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25<sup>th</sup> October 2023

Edward Mountain MSP  
Convener  
Net Zero, Energy and Transport Committee  
Scottish Parliament  
Edinburgh  
EH99 1SP

Dear Mr Mountain,

Following the Net Zero, Energy and Transport Committee meeting on 3<sup>rd</sup> October 2023 Zero Waste Scotland would like to address the follow up questions which the Committee has posed.

**In response to the question from Ben Macpherson to provide further detail around what additional infrastructure Scotland needs to meet its requirements around recycling and circularity.**

Efficient recycling and reprocessing of materials back into useful products remains an important element in a circular economy. A circular economy is one in which material use has been significantly reduced, the life of products and materials has been extended through greater reuse, refill, repair and remanufacture, and residual waste has been reduced to an absolute minimum – with the recycling and reprocessing of used and recovered materials remaining an important but subsidiary element of the circular economy.

It is worth remembering that the collection of materials and products for recycling is only the first step of the process – recycling only happens at the point materials are successfully reprocessed into new products.

Wherever it makes economic and environmental sense to do so, Zero Waste Scotland supports the recycling and reprocessing of materials that are generated in Scotland within Scotland, whilst recognising that for some materials, the operation of global commodity markets and economies of scale for reprocessing infrastructure, mean that materials generated in Scotland may require to be efficiently recycled within the rest of the UK, EU and sometimes beyond and still produce environmental benefits.

As Scotland prepares to develop its first statutory circular economy strategy, we believe the time is right for a full review of reprocessing infrastructure opportunities as part of a fresh recycling market development programme for Scotland. With that in mind, the high-level list of areas of potential opportunity we provide below should not be seen as exhaustive and should be considered in detail as part of the review of infrastructure potential. It is provided as an early indicator of areas of potential.

Material/product area	High-level note
Plastics: PET, Mixed Plastics, Plastic Film	Significant potential for PET reprocessing infrastructure linked to availability of high-quality recyclate from the future Deposit Return Scheme (DRS).
AHPs (Absorbent Hygiene Products)	Potential for nappy recycling plant would need to link to availability of separately collected product from households and care/medical settings. Ageing population and growth of adult use of AHPs is increasing the volume of material generated, and potentially products such as wet wipes and other sanitary items can be processed with the AHP stream.
WEEE (Waste Electronic and Electricals)	Driven by next stages of Extended Producer Responsibility (EPR), significant opportunity for greater capture for reuse, repair, and recovery of materials from products including critical raw materials and rare earth elements. Localised opportunities for reuse and repair centres. Extra emphasis needed on capture and processing of small electronic devices (not just vapes, examples include headphones, small toys, etc.)
Textiles	Opportunity to develop fibre-to-fibre local reprocessing of textiles, may need to be driven by new EPR measures as part of a Product Stewardship approach.
Mattresses	Opportunity to extend some existing good practice in Scotland, could be accelerated by implementing a ban on disposal.
Steel	Opportunities highlighted by recent Zero Waste Scotland work on green steel <sup>1</sup> , increasing the viability of sustainable steel production using Electric Arc Furnace (EAF) technology.
Turbine Blades	Opportunities to expand early good practice in Scotland, especially as continuous investment in renewable energy will see early infrastructure reach end of practical life and require viable recycling options, as identified in our 2022 Circularity Gap Report <sup>2</sup> .

