Scotland's Circular Economy and Waste Route Map to 2030

Final Business and Regulatory Impact Assessment (BRIA)

January 2025

Scottish Government
Riaghaltas na h-Alba

Contents

Title of Proposal: Scotland's Circular Economy and Waste Route Map to 2030

1. This document is the full Business and Regulatory Impact Assessment (BRIA) for Scotland's Circular Economy and Waste Route Map to 2030 ('CEWRM'). The Route Map was published on 18 December 2024, and set out our intention to publish updates to the previously published impact assessments.

2. The CEWRM sets out strategic direction and lays the foundations to deliver a system-wide, comprehensive vision for sustainable resource use and Scotland's circular economy from now to 2030. The interventions outlined in the CEWRM are at varying stages of development and therefore this BRIA sets out a high-level, indicative assessment of the potential costs and benefits that might be realised, with a focus on priority actions. The need for individual assessments as policy development progresses is highlighted throughout.

3. This final Route Map focuses on the delivery of 11 priority actions to drive progress. These are the actions that we consider are critical to unlocking progress, and which we intend to focus on. They are based on a review of the evidence under each strategic aim, and their potential role to drive progress through collaboration and partnership to 2030. This reflects the feedback from the most recent consultation in early 2024, and the updated assessment of the policy package.

4. Each section of the Route Map also sets out the further actions we will seek to take. These actions are designed to complement the priority actions. In some cases they support delivery of the priority actions (e.g. underpinning research, data, legislation), while in other cases they build on the priority actions through to 2030.

5. We recognise that some actions are not for government alone to deliver, and that these actions will be subject to discussions with partners and stakeholders, the outcomes of future spending allocations, availability of parliamentary time and support, and further research where relevant.

6. The Scottish Government is working within the current fiscal constraints, and we have ensured we have set out clear delivery timescales for these 11 priority actions, informed by collaboration and feedback from local government, business, and other stakeholders, to ensure they remain affordable and deliverable. The Scottish Government is committed to progressing a circular economy at pace and will continually look to maximise the speed of progress where possible taking account of partner feedback and the fiscal situation.

Purpose and Intended Effect

Background

7. The Scottish Government is committed to moving towards a circular economy and playing its part to tackle the climate emergency. A circular economy, based on sustainable consumption and production, is essential to power Scotland's transition to a fair, green and sustainable economy, and critical to meeting our obligations to tackle the twin climate and nature emergencies. Material consumption and waste are primary drivers of nearly every environmental problem Scotland currently faces, from water scarcity to habitat and species loss.

8. Founded on evidence and collaboration, the CEWRM is part of the Scottish Government's wider response to these challenges. It is designed to drive progress on three key fronts:

   a. Setting the strategic direction and laying foundations for how we will deliver our system-wide, comprehensive vision for Scotland's circular economy from now to 2030. The shift to a circular economy can help realise the economic growth potential associated with climate action.
   b. Setting out priority actions from now to 2030 to accelerate more sustainable use of our resources across the waste hierarchy.
   c. Reducing emissions associated with resources and waste.

9. The priorities set out in the Route Map are based on rigorous gathering and assessment of the evidence and an extensive programme of engagement, including two public consultations, over the past three years.

10. The most recent consultation took place in January 2024 and the analysis of responses showed that there were consistently high levels of support for the actions within the four strategic aims, ranging from 71% to 81% support levels.[1] Alongside this support, the responses to the consultation provided constructive feedback. This has directly informed the final shape of the Route Map and will inform the final design and implementation phase for measures.

Strategic aims and associated interventions within the CEWRM

11. The CEWRM outlines our priorities to accelerate progress to meet our sustainable resource objectives, deliver a circular economy and reduce emissions through to 2030. Measures are grouped under four strategic aims:

    1) Reduce and reuse
    2) Modernise recycling
    3) Decarbonise disposal
    4) Strengthen the circular economy

Interaction with other policies (draft or existing):

12. **The Circular Economy (Scotland) Act 2024**,[2] passed unanimously by the Scottish Parliament in June 2024, contains provisions to underpin Scotland's transition to a circular economy, and modernise Scotland's waste and recycling services. The Act includes new powers that will allow us to take action now and into the future. The direction and actions set out in this Route Map are complemented by the new powers in the Act and, in some places, are dependent on these powers.

13. **The Climate Change (Scotland) Act 2009**,[3] amended through the Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 and the Climate Change (Emissions Reduction Targets) (Scotland) Act 2024. This Act sets out Scotland's commitment on

[1] This denotes the percentage of respondents who answered 'agree' or 'strongly agree' when asked the extent to which they agreed with the proposed actions set out under each of the strategic aims.
[2] Circular Economy (Scotland) Act 2024.
[3] Climate Change (Scotland) Act 2009.

tackling climate change, with actions laid out in the various Climate Change Plans. The **update to the Climate Change Plan (2020)** sets out the Scottish Government's pathway to our previous emissions reduction targets set in 2019, including the waste management sector's contribution.[4] A new draft Climate Change Plan will be published in 2025, in line with the changes made to our target framework by the Climate Change (Emissions Reduction Targets) (Scotland) Act 2024.[5] This Plan will reflect our new carbon budget targets that will be set by forthcoming secondary legislation. The CEWRM strategic aims and priority interventions all support progress towards meeting those targets.

14. **Scotland's National Strategy for Economic Transformation (NSET)**.[6] The NSET sets out the priorities for Scotland's economy as well as the actions needed to maximise the opportunities to 2032 to achieve the vision of a wellbeing economy. Its vision for a Wellbeing Economy: Thriving across economic, social and environmental dimensions is supported by three ambitions, including 'Greener: Demonstrating global leadership in delivering a just transition to a net zero, nature-positive economy, and rebuilding natural capital'. A number of interventions across the CEWRM may support the NSET.

15. **Just Transition – A Fairer, Greener Scotland: Scottish Government response**.[7] Scottish Government's strategic approach to just transition is aimed at supporting the development of the NSET. There are a number of interventions within the CEWRM that will also need to align with Just Transition principles. Building just transition into our economic strategy in this way provides a unique opportunity to work with all parts of our economy to deliver a fairer, greener Scotland. Through this work, a number of sector-focused Just Transition Plans are expected over the next few years. Through strategies such as the Green Industrial Strategy and Just Transition Plans, we will focus on the sectors with high potential for growth, identify emerging employment opportunities, and education and training provision to design and deliver activities that maximise the potential for skills development and education for a circular economy.

16. **The Good Food Nation Act**.[8] In 2024 the Scottish Government published its first national Good Food Nation Plan (GFNP)[9] which states "In our Good Food Nation, the people of Scotland can access and enjoy locally produced food that keeps them happy and healthy. Our food industry continues to thrive and grow. The environment is protected, biodiversity loss reversed, and our net zero ambitions achieved. A Good Food Nation enables flourishing rural and coastal communities". Reducing food waste through redistribution and making the food system more sustainable and resilient through the measures in the CEWRM will support the ambition set out in the Act and Good Food Nation Plans by improving access to affordable food and helping to realise the food waste reduction and environmentally friendly disposal ambitions in the Act.

17. **Scotland's Biodiversity Strategy to 2045**[10]: the strategy sets out the outcomes needed to halt biodiversity loss by 2030 and restore and regenerate biodiversity by 2045. The supporting delivery plan includes key actions the circular economy can make to achieving these key milestones.

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[4] Securing a green recovery on a path to net zero: climate change plan 2018–2032 – update, Scottish Government, 2020.
[5] Climate Change (Emissions Reduction Targets) (Scotland) Act 2024.
[6] Scotland's National Strategy for Economic Transformation, Scottish Government, 2022.
[7] Just Transition – A Fairer, Greener Scotland: Scottish Government response, Scottish Government, 2021.
[8] Good Food Nation (Scotland) Act 2022.
[9] National Good Food Nation Plan, Scottish Government 2024.
[10] Scottish Biodiversity Strategy to 2045 – Tackling the Nature Emergency in Scotland, Scottish Government, 2024.

18. **The Scottish Material Flow Accounts (MFA)**[11] show that the estimated material footprint (Raw Material Consumption) is 19.3 tonnes per capita, significantly higher than the amount experts suggest is sustainable (8 tonnes per person per year). The MFA will continue to form part of the evidence and monitoring functions used to measure progress of the CEWRM interventions.

19. **The 2022 Circularity Gap Report for Scotland**[12] found that only 1.3% of the resources used in Scotland are cycled back into the economy, with over 98% of Scotland's material use coming from virgin resources. Measures laid out in the CEWRM for future actions may help to increase resources cycled back into the economy, reducing the need for virgin materials.

20. There are a number of extended producer responsibility (EPR) schemes in place with several reforms underway. These are:
    - Packaging Producer Responsibility Scheme[13]
        - The Producer Responsibility Obligations (Packaging and Packaging Waste) Regulations 2024[14]
    - Waste Electrical and Electronics Producer Responsibility Scheme[15]
        - Consultation on reforming the producer responsibility system for waste electrical and electronic equipment[16]
    - Batteries and Accumulators Producer Responsibility Scheme[17]
    - End of Life Vehicles[18]
    - Deposit Return Scheme regulation[19]

21. Reforms to the existing EPR schemes will change how end of life products are managed, how local authorities may be funded to manage that waste and how reuse and repair are championed across the three schemes. For the CEWRM, changes to EPR schemes will be crucial to interventions such as changes to recycling collections and co-design of services.

Rationale for Intervention

22. Much has changed since most of our existing waste targets were set in 2010. The climate emergency has intensified our focus on emissions reduction, and how we view and treat our precious resources. We can see the day-to-day impacts that climate change and the nature crises are having on our communities, our society, our economic wellbeing, and our environment – both here in Scotland and globally.

23. Founded on evidence and collaboration, the Route Map is part of the Scottish Government's wider response to these challenges, sitting alongside a range of other strategies and plans. It is designed to drive progress on three key fronts:

    - Setting the strategic direction and laying foundations for how we will deliver our

[11] Scottish Material Flow Accounts, Zero Waste Scotland, 2023.
[12] 2022 Circularity Gap Report for Scotland, Circle Economy & Zero Waste Scotland, 2023.
[13] Packaging Producer Responsibility Scheme, DEFRA, 2024.
[14] The Producer Responsibility Obligations (Packaging and Packaging Waste) Regulations 2024.
[15] The Waste Electrical and Electronic Equipment Regulations 2013.
[16] Consultation on reforming the producer responsibility system for waste electrical and electronic equipment 2023, DEFRA, 2023.
[17] Waste batteries: producer responsibility, Environment Agency, 2023.
[18] Regulations: end-of-life vehicles (ELVs), Office of Product Safety Standards, 2021.
[19] Deposit return scheme, Scottish Government, 2024.

system-wide, comprehensive vision for Scotland's circular economy from now to 2030. The shift to a circular economy can help realise the economic growth potential associated with climate action.

- Setting out priority actions from now to 2030 to accelerate more sustainable use of our resources across the waste hierarchy. We acknowledge the progress we have made against our existing 2025 waste reduction and recycling targets, the areas where we have fallen short, and the lessons we can learn as we set out the framework for what comes next.
- Reducing emissions associated with resources and waste. The Route Map sets out the opportunities we will take to decarbonise the waste sector ahead of the draft Climate Change Plan, to be published in 2025, and our approach to tackling the whole-life climate impact of Scotland's resource management and waste.[20]

24. Planning for delivery to 2030 and beyond, it is recognised that policy measures are at different stages of development. This is reflected in the CEWRM, and this BRIA.

25. The actions set out in this assessment draw upon a wide range of evidence, including published and peer reviewed literature, official waste data for Scotland published by the Scottish Environment Protection Agency (SEPA), and previous research by the Scottish Government, Zero Waste Scotland and other parties. Following each consultation period, analysis was undertaken of consultation responses in order to understand the full range of views on the CEWRM, its proposals and impact assessments.

26. This is the beginning of this process, rather than the end, and as we move into the implementation phase of the Route Map, the Scottish Government reiterates its commitment to work in partnership with stakeholders to assess the full impacts of specific measures as they are further defined to ensure they remain feasible, impactful and deliver value for money. For example, measures may need to consider further individual and cumulative impacts on the environment, public spending, the cost to business including small and medium-sized enterprises, consumer choice and affordability, equality, socio-economic and island communities' impacts.

