA 17	Promote or enable the retention, maintenance and sustainable use or re-use of historic buildings and infrastructure	To be developed from ideas below:  <i>% of historic buildings retained rather than demolished per year</i>  <i>Number and % of historic buildings repurposed for new uses</i>  <i>% of historic assets in “good” or “stable” condition</i>  <i>Tonnes of construction and demolition waste avoided through retention</i>	Perth and Kinross Heritage Trust  <a href="#">Perth and Kinross Historic Environment Record</a>
SEA 18	To make the historic environment more climate resilient and to reduce emissions from the historic environment	To be developed from ideas below:  <i>% of historic buildings benefiting from nature-based resilience measures (e.g., tree planting for shading, permeable surfaces, rain gardens)</i>  <i>% of historic assets with climate adaptation plans</i>	SEPA  <a href="#">Flood Maps</a>

#### 4.4.3 Determining the need for Reasonable Alternatives

Part 2, Section 14(2) of the Environmental Assessment (Scotland) Act 2005 requires Perth & Kinross Council, as the responsible authority, to identify, describe and evaluate within the Environmental Report the likely significant effects on the environment of implementing the Circular Economy Strategy and any **reasonable alternatives** to the Strategy, considering its objectives and geographical scope.

The rapidly evolving national circular economy agenda is such that national targets for both household recycling and the strengthening of the circular economy have yet to be set. The recycling co-design process currently running until the end of 2026 will establish a framework for future recycling measures, shaping a future statutory household Code of Practice and aid in meeting local statutory recycling and reuse household waste targets from 2030, set from 2027 onwards. The first national circular economy strategy is due to be developed in 2026, with circular economy targets being set by 2027. Both sets of targets are due to be ‘set and delivered through a joint action focused improvement programme between Scottish and Local Government’.

With the waste management plan due to expire at the end of 2025, and in recognition of the extended national focus on the circular economy, the opportunity has been taken to incorporate and include the functions of the waste management plan within the scope of a wider circular economy strategy for Perth and Kinross Council. This will ensure that the Council is aligned to legislation and government policy and will provide a fresh impetus for further service improvement, including the provision of new services and a greater emphasis on public engagement and behaviour change.

In view of the above, it is considered that the only real reasonable alternative that could be assessed would be a ‘do nothing’ approach. As this is not an option if Perth and Kinross is to play its part in helping Scotland achieve its vision ‘to deliver a fully circular economy in Scotland by 2045, driven by responsible consumption, responsible production, and maximising value from waste and energy’, it is concluded that other reasonable alternatives are not appropriate for consideration.

## 5. Assessment of the likely Environmental Impacts

An assessment has been undertaken to determine the likely environmental impact of the CES Objectives and Strategic Priorities against the SEA Objectives

### 5.1 Environmental Assessment of the CES Objectives

Each of the 15 CES Objectives have been assessed for likely impact against each of the 18 SEA Objectives. Impacts have been considered in relation to:

- **Nature of impact:** direct (leading to immediate changes) and indirect (longer-term systemic changes, cultural shifts, and cumulative environmental benefits)
- **Timeframe for impact to come into effect:** short-term, medium-term or long-term
- **Duration of impact:** temporary or permanent.

A matrix overview of all rating assessments can be found in Appendix 1. A full summary of each decision is listed in Appendix 2, detailing potential positive direct and indirect impacts alongside the risk of any negative impacts.

No significant negative effects from the potential impacts were identified. Risks associated with minor negative impacts were generally short-term and easily mitigable, with the overall positive effects of the strategy far outweighing any risks.

The following 24 significant positive effects were identified:

SEA3 - Create conditions to improve health and reduce health inequalities
CES2 - Improve circularity of the Tayside Food System to promote local, healthy eating and reduce food waste and food poverty
<p>Positive direct and indirect impacts identified:</p> <ul style="list-style-type: none"> <li>• increased access to affordable, nutritious local food will directly improve physical health</li> <li>• reduced food poverty will contribute to reducing health inequalities</li> <li>• promoting healthier eating habits helps lower risks of diet-related diseases</li> <li>• strengthened community resilience and social cohesion through local food networks</li> <li>• increased education and awareness around healthy diets</li> </ul>

- long-term reduction in healthcare costs and improved quality of life

**SEA6 - Safeguard and improve soil quality, quantity and function, particularly high value agricultural land and carbon-rich soils**

CES2 - Improve circularity of the Tayside Food System to promote local, healthy eating and reduce food waste and food poverty

Positive direct and indirect impacts identified:

- increased composting of food waste returns organic matter to soils, improving fertility and structure
- reduced reliance on chemical fertilisers lowers soil contamination risk
- encourages regenerative farming practices protects carbon-rich soils and prevent erosion
- long-term soil health improvements support sustainable agriculture and food security
- increased awareness of soil stewardship through local food initiatives
- enhanced carbon sequestration potential, contributing to climate mitigation

**SEA12 - Avoid new Greenhouse Gas (GHG) emissions**

CES1 - Work with our residents and businesses to change patterns of production, consumption and disposal

Positive direct and indirect impacts identified:

- reduced new GHG emissions by cutting waste generation and lowering the need for energy-intensive disposal methods (such as incineration)
- encourages businesses to adopt sustainable practices and reduce unnecessary production, helping prevent emissions associated with manufacturing and logistics
- community-level initiatives such as waste minimisation and reuse programs also reduces emissions from collection and transport.
- systemic reductions in emissions by shifting towards a circular economy that prioritises resource efficiency and low-carbon supply chains
- reduced demand for raw material extraction and long-distance transportation lowers embedded emissions across the lifecycle of goods

**CES14 - Coordinate action across cross-cutting areas and robustly monitor, evaluate and report progress**

Positive direct and indirect impacts identified:

- better coordination across circular-economy themes (materials, waste, procurement, design, infrastructure) helps reduce duplication, gaps and inefficiencies, which directly lowers avoidable emissions
- robust monitoring and reporting improves the ability to track emissions-related performance, identify hotspots and intervene early - directly preventing unnecessary emissions growth
- enhanced data and evaluation encourage continuous improvement in policies and operational practice, indirectly driving further emissions reduction
- strong coordination supports consistent behaviour across sectors, improving uptake of low-carbon approaches (e.g., reuse systems, repair, low-emission logistics)

**CES15 - Encourage consumers and organisations to adopt circular behaviours**

Positive direct and indirect impacts identified:

- reduced GHG emissions by lowering demand for highly energy-intensive and carbon-intensive activities, such as virgin material extraction, processing, and manufacturing
- by extending product lifetimes through repair, reuse, and remanufacturing, fewer new products are produced, cutting emissions from industrial energy use and associated fossil fuel combustion
- circular practices drive eco-design and efficiency improvements, which reduce operational emissions during product use and promote low-carbon supply chains
- reduced freight for new goods and increased local repair also help lower transport-related GHG emissions when combined with clean logistics strategies

**SEA13 - Reduce GHG emissions in order to meet Scotland CO2 emissions reduction target of net zero by 2045**

**CES1 - Work with our residents and businesses to change patterns of production, consumption and disposal**

Positive direct and indirect impacts identified:

- reduced greenhouse gas emissions by cutting waste generation and lowering reliance on energy-intensive disposal methods such as incineration
- encourages businesses to adopt low-carbon production processes and reduce unnecessary manufacturing, helping to prevent emissions associated with raw material extraction and logistics
- community-level initiatives like repair, reuse, and recycling reduce emissions from transport and waste handling
- embedding circular economy principles helps minimise resource use and promote systemic efficiency
- reduced demand for imported goods and long-distance transportation lowers embedded emissions across supply chains
- cultural and economic shift toward sustainable practices ensures long-term reductions in carbon emissions, helping to meet national climate commitments

#### CES2 - Improve circularity of the Tayside Food System to promote local, healthy eating and reduce food waste and food poverty

Positive direct and indirect impacts identified:

- reduced food waste lowers pressure on waste management infrastructure
- less reliance on energy-intensive waste disposal (e.g., incineration) conserves energy resources
- supports efficient use of existing material assets by minimizing unnecessary strain
- composting and soil improvement can enhance natural flood resilience, reducing reliance on engineered flood protection
- promotes circular resource use, reducing demand for new infrastructure.
- strengthens local systems, making them more resilient to climate-related disruptions

#### CES3 - Reduce textile waste

Positive direct and indirect impacts identified:

- lower landfill and incineration emissions (methane and CO<sub>2</sub> during decomposition) from textile waste in landfills
- reducing waste directly reduces incineration related CO<sub>2</sub> and other pollutants
- less waste means fewer emissions from collection, transport, and processing textiles
- reduced virgin textile production means less highly carbon-intensive textile manufacturing (cotton, polyester, dyeing, finishing)
- waste reduction through reuse/recycling reduces demand for new production, avoiding upstream emissions

- lower supply chain emissions from less production means fewer raw materials extracted, processed, and transported globally
- reduced water and chemical use in production indirectly cuts energy-related emissions

#### CES10 - Support the incentivisation of decarbonising waste

Positive direct and indirect impacts identified:

- significant GHG reduction from avoiding methane emissions in landfill
- high potential for renewable energy generation via anaerobic digestion and biogas
- major reduction in CO<sub>2</sub> from incineration by prioritising recycling and reuse
- strong contribution to Scotland's net zero target through material recovery and circular economy practices
- incentivising decarbonisation accelerates adoption of low-carbon technologies and reduces landfill methane
- moderate behavioural change as incentives encourage households and businesses to reduce waste
- high innovation stimulus in low-carbon waste technologies and infrastructure
- moderate economic benefits through green jobs and supply chain decarbonisation
- moderate public health improvements from reduced pollution and cleaner environments

#### CES14 - Coordinate action across cross-cutting areas and robustly monitor, evaluate and report progress

Positive direct and indirect impacts identified:

- ensures alignment of policies and actions across sectors (energy, transport, agriculture, etc.), reducing duplication and gaps
- monitoring and evaluation provide accountability and enable timely corrective measures, which accelerates progress toward net zero
- transparent reporting builds trust and drives continuous improvement
- encourages stakeholder collaboration and knowledge sharing, leading to innovative solutions
- improves public confidence and engagement, which can influence behavioural change and investment in low-carbon technologies
- strengthens governance and policy coherence, making long-term decarbonisation strategies more resilient

#### CES15 - Encourage consumers and organisations to adopt circular behaviours

Positive direct and indirect impacts identified:

- reduces greenhouse gas emissions by cutting demand for highly carbon-intensive virgin material extraction, processing, and manufacturing
- repair, reuse, and remanufacturing extend product lifetimes, reducing the need for new production and associated fossil fuel use
- circular practices stimulate eco-design and efficiency improvements, which lower operational emissions during product use and promote low-carbon supply chains
- reduced freight for new goods and increased local repair also help decrease transport-related emissions when combined with clean logistics strategies

#### **SEA15 - Reduce 'leakage' of material to landfill or energy recovery or as litter**

CES1 - Work with our residents and businesses to change patterns of production, consumption and disposal

Positive direct and indirect impacts identified:

- reduces the amount of material sent to landfill or energy recovery
- promoting reuse, repair, and recycling initiatives, ensures that more materials remain in circulation rather than becoming waste
- community engagement programs and business incentives can lead to immediate reductions in litter and illegal dumping, improving local environmental quality
- supports development of the circular economy by minimising waste generation at the source
- systemic shifts in consumption habits and production processes reduce the overall volume of waste entering disposal streams, conserving resources and lowering GHG emissions associated with landfill decomposition and incineration - contributing to broader climate and sustainability goals

CES5 - Modernise household recycling and reuse services to maximise performance and meet evolving needs

Positive direct and indirect impacts identified:

- reduced leakage as a result of increased waste collection efficiency and coverage
- provides reuse hubs and better segregation facilities
- minimises litter through improved infrastructure and public engagement

<ul style="list-style-type: none"> <li>• encourages community participation in waste prevention and reuse</li> <li>• supports circular economy principles by reducing reliance on landfill and incineration</li> </ul>
CES6 - Support businesses and commercial premises to reduce waste and maximise recycling
<p>Positive direct and indirect impacts identified:</p> <ul style="list-style-type: none"> <li>• reducing waste and maximising recycling directly cuts the amount of material going to landfill or energy recovery and lowers litter risk</li> <li>• encourages a circular economy mindset across supply chains and customers, amplifying reductions in leakage beyond individual businesses</li> </ul>
CES9 - Improve environmental outcomes for waste through innovation
<p>Positive direct and indirect impacts identified:</p> <ul style="list-style-type: none"> <li>• innovation directly reduces landfill disposal and litter through advanced sorting and recycling technologies</li> <li>• innovative waste solutions directly reduce leakage by improving recycling systems, introducing closed-loop processes, and minimizing residual waste</li> <li>• promoting innovative circular economy practices and reducing overall waste generation lowers the risk of litter and leakage throughout the supply chain</li> </ul>
CES12 - Grow the enabling environment to support and attract circular businesses
<p>Positive direct and indirect impacts identified:</p> <ul style="list-style-type: none"> <li>• circular businesses directly reduce waste sent to landfill and energy recovery through reuse, repair, and recycling</li> <li>• lower litter generation due to improved product life cycles and repair services</li> <li>• systemic adoption of circular economy principles significantly cuts material leakage across supply chains and communities</li> <li>• encourages systemic waste prevention and resource efficiency</li> <li>• supports cleaner public spaces and ecosystems by reducing litter pollution</li> <li>• aligns economic incentives with zero-waste goals</li> <li>• promotes innovation in material recovery and circular supply chains</li> </ul>
CES13 - Encourage circular construction practices
<p>Positive direct and indirect impacts identified:</p> <ul style="list-style-type: none"> <li>• circular construction practices keep materials in use and reduce landfill and litter</li> </ul>

