

Written evidence from the Environmental Services Association (ESA)

The Environmental Services Association (ESA) is the trade association which represents the UK's recycling, resource and waste management industry. Our member companies are helping the UK move towards a more circular economy by collecting, sorting, and treating waste to recover materials and energy, while protecting the environment and human health. We are committed to delivering a circular economy in the UK, decarbonising the UK's recycling and waste industry, and driving higher standards across our sector.

The recycling, resource and waste management industry is leading the transformation of how the UK's waste is managed. With a combined annual turnover of nearly £7.5 billion, our members collect or process tens of millions of tonnes of waste materials every year and have helped England's recycling rate quintuple in the last decade.

ESA welcomes the opportunity to respond to the National Infrastructure Commission's call for evidence on 'The Second National Infrastructure Assessment: Baseline Report'.

Questions in the Call for Evidence – with some suggested initial ESA responses

1. *Do the nine challenges identified by the Commission cover the most pressing issues that economic infrastructure will face over the next 30 years? If not, what other challenges should the Commission consider?*
 - For our sector the challenge will be to deliver the infrastructure required to meet the future Resources & Waste Strategy targets, whilst also decarbonising the recycling and waste system simultaneously.
2. *What changes to funding policy help address the Commission's nine challenges and what evidence is there to support this? Your response can cover any number of the Commission's challenges.*
 - Recycling infrastructure will be privately financed, the delivery of which will require a clear and stable long-term policy framework which underwrites investment. Additional sorting and processing will place upward pressure on waste management costs for local authorities and others which will need to be adequately funded.
 - Carbon capture is a relatively costly solution which will require central government support to be delivered.
3. *How can better design, in line with the design principles for national infrastructure, help solve any of the Commission's nine challenges for the next Assessment and what evidence is there to support this? Your response can cover any number of the Commission's challenges.*
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4. *What interactions exist between addressing the Commission's nine challenges for the next Assessment and the government's target to halt biodiversity loss by 2030 and implement biodiversity net gain? Your response can cover any number of the Commission's challenges.*
 - It is critical that incentives to promote and protect biodiversity are coherent and consistent with other objectives, such as the drive to meet net zero. Individual waste operators will need to make decisions about the future use of their land-bank (e.g. at

closed landfill sites). Options will include improving biodiversity, installing renewable energy (wind or solar), acting as a carbon sink, or building carbon capture