Consultation within Government

27. A wide range of directorates within the Scottish Government, agencies and non-departmental public bodies have been consulted during the development of the CEWRM, including:

- Economic Development Directorate
- Business and Better Regulation Directorate
- Jobs and Wellbeing Economy Directorate
- Environment and Forestry Directorate Rural and Environmental Science and Analytical Services Division

[20] The whole-life carbon impacts of Scotland's waste means considering carbon impacts from resource extraction and manufacturing emissions, right through to waste management emissions, regardless of where in the world these impacts occur.

- Local Government and Analytical Services (SG Local Government and Housing Directorate)
- Energy & Climate Change Directorate
- Lifelong Learning and Skills Directorate
- Marine Directorate
- Tax Directorate
- Scottish Procurement and Property Directorate
- Scottish Government Legal Services
- International Trade and Investment Directorate
- Constitution Directorate
- Local government, including COSLA and SOLACE
- Scottish Environment Protection Agency
- Zero Waste Scotland

Public Consultation

28. The proposals were subject to a public consultation which ran from 30 May 2022 to 22 August 2022 and informed further development and refinement of the interventions.[21] A second public consultation ran from 18 January 2024 to 15 March 2024 on an updated draft version of the CEWRM. The analysis of the second consultation responses was published in August 2024.[22] The second consultation contained 24 questions about the proposals, comprising eight closed and 16 open questions. Questions asked respondents to share their views on the priority and further actions outlined under each of the four strategic aims in the CEWRM, as well as on the impact assessments and Strategic Environmental Assessment report that have been published by the Scottish Government.

29. In total, 156 consultation responses were received. Most were submitted via the online consultation platform, Citizen Space. Those received in an alternative format, for example an email or PDF document, were reviewed separately by the research team.

30. Individuals provided 43 responses to the consultation; the remaining 113 were from organisations. To aid analysis, each organisation was assigned a sector or type. The largest share of organisational responses came from retail and packaging organisations, the third sector, and local authorities. The number and profile of responses is very similar to the previous 2022 consultation which received 160

[21] Delivering Scotland's circular economy - route map to 2025 and beyond: consultation, Scottish Government, 2022.
[22] Scotland's Circular Economy and Waste Route Map to 2030 : Analysis of consultation responses, Scottish Government, 2024.

responses from 48 individuals (30%) and 112 organisations (70%). Table 1 below shows the types of organisations which responded to the second public consultation, also giving an indication of the types of businesses which were engaged with in this format.

Sector	**n= 113**	**%**
Retail and packaging	27	24%
Third sector	18	16%
Local Authority	15	13%
Public body	11	10%
Waste management	10	9%
Construction and development	9	8%
Other – Membership/representative body not aligned with another sector	6	5%
Other – Energy	5	4%
Other – Manufacturing	3	3%
Other – Consulting	3	3%
Other – Academia	3	3%
Other	3	3%

Table 1: Public consultation responses by organisation type

31. The public consultation also contained questions about what further evidence should be considered in the four impact assessments. The BRIA was specifically consulted on in Question 12: “Please provide any further information or evidence that should be considered in the accompanying Business and Regulatory Impact Assessment”.

32. The most common theme among the 32 responses to Q12 was for a desire for further consideration of the financial impact of the proposals on businesses. A few respondents highlighted the lack of data, cost impact assessments and targets within the BRIA and called for more detailed evidence to be included. Others requested more specific consideration of the impact of the proposals on different types of businesses in terms of size, sector and rurality, stressing that a ‘one size fits all’ approach is not sufficient.

33. While the British Standards Institution welcomed the Scottish Government’s commitment to working collaboratively with the business community on the CEWRM, the British Holiday and Home Parks Association felt there was a lack of transparency regarding which businesses and business groups have been consulted throughout the process. Some respondents called for greater collaboration with SMEs and industry bodies in order to fully explore and understand the potential impact of the measures on businesses. A number of respondents, including British Holiday and Home Parks Association and Scottish Wholesale Association volunteered to engage with the Scottish Government on further development of the BRIA. SUEZ Recycling and Recovery UK Limited suggested that a cross-sector approach to the ongoing development of the BRIA should be adopted.

34. As with the other impact assessments, a small number felt that no further information or evidence should be considered within the BRIA.

Business

35. Engagement with businesses and business groups has been undertaken since late 2021 as part of both public consultations, and pre-consultation workshops. This included targeted engagement with businesses and specific sectors, including the resources and waste sector, regarding specific measures and themes. As a result, updates to the CEWRM's policy package have been made, based on business feedback to date, and this collaborative approach will continue through the development and implementation of actions. Our approach has been and will continue to be guided by both the Verity House Agreement with local government, and New Deal for Business Group's recommendations and implementation plan.[23] Engagement with business also occurred through the development of the Circular Economy (Scotland) Act 2024, for example with the Scottish Retail Consortium (SRC) to discuss proposed provisions about placing restrictions on the disposal of unsold consumer goods, reporting on waste and surplus, and charges for single-use items. Further engagement has been undertaken as part of the CEWRM research programme, for example workshops convened by Zero Waste Scotland and Green Built Environment with construction sector representatives. Further impact assessments will be produced when appropriate if and when associated plans, regulations or individual measures are being developed. Potential impacts on key business stakeholders will continue to be assessed as part of this process, and we will continue to take forward engagement and collaboration in line with the principles of the New Deal for Business.

Options

36. There are two options against which the potential balance of costs and benefits are to be discussed. In reality, any mix of policy interventions could be implemented, which would result in different costs and benefits arising. However, the intention of this BRIA is to give a broad indication of scale of impacts with refined assessments made in forthcoming policy appraisal:

    - Option 1: Business-as-usual, or do-nothing approach. This would maintain the status quo, where the CEWRM strategic aims and corresponding interventions are not implemented.
    - Option 2: Implementation of the CEWRM.

37. Discussion of costs and benefits are structured by strategic aim, and is framed around the priority interventions, as stated in the CEWRM, with reference to further interventions which will facilitate, complement and amplify the impacts.

38. As the detail of the individual measures is subsequently developed, in line with the

[23] New Deal with Local Government – Verity House Agreement, Scottish Government, 2023; New Deal for Business Group - Report on Progress & Recommendations: Implementation Plan, Scottish Government, 2023.

New Deal for Business for business-facing measures,[24] detailed analysis of the costs and benefits associated with specific interventions will be presented in separate impact assessments where appropriate, if and when associated strategies or regulations are being developed.

Option 1: No policy change – business as usual

39. Business as usual is the baseline against which the costs and benefits of the implementation of the CEWRM interventions will be assessed.

40. This baseline accounts for policies and regulation that are expected to come into force and that will impact on the policy options covered in the CEWRM. Included are ending the practice of landfilling Biodegradable Municipal Waste (2025), the reformed UK packaging producer responsibility system (2025), and the ban on single-use vapes (2025).

41. As outlined in the CEWRM, while these activities are anticipated to have a positive impact on the trajectory of a circular economy in Scotland, more activity is needed to maximise progress towards sustainable resource objectives and inform the creation of new indicators that consider more than weight of materials. While measures, such as packaging Extended Producer Responsibility (EPR), would transfer some costs from public to private obligation in line with the producer pays principle,[25] alone they would not fundamentally address the linear nature of the economy or the wider cost burden on both public and private sectors, as well as communities, of dealing with waste and other associated environmental impacts.

42. Many of the negative environmental externalities associated with the linear economy will continue to remain undervalued. For example, inefficiencies, unsustainable resource use and waste through production, consumption and exchange of goods and services, leading to environmental damage. The more materials we extract and use, the more damage we do to the climate and to nature; material consumption and waste are drivers of nearly every environmental problem we currently face, from water scarcity to habitat and species loss.

Costs and Benefits (no policy change)

43. No additional financial costs or burdens will be placed directly on local authorities, enforcement bodies or businesses in Scotland. However, the positive economic and environmental impacts and opportunities from a circular economy outlined in the route map will not be fully realised, and the cost of waste and its environmental externalities will continue to be borne by public bodies, businesses, and communities. For example, the costs related to disposal of waste and litter collection. Looking at one element of waste and litter collection such as single-use items like cups shows the extent of the problem. It is estimated that around 388 million single-use disposable beverage cups are used in Scotland each year and this

[24] Delivering a New Deal for Business, Scottish Government, 2023.
[25] Environment - guiding principles: statutory guidance, Scottish Government, 2023.

could rise to 450 million by 2035.[26] Scotland's current cup use creates 5,441.8 tonnes of waste every year, of which 96% is landfilled. As a result, in total, local authorities in Scotland currently spend approximately £1,164,000 a year on waste collection and disposal for cups. Without intervention it is not clear that either a reduction in waste arisings for single-use cups, or a transfer of the cost burden, would occur.

Option 2: Strategic aims and associated measures within the Route Map

44. Presented below is an assessment of the potential costs, benefits, and scale of impact of the priority CEWRM interventions, organised under the four strategic aims. As the CEWRM is a strategic document, many of the interventions are not yet sufficiently developed to allow an in-depth and comprehensive view of the quantitative impacts. Separate BRIAs which will identify in detail the costs and benefits involved for specific interventions, will be developed as required, and are identified where relevant throughout this document.

45. It should also be noted that estimating the cumulative effect of policies is beyond the scope of this BRIA. Some interventions, for example, are included within the Circular Economy (Scotland) Act 2024 (the 'Circular Economy Act'), and already have estimated costings that can be drawn upon for the assessment of costs and benefits. Others are not yet sufficiently detailed to allow for enough data to inform assessment. Where information and detail are lacking, a more narrative assessment of the potential impacts is undertaken.

Reduce and reuse

46. Reducing waste and reusing resources are the top goals of the waste hierarchy and central to changing our relationship with materials and products. Building an economic system that moves away from being based on items that are designed to be disposable brings significant environmental and economic benefits.

Objective 1: Drive responsible consumption, production and re-use

Priority action: Publish a Product Stewardship Plan to set out how we will tackle the environmental impact of priority products

47. Product stewardship is an approach that means whoever designs, produces, sells or uses a product takes responsibility for minimising its environmental impact throughout all stages of that product's life cycle. It is an umbrella term and includes the responsibilities of each actor in the supply chain to minimise waste, maximise reuse, recycle where products genuinely meet the end of their life, and dispose of products responsibly. In line with the 'polluter pays' principle,[27] those who cause pollution should bear the financial responsibility for any damage or remedial action required as a result. Producers must take responsibility to reduce the environmental and carbon footprint of their products. However, product stewardship also recognises that everyone involved with the product has a role to play: for

[26] See the public consultation on the proposed implementation of charging for single-use disposable beverage cups in Scotland for more on this: Charging for single-use disposable beverage cups: consultation, Scottish Government, 2024.
[27] Environment - guiding principles: statutory guidance, Scottish Government, 2023.

example, those involved in the design, supply chain and transport of a product, retailers, consumers, and waste management actors. There is no one-size-fits all approach, and roles and specific actions will vary from one product to another.

48. In line with this principle, extended producer responsibility (EPR) schemes are already in place in the UK for packaging, waste electrical and electronic equipment (WEEE), batteries, and end-of-life vehicles (ELVs). These schemes require producers to ensure their products are collected at end-of-life either through direct management or financial compensation to those who manage collections. While EPR schemes are a strong example of product stewardship, it should be noted that the range of potential policy options is much wider.

49. Other examples of product stewardship initiatives already in motion include the deposit return scheme (DRS) for single-use drinks containers, market restrictions of certain single-use plastic products, charges for single-use carrier bags, and banning the sale and supply of single-use vapes from 2025. There are also other CEWRM interventions within this objective.

50. Significant and rapid progress has been made on tackling single-use plastic products and single-use carrier bags in recent years. Proposals for a charge on single-use disposable cups have recently been consulted on. 388.7 million cups are estimated to be discarded each year in Scotland creating 5,400 tonnes of waste,[28] with an estimated 15 million littered,[29] suggesting the need for action to reduce consumption.

51. Examples of these types of interventions that exist within the CEWRM include the development of further measures to tackle consumption of problematic single-use items and promote uptake of reusable alternatives (including consideration of environmental charging) and developing measures to address the disposal of unsold consumer goods. Interventions also include actions to develop measures to improve the reuse experience for consumers; deliver behaviour change-based approaches focussed on sustainable consumption; identify ways to expand business models that prolong product lifespan; and investigate further steps to promote business-to-business reuse platforms.