- significant reduction in landfill disposal by prioritising reuse, repair, and recycling
- lower material leakage as litter through extended product life and better recovery systems
- decreased reliance on energy recovery (incineration) by diverting materials back into production loops
- improved resource efficiency reduces waste generation at source
- system-wide changes in supply chains and consumer behaviour leads to sustained reduction in leakage
- enhanced circular economy infrastructure (collection, sorting, remanufacturing) reduces systemic leakage
- promotes behavioural shift among consumers and businesses toward waste prevention
- lower environmental footprint from reduced extraction and disposal
- policy and market incentives strengthen compliance and innovation in waste minimisation

#### CES15 - Encourage consumers and organisations to adopt circular behaviours

Positive direct and indirect impacts identified:

- reduced material leakage by prioritising reuse, repair, remanufacturing, and high-quality recycling, keeping products and materials in circulation for longer, preventing disposal to landfill or incineration
- circular practices foster eco-design and business models that minimise waste generation and improve recyclability, reducing the likelihood of litter and uncontrolled disposal
- shifting consumer behaviour toward shared and service-based models decreases the volume of single-use products, further reducing waste streams and leakage risks

#### SEA16 - Reduce use and promote sustainable management of natural resources

##### CES1 - Work with our residents and businesses to change patterns of production, consumption and disposal

Positive direct and indirect impacts identified:

- reduced use of raw materials by promoting reuse, repair, and recycling helps conserve finite resources such as metals, minerals, and timber, while reducing waste generation

- businesses adopting circular practices can significantly cut resource inputs in manufacturing, leading to immediate reductions in material consumption
- systemic shift toward a circular economy embeds resource efficiency into supply chains and consumer behaviour, reducing dependency on virgin materials, lowering environmental degradation from extraction, and supporting global sustainability goals
- encourages innovation in product design and service models that prioritise durability and resource recovery, creating long-term resilience in resource management

#### CES11 - Set the strategic direction and act as a regional catalyst for change

Positive direct and indirect impacts identified:

- embedding resource efficiency in regional policy ensures systematic reduction in raw material use
- strategic waste diversion and reuse directly reduces demand for virgin resources
- integration of sustainable procurement standards in council-led projects
- acts as a catalyst for circular economy adoption across businesses and communities
- influences regional supply chains to adopt resource-efficient practices
- promotes innovation in sustainable materials and low-carbon technologies
- raises public awareness of resource conservation linked to climate and biodiversity goals

#### CES12 - Grow the enabling environment to support and attract circular businesses

Positive direct and indirect impacts identified:

- reduced demand for virgin materials through reuse, repair, and recycling promotes resource efficiency
- reduced extraction of virgin materials (minerals, timber, fossil fuels)
- lower pressure on ecosystems from resource-intensive production
- increased use of recycled and renewable materials in manufacturing
- systemic adoption of circular economy principles promotes sustainable resource management across supply chains and sectors
- supports innovation in sustainable material design and recovery
- aligns economic incentives with long-term resource conservation goals
- improved resilience by reduced dependency on finite resources
- promotes cultural shift toward sustainable consumption patterns

#### CES13 - Encourage circular construction practices

Positive direct and indirect impacts identified:

- reduced raw material extraction promotes resource efficiency
- reduced raw material extraction through reuse, recycling, and remanufacturing
- lower pressure on ecosystems by minimising mining, logging, and drilling
- improved resource efficiency in production processes
- extended product life cycles reduces demand for virgin resources
- systemic changes in supply chains and consumer behaviour lead to long-term sustainable resource management
- encourages sustainable supply chains and circular economy models
- promotes innovation in resource-efficient technologies
- reduces global resource depletion and associated environmental impacts
- supports policy alignment with sustainable development goals (SDGs)

CES14 - Coordinate action across cross-cutting areas and robustly monitor, evaluate and report progress

Positive direct and indirect impacts identified:

- coordination ensures that resource efficiency measures are integrated across sectors (energy, water, land use), reducing duplication and waste
- monitoring and reporting provide transparency and accountability, helping identify areas of overuse and enabling corrective action
- encourages systemic adoption of circular economy principles and sustainable supply chains
- builds stakeholder confidence and drives behavioural change toward resource conservation
- strengthens governance and policy coherence, embedding sustainability into long-term planning and investment decisions