<sup>1</sup> [Circular Steel in Scotland Current landscape and opportunities, Zero Waste Scotland, 2023](#)

<sup>2</sup> [Circularity Gap report Scotland, 2022](#)

Tyres	Continuing challenge for Scotland and other countries, with significant illegality and waste crime dimension. Where tyres are recovered, they are mainly converted for energy. Potential exists for more energy recovery but also product development and may need to be driven by a robust EPR approach.
Batteries	Driven by further development of EPR and growth of Electric Vehicle (EV) use, to consider opportunities for reuse and elemental recovery of critical raw materials and rare earth elements, reducing dependence on imported materials from areas of geopolitical risk.
Wool	Potential for a single wool-to-insulation plant development in Scotland but would require national strategic approach to capture the waste product efficiently to end market.
Biomaterials	Opportunities for the development of a bio-based industrial sector to reduce reliance on fossil-based resources. Zero Waste Scotland's biorefining potential for Scotland report <sup>3</sup> provides details on circular approach to biomaterials

Each material and product stream requires individual analysis of volumes, flow and end destinations and an individualised strategic approach to tackling any market failures and identifying future reprocessing opportunities. As part of this approach, each product or material stream may benefit from a complementary policy shift such as an Extended Producer Responsibility scheme, deposit return system or disposal ban. The potential for fiscal incentives to stimulate the market dynamics should also be considered, and this should be done within an overarching recycling market development programme, sitting as a key component of the future Circular Economy Strategy. In essence, this is as much an *economic development opportunity* for Scotland as it is a circularity and better resource use opportunity.

### **In response to the questions raised on circular economy strategy and targets**

#### **1. What role could a statutory circular economy strategy play in transitioning to a circular economy and what should it include?**

Zero Waste Scotland supports a statutory requirement for a circular economy strategy and believe the provisions for the strategy in the Bill should be as broad as possible. A statutory obligation will provide clarity on the roles and responsibilities of Ministers, ensure the strategy remains a live document across political terms, and assist citizens to hold the government accountable for their commitment. This is a vital opportunity to create a co-ordinated and holistic vision for how Scotland continues to embed a circular economy ethos across its society, working across government and in alignment with other key policies.

First and foremost, the strategy needs to set out the long-term vision for a circular economy so that it is clear to stakeholders what the aim is regarding a circular economy in Scotland moving from the view of circular economy strategies as a waste concept, to one that applies

<sup>3</sup> [Biorefining Potential for Scotland, Zero Waste Scotland, 2017](#)

across the value chain and applies to many actors. This vision should last well beyond the lifespan of a single strategy, preferably aligning with net-zero in setting a 2045 timeframe.

The strategy should provide the framework for systemic change necessary to deliver the circular economy vision. Publication of the strategy should be iterative, with predetermined review periods (e.g. every 5 years) to allow robust assessment of progress and opportunities to develop activities, incorporating lessons learned. Furthermore, the strategy should include clear roles and responsibilities to ensure activities have a clear 'home' for delivery, with stated outputs and defined measurable success criteria. It should be a multi-year document with SMART actions, it should follow the waste hierarchy and truly value materials across entire lifespans and supply chains, and its interaction with other strategies and policy should be clear.

The plan should include a strategy for data collection on the material inputs and outputs from each sector of the Scottish economy. This will be essential to allow identification of opportunities for recirculation and consumption reduction, providing the data necessary to identify which sectors/materials should be prioritised and recommend policies to implement the changes needed.

**1a. Is there anything missing in the Bill's provisions specifically in terms of the governance and framing of the strategy?**

The framing for the circular economy strategy should be cross-cutting as unlike other strategies there is a much wider scope as materials/resources may pass through multiple sectors. The key opportunity lies in legislation to ensure cross-departmental creation of a circular economy strategy which requires joint ownership between relevant Ministers, supporting interdepartmental collaborative working to ensure successful delivery of the strategy, whilst ensuring that the economy as a whole is considered rather than looking at silos. The legislative text should be clear, specific and verifiable, avoiding generalised terms and unclear requirements.

Zero Waste Scotland recently published insights into statutory obligations of circular economy strategies report<sup>4</sup> which reviewed existing legislation and the duty it places on governments to publish circular economy or similar strategies in Europe and beyond, looking for commonality and successes across various approaches. The report indicated that development of these strategies should include public consultation with stakeholders, regular review points and that the strategy should be cross sectoral such as far as is possible. Where countries have adopted qualitative and quantitative targets these are referenced in legislation. Whilst not explicitly targets for circularity they address relevant sectors such as emissions, consumption, waste reduction, and material recovery targets. The UN Sustainable Development Goals<sup>5</sup> served as guiding principles and their targets and indicators were often used for national targets and indicators. Zero waste Scotland welcome the inclusion of these principles.