52. At a high-level, implementing the polluter pays principle may mean that there are some upfront costs as well as long-term cost savings as part of the required transition to more circular sustainable models of production and consumption. It also means that some actors may see higher or lower costs, as costs are transferred to those that are responsible for costs associated with pollution. Specific potential costs which arise for the listed intervention types include:

    - General costs of staff time within public bodies and other stakeholders for development of options, responding to consultations and engaging in stakeholder events.
    - Changes to public and private IT systems and reporting mechanisms to provide required information: the scale of costs will be determined by the size and scale of change being proposed. For example, the anticipated system set up, service development and integration costs for a digital waste tracking system across the UK were estimated at £4.3m.[30]

[28] Charging for single-use disposable beverage cups: consultation, Scottish Government, 2024.
[29] Single-Use Disposable Beverage Cups Charge: Partial Business and Regulatory Impact Assessment, Scottish Government, 2024.
[30] Introduction of mandatory digital waste tracking – Impact Assessment, DEFRA, 2021.

- Public and private staff training and familiarisation with policy requirements:[31] This will be dependent on the specific intervention and the complexity of implementation within a sector or system.

- Private sector purchase and maintenance of equipment ranging from point-of-sale adjustments to reprocessing machinery: the costs associated here also scale with the size of the change; DRS in Scotland as legislated had a significant up-front investment cost in reverse vending machines estimated at £819m including lost floor space.[32]
- Enforcing authority staff time and systems: this will be dependent on the exact nature of the activity but for example during the development of the Circular Economy Act staff time and estimated cost were calculated for enforcement activity associated with litter and flytipping provisions.[33]
- Resource efficiency communications material costs: This will be dependent on the intervention design and whether it can be built on other communications campaigns such as Let's Do Net Zero.[34]
- Stakeholder support and engagement: The Circular Economy Act serves as an indication of stakeholder engagement costs for a similar circular economy initiative containing several different interventions.[35]

53. Though the range of measures that could be considered as part of a product stewardship plan is broad, with aims to reduce material consumption, maximise reuse and recycling and extend product lifespans, the potential benefits are:

- Reduced littering and flytipping of materials and products. The original business case for DRS estimated that it would reduce the estimated £46 million of public money spent removing litter and flytipping from the environment each year and the wider negative impacts of litter; at least a further £25 million in costs on Scotland's society and economy.[36]
- Increased economic opportunity to collect and reprocess material at scale, thereby creating markets for secondary materials and offsetting virgin material use. For example it was estimated that 155kt of WEEE is disposed of in household residual waste collections in the UK[37] and in the Scottish waste composition analysis 14kt of electrical and electronic items were identified.[38]
- Increased reuse of products and materials, and therefore reduced costs to businesses and consumers, through durability, consumer incentives, and repairability. For illustration, the forthcoming ban on the sale and supply single-use vapes, while expected to result in a loss of profit for wholesalers and retailers, will generate wider benefits from substitution to reusable vapes, as well as a range of non-monetisable social and environmental benefits that may offset this immediate loss to businesses.[39] Similarly, improved experience for customers seeking pre-owned products, driven by reuse targets, and with a supply of products which may

[31] A Deposit Return Scheme for Scotland: Final BRIA, Scottish Government, 2021.
[32] Ibid.
[33] Circular Economy (Scotland) Bill - Financial Memorandum, Scottish Parliament, 2023.
[34] Let's Do Net Zero website, Scottish Government, 2024.
[35] Circular Economy (Scotland) Bill - Financial Memorandum, Scottish Parliament, 2023.
[36] A Deposit Return Scheme for Scotland – Strategic Outline Case, Scottish Government, 2018.
[37] Waste electrical and electronic equipment reform consultation: business and regulatory impact assessment - partial, Scottish Government, 2023.
[38] The composition of household waste at the kerbside in 2021-23, Zero Waste Scotland, 2023.
[39] Prohibition of the sale and supply of single-use vapes: Full Business and Regulatory Impact Assessment, Scottish Government, 2024.

previously have been destroyed when unsold, can create the demand, and an outlet, for materials that would otherwise be disposed of. It is anticipated that increased reuse of products and materials will benefit private and third sector organisations, as businesses seek to develop and leverage circular business models.[40]

- Increased awareness of the environmental impacts of consumer choices, accompanied by removal of the most damaging products from the market, and increased market opportunities for more sustainable products, should allow consumers to make more informed choices, driving demand for more durable products. By aligning these activities with Let's Do Net Zero communications, and other related campaigns, the impact of interventions can be scaled.
- Increased market confidence in alternative business models such as leasing, business to business reuse, subscription models or sharing libraries.
- Creation of jobs and expansion of employee and volunteer skills.
- Increased economic resilience as dependency on importing products and materials is reduced.

54. Both voluntary and regulatory measures will be considered, with actions targeted at different parts of the supply chain based on their responsibilities under the 'polluter pays' principle and taking into account each actor's duty of care. Policies could be introduced individually or as part of a coordinated approach for specific products or in partnership with other UK governments.

55. The product stewardship plan is intended to provide a framework to prioritise products based on their environmental and economic impact. Textiles and mattresses are highlighted as potential priority products under consideration as part of the development of the Plan. As product stewardship plans for priority products are yet to be developed, a precise cost cannot be put on specific interventions and their implementation. Many of the potential measures would require individual impact assessments to fully understand the costs and benefits associated with them. It is worth noting that the product stewardship plan approach is intended to be amplified by coordinating activity and seeking efficiencies in implementation. Some recent examples for illustration are set out here.

56. The accompanying BRIA for the 2023 consultation on reforming UK packaging EPR included a Net Present Value calculation for one option of £12m over a ten-year period against the baseline.[41] It also highlighted better consumer communication to provide a clear and concise message to the disposer. This was expected to benefit consumers as they would be better informed regarding packaging recyclability, which could influence buying decisions and improve recycling rates. This is an example of the potential cost/benefit impact of EPR schemes or implementation of several related interventions for a product.

57. In 2023, the accompanying BRIA for a consultation on reforming the UK producer responsibility system for WEEE calculated net economic benefit for several options, including uplift of bulky WEEE from householders, incentives for designing products that have a longer life, are easier to repair and reuse, and contain more recycled material, alongside potential to positively influence the decision making of suppliers[42]. The BRIA

[40] The Circular Economy & Business, Zero Waste Scotland, 2024.
[41] Reforming the UK packaging producer responsibility system: Partial Business and Regulatory Impact Assessment (BRIA), Scottish Government, 2023.
[42] Waste electrical and electronic equipment reform consultation: business and regulatory impact assessment - partial, Scottish Government, 2023.

included a UK-wide Net Present Value calculation of between £57.8m and £571.5m over a ten-year period across different options.

58. Market restrictions on some problematic single-use plastic products came into force in Scotland on 1 June 2022.[43] The accompanying BRIA calculated a net economic benefit for the ban resulting from reduced carbon impacts and the reduced impact of litter.[44] The BRIA cost benefit analysis Net Present Value calculation, compared to the baseline, showed an economic benefit of £5.4m over a ten-year period. Further market restrictions on problematic products may serve to produce further benefits. Prior to single-use plastic product regulations, market restrictions in Scotland on plastic microbeads and plastic-stemmed cotton buds came into force on 19 June 2018 and 12 October 2019 respectively.[45] Work is underway to bring in legislation in Scotland to ban wet wipes containing plastic, in alignment with the other UK administrations.[46]

59. There are significant opportunities for reuse and recycling in areas of already identified priority products. For example, research commissioned by Material Focus estimated that 1.45 million tonnes of electrical waste was available to be re-used or recycled in the UK.[47] Four million tyres (new, retreaded and part-worn) are estimated to have been placed on the Scottish market in 2018. Most of the 64,000 retreaded tyres are from local businesses, as opposed to import, and are used mainly for buses and trucks. There may be opportunities to grow this market for other vehicle categories.[48] Which? reported that 51% of consumers use take-back schemes to dispose of their old mattresses, 19% took it to their local HWRC, 13% used a specialist recovery company and 6% gave it to charity for reuse.[49]

60. The consultation on charging for single-use disposable beverage cups was published in August 2024. Its interim BRIA sets out benefits in terms of reducing environmental impacts associated with the manufacture, use, and inappropriate disposal of single-use disposable beverage cups; reduced litter clean-up costs, a direct saving for local authorities and other organisations; a reduction in visual disamenity; and societal benefits by reducing harmful effects of problematic materials persisting as litter in terrestrial and marine environments.[50]

61. The examples given demonstrate the potential impacts of policy intervention types, while noting impacts, costs and benefits will be dependent on the priority products identified, and the subsequent measures progressed for each material.

Objective 2: Reduce food waste

Priority action: Develop an intervention plan to guide long-term work on household food waste reduction behaviour change

62. The food waste prevention target outlined by the Food Waste Reduction Action Plan was a

[43] Single-use Plastic Products (Scotland) Regulations 2021, Zero Waste Scotland, 2023.
[44] Environmental Protection (Single-use Plastic Products) (Scotland) Regulations 2021: business and regulatory impact assessment - final, Scottish Government, 2021.
[45] Climate Change Monitoring Report 2024, Scottish Government, 2024.
[46] Summary of responses and government response, 2024.
[47] Mapping waste electrical flows in the UK, Material Focus, 2020.
[48] Vehicle Tyres Market Overview, Zero Waste Scotland, 2020.
[49] How to dispose of a mattress, Which?, 2024.
[50] Single-Use Disposable Beverage Cups Charge: Partial Business and Regulatory Impact Assessment, Scottish Government, 2024.

33% reduction from 2013 arisings on a per capita basis by 2025. Arisings in 2013 were 988,083 tonnes, or 185kg per capita. Based on a 33% reduction, the target per capita is 124kg. The latest data available from 2021 indicated that there has been a rise against the 2013 baseline of 2% per capita and 5% in total volume. The trajectory of food waste in Scotland is clearly not sustainable and runs counter to Scotland's ambition of achieving net zero by 2045, and the transition to a circular economy and society which provides a raft of environmental, economic, and social benefits. Previous research has highlighted that 60% of Scotland's food waste is attributable to householders, equivalent to 111kg per person per year and 2.2 million tonnes of CO2eq.[51] There is therefore great potential through behaviour change interventions to deliver significant reductions in food waste. Despite this, available evidence to support household food waste reduction through behaviour change interventions is limited.

63. To tackle this, the Scottish Government and its partners aim to gather and review evidence about interventions that have potential to reduce household food waste. This will enable us to develop a behaviour intervention plan, focusing on a test of change and improvement approach.

64. The intervention plan will draw together evidence on best practice for household food waste reduction. Implementation will be determined by the approach taken which will be dependent on sizes and scale (e.g. within a household, community, local authority area, regionally or nationally) and the need for any further research. These factors will impact on any subsequent cost.

65. As there is a lack of detail at this stage on what the intervention plan will contain, an assessment of the potential benefits of the intervention is best taken by considering the benefits to households from reduced food waste. Data from WRAP UK indicates 25% of food prepared at home in the UK is thrown away. As such there is a direct financial cost in purchasing food that is destined to be discarded. In 2021/22 this was estimated to total £17 billion, or around £250 per person, or £1,000 per year for a family of four in the UK.52 Therefore, any measures in the intervention plan that successfully reduces household food waste could bring potential savings to households. However, this may have implications for the food and drink sector as householders could potentially purchase less.

Priority action: Develop with stakeholders the most effective way to implement mandatory public reporting for food waste and surplus by businesses

66. Business and non-business organisations contributed 427,505 tonnes, or 41%, of total food wasted in Scotland in 2021.[53] This is equivalent to nearly 2.5 million tonnes of CO2eq. Utilising new powers in the Circular Economy Act, the Scottish Government intends to take action to put in place more effective monitoring and management of food waste, by placing duties on businesses to report publicly on food waste and surplus.

67. There is evidence that voluntary action plans and agreements can be effective, but even voluntary agreements seen as world-leading (e.g., WRAP's Courtauld Commitment) can plateau and fail to engage harder to reach stakeholders.[54] In DEFRA's consultation on

[51] Making Things Last: A Circular Economy Strategy for Scotland, Scottish Government, 2016; 2021 Scottish Food Waste Estimate, Zero Waste Scotland, 2024.
[52] Household Food and Drink Waste in the United Kingdom 2021-22, WRAP, 2023.
[53] 2021 Scottish Food Waste Estimate, Zero Waste Scotland, 2024.
[54] The Courtauld Commitment 2030, WRAP; Penalties Required: The Limits of Voluntary Environmental Agreements, earth.org, 2024.

mandatory reporting of food waste,[55] the "do nothing option" was continuing with the existing voluntary Courtauld Commitment approach. This indicated that the Food Waste Reduction Roadmap from WRAP would only add a maximum of 50 businesses to the existing 207 signatories,[56] significantly less than the 509 large businesses in England that DEFRA projected would be affected by mandatory reporting in England, as outlined in the consultation. This indicates that voluntary action alone is insufficient to meet the scale of the challenge and further, mandatory action is required.