CES15 - Encourage consumers and organisations to adopt circular behaviours

Positive direct and indirect impacts identified:

- reduced extraction and consumption of primary natural resources (virgin minerals, metals, timber, water, and land) by prioritising waste prevention, reuse, repair, remanufacturing, refurbishing, and high-quality recycling - lowering demand for helping to preserve soils, habitats, and ecosystem services
- reduced environmental pressures associated with extraction (e.g., landscape disturbance, water abstraction, and pollution)
- circular practices drive eco-design (durability, modularity, recycled content, material substitution), sustainable procurement, and service-based models

(sharing/product-as-a-service), reducing material intensity across value chains – improving resource productivity, conserving critical raw materials, and stimulating markets for secondary materials, all of which support sustainable resource management.

## 5.2 Environmental Assessment of the CES Strategic Priorities

Using the information and assessment ratings from Appendix 2 (as described in section 5.1 above) together with more detailed information of potential impacts in relation to: nature (cumulative and synergistic), duration (temporary or permanent), timeframe (short, medium or long term) and any proposed mitigation and/or enhancement measures, the five CES strategic priorities were assessed against each of the SEA topics (Appendix 3)

Collectively using the analysis from Appendix 3, Table 9 below summarises the overall environmental assessment rating for each of the SEA Topics. Significant positive environmental effects were determined for the SEA topics of ‘Climatic factors’ and ‘Material assets’.

**Table 9. Summary Environmental Assessment for each of the SEA Topics**

SEA Topic	Environmental Assessment Finding
Biodiversity, flora and fauna	Positive (+)
Population and human health	Positive (+)
Soil	Positive (+)
Water	Positive (+)
Air	Positive (+)
<b>Climatic factors</b>	<b>Significantly Positive (++)</b>
<b>Material assets</b>	<b>Significantly Positive (++)</b>
Cultural heritage and the historic environment	Minor Positive to Positive (0/+/+)

## 5.3 Significant Environmental Effects identified

The positive significant environmental effects identified are outlined below with details of their likely impact and relevance to the CES action plan.

CES Strategic Priority 1 – Reduce and Reuse	
SEA Topic – Climatic factors	<p>Action to reduce waste and improve circularity delivers significant greenhouse gas reduction by cutting emissions from disposal, raw material extraction, and transport. Community initiatives such as repair, reuse, recycling, and local food systems, combined with council leadership creates systemic efficiency and resilience. Direct action such as adopting low-carbon manufacturing, renewable energy, energy efficiency, and waste reduction, combines to reduce emissions from industrial processes, food systems, textiles, and Council services. Promoting circular practices such as local sourcing, composting, and resource efficient supply chains further minimises emissions from transport, storage, and disposal. Embedding these circular economy principles and fostering sustainable behaviour change creates a comprehensive approach to reducing greenhouse gas emissions and avoiding new sources while strongly advancing Scotland's net zero target by 2045.</p> <p>Impacts are significantly positive, mostly permanent and range from short to medium and long term. Overall risks to climatic factors from this strategic priority are low and short-term, linked mainly to temporary construction or transport adjustments. Any additional emissions or energy use are minimal and mitigable, with long-term benefits far outweighing short-term impacts.</p> <p>Actions included in the draft CES action plan that will help further deliver the benefits of the positive impacts outlined include:</p> <ul style="list-style-type: none"> <li>• Developing a Good Food Partnership and preparing a Good Food Strategy &amp; Action Plan for Perth &amp; Kinross, complemented by a Food Waste Action Plan and Awareness Campaign and collection of baseline data to understand the barriers to reducing food waste</li> <li>• Developing a Litter and Fly-tipping Strategy</li> <li>• Developing digital platforms to highlight and share resources that can be shared or reused across Council services, businesses, third sector and reuse organisations</li> <li>• Developing a textile campaign to reduce consumption, reuse and repair of textiles and recycle correctly at end-of-life</li> <li>• Developing and implementing a Resource Management Plan for Education &amp; Children's Services to improve the reduction and recycling of waste, energy efficiency, and environmental messaging within schools.</li> </ul>

### SEA Topic – Material assets

Working with residents and businesses to change production, consumption, and disposal patterns reduces waste generation, conserves resources, and cuts greenhouse gas emissions. Promoting reuse, repair, recycling, and circular food systems minimises waste and landfill methane, lowers demand for virgin materials, and reduces energy-intensive manufacturing, while textile waste reduction prevents leakage to landfill and saves water, energy, and chemicals. Council services demonstrating best practice amplify these benefits through sustainable procurement, energy and water efficiency, and robust recycling systems. Collectively, these initiatives embed circular economy principles across communities and supply chains, reduce leakage of materials to landfill, energy recovery, and litter, and foster behaviour change, creating systemic resource efficiency and resilience.