**2. Should statutory targets be included on the face of the Bill rather than being set in regulations?**

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<sup>4</sup> [Insights Into Statutory Obligations of Circular Economy Strategies, Zero Waste Scotland, 2023](#)

<sup>5</sup> [United Nations Sustainable Development Goals](#)

Zero Waste Scotland support statutory targets within the Bill, with the targets subsequently set in secondary legislation in a timely manner. However, there is a requirement for a well-researched and evidence-based monitoring framework to establish future, targeted circular economy goals on which these targets can be set. If set appropriately these could effectively stimulate markets, guide policy directions, and actively engage citizens and organisations across the private, public and third sectors.

The Scottish Government should move quickly to identify and implement circular economy targets in secondary legislation after the required evidence and information has been gathered, and an appropriate monitoring framework has been agreed. Zero Waste Scotland have carried out preliminary research to inform the next stage in development of needed to set any future monitoring framework that can be used to set targets.

### **2a. What data or knowledge gaps need to be filled to set and monitor targets effectively?**

To set and monitor targets effectively, clarity on the vision for a circular economy is critical, as this will drive appropriate targets to report on progress.

Depending on the nature of the targets, the level of robustness acceptable to the Scottish Government, and the tolerance for the models underlying these targets to change over time (changes to the baseline), the knowledge required to set and monitor these targets may already be available. For a Material Footprint target and a Circularity percentage target (derived from circular material use rate/circularity gap), we can currently produce economy-wide indicators that could be made into targets. However, we are currently unable to provide granular insights into the sectors driving these trends and the composition of materials being consumed or used as inputs to production, as well as the composition of waste being generated by these sectors. Improving data collection on the goods that flow through Scotland's borders, the composition and destination of material inputs to Scottish production, and the source and composition of waste from commercial businesses would give the Scottish Government the insights needed to improve these targets. If Scottish Government desires a target related to building economic resiliency, increased data collection on the material inputs to Scottish enterprises and consumer goods will also be required.

### **2b. Are there international examples of circular economy targets that Scotland could learn from?**

Zero Waste Scotland recently published a review of target setting legislation for circular economy targets across Europe<sup>6</sup>, which identified 3 countries which have statutory targets for a circular economy – France, Andorra and Ireland. These targets primarily focus on waste management or the recycling element over a broader circular economy approach, however they go further with reuse targets set in France for household appliances, and Andorra setting the target for circular business models (25% by 2035).

Ireland is the most similar to Scotland in terms of population size demographics and geography, therefore it could provide the most appropriate frame of reference for Scotland's

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<sup>6</sup> [Target Setting Legislation A review of UK legislation and statutory Circular Economy targets across Europe, 2023](#)

circular economy targets. Ireland has set powers for targets in six priority areas: construction, agriculture, retail, packaging, textiles, and electronic equipment. As noted in previous questions, there is recognition that indicators are not yet established enough to be able to develop an effective monitoring framework to achieve these targets.

Despite this progress in development of circular economy targets there is currently no legislation that targets all areas of the circular economy, across responsible consumption, reuse, repair, recycling and reduction in material use and waste arising. This provides Scotland with a unique opportunity to take the lead in this area.

**3. How should targets be developed to drive the adoption of key principles of a circular economy, and how do you expect circular economy targets will work alongside other key environmental targets such as net zero and forthcoming targets in the proposed Natural Environment Bill?**

Principally there is a need for a clear vision for the circular economy in Scotland as this will inform the setting of circular economy targets. Currently available data provides a foundation for these targets however there will need to be a balance on what can be set now (from available data) and what would be appropriate in the longer term (may require additional data).