68. The Scottish Government is committed to ensuring that the design and implementation of any new requirements are developed with stakeholders, including the business community, in line with the principles of the New Deal for Business. An expert advisory group will be established to facilitate this. Given the collaborative approach, it is not possible to meaningfully assess the potential costs and benefits of the intervention until the preferred approach has been identified. A full assessment of costs and benefits will be undertaken to accompany the development of the regulations that implement this section of the Act. However, the information below is intended to provide some sense of costs and benefits. The Scottish Government will seek to ensure that any requirements placed on business, and particularly small businesses, are proportionate.

69. As set out in the financial memorandum that accompanied the Circular Economy Bill (now Act), it is expected that the mandatory public reporting of waste and surplus will have cost implications for SEPA as the regulator and businesses. [57] SEPA has given an indicative range of potential costs of between £50,000 per year and £300,000 per year for its involvement, recognising SEPA will be instrumental in raising awareness and undertaking checks and enforcement of the reporting requirement. Typical costs for the monitoring and reporting of food waste and surpluses by businesses involve investment in reporting infrastructure such as new IT systems, staff education and training, and general changes in business processes. Businesses would also face ongoing costs of reporting, including staff costs and maintaining reporting systems etc.

70. The impact assessment accompanying DEFRA's 2022 consultation provides indicative costs to businesses and to the regulator based on UK level estimates of the number of businesses likely to be affected by the proposals. DEFRA regional adjustment factors contained in the consultation have been used to scale these estimates to a Scottish level focusing on large and medium sized businesses, noting that fuller analysis will be undertaken when the approach to reporting is developed and consulted on with the regulations.

71. Adjustment factors are taken from the DEFRA impact assessment for food waste measurement and reporting for food businesses in England. Noting that DEFRA also used adjustment factors to scale England-only impacts from UK-wide data on the number of enterprises by SIC class and region.[58] The adjustment factors are shown below:

[55] Consultation on improved reporting of food waste by large food businesses in England, DEFRA, 2022.
[56] As of 2021.
[57] Circular Economy (Scotland) Bill - Financial Memorandum, Scottish Parliament, 2023.
[58] Food waste measurement and reporting for food businesses in England - Impact Assessment, DEFRA, 2022.

	England	Scotland	Ratio
Hospitality and food service (HaFS)	0.84	0.09	0.11
Retail	0.84	0.08	0.10
Manufacturing	0.81	0.1	0.12
Wholesale	0.87	0.07	0.08

Costs to businesses, using DEFRA assumptions and scaling, large and medium businesses:

Cost to Businesses	Type of cost	Scotland high (£)	Scotland central (£)	Scotland low (£)
Year 1 Set up costs for businesses[59]	one-off	1,552,158	1,035,677	532,402
Total familiarisations costs for all businesses	one-off	78,199	77,852	77,443
Total familiarisation costs for all units	one-off	101,654	66,503	32,436
Average annual reporting costs for all businesses	On-going	287,692	285,451	283,426
Average annual reporting cost for all units	On-going	1,097,840	711,736	343,371
Annual third part costs for all businesses	On-going	805,784	532,671	263,549
Total		3,923,326	2,709,890	1,532,627

72. Businesses would also have ongoing costs of reporting. It is estimated that a large or medium-sized business (more than 250 employees or less than 250 employees respectively) would require between 2.5 and 12.5 days of staff time per year for reporting at a headquarter level. Assuming a real living wage cost of £10.90 (2023 values) this would represent an annual cost of between £204 and £1,021 per business.

73. As noted elsewhere, there is potential for digital waste tracking to support mandatory reporting for businesses.[60] However, this would not capture any food waste disposed of via non-food waste bins (e.g. residual waste) or any surplus food.

74. Evidence suggests that investment in food waste reduction and monitoring food waste has potential benefits: For example, having a more efficient business model, reducing waste and reduced waste collection and disposal can all reduce costs, with some businesses reporting a 14-fold or greater return on investment.[61]

Objective 3: Embed circular construction practices

75. The construction sector is highly dependent on (virgin) goods which originate from outside the UK.[62] This dependency creates vulnerability to fluctuations in the global economy,

[59] This applies to businesses that are not already measuring relevant food waste and surplus under the Courtauld Food Waste Reduction Road.
[60] Introduction of a UK-wide digital waste tracking system: partial business regulatory impact assessment, Scottish Government, 2022.
[61] The business case for reducing food loss and waste, Champions 12.3, 2017.
[62] Construction building materials: commentary August 2024, Department for Business & Trade, 2024, section 3.7.

which is damaging to businesses of all sizes but particularly SMEs. The establishment of reuse hubs could support certain businesses to be less reliant on imported virgin goods and help protect them better from dips in the global economy.

76. Construction and demolition accounts for up to half of all waste produced in Scotland. This waste is largely soil excavations from housing and infrastructure projects as well as bricks, tiles and concrete from demolition. Scotland has met the European Union target of 70% recycling and reuse of construction and demolition waste by 2020 every year since 2011. The latest data indicates a recycling rate of 90.4% in 2022.[63] However, there remains a need to focus further up the waste hierarchy by reducing waste and reusing resources where possible. In 2022, the construction and demolition sector generated 4.6 million tonnes of construction and demolition waste, down from 5.8 million tonnes in 2018. Waste varies greatly year to year due to differences in construction and wider economic activity. This variation is currently one of the main factors determining whether Scotland achieves its previous 15% waste reduction target. Despite meeting this target two years in a row according to the most recent 2022 data,[64] we face significant challenges in consistently meeting it without accelerating action to reduce waste from construction and demolition.

Priority action: Support the development of a model for regional Scottish hubs and networks for the reuse of construction materials and assets

77. Zero Waste Scotland has worked with a consortium of partners to secure Horizon Europe funding for a construction materials reuse project – CirCoFin (Circular Construction Finance). The programme of work will develop a model for commercially viable, construction material reuse hubs in Scotland with the aim of driving large-scale reuse in the sector. Ultimately, this would help to move towards a circular economy approach and address the climate and biodiversity crises. The funding supports the necessary technical, financial and legal work to be undertaken that could pave the way for a network of construction materials reuse hubs (digital and physical) in Scotland. While not directly comparable as based on a much wider scope (across several European countries), the value of the CirCoFin project to undertake initial preparation work (to understand what the necessary technical, financial and legal work required to develop a model for reuse hubs) would be 6 million euros. Of this, just under 1 million euros could be allocated to the Scotland work package should the grant agreement be finalised.

78. Costs relating to physically establishing and the running of regional hubs and networks cannot be estimated at this time, as it is dependent on the work set out above and the wider action to develop a model for regional Scottish hubs and networks. However, delivery of this priority intervention has the potential to provide a range of benefits. These would be across businesses, individuals and government. It would enable Scottish Government and partners to work with the construction industry and develop effective support to achieve more circular construction practices.

79. Feedback received during stakeholder engagement for the research, 'Developing a Programme for Improving the Reuse of Scotland's High Value Construction Materials and Assets' suggested likely benefits of reuse hubs could be[65]:

[63] Waste from all sources, SEPA, accessed online September 2024.
[64] Ibid.
[65] Developing a Programme for Improving the Reuse of Scotland's High Value Construction Materials and Assets, Zero Waste Scotland, 2024.

- Development of collective storage facilities (hubs), as part of a centralised approach to resource management and cultivating circular innovation within the sector.
- Such facilities could allow for testing and certification of materials and assets identified for reuse.
- Such facilities could also normalise buildings themselves being seen as repositories or stockpiles of valuable, high-quality materials that can easily be taken apart or recovered should they be demolished or undergo further construction work. Specifically, the Buildings as Materials Banks (BAMB) project was cited during stakeholder engagement.[66]

80. Additional benefits could include:

- Education and awareness raising – community level hubs have potential to support engagement with local communities and waste management contractors.
- Procurement – existence of hubs can enhance uptake of reuse requirements in contracts.

81. Further feedback received during stakeholder engagement for 'A Feasibility study of Regional Materials Reuse Hubs in Scotland' (Zero Waste Scotland) suggests a number of further benefits: [67]

- Decreased use of primary resources and reduction of carbon emissions and waste. A 2020 paper from the Interreg North-West Europe FCRBE project highlighted that the reuse on building products lowers the environmental impact of the construction industry, aligning with the feedback from the Zero Waste Scotland study.[68]
- Potential to increase the reuse of several materials and products (e.g. brick, block, timber, stones, aggregates, interior finishing products like carpet, glass partitions, etc.). Responses received suggested that the first step would be to prioritise high value products.
- Social value through job creation in the circular economy reuse sector.[69]
- Wider biodiversity benefits through reduced virgin material extraction and circular building design and planning.[70]
- Scope to design reuse hubs to address demand at different levels of scale.
- Community hubs could be integrated into existing reuse hubs selling other products, combined with existing waste contractor or recycling centre infrastructure, built as an add-on to household waste recycling centres, or introduced within industrial areas close to local urban areas.
- Benefits of community hubs are linked to social value impact resulting from complimentary activities such as skills workshops and tool libraries, and the community aspect of offering volunteer opportunities in a safe space.

[66] BAMB: Buildings as Material Banks website, accessed online September 2024.
[67] Feasibility Study of Regional Materials Reuse Hubs in Scotland, Zero Waste Scotland, 2024.
[68] A guide for identifying the reuse potential of construction products Working Draft version, Interreg North-West Europe FCRBE, 2020.
[69] Job Creation in the re-use sector: Data insights from social enterprises: Briefing, rreuse, 2021.
[70] The Embodied Biodiversity Impacts of Construction Materials, Expedition Engineering and ICE, 2023.

- Commercial hubs provide an opportunity to scale up activity that meets the requirements for quantities of materials and assets used by Tier 1 Contractors, Architects, Developers, House Builders, Social Housing sector, and Facilities Management.
- Commercial hubs can be introduced as new facilities in warehousing/ industrial areas where new building development is regular. There is also the possibility to create 'pop up' facilities as part of a central reuse offer to serve large developments with multiple projects and construction teams.

Other actions

82. Other actions will be progressed to develop new and promote existing best practice standards in circular practices within the construction sector, and assess the options for both voluntary and mandatory compliance; investigate and promote options to incentivise and build capacity for the refurbishment of buildings; investigate and promote ways to reduce soil and stones disturbance, movement and volumes going to landfill; review opportunities to accelerate adoption of climate change and circular economy focused purchasing in construction.

83. The Scottish Government will also consider how devolved taxes can incentivise the use of recycled aggregates and support circular economy practices. The Scottish Parliament has passed the Aggregates Tax and Devolved Taxes Administration (Scotland) Act 2024, which sets out the key arrangements for a devolved environmental tax that aims to encourage the minimum necessary exploitation of primary (i.e. fresh or new) aggregate. The planned introduction date of the Scottish Aggregates Tax is 1 April 2026. The Financial Memorandum that accompanied the legislation set out the costs associated with the measures introduced by the Bill.[71]

84. Costs relating to these other interventions cannot be accurately estimated at this time, and may be subject to further impact assessments as they are developed. However, potential costs which arise may include:

- General costs of staff time for development of options, responding to consultations and engaging in stakeholder events. The Circular Economy Act serves as an indication of stakeholder engagement costs for a similar circular economy initiative containing several different interventions or provisions.
- Future public and private staff training and familiarisation with policy concepts and/or requirements: This will be dependent on the specific intervention and the complexity of implementation within a sector or system.
- Potential required changes to public and private IT systems and reporting/recording mechanisms.
- Any other transitional costs, e.g. adopting new best practice and associated procedures.

[71] Aggregates Tax and Devolved Taxes - Financial Memorandum, Scottish Parliament, 2023.

85. A number of other overarching benefits to further embedding circular economy practices have been identified through previous engagement[72], projects and collaboration with the construction and wider built environment sectors over a number of years.

86. Benefits that may be delivered by these additional actions include:

- Job creation – enables skills development and transfer from other sectors (e.g. testing and certification of reuse materials and assets, through apprenticeships and training programmes).
- Education and awareness raising – opportunity to support engagement with local communities and waste management contractors. Promoting and sharing best practice in a number of areas from planning to a building's end-of-life. Potentially resulting in more opportunities in future for carbon savings via building refurbishment over demolition and new build.
- Testing and certification – to ensure suitability of reuse materials and assets. This may offer critical quality assurance to build market confidence in secondary materials.
- Procurement – enhance uptake of reuse requirements in contracts, which can be further supplemented by uptake of pre-demolition audits.
- Economies of scale – creating a collective and centralised approach to reuse of construction materials and assets can facilitate supply and demand matching. Creating a viable market can support cost reduction and material sharing.
- Promotion of circular economy planning principles.
- Environmental benefits (carbon and biodiversity) from a reduction of soil disturbance.
- Leveraging power of sector stakeholders in helping to deliver on this objective.