Impacts are significantly positive, mostly permanent and range from short to medium and long term. Overall risks to material assets from this strategic priority are very low and short-term, with minor emissions or inefficiencies possible during construction, material recovery, or transport. These are mitigable through renewable energy, efficient design, and robust planning; ensuring long-term benefits far outweigh temporary drawbacks.

Actions included in the draft CES action plan that will help further deliver the benefits of the positive impacts outlined include:

- Reviewing the Council's procurement processes to embed circular economy principles to reduce consumption of products and materials (for example reducing single use items and specifying sustainable construction criteria)
- Undertaking a material flow analysis of PKC activities to identify opportunities for impactful circular solutions
- Developing a Litter and Fly-tipping Strategy
- Developing a textile campaign to reduce consumption, reuse and repair of textiles and recycle correctly at end-of-life
- Developing digital platforms to highlight and share resources that can be shared or reused across Council services, businesses, third sector and reuse organisations.

### CES Strategic Priority 2 – Modernise Recycling

#### SEA Topic – Material assets

Modernising and improving recycling and reuse systems reduces leakage of materials to landfill, energy recovery, and litter by improving collection efficiency and public engagement, while lowering demand for virgin resources and easing pressure on energy and water infrastructure. These actions extend product life, minimise resource

extraction, and prevent blockages that could affect drainage and flood protection, improving local environmental quality. Over time, community engagement and business innovation embed circular economy principles across supply chains, reducing leakage, conserving resources, and strengthening infrastructure resilience. Innovative solutions such as advanced sorting and closed-loop recycling enhance resource recovery and support renewable energy integration.

Impacts are significantly positive, mostly permanent and range from short to medium and long term. Overall risks to material assets from this strategic priority are low and temporary, with minor emissions or disruptions possible during construction, infrastructure upgrades, or recycling processes. These are mitigable through renewable energy, efficient design, and robust planning, ensuring long-term benefits far outweigh short-term drawbacks.

Actions included in the draft CES action plan that will help further deliver the benefits of the positive impacts outlined include:

- Invest pEPR funding in a range of improvement actions including improved infrastructure, frequency of service, education and behaviour change campaigns, support for community reuse organisations and improving data flow and business insights
- Complete the Asset Management Review of the Council's Waste & Recycling Infrastructure
- Developing a Litter and Fly-tipping Strategy
- Undertaking a material flow analysis of PKC activities to identify opportunities for impactful circular solutions
- Undertake initiatives to better connect with the public around waste and recycling behaviours.

### **CES Strategic Priority 3 – Decarbonise Disposal**

SEA Topic – Material assets

Understanding the best environmental outcomes for waste and ensuring adequate management capacity reduces leakage to landfill, energy recovery, and litter while conserving natural resources and easing pressure on energy and water infrastructure. Prioritizing reuse, recycling, and correct disposal pathways minimises contamination risks and prevents uncontrolled waste near critical infrastructure, reducing flood-related hazards. Innovative solutions such as advanced sorting and closed-loop recycling enhance resource recovery, support renewable energy integration, and strengthen infrastructure resilience. Combined with strategic planning, circular economy principles, and policy leadership, these actions embed systemic efficiency, prevent new emissions sources, and deliver long-term reductions in lifecycle emissions.

Impacts are significantly positive, mostly permanent and range from short to medium and long term. Overall risks to material assets from this strategic priority are low and short-term, with minor emissions or disruptions possible during facility construction, infrastructure upgrades, or waste transport; these are mitigable through sustainable design, renewable energy integration, and robust planning, ensuring long-term benefits far outweigh temporary drawbacks.

Actions included in the draft CES action plan that will help further deliver the benefits of the positive impacts outlined include:

- Develop and launch the Circular Economy Landing Strip/ Clean Growth Axis (a platform and support system integrating PKC, relevant statutory bodies, funding organisations, and private sector to drive large scale circular economy projects into Perth and Kinross)
- Support the development of Project beacon (a Tay Cities Deal project aimed at removing hydrocarbons from residual and recycling waste streams)
- Developing a Litter and Fly-tipping Strategy.