Zero Waste Scotland has undertaken research to identify consumption-based targets across Europe<sup>7,8</sup>. This research, carried out in January 2022, determined that there is currently no consistent approach to measuring consumption in other countries and that consumption-based targets are rare, thus making the setting of any reduction targets a genuine challenge. Although challenging and requiring significant data on the relevant metrics the ability to set these targets will become viable.

While traditional environmental targets address specific environmental impacts (e.g. greenhouse gas emissions, biodiversity loss, water consumption, etc.) circular economy targets are material-based and thus encapsulate all of the environmental impacts associated with material consumption (which includes all of those listed above). There will therefore inevitably be overlap between the circular economy targets and other environmental targets, as these fit under the umbrella of the circular economy. However, having distinct material-based targets is important, as they capture the environmental impacts that we cannot accurately measure by other means such as water use, land use, etc. occurring outwith the UK. Since the key principles of the circular economy are the cycling of materials back into use and the reduction of aggregate material consumption, it would naturally follow that targets directly measure those principles.

There must be synergy between circular economy targets and all other key environmental targets where possible.

When setting circular economy targets, they should be:

- Determined by transparent, evidence-based consideration of metrics which have clear data gathering pathways

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<sup>7</sup> [Review of Indicators to Measure Progress Towards a Circular Economy, Zero Waste Scotland, 2022](#)

<sup>8</sup> [Consumption Reduction Targets - Legal Status Research, Zero Waste Scotland, 2022](#)

- Based on a comprehensive feasibility assessment on the likelihood of meeting the targets
- Accompanied by a strategy detailing how they will be met
- Set alongside interim targets to ensure adequate progress
- Firmly placed within a governance structure that ensures responsibility and accountability to ensure targets stand a chance of being met
- Based on the full environmental impact of the goods and services we use, and their accompanying emissions.

**3a. Are there potential tensions between consumption, or consumption emissions targets, and our existing terrestrial emissions targets – and if so, which should be prioritised?**

There is the potential for tension between targets, depending on the approach taken to reducing consumption emissions as some actions taken to reduce consumption emissions could directly increase territorial emissions if not accompanied by a decrease in total goods purchased. Likewise, building and maintaining the renewable energy infrastructure needed for net zero will significantly increase Scotland’s material consumption but is balanced against the broader environmental gains of low-carbon energy generation. It has been estimated that the renewable energy transition will require Scotland to increase its direct material consumption by roughly 30% until 2030 compared to 2018 levels, and 12% to 2050 compared to 2018 levels<sup>9</sup>. Onshoring the manufacture of products we consume to take advantage of the fact that our grid is relatively low carbon, will likely reduce the total carbon impact of that product but brings that carbon within the bounds of our territorial emissions. There should be suitable targets set for both consumption and territorial emissions, aligned with climate change targets, with consideration of any interaction between consumption and territorial emissions carried out on a case-by-case basis, rather than having priority.

The transition to a circular economy could involve increased manufacture and repair of goods in Scotland, which may lead to potential tension between transition to a circular economy and territorial emissions. However, reductions in territorial emissions may be more readily achieved due to the influence of Scottish policies. In addition, a circular economy can help to achieve consumption emission reductions by keeping materials and goods in use for longer.

**In response to the questions posed on household waste**

**4. What is happening outwith the Bill to improve enforcement and prevention of flytipping?**

Scotland’s new National Litter & Flytipping Strategy<sup>10</sup> and its associated Action Plan<sup>11</sup> outline considerable actions directly related to flytipping, noting that partnership working will be required across lead organisations, with support from wider stakeholders. The action plan outlines activities to be undertaken in the first year of the Strategy, many of which are enabling measures that will support and lay the ground for further work over the course of the six-year strategy. These include:

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<sup>9</sup> [Mapping Material Demand in Scotland’s Energy Infrastructure](#)