87. It is also recognised that the construction sector has and continues to achieve high recycling rates. However, further effort is required to support the sector to manage resources more sustainably, and in accordance with the waste hierarchy. This includes reducing the volume of materials becoming waste, and reusing existing materials where possible. Progress made in supporting the construction sector to more fully embed circular economy practices will result in positive impacts with regards to reducing waste, avoiding use of virgin materials, championing reuse of materials and increasing recycling in Scotland.

88. This will have a direct positive impact in terms of reducing emissions created by the sector. Without these interventions the construction industry is less likely to move towards increased circularity. This would result in the continuation of the linear economy of take, make and dispose in the construction industry, and its resulting generation of waste and emissions.

Modernise recycling

89. Recycling helps to conserve our natural resources, keeps valuable materials flowing through our economy and reduces the amount of waste sent to landfill. We want Scotland to become a world leader in recycling, where recycling and reuse services are easy to use and accessible to all, and support and encourage positive choices. We want a high-performing recycling system that includes: modernised recycling services for households

[72] Construction, Zero Waste Scotland, accessed online August 2024.

and businesses across Scotland; optimises the performance of collection services; and can recycle most waste types to maximise diversion of waste from disposal. Increasing the amount of materials recycled and increasing the proportion of these recycled in Scotland will deliver carbon reductions, reduce the environmental impacts associated with extracting new raw materials, and create a range of important economic opportunities to reprocess and reuse materials here in Scotland.

90. In this section, there are two main objectives:
- Modernise household recycling and reuse services
- Support businesses in Scotland to reduce waste and maximise recycling.

Objective 1: Modernise household recycling

Priority action: Facilitate a co-design process for high quality, high performing household recycling and reuse services

91. The Circular Economy Act provides for a transition from a voluntary to a statutory approach to Scotland's Household Recycling Code of Practice. The intention is to co-design the new Code of Practice with households, COSLA, local authorities and service operators to create modern, efficient, and affordable waste and recycling service standards that are deliverable.

92. The process will be underpinned by the principles set out by the Verity House Agreement[73], focusing on collaboration to support sustainable public services and achieve better outcomes for individuals and communities. It will utilise the expertise within Scottish local authorities and the waste sector , and build on the investments made by national and local government through the Recycling Improvement Fund.[74]

93. Across both the 2022[75] and 2024[76] CEWRM consultations, proposals across the household recycling package were well supported. 82% of respondents agreed with the household recycling proposals in the 2022 consultation analysis[77], while 76% of those who responded in the 2024 consultation analysis[78] agreed or strongly agreed with the proposals. However, one of the main concerns raised was that actions may be difficult to implement due to the financial challenges facing the public sector and lack of available local authority funding and capacity. Respondents also emphasised the importance of ensuring that the proposed actions do not undermine or interfere with the implementation of legislation related to Extended Producer Responsibility and the Deposit Return Scheme. Facilitating a co-design process will require staffing resources to organise, advertise,

[73] New Deal with Local Government – Verity House Agreement, Scottish Government, 2023, https://www.gov.scot/publications/new-deal-local-government-partnership-agreement/.
[74] Recycling Improvement Fund, Zero Waste Scotland, 2023, https://www.zerowastescotland.org.uk/resources/recycling-improvement-fund.
[75] Delivering Scotland's circular economy: A Route Map to 2025 and beyond, Scottish Government, 2022, https://www.gov.scot/publications/consultation-delivering-scotlands-circular-economy-route-map-2025-beyond/.
[76] Circular economy and waste route map to 2030: consultation, Scottish Government, 2024, https://www.gov.scot/publications/scotlands-circular-economy-waste-route-map-2030-consultation/.
[77] Delivering Scotland's Circular Economy - route map to 2025 and beyond: consultation analysis, Scottish Government, 2023, https://www.gov.scot/publications/consultation-delivering-scotlands-circular-economy-route-map-2025-beyond-analysis-consultation-responses/.
[78] Scotland's Circular Economy and Waste Route Map to 2030 : Analysis of consultation responses, Scottish Government, 2024, https://www.gov.scot/publications/scotlands-circular-economy-waste-route-map-2030-analysis-consultation-responses/.

engage, collect and implement recommendations. The financial memorandum which accompanied the Circular Economy Bill (now the Act) offers comparable costs with regards to facilitating the co-design process and proposed costs for developing a new Code of Practice.[79] The financial memorandum suggests there is likely to be costs to developing the new Code of Practice to:

- The Scottish Government – staff resource, research and stakeholder engagement costs to:
    i. This is projected at 1.5 additional FTE (full time equivalent) policy officers (0.5 FTE B3 and 1 FTE B2). On average staff costs, this would amount to approximately £77,000 per annum.
    ii. Direct costs of the planned co-design process itself are likely to include additional research at an estimated cost of £50,000, as well as stakeholder engagement and associated publication costs, which are expected to be approximately £20,000.
- COSLA – staff resource costs:
    i. Costs are unknown at this time and will highly depend on the model of the co-design process. However, COSLA staff resource will be required to help design and facilitate the co-design process.
- Local Authorities – staff resource costs:
    ii. The financial memorandum suggests local authority resource to work on the development of, and compliance with, the new Code of Practice could be, at a minimum resource level, one additional 1.0 FTE policy officer per local authority (estimated at £45,000) for up to 2 years. A portion of this resource will be used in the development of the co-design process.

94. It is likely there will be additional costs with regards to wider stakeholder engagement throughout the co-design process. Some costs are likely to fall within the normal operating costs for staff within organisations involved but the scope of additional costs will not be known until the methodology is confirmed.

95. Some wider society costs in moving from a voluntary to a mandatory Code of Practice are expected. For example, householders may need to adapt to new kerbside waste and recycling collections and local authorities may need to make one-off capital investments such as bins, vehicles and storage facilities. However, the details of the new Code of Practice and associated costs will be subject to the process of co-design with local government, service operators, and households, and then public consultation, meaning it is not yet possible to establish the costs. The key intended outcomes of the co-design would be to result in increased recycling and reduced carbon emissions associated with waste management.

96. There are also wider costs to society of not moving to a mandatory Code of Practice. These include: seeing no reduction, and possibly increases, in carbon emissions from landfilling or incinerating waste; current levels of inconsistent and inefficient collection services would remain; current or increased levels of contamination of recycling bins

[79] Circular Economy (Scotland) Bill Financial Memorandum, Scottish Government, 2023, https://www.parliament.scot/-/media/files/legislation/bills/s6-bills/circular-economy-scotland-bill/introduced/financial-memorandum-accessible.pdf.

would continue or possibly increase, resulting in higher contract costs to local authorities; and current issues with associated littering would continue.

97. Co-design requires that those people affected by an issue are active contributors and bring their own experiences, ideas and expertise to resolving a problem such as seeking to improve collective performance or the redesigning a service. These contributions help to build trust, transparency and a mutual understanding of issues and solutions between associated parties. This offers legitimacy to collective plans or processes and should lead to improved outcomes in the long-term. It will help to ensure final decisions are agreed across the group(s), including where any compromises have been made.

98. Co-design will allow for iterative decision making. For example where the co-design group determines there is value in exploring an idea(s), further work can be undertaken swiftly. This will allow for feedback to the group in real time and alongside other ongoing co-design discussions.

99. Placing the new Code on a statutory footing will provide a clear strategic direction for household recycling in Scotland, accelerate improvements to both the quality and quantity of recycling and improve consistency of services.

100. A number of wider society benefits of moving from a voluntary to a statutory Code of Practice are expected.

101. Reductions in carbon emissions from landfill or incinerating waste are likely to occur if householders better understand and maximise use of their kerbside collections, in particular recycling and food waste collections.

102. Householders should benefit from more efficient and consistent collections across Scotland. While a new mandatory Code of Practice would take into account geographical and housing stock challenges, there would still be a significant increase in consistency regardless of where in Scotland people live.

103. Increased and more reliable supply of quality recyclate will support investment in domestic processing capacity. Additionally, consistency resulting from a new mandatory Code should also allow for better forecasting of required waste and recycling infrastructure capacity. This includes the potential to share facilities to achieve economies of scale and reducing cost to local authorities.

104. This increased consistency would also allow for more effective national awareness and communications campaigns to help ensure engagement with any new collection services.

105. Any progress made to create a modern, efficient and affordable waste and recycling service standards will support Scotland to meet any future recycling and wider circular economy targets.

106. Outputs of the co-design process, for example more consistent recycling collections, will aid in meeting local recycling and reuse targets, and inform the monitoring and reporting framework for local authority waste services.

Other actions

107. Complementary to the new co-designed Code of Practice will be the introduction of statutory recycling and reuse local performance targets for household waste services from 2030 onwards.

108. Through powers created by the Circular Economy Act it will also become a criminal offence to breach the existing Householder's Duty of Care[80] in relation to household waste, as set out in the Duty of care: code of practice for managing controlled waste. This measure will provide local authorities, and other relevant enforcement bodies, with powers to enforce breaches of the Duty of Care when waste is flytipped and the householder responsible can be identified. The intention is to prevent flytipping and to encourage householders to undertake due diligence when using waste collection services to ensure they are using licensed service providers.

109. Costs relating to the strengthening of the Householder's Duty of Care have been calculated in the Circular Economy Bill (now Act) financial memorandum[81], which estimates the financial costs of implementing the intervention for the Scottish Government, local authorities, and other bodies, businesses, and individuals. Costs for local authorities for three years of implementation are estimated to be around £16,500 per local authority, and for individuals that fail to uphold the Duty of Care, a potential £200 Fixed Penalty Notice per person. There are no other estimated costs.

110. Local authorities will be given more tools to ensure that households are properly using their recycling containers and to reduce recycling contamination. This provides local authorities with more flexibility in their approach and more proportionate enforcement tools. These additional tools for local authorities to reduce recycling contamination can lead to benefits through reducing contaminated loads being disposed of in landfill or incineration plants. This would also lead to reduced costs to local authorities in their waste management contracts, particularly in light of the proposed forthcoming inclusion of energy from waste in the UK Emission Trading Scheme (ETS).

111. Costs relating to the expansion of tools available for local authorities to ensure proper use of recycling containers and reduce recycling contamination have been calculated in the Circular Economy Bill (now Act) financial memorandum[82], which estimates the financial cost of the intervention for a range of actors involved. For the three-year implementation period, total costs for the Scottish Government are estimated to be £144,000; local authorities are estimated to pay £92,000 per local authority, and individuals may incur a cost per penalty charge, to be defined by regulations. There are no other estimated costs.

112. The Scottish Government intend to conduct a review of waste and recycling service charging to ensure that we have the right incentives to reduce waste and maximise use of recycling and reuse services. Currently, households in Scotland can be charged for collection of certain waste and recyclate streams, such as garden waste or uplift of larger

[80] Duty of care: code of practice for managing controlled waste, Scottish Government, 2012, Duty of care: code of practice for managing controlled waste - gov.scot
[81] Circular Economy (Scotland) Bill Financial Memorandum, Scottish Government, 2023, Financial Memorandum accessible
[82] Ibid

items. This review will enable the policy to be considered through the co-design of the new Household Recycling Code of Practice, and collective decisions taken based on the evidence provided.

113. At this stage it is not possible to define precise costs, pending the review itself, and further impact assessments may be required. However, at a high-level, such a review may incur implementation and administrative costs. To conduct the review will require resource from the Scottish Government, local authorities, SEPA and potentially households. Costs may be incurred to carry out public consultations. Depending on the outcomes of the review, transitioning to any new charging framework may require new infrastructure such as billing systems and/or monitoring technology, for example. Local authorities may also need to invest in communicating to households about any potential changes. Potential benefits may include waste reductions from effective behaviour change, higher quality recyclate, and more effective systems overall. These factors may contribute to reductions in environmental externalities in relation to household waste which incur costs for specific actors and society overall.

114. Related to this review, is the review of the monitoring and reporting framework for local authority waste services. This feeds into the goals of recycling co-design and the development of statutory local targets. This intervention will be a partnership between the Scottish Government and local authorities, looking at where additional or alternative reporting may be required to help drive and assure further service improvements.