## CES Strategic Priority 4 – Strengthening the Circular Economy

### SEA Topic – Climatic factors

Strategic waste decarbonisation policies and circular economy practices deliver immediate greenhouse gas reductions by diverting waste from landfill and incineration, cutting methane and CO<sub>2</sub> emissions, and embedding low-carbon standards into infrastructure and construction planning. Circular practices reduce raw material extraction, energy-intensive manufacturing, and waste processing, lowering emissions across supply chains while saving energy and resources. Circular construction further reduces embodied carbon, while modernised recycling systems and localised supply chains decrease transport emissions. Combined with policy leadership, business engagement, and community participation, these measures

create a transformative framework that accelerates systemic efficiency, prevents new emissions sources, and delivers sustained lifecycle reductions-making a substantial contribution to Scotland's Net Zero 2045 target. Overall, the impact has strong cumulative and synergistic benefits that align policies, resources, and actions across sectors for long-term climate mitigation.

Impacts are significantly positive, mostly permanent and long term. Overall risks Overall risks to climatic factors from this strategic priority are minimal and short-term, with minor emissions possible during construction, material recovery, or transport. These are far outweighed by long-term benefits and can be mitigated through renewable energy, efficient design, and future-proofed technologies.

Actions included in the draft CES action plan that will help further deliver the benefits of the positive impacts outlined include:

- Reviewing PKC procurement processes to embed circular economy principles to reduce consumption of products and materials, for example reducing single use items and specifying sustainable construction criteria
- Developing procurement category strategies for high emission categories that consider climate change and standard specifications and tender questions for climate change
- Undertaking a material flow analysis of PKC activities to identify opportunities for impactful circular solutions
- Undertaking a Perth & Kinross Circular Scan to establish a baseline for the Circular Economy Route Map (with particular focus on the Agricultural sector)
- Develop communications & behaviour change campaigns for the Business & Industry Sector, including the promotion of awards and accreditation
- Develop and launch the Circular Economy Landing Strip/ Clean Growth Axis (a platform and support system integrating PKC, relevant statutory bodies, funding organisations, and private sector to drive large scale circular economy projects into Perth and Kinross).

#### SEA Topic – Material assets

Circular businesses reduce waste sent to landfill and energy recovery through reuse, repair, and recycling, cutting leakage and litter while lowering demand for virgin materials such as minerals, timber, and fossil fuels. These practices conserve natural resources, reduce extraction pressures, and ease strain on energy and water systems by minimizing resource-intensive manufacturing. Strategic actions-such as enabling circular businesses, promoting innovation, and embedding circular principles into policy and planning-strengthen infrastructure resilience, encourage sustainable design, and support closed-loop supply chains. Over time, these measures reduce leakage, conserve resources, and deliver systemic efficiency, making a substantial

contribution to Scotland's Net Zero 2045 target. Overall, the impact has significant cumulative and synergistic benefits that enhance resource efficiency and long-term sustainability.

Impacts are significantly positive, mostly permanent, and long term. Overall risks to material assets from this strategic priority are minimal, with only minor, short-term challenges such as infrastructure upgrades, resource use, or transitional inefficiencies, all of which are mitigable through sustainable design, renewable energy integration, and careful planning, ensuring long-term benefits far outweigh any drawbacks.

Actions included in the draft CES action plan that will help further deliver the benefits of the positive impacts outlined include:

- Reviewing PKC procurement processes to embed circular economy principles to reduce consumption of products and materials, for example reducing single use items and specifying sustainable construction criteria
- Undertaking a material flow analysis of PKC activities to identify opportunities for impactful circular solutions
- Undertaking a Perth & Kinross Circular Scan to establish a baseline for the Circular Economy Route Map (with particular focus on the Agricultural sector)
- Develop communications & behaviour change campaigns for the Business & Industry Sector, including the promotion of awards and accreditation
- Develop and launch the Circular Economy Landing Strip/ Clean Growth Axis (a platform and support system integrating PKC, relevant statutory bodies, funding organisations, and private sector to drive large scale circular economy projects into Perth and Kinross).

## CES Strategic Priority 5 – Behaviour Change

### SEA Topic – Climatic factors

Encouraging behaviour change across organisations, communities, and businesses directly contributes to reducing greenhouse gas emissions by lowering demand for high energy and carbon-intensive activities associated with virgin material extraction, processing, and manufacturing. Extending product lifetimes through repair, reuse, and remanufacturing further cuts emissions from industrial energy use and fossil fuel combustion. Changing behaviours such as promoting energy efficiency and sustainable transport, and preventing and reducing waste, cuts emissions at source. Cultural shifts toward low-carbon lifestyles, circular procurement, and market transformation help drive eco-design and efficiency improvements, reducing operational emissions and promoting low-carbon supply chains. At scale, these behaviours deliver cumulative reductions in GHG emissions by systematically

reducing material throughput and energy demand across sectors. Synergistic impacts amplify results through integrated approaches (such as combining waste reduction, energy efficiency and local sourcing) supported by collaboration and innovation. Together, these changes avoid new emissions, accelerate decarbonisation, and help Scotland achieve its net zero target by 2045.