<sup>10</sup> [National Litter and Flytipping Strategy](#)

<sup>11</sup> [National Litter and Flytipping Strategy 2023-24 Action Plan](#)

- a) Proposed changes in legislation, review current enforcement approach and clarification of roles and responsibilities:
    - To give local authorities additional powers to issue fixed penalty notices (FPNs) for household waste flytipping; to give enforcement authorities new powers to search and seize vehicles suspected to be involved in illegal waste activity; and to raise value of FPNs which can be issued by local authorities, Police Scotland and Loch Lomond and Trossachs National Park, to the current maximum in Scotland of £500.
    - Conduct an evidence review of the enforcement of litter and flytipping offences to better understand, and address, the key barriers to current enforcement practices. Scottish Government
    - Support key stakeholders to review guidance on roles and responsibility of enforcement agencies and local authorities.
  - b) Sharing information and best practice and joint working between stakeholders:
    - Share information and support resource sharing between key stakeholders and fora including the Litter Managers Network, Scottish Partnership Against Rural Crime and Flytipping Forum.
    - Work collaboratively with key stakeholders to scope options to improve the effectiveness, efficiency and consistency of prevention activity that could be trialled and, if successful, scaled up across Scotland. Zero Waste Scotland
  - c) Supporting a more effective mechanism for citizen reporting of flytipping:
    - Simplify existing flytipping reporting channels through the closure of Dumb Dumpers. Lead - Scottish Environment Protection Agency (SEPA)
  - d) Support for landowners:
    - Develop guidance and carry out trials to better support private landowners to deter and deal with flytipping affecting their land.
  - e) Increase use of digital technologies to detect and disrupt flytippers:
    - Better access and use digital technology identify and disrupt illegal practices. Capture information to support investigations leading to enforcement action.
  - f) Data improvement:
    - Developing a Litter & Flytipping Data Strategy: Explore and identify the data necessary to support local and national action planning, monitoring and evaluation activity.
    - Improving consistency of flytipping data: Engage and work with a wide range of stakeholders to establish data requirements. Develop structures which improve consistency of this flytipping data and incorporate it into a new Scottish national database on flytipping.
    - Developing flytipping data: Explore the development of a live picture of flytipping across Scotland.
- 5. Is there anything else you would like to see on the face of the Bill on household waste? For example, is there no need for legislative change in relation to the management of business waste?**

## Household Waste

During the preparatory stages of the Route Map, research was undertaken comparing the common factors of high-performing waste management services in Europe. Consistency of



collections, localised targets and mechanisms to charge households based on the waste they generate were identified as common features.

The Route Map consultation in 2022 included a co-design initiative to develop high-performing systems in different local contexts. If taken forward it will consider consistency, household engagement and communications, and infrastructure. This would have to consider the baseline policy background, assumed to be packaging EPR and DRS in place in 2025.

Similarly, the consultation included proposals to set targets for Local Authority recycling performance, as is in place in Wales, with penalties for failure to meet targets. Set with consideration of individual circumstances, support mechanisms and reasonable expectations for improvement, these could be very effective in improving household recycling performance across Scotland.

Charging based directly on household waste generation is not an available power for Local Authorities at present, commonly referred to as direct variable charging. The Route Map consultation in 2022 did include a proposed review of charging mechanisms for household services, and we would recommend DVC as a potential mechanism to be explored. Any consideration would of course have to consider the impacts of charging on different demographics, the implementation procedure and capacity of Local Authorities to deliver. Charging is discussed in further detail in response to Question 6 below.

Based on the first Route Map consultation responses, the identification of future steps and actions, including any legislative changes regarding household waste, should initially be explored via the co-design of high quality, high performing household recycling and reuse services.

## **Business Waste**

Business waste producers are already subject to specific legislation introduced through the Waste (Scotland) Regulations 2012<sup>12</sup>. These regulations have been in place since January 2014 and have had a significant effect on industry practices and infrastructure provision in Scotland. They expanded commercial waste producers' 'duty of care' to include a requirement to segregate material for recycling as well as storing waste safely and transferring only to an authorised person with completion of required transfer notes.