115. As with the review of charging, potential costs and benefits will depend on the outcome of the process. General implementation and administration costs however will still apply. If successful, any action that increases the quality of monitoring and reporting data may contribute towards the general benefit of recycling services across Scotland, and help to drive reductions in the negative environmental externalities associated with household waste.

116. Lastly, the Scottish Government also aims to develop options and consult on the introduction of a requirement on local authorities and others to report publicly on end destination of household recycling collected. This aims to increase transparency and strengthen public confidence in recycling services, and boost Scotland's ability to domestically manage its own waste. Options will be developed and consulted upon for a statutory duty on local authorities to report on the end destinations for collected material. The Scottish Government recognises the need to be mindful in how additional reporting requirements on actors in the supply chain are placed and will carefully consider links to existing and planned measures, including UK-wide digital waste tracking, as options are developed. There may be costs associated with this measure in the form of increased reporting requirements for different actors, and well as clear benefits around improved transparency and public confidence in recycling. However, it is not possible to assess the costs and benefits associated with this measure at this stage, and further assessment will be required as options are developed for consultation.

Objective 2: Support businesses in Scotland to reduce waste and maximise recycling

Priority actions: Review of compliance with commercial recycling requirements

117. To meaningfully help Scottish businesses to achieve waste reduction and improve recycling and reuse services, an understanding of any barriers to compliance with waste and recycling regulations must be gained.

118. Working alongside SEPA, the Scottish Government will therefore undertake a review of compliance with current commercial recycling requirements in Scotland. The review will begin in 2024 and will report its findings in 2026. Scotland's commercial waste requirements in the Environmental Protection Act 1990 were brought in by the Waste (Scotland) Regulations 2012[83], and we believe it is the right time to review whether these requirements, and their enforcement, are delivering their aims.

119. The understanding gained from the compliance review would feed into this package's co-design of new interventions and approaches to commercial waste and recycling, and inform further actions either directly from the review or indeed the co-design process. See below for more on this action.

120. As an illustration of impact and benefits of the review of compliance, in 2017, after the fixed monetary penalty was introduced, SEPA undertook a targeted enforcement campaign of 100 food businesses who had been identified as refusing to take on a recycling collection. 95% of those businesses responded positively to an initial advisory visit. Penalties were only served in a handful of cases. This work, however, is time and resource intensive, involving staff searching through bins, and communications in the form of letters and repeat visits. Such campaigns show that behaviour change can be achieved, but the results may not always justify the effort required.

121. Another area where behaviour change was achieved was in assessing the collections offered by waste service providers. This proved more effective than business by business inspections.

122. The compliance review will be a joint effort between SEPA and local authorities. This will require staff to undertake visits to businesses, which will incur costs of staff time and additional equipment, and resources required to inspect, collect information, and undergo any compliance actions.

123. SEPA has previously provided indicative costs of £90,000 for SEPA with the support of 4 to 5 local authorities, which will incur their own relevant costs in the process. If local authority support was not available, then costs may rise. There may also be a budget of around £10,000 for development and communication costs, also to potentially allow monies to be utilised for social media interaction to ensure a wider reach.

124. Other costs may arise as businesses or commercial organisations become aware of their duties, or increase efforts to fully comply, following the compliance review, and therefore invest in separate containers or change waste management contracts. In this instance there would also be costs associated with familiarising staff with waste management procedures as well as development of processes for business owners. Regardless, these duties are in law and have been for more than a decade[84], and many of these costs will

[83] The Waste (Scotland) Regulations 2012, The Waste (Scotland) Regulations 2012
[84] Business and commercial waste, Waste regulations, mygov.scot, updated 2021, Waste regulations - mygov.scot

already be internalised by businesses in Scotland.

125. To intervene and improve commercial recycling rates it is important to fully understand the current situation to enable cost-effective interventions to be designed and implemented. No up-to-date view exists on the current state of commercial recycling compliance, and it is particularly important to understand if there has been a step change in behaviour following the COVID-19 pandemic. A review of compliance levels may help inform the development of more effective mechanisms to improve compliance and associated impacts on waste and material efficiency.

126. If the compliance review successfully increases commercial compliance with existing statutory requirements, businesses and commercial organisations themselves may benefit from reduced waste management costs, depending on the individual circumstances of each organisation. Businesses that do not follow the Waste (Scotland) Regulations 2012[85], which mandate the separation of recyclable materials like paper, plastic, metal, and glass, can face substantial fines. Non-compliance can result in enforcement actions by local authorities or SEPA. Fines can vary depending on the severity of the violation, starting from smaller penalties and escalating for repeated or serious breaches. On summary conviction, a fine can range up to £10,000. SEPA can also issue a £300 Fixed Penalty Notice, which is the commonly used enforcement tool in this case.

127. Businesses that fail to recycle appropriately may face higher waste disposal costs. Landfill Tax in Scotland is substantial, with rates increasing annually.[86] The standard rate of Landfill Tax is applied to waste sent to landfill, and businesses can save money by recycling more, as landfill charges are higher than recycling fees. For 2024 to 2025, the lower rate is £3.30 per tonne, and the standard rate is £103.70 per tonne. In comparison, recycling fee rates for businesses vary based on local services and the type of service used, but are generally lower than the Landfill Tax rate – as is intended by the policy. Increased compliance may therefore lower waste management costs to businesses through paying relatively lower recycling fees than the Landfill Tax rate.

128. Companies that dispose of waste illegally or fail to meet recycling obligations may also be required to cover clean-up costs. In extreme cases, they could face legal action, which could lead to further financial penalties and reputational damage. While this will vary based on the nature of the offence, the most recently available data shows that the total cost to society of littering and flytipping is £280.8m per annum.[87] Of which direct costs to public and private bodies is around £81.2m, which may result in increased costs for citizens and businesses.

129. Non-compliance can affect a company's eligibility for contracts, especially where sustainability and environmental responsibility are key factors. Many organisations, particularly in the public sector, require proof of compliance with environmental regulations before entering into contracts.

130. More broadly, increased separation of recyclates has economic benefits and investment opportunities in reprocessing infrastructure and access to secondary materials. It can therefore be seen that the potential range of benefits from a compliance review of commercial recycling requirements and the subsequent co-design process (see below)

[85] Recycling (including food waste), Scottish Environment Protection Agency (SEPA), Recycling (including food waste) | Scottish Environment Protection Agency (SEPA)
[86] Scottish Landfill Tax, Scottish Government, Scottish Landfill Tax - Taxes - gov.scot
[87] Litter and flytipping: scale and cost, Scottish Government, 2023, Litter and flytipping: scale and cost - gov.scot

could outweigh the direct costs to public bodies and businesses of carrying out inspections and potential enforcement actions. If commercial recycling compliance increases following the review, the businesses themselves could benefit from reduced compliance costs and reduced waste management costs (through avoiding landfill tax rates), and a range of social and environmental externalities could be addressed.

Priority action: Co-design measures to improve commercial waste service provisions

131. As part of the goal to support businesses in Scotland to reduce waste and maximise recycling opportunities, a process of co-design with the business community and other key stakeholders will be launched.

132. The co-design will involve in-depth engagement with the business community, the Scottish resources and waste sector and other key stakeholders. Its approach will be based on the principles of the New Deal for Business[88], ensuring the expertise of and evidence from the business sector informs policy development and avoids unnecessary or unintended costs, whilst supporting circular economy objectives.

133. There is less evidence around the benefits of service design for commercial premises as compared with households. However, some challenges that apply to households can be seen to apply equally to commercial settings. Examples include uncertainty about what can be recycled, how well services align with the needs and circumstances of the user, and how best to use them.

134. Potential measures will be a matter for the co-design process, but for illustration, may include targeted communications and engagement, further fiscal measures to incentivise recycling or waste prevention, procurement advice and guidance. Consideration will be given to how measures would impact: waste reduction and reuse and repair efforts; targeting of specific materials in line with other CEWRM measures (e.g. product stewardship, Residual Waste Plan); and maximising the economic value of resources. The co-design will also draw from information collected during the review of compliance with commercial recycling requirements - and the associated compositional study of waste from commercial premises.

135. It is not possible to fully assess the costs and benefits associated with the co-design and its outcomes at this stage, and further assessment will be required as the methodology for the co-design is scoped, and options are developed in collaboration with stakeholders.

136. However, at a high-level, the costs of a co-design process to improve commercial recycling are likely to be similar to that of household recycling. We can therefore expect staff and administration costs to organise, advertise, engage, collect and implement recommendations.

137. This will include staff resource from Scottish Government along with stakeholders involved in the co-design process. This is likely to include business representative groups, resource and waste management representative groups, local authorities, COSLA, SEPA and Zero Waste Scotland.

138. As with household service co-design, the process will aim to identify good practice, gaps and weaknesses, and to consider and drive potential solutions. There may be a

[88] Business: New Deal for Business Group, Scottish Government, 2024, Business: New Deal for Business Group - gov.scot

requirement for research to be commissioned to address gaps or to assess best practice options.

139. Findings and outputs from the co-design will support businesses and their waste service providers to deliver improved performances, collectively increasing recycling rates and potentially avoiding some waste arisings altogether.

140. Should increased collection consistency result in additional volumes of high-quality recycling, there may be an opportunity to attract investment for reprocessing infrastructure in Scotland.

141. The timing for the commercial co-design will allow for lessons learnt to be drawn upon from the equivalent household co-design process, particularly given the roles of local authorities across both the household and commercial services landscape.

Other actions

142. To further improve the potential gains from commercial waste compliance, the Scottish Government and partners will conduct a national compositional study of waste from commercial premises. There is currently no detailed data or analysis of commercial waste at a national level, so it is unknown how much recyclable material is contained in residual commercial waste. Working with Zero Waste Scotland, SEPA, and the commercial waste and resources sector we will conduct a national compositional study of residual waste from commercial premises to identify priority materials, products and sectors for waste prevention and recycling interventions. This will help us account for current and future waste composition, including the impact of policies such as Extended Producer Responsibility and the Deposit Return Scheme.

143. The benefits of such national studies are clear to see, in that they provide invaluable data that can help to inform decision making and future policy development. Possible uses could include: the development of waste management strategies (such as this CEWRM), the prioritisation of resources to target problematic waste or materials (such as contributing to SWEFT[89]), and the discovery of general correlations between behaviours and waste outcomes.

144. It should also be recognised that such activities are resource intensive and as such costly to undertake. Household waste composition analysis is an example of such a study, where in order to be successful it requires buy-in from all stakeholders collecting and providing information and broad support from across the sector - to achieve the level of information required, become meaningful and potentially impactful.

Decarbonise disposal

145. The production and management of waste results in environmental impacts and represents missed economic opportunities for these materials. That is why our focus in the Route Map is to prevent materials from becoming waste in the first place. As we accelerate our move to a circular economy, we will produce less waste. We want to ensure that materials that cannot be avoided, reused, or recycled are managed in a way that minimises environmental and climate impacts, encourages management of materials

[89] Scottish Waste Environmental Footprint Tool (SWEFT), Zero Waste Scotland, 2024, Scottish Waste Environmental Footprint Tool (SWEFT).

further up the waste hierarchy, and minimises broader societal impacts.

146. It is clear from both CEWRM consultations and the independent Review of Incineration[90] that further action is required to ensure we achieve these objectives.

147. The two priority actions in this section, the Residual Waste Plan and Sector-Led Plan to minimise the carbon impacts of the Energy from Waste sector, both have broad strategic importance across the CEWRM and beyond, informing what data and evidence we will need to understand the waste we produce, how we manage current, future and legacy waste infrastructure, and what waste management looks like in a circular economy.

Priority action: Develop a Residual Waste Plan to 2045

148. The Residual Waste Plan to 2045 will set the long-term vision for future disposal practices in Scotland to minimise the environmental and climate impacts of waste while ensuring that we have appropriate capacity in place to manage the expected, declining volumes of waste in the future.

149. Waste systems are highly-complex and there are a variety of factors that will influence the future volumes, compositions and types of waste that need to be managed in Scotland, and which need to be strategically considered over the long-term.