Impacts are significantly positive, mostly permanent, and range from immediate to long term. There are no inherent negative impacts on greenhouse gas emissions from encouraging circular behaviours; any minor risks, such as emissions from reverse logistics, are negligible and easily mitigated through clean transport and efficiency measures.

Actions included in the draft CES action plan that will help further deliver the benefits of the positive impacts outlined include:

- Investing pEPR funding in a range of improvement actions including improved infrastructure, frequency of service, education and behaviour change campaigns, support for community reuse organisations and improving data flow and business insights
- Designing and delivering a variety of audience specific communication and awareness raising campaigns (for example using social media, workshops, and consultations) to promote circular practices
- Continue and enhance partnership working with Climate Connect and reuse organisations, and map Perth and Kinross Reuse Network activities to support information sharing network across the sector
- Develop communications & behaviour change campaigns for the Business & Industry Sector, including the promotion of awards and accreditation
- Invest in a digital reuse platform to link businesses / public sector / third sector / reuse organisations to share unwanted items and monitor associated carbon saving.

SEA Topic – Material assets

Encouraging circular behaviours directly reduces pressure on material assets by lowering demand for virgin resource extraction and energy-intensive manufacturing, easing strain on energy and water infrastructure. These actions minimise material leakage by prioritising reuse, repair, remanufacturing, and high-quality recycling, keeping products and resources in circulation and preventing disposal to landfill. Indirectly, circular practices foster eco-design, resource efficiency, and service-based models that reduce material intensity across value chains, improve recyclability, and stimulate markets for secondary materials. By extending product lifetimes and shifting consumption patterns, fewer new assets are required, supporting infrastructure resilience and sustainable resource management. At scale, these behaviours deliver cumulative reductions in resource throughput, easing long-term pressure on critical infrastructure and natural resources, while complementing other sustainability measures (such as renewable energy adoption and water efficiency initiatives) and creating systemic improvements in resilience and environmental quality.

Impacts are significantly positive, mostly permanent, and long term. There are no inherent negative impacts on material assets from encouraging circular behaviours; any minor risks (such as increased local repair activity or temporary storage of reusable items) are negligible and easily managed through good practice and appropriate infrastructure.

Actions included in the draft CES action plan that will help further deliver the benefits of the positive impacts outlined include:

- Investing pEPR funding in a range of improvement actions including improved infrastructure, frequency of service, education and behaviour change campaigns, support for community reuse organisations and improving data flow and business insights
- Designing and delivering a variety of audience specific communication and awareness raising campaigns (for example using social media, workshops, and consultations) to promote circular practices.
- Continue and enhance partnership working with Climate Connect and reuse organisations, and map Perth and Kinross Reuse Network activities to support information sharing network across the sector
- Develop communications & behaviour change campaigns for the Business & Industry Sector, including the promotion of awards and accreditation
- Invest in a digital reuse platform to link businesses / public sector / third sector / reuse organisations to share unwanted items and monitor associated carbon saving.

## 5.4 Mitigation, maximising benefits and monitoring

No significant negative effects from the potential impacts were identified. Risks associated with minor negative impacts have been deemed short-term and easily mitigable, with the overall positive effects of the strategy far outweighing any risks.

All CES strategic priorities, objectives and associated actions will be implemented in a way that minimises environmental harm in order to maximise the benefit of the positive environmental impacts identified in section 5.3, with any action undertaken being mindful of the potential enhancement measures detailed in Appendix 3.

Once the final version of the CES has been approved by Perth & Kinross Council in February 2026, a Post Adoption Statement will be prepared. This statement outlines how the assessment findings and the comments received at the main consultation, both on the plan and the Environmental Report, have been taken into account. It will also outline the CES performance monitoring and reporting framework to be developed in relation to the CES Action and Delivery Plan. As part of this framework, mechanisms will be developed to monitor the significant environmental effects identified in this report, in relation to the CES being implemented. The monitoring framework will draw from the list of relevant indicators which have previously been identified in Table xx, Section 4.4 of this report for each of the SEA Objectives. Reporting on significant environmental effects will be done alongside the annual CES progress report which will be scrutinised at Committee before being made available for public viewing.

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## Map 1: Area covered by the Perth and Kinross Circular Economy Strategy