Work to understand the potential need for and type of future legislation regarding business waste is ongoing. Last year Delivering Scotland's Circular Economy: A Route Map to 2025 and Beyond<sup>13</sup> consultation included a specific set of questions under the section - Improve Recycling from Commercial Businesses.

Most respondents to the first Route Map consultation in 2022 agreed that a review of compliance would help gather insight and contribute to an evidence base to inform future policy and actions, including potential legislation. Some commented on the required scope of this activity, suggesting a comprehensive review across a greater number of businesses than previous reviews is needed.

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<sup>12</sup> [The Waste \(Scotland\) Regulations 2012](#)

<sup>13</sup> [Delivering Scotland's Circular Economy A Route Map to 2025 and beyond, 2023](#)

Co-design measures, including targeted communications, to improve commercial waste service provisions that drive waste prevention and reuse, and maximise recycling were also highlighted. This process would be able to build on findings from waste compositional analysis and any future review of compliance and consider what more could be done to address the challenges faced by businesses of different sizes to meet current and future requirements – and would take into account the need for future legislation.

The first consultation responses suggested improvements in food waste recycling from commercial premises could be a specific focus to increase recycling rates while reducing the carbon impact of Scotland's waste. The exploration of fiscal measures that incentivise commercial recycling and waste prevention was also suggested. Respondents from a diverse range of sectors expressed support for this proposal, valuing the emphasis on a collaborative approach involving engagement with businesses and industry stakeholders.

In addition to ongoing Route Map work, earlier this year Zero Waste Scotland published a report<sup>14</sup> looking at the feasibility of introducing commercial waste zones across Scotland – included mandatory schemes. The research gathered empirical (first-hand knowledge) data, knowledge and understanding of the potential feasibility of zoning in Scotland. Its findings suggest that there was a general lack of empirical data which meant it was not possible to quantify the impact of commercial waste zones.

Both mandatory and voluntary zoning may have the potential to improve recycling performance, but the international examples came from very different baselines in terms of their established collection systems and requirements. This creates uncertainty in terms of the scale of any potential improvements in Scotland as a result of zoning. The report stated that voluntary examples from the UK may have a positive impact on recycling performance but that additional research and modelling is required - as other interventions, such as improving enforcement of existing requirements, may in fact be more effective in improving performance.

#### **6. What is your view on whether there is a need for additional use of waste charging as suggested in some responses to the Call for Views?**

Currently, households in Scotland can be charged for collection of certain waste and recycle streams, such as garden waste or uplift of larger items.

The Route Map consultation in 2022<sup>15</sup> set out a proposed action to review waste and recycling service charging – this potential intervention was supported by respondents. This review could investigate whether the current structures incentivise the right behaviours, or deliver the most value for local authorities, including the highest quality recycle. It would also account for current and future funding availability for household services, including the potential revenue streams from a reformed packaging EPR scheme. Any key findings would be able to inform a future statutory Code of Practice, the development and codesign of which was also supported by consultation respondents in 2022.

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<sup>14</sup> [Commercial Waste Zoning: Feasibility Research, Zero Waste Scotland, 2023](#)

<sup>15</sup> [Delivering Scotland's Circular Economy, A Route Map to 2025 and beyond, 2023](#)

The review into waste charging should include a wide range of fiscal measures to incentivise reducing residual waste and maximising reuse and recycling. Research highlighting international examples of direct variable charging models and the lessons we can learn for future service design in Scotland has already been undertaken and will be published alongside a second Route Map consultation in Autumn - its findings can be built upon in a any subsequent service charging review.

Thank you again for the opportunity to respond to the Committee's questions.

Yours sincerely,



Iain Gulland  
Chief Executive  
Zero Waste Scotland