150. The specific scope of the Plan will be shaped in collaboration with an advisory group, but broadly, it will:

- Build on current data to improve our understanding of the current and future residual waste streams.
- Investigate and make recommendations on Scotland's long-term infrastructure requirements to manage waste. This includes considering how to ensure a strategic withdrawal from landfill and diverting waste away from landfill where appropriate, while ensuring we maintain the necessary capacity to manage waste for which landfill remains the best environmental outcome.
- Publish an indicative cap to inform planning and investment decisions on future Energy from Waste (EfW) capacity requirements.
- Take a targeted approach to manage materials to ensure the best environmental outcome for materials when they require disposal. This will require the identification of priority waste streams and actions to reduce the environmental impact of their disposal. For example, exploring alternative pathways for sorting residues, by researching potential uses, treatment options, cost benefit analysis, market demand and implementation measures.
- Investigate emerging technologies that may allow better management of waste and minimised environmental and social impacts where materials continue to be disposed of. This includes how we manage unavoidable wastes such as those containing persistent organic pollutants.
- Consider how we manage legacy waste infrastructure to continue to minimise environmental impacts and maximise societal gains.

151. To guide the development of the Plan, we will establish a Residual Waste Advisory Panel.

[90] Stop, Sort, Burn, Bury - incineration in the waste hierarchy: independent review, Scottish Government, 2022, Supporting documents - Stop, Sort, Burn, Bury - incineration in the waste hierarchy: independent review - gov.scot

We believe this collaborative approach is vital to draw upon the expertise across these sectors and build joint ownership and the confidence needed to invest in infrastructure across the resource recovery chain.

152. It is not possible to accurately quantify the potential scale of all benefits and costs given the exact details of many of the potential actions in the Plan will be developed with further input from key stakeholders. Further impact assessments may be required to accompany the development of the Plan, however, at a high-level potential costs which could arise include:

- General costs of staff time within the public and private sector for development of options, responding to consultations and engaging in stakeholder events.
- Changes to public and private IT systems and reporting mechanisms to provide required information.
- Specific analytical support to gauge tonnages, costs and volumes associated with disposal infrastructure.
- Physical infrastructure and machinery costs to align with planned interventions.
- Public and private staff training and familiarisation with policy requirements.
- Research and modelling costs.

153. The CEWRM's interventions aim to reduce material consumption, maximise reuse and recycling and extend product lifespans, while ensuring efficient disposal infrastructure where materials and products genuinely reach end-of-life. The interventions across all other strategic aims should divert material from disposal driving cost reductions, and potential income from sale of materials, for public and private sectors. The potential benefits include:
    - Job creation – enables skills development and transfer from other sectors.
    - Education and awareness raising – diverting material away from disposal to keep in productive use, or recycle at end-of-life.
    - Economies of scale – potential to ensure efficient and effective planning of infrastructure to realise aligned benefits such as local heat and waste disposal.

154. Collaborative work can also establish required economies of scale for investment in new disposal infrastructure, while building in appropriate capacity and strategic approaches to deal with any anticipated tonnages of problematic materials in future (e.g. persistent organic pollutants).This would allow the plan to assist in a strategic approach to future infrastructure needs and help to encourage longer-term value-for-money strategic investments.

155. A coherent plan and long-term vision is also required to forecast capacity and plug gaps in existing regulation and enforcement. This will help ensure there are no perverse incentives created, such as increased waste crime or more waste landfilled, as a result of any single measure being implemented. Illegally managed waste is a significant cost to the public sector and needs to be reduced. HMRC has identified a Landfill Tax gap of 14.5% in 2022 to 2023 which equates to £100 million in absolute terms.[91]

[91] £100m Landfill Tax gap shows ongoing scale of fraud, Environmental Services Association (ESA), 2024, £100m Landfill Tax Gap shows scale of waste fraud

Priority action: Facilitate the development of a Sector-led Plan to minimise the carbon impacts of the Energy from Waste sector

156. The energy from waste (EfW) sector currently produces around 0.3 MtCO2e of emissions each year. The sector will need to align with emissions reductions ambitions, while ensuring there is sufficient capacity to manage the decreasing volumes of waste we produce in Scotland.

157. This Sector-Led Plan will form a specific strand of the Residual Waste Plan. It will set out how the sector will minimise climate impacts of energy from waste specifically, and ensure that actions across the energy from waste sector are aligned with net zero ambitions.

158. Waste industry ownership of this Sector-Led Plan is important to ensure economic and environmental viability of the plan, and that a significant impact can be achieved on a voluntary basis. However, given the urgency and scale of actions required to tackle the climate, biodiversity, and pollution challenges, we will also explore options for mandating compliance. It is not possible to quantify the potential scale of all benefits given the exact details of many of the potential actions will be developed with further input from key stakeholders. Further discussion around EfW is covered below under the Emissions Trading Scheme.

Other actions

159. As set out in the Route Map, we will continue to work collaboratively with Scottish stakeholders to consider the impacts of expanding the UK Emissions Trading Scheme (ETS) to include energy from waste and incineration. Analysis and discussion has been undertaken regarding the impact of the potential inclusion of EfW within the Emissions Trading Scheme and the potentially transformative economic effects of its implementation. This scheme will affect all levels of the value chain and interrelates with other policy measures such as the biodegradable municipal waste landfill ban and Extended Producer Responsibility (EPR) for packaging.

160. Environmental Services Association (ESA) analysis of the ETS highlights a need to ensure cost pass-through to waste producers and an accompanying phased implementation approach that will be able to deliver new net zero investment. This will be in the form of new recycling and carbon capture infrastructure. ESA estimate that the decarbonisation of the EfW sector in the UK coupled with “measures to increase resource efficiency could increase DGP by 0.9% by 2035 and create over 200,000 gross jobs in the UK by 2030”.[92]

161. Cost pass-through to UK local authorities resulting from the implementation of ETS has been estimated to be over £700m per annum.[93] However, provisional analysis suggests proportionally higher costs for Scotland given waste redirected to incineration from landfill when the ban on landfilling municipal biodegradable waste comes into effect. As such, working closely with key stakeholders, such as COSLA, to ensure that Scottish local authority costs are as accurate as possible, we will conduct a Scotland specific cost impact assessment. To mitigate this challenge and ensure producers bear the cost of the materials they are placing on the market a number of policy options to support local authorities can be further explored – including income streams via EPR for a variety of high carbon-emitting materials and new recycling collection opportunities, such as the

[92] A sustainable transition into the emissions trading scheme, ESA, 2023, 01092023-A_Sustainable_Transition_into_the_ETSv3.pdf
[93] Ibid

requirement to collect flexible plastics at the kerbside from 2027.

162. The Scottish Government has committed to review and target materials currently landfilled to identify and drive alternative management routes, building on the commitment to extend the ban on landfilling waste to include non-municipal biodegradable waste (subject to appropriate consultation and work to provide assurance around some specific waste streams).[94] To strengthen this, the Scottish Government therefore will bring forward a call for evidence to begin to better understand these and other problematic waste streams and identify alternative treatment options for these wastes. If the review successfully leads to extra materials being diverted from landfill to more sustainable routes, then we may see a reduction in the negative environmental externalities associated with landfilling waste. It is not possible at this stage to identify costs of the process, pending further development from the review.

163. To enhance the gains associated with other interventions within the Decarbonise disposal section of the Route Map, the Scottish Government also aims to facilitate the co-production of guidelines for effective community engagement before, during, and after development of residual waste treatment facilities. The independent review of incineration in Scotland's waste hierarchy noted that communities deserve more authentic and committed engagement from local authorities and industry than is currently sometimes the case. In response to the independent review's recommendation on this, we will facilitate the co-production of meaningful and effective community engagement guidance, working with community groups, local authorities and residual waste operators. The benefits of this work will help ensure greater transparency and community involvement in decisions that impact local areas; while there would be expected to be costs around the development of this guidance, for example staff resource across the public and private sector.

164. Finally, the Route Map sets out an action to work with industry and the public sector to maximise landfill gas capture opportunities in Scotland. Subject to future budget outcomes, we will seek to extend the landfill gas capture programme to increase the number of sites undertaking investigative or development work, to optimise and increase the amount of landfill gas captured in Scotland and minimise environmental and climate impacts of closed landfill sites. We intend to support this with research to explore current and emerging options for low-level gas capture. Previous investment in landfill gas capture at four existing sites (Carberry, Kilgarth, Dalmacoulter & Riverside) has led to estimated combined contributions to economic welfare (for the period between 2015 -2047 and measured by Net Present Value) of between £12m - £39m. This indicates that investment in additional landfill gas capture could yield further economic benefits, and further assessment may be required, subject to the scope and nature of future work.

Strengthening the circular economy

165. Delivering a circular economy requires sustained transformational system change, and a range of actions that are both complementary and coordinated to drive sustainable management of our resources. If we are to maximise the opportunities that a circular economy brings to Scotland, we must maintain a strategic approach to its delivery, ensuring the right structures and support are in place to enable action.

[94] Securing a green recovery on a path to net zero: climate change plan 2018–2032 – update, Scottish Government, 2020, Supporting documents - Securing a green recovery on a path to net zero: climate change plan 2018–2032 - update - gov.scot

Priority action: Develop a circular economy strategy every five years

166. To strengthen the strategic approach to progressing Scotland's circular economy, there is now a requirement on Scottish Ministers to publish or refresh a circular economy strategy every 5 years, as set out in the Circular Economy Act. Indicative costs of producing the circular economy strategy for the Scottish Administration were included in the Circular Economy (Scotland) Bill Financial Memorandum.[95]

167. Other potential costs which may arise for this priority action include:
- General costs of staff time within public bodies for development of options, responding to consultations and engaging in stakeholder events for development of the strategy.
- Costs of time for familiarisation with any new measures where applicable.

168. The strategy will help to set a clear policy direction for the circular economy in Scotland for business, people and wider society. The strategy itself will be subject to further impact assessments as it is developed. The development of a strategy includes the potential for:
- Embedding circular economy principles across policy as Ministers will be required to have regards to the CE Strategy when developing other policy, including new legislation.
- Economic development opportunities within specific sectors such as those highlighted as priority sectors and systems.
- New evidence and data to be used in a timely manner.
- Improvements in uptake of reuse and repair and improved recycling quality to drive new business models.
- Further development of opportunities for both jobs and skills, which includes wider benefits – e.g. the 2023 'Just transition for the built environment and construction sector: a discussion paper',[96] highlights that jobs and skills are key in building a skilled labour force for a Just Transition.
- Ensuring that the data we measure is consistent and allows for more holistic tracking of Scotland's circularity.

Priority action: Set new circular economy targets

169. The setting of statutory circular economy targets is also now a requirement under the Circular Economy Act.

170. Following the publication of a circular economy strategy in 2026 we will develop new statutory circular economy targets by 2027. These will build on the monitoring and indicator framework that will be consulted on alongside the strategy.

171. Indicative costs for development, publishing and monitoring of circular economy targets for the Scottish Administration were included in the Circular Economy (Scotland) Bill Financial Memorandum.[97]

172. Targets provide clear goals and certainty necessary for long-term planning. This may be

[95] See Table 1 in Circular Economy (Scotland) Bill Financial Memorandum, Scottish Government, 2023, Financial Memorandum accessible
[96] Just transition for the built environment and construction sector: a discussion paper, Scottish Government, 2023, Themes for Discussion - Just transition for the built environment and construction sector: a discussion paper - gov.scot
[97] See Table 3 in Circular Economy (Scotland) Bill Financial Memorandum, Scottish Government, 2023, Financial Memorandum accessible

beneficial to businesses, the third sector and public bodies, through offering regulatory certainty, and reducing risk associated with the necessary shift to circular economy practices. This reduction of risk may incentivise further investment in circular economy infrastructure and innovation.

173. The Circular Economy Act sets out a range of potential areas for targets:

- Reducing carbon emissions associated with the consumption of materials.
- Increasing reuse.
- Increasing refurbishment.
- Increasing repair.
- Increasing recycling.
- Reducing waste.

174. Setting targets should enable activity across Scottish supply chains, building demand and supply for services and infrastructure, for example targets on refurbishment could stimulate investment in refurbishment businesses, skills and logistics.

175. The setting of targets will increase the need for high quality data gathering, analysis, and monitoring, which can also be used to stimulate circular investment and demand.

Other actions

176. Further actions within the Strengthen the circular economy section are centred around three cross-cutting themes:

- Research, data and evidence
- Sustainable procurement
- Skills and training

177. The section outlines the high-level strategic approach we will seek to take under each theme up to 2030. As a result, in many cases in-depth costs and benefit analysis are not yet feasible, with different actions at different stages of development. Further impact assessment will be necessary as measures are developed, for example it may be necessary to assess the costs and benefits to different actors of a refreshed waste data action plan to accompany the existing waste data strategy for Scotland.

178. The Route Map also sets out an action to maintain a programme of research on waste prevention, behaviour change, fiscal incentives and material-specific priorities. The research packages Scottish Government and its delivery partners have published alongside the two Route Map consultations have provided invaluable insights and given us the confidence to set the Route Map's priorities. Across the Route Map, we highlight where further research is planned or underway as a step towards the delivery of many of our priority measures. This will build on the considerable body of work that already exists. The costs for research will be dependent on the specific project, but research cost ranges outlined for actions throughout this BRIA can be taken as an indicative starting point. These costs will typically be covered as part of the normal development of policy and associated budgets for this (across Scottish Government and its delivery partners), including the costs set out for specific measures and associated research in this BRIA.

179. One of the other further actions under this strategic aim is to develop public procurement opportunities to reduce the environmental impact of public spending. Scottish public sector

spending can directly reduce the impact of goods and services to help safeguard our environment and resources. Currently, Scottish public sector bodies spend more than £16 billion a year buying goods, services and works.[98]

180. Public procurement can play a direct role in delivering our circular economy and net zero ambitions - by requiring public bodies to consider improvements for the social, economic and environmental wellbeing of the area in which they operate. Further work may be required to assess the specific costs and benefits of any measures taken forward in this area.

Sectors and groups affected

181. The following sectors and groups would be directly or indirectly impacted by the Route Map interventions:

- Manufacturers, distributors and retailers
- Online marketplaces
- Other businesses or commercial organisations
- Consumers
- Third sector
- Waste management sector
- Local authorities and other public bodies
- Households
- SEPA

Route Map: Overall Costs and Benefits

182. Publication of the Route Map by itself will not place additional financial costs or burdens on local authorities and enforcement bodies in Scotland, nor change the existing cost of waste and its environmental externalities currently borne by public bodies, businesses and communities. However, implementing the interventions as planned will generate costs and benefits, as outlined above.

183. This BRIA has aimed to discuss the potential type and scale of costs and benefits that will be considered as interventions are developed. Costs are used to give examples and suggestion of scale but must be subject to change as policy development moves forward. While these cannot be robustly determined at this stage, they will be assessed as appropriate for individual interventions in specific impact assessments, and this has been highlighted for measures throughout this document.

184. Overall, society may benefit from a reduction in the volume of waste generated through preventative measures, such as an overall reduction in consumption of resources, and from more effective and efficient waste management processes. This may support a shift in how we treat and manage materials, for example consideration of the available markets and reprocessing capacity for collected materials, and opportunities to facilitate this, to maximise higher value return from reprocessing routes and keeping materials in use. This should improve local environments and neighbourhoods and reduce the negative environmental impacts of waste entering the terrestrial and marine environments.

185. There are likely to be economic benefits in terms of job creation, skills development and

[98] Annual Report on Procurement Activity in Scotland, An overview of procurement activity 2021-22, Scottish Government, 2024, Annual Report on Procurement Activity in Scotland

retraining as the CEWRM drives investment to meet circular economy objectives.

186. Costs associated with the introduction of measures may include additional enforcement costs for public bodies, administrative costs for businesses and infrastructure and operational costs of amending services or ensuring compliance across public and private sectors.

Scottish Firms Impact Test

187. In addition to previous consultation and engagement which has directly informed the development of the Route Map's actions, stakeholders from affected businesses will be consulted on individual measures, where appropriate, as they are being collaboratively developed in the future.

188. As the CEWRM contains interventions which impact different parts of the supply chain, both individually and collectively, a Scottish Firms Impact Test was not undertaken prior to publication of the final document. The business community has engaged constructively throughout the development of the CEWRM since 2021. This has included pre-consultation engagement with businesses on early findings, engagement on specific provisions during the parliamentary passage of the Circular Economy (Scotland) Act 2024, and engagement during both public consultation periods for the Route Map in 2022 and 2024 respectively. The business community and its representatives provided feedback to proposals during these public consultations, with the majority of respondents scoring the interventions favourably. This feedback has directly informed the final shape of the Route Map, including the timelines for development and ensuring sufficient lead-in times for implementation, and will continue to inform the development of its specific measures as we move into the implementation phase. This will continue to be taken forward in line with the principles of the New Deal for Business.

Competition Assessment

189. The competition assessment is designed to assess the potential impacts of preferred policy options on competition among producers, wholesalers, retailers and importers in the Scottish market.

190. The assessment will follow the Competition and Market Authority guidelines which outline how to determine any competition impact. These guidelines recommend considering four key questions when assessing whether a proposed policy would have an impact on competition.[99]

191. The assessment will be undertaken for individual measures or secondary legislation, where appropriate, as they are being developed in the future, following the Competition and Market Authority guidelines.

Consumer Duty

192. The Consumer Scotland Act 2020 defines a consumer as an individual, or a business no larger than a small business, that "purchases, uses or receives, in Scotland, goods or services which are supplied in the course of a business carried on by the person supplying them".[100] The 2020 Act also introduced a duty ("the consumer duty") on 'relevant public

[99] Competition, Markets, UK Government, Markets - GOV.UK
[100] Consumer Scotland Act 2020, section 24, Consumer Scotland Act 2020

authorities' in Scotland, when making decisions of a strategic nature about how to exercise their functions, to have regard to the impact of those decisions on consumers in Scotland, and the desirability of reducing harm to consumers in Scotland.

193. While this Duty came into force in April 2024, throughout the development of the Route Map and its impact assessments since 2021, potential impacts on consumers have been carefully considered at a strategic level. For example considering impact on the quality, availability or price of any goods or services in a market; on the essential services market (e.g. energy or water); the storage or increased use of consumer data; opportunities for unscrupulous suppliers to target consumers; the information available to consumers on either goods or services, or their rights in relation to these; and the routes for consumers to seek advice or raise complaints on consumer issues.

194. The assessment found that, at a strategic level, the Route Map publication itself is unlikely to have a direct impact, but that the shift to a circular economy and sustainable resource use driven by the Route Map's measures will benefit consumers overall, and reduce the harm inflicted by the current "take, make and dispose" model. Sustainable resource use is key to strengthening communities by providing local employment opportunities, lower-cost options to access the goods Scottish consumers need, and tackling existing inequalities. Its measures also support public services to become more sustainable, improving productivity and reducing waste, and provide a key opportunity to improve the information available to consumers on related goods and services. For example, modernised recycling, reuse and waste services will be co-designed with communities to ensure consumers (e.g. households and businesses) are at the heart of how services are designed and operate, and that communication with service users is carefully considered. There are also specific actions to improve the reuse experience for consumers, which touches upon the information available to consumers, and the routes available for consumers to seek advice.

195. The Route Map's priority actions are designed to make the sustainable choices the easy choices for consumers, and benefit consumers who will see positive impacts for the climate, environment, economy and public services. More broadly, it is anticipated that by reducing demand for new products and virgin materials and driving down the amount of material disposed of via landfill and energy from waste, a range of negative pollution impacts on biodiversity, air, bodies of water, and soils can be avoided. Greenhouse gas emissions from material production and manufacturing processes as well as waste management activities are expected to be minimised, with material assets being kept in use for as long as possible through circular practices and improved recycling. Indirect positive impacts are anticipated in relation to the Scottish landscape, through reduced demand for unsightly disposal and extraction infrastructure, and the potential to reduce litter and flytipping. Circular practices in the construction and demolition sector should also encourage the retention, reuse and repair of historic environment assets and materials, thus benefitting Scotland's cultural heritage and historic environment.

196. The Route Map's measures are also likely to reduce opportunities for unscrupulous suppliers to target consumers, for example by improving communication standards around waste and recycling services to help make the right choices easier, increasing transparency (e.g. end destination reporting for recyclate) for consumers, and utilising new powers from the Circular Economy Act around waste and recycling, such as strengthening the Householder's Duty of Care in relation to household waste.

197. In terms of impacts on the essential services market (e.g. energy or water) and the storage or increased use of consumer data, the Route Map's measures are unlikely to have a

direct impact, but it will be important to consider these areas further as measures are developed. For example, in developing the Sector-Led Plan for Energy from Waste, considering its actions and the impact they could have on the energy market; and the impact measures like mandatory public reporting of food waste and surplus could have on the use of consumer data as they are being designed.

198. While the overall direction of the Route Map is designed to benefit consumers, this BRIA and the Route Map's other impact assessments also identify some potential costs for consumers, or risks of unintended negative consequences. For example, placing a charge on specific single-use items would directly increase the price of goods available on the market (depending on the extent that a business chooses to pass on the cost), and there may be initial cost implications for consumers when pursuing reusable product options. It will be important in the development and implementation of actions to consider further assessment and monitoring to ensure any negative impacts are identified and mitigated. For example, in undertaking the co-design of the statutory Code of Practice for household waste services, alongside a review of waste and recycling service charging, to consider the impacts of any outcomes of this work on consumers.

199. It is important to recognise that Route Map measures are at different stages of development, and specific impacts on consumers will depend on the final design of policies. As with the business and regulatory impact assessment, as we move into the implementation phase of the Route Map, the Scottish Government reiterates its commitment to work in partnership with stakeholders to assess the full impacts of specific measures on consumers as they are further defined. Further assessment will be undertaken for individual measures, where appropriate, as they are being developed in the future. This will take into consideration the findings from the recent Consumer Scotland "Consumers and the transition to a circular economy" report.[101]

Test Run of Business Forms

200. The assessment will be undertaken for individual measures, where appropriate, as they are being developed in the future.

Digital Impact Test

201. Changes to policy, regulation or legislation can often have unintended consequences, should government fail to consider advances in technology and the impact this may have on future delivery. This digital impact test is a consideration of whether the changes being made can still be applied effectively should business/government processes change – such as services moving online.

202. The assessment will be undertaken if and when associated strategies or regulations are being developed in the future.

Legal Aid Impact Test

203. The Access to Justice Team at Scottish Government will be consulted if and when associated strategies or regulations are being developed in the future.

[101]Consumers and the transition to a circular economy, Consumer Scotland, December 2024, Consumers and the transition to a circular economy | Consumer Scotland.

Enforcement, Sanctions and Monitoring

204. In order to achieve the objectives of the CEWRM, enforcement, sanctions and monitoring systems will be put in place where appropriate. It is worth noting that by 2027, we will set new circular economy targets, which will follow the development of a circular economy monitoring and indicator framework to allow for more holistic tracking of Scotland's consumption levels and wider measures of circularity. In addition, to support the monitoring of progress, we have worked with a wide range of stakeholders to refresh our governance structure so that it drives the circular economy transformation to 2030 and enables a Team Scotland approach.

205. The detail of enforcement, sanctions and/or monitoring arrangements will be set out for individual measures, where appropriate, as they are being developed in the future.

Implementation and Delivery Plan

206. The Scottish Government will work closely with key stakeholders to ensure that the Route Map's strategic objectives are met. Collaboration and partnership have been critical to our progress so far, and we can only be successful through successful partnership working – government, wider public sector, households, communities, charities and businesses. Our approach will be guided by both the Verity House Agreement[102] and New Deal for Business Group's recommendations and implementation plan.[103]

207. As we move into the implementation phase of the Route Map, the Scottish Government reiterates its commitment to work in partnership with stakeholders to assess the full impacts of specific measures as they are further defined to ensure they remain feasible, impactful and deliver value for money. For example, measures may need to consider further individual and cumulative impacts on the environment, public spending, the cost to business including small and medium-sized enterprises, consumer choice and affordability, equality, socio-economic and island communities' impacts.

Declaration and Publication

208. I have read the Business and Regulatory Impact Assessment, and I am satisfied that given the available evidence, it represents a reasonable view of the likely high-level costs, benefits and impact of the leading options. It is important to note that, given the strategic high-level nature of the CEWRM document, it will be necessary to develop more detailed BRIAs on individual measures where appropriate. I am satisfied that the high-level business impact has been assessed with the support of businesses in Scotland.

209. I am also satisfied that officials have considered the impact on consumers as required by the Consumer Scotland Act 2020 in completion of the Consumer Duty section of this BRIA.

[102] New Deal with Local Government – Verity House Agreement, Scottish Government, 2023, New Deal with Local Government – Verity House Agreement - gov.scot

[103] Business: New Deal for Business Group - Report on Progress & Recommendations: Implementation Plan, Scottish Government, 2023, New Deal for Business Group - Report on Progress & Recommendations: Implementation Plan - gov.scot/.

Signed: 

Date: 24/01/2025

Minister's name Gillian Martin MSP

Minister's title Cabinet Secretary for Net Zero and Energy

Scottish Government Contact point:
Jon Havens
Circular Economy Division, Scottish Government

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Any enquiries regarding this publication should be sent to us at

The Scottish Government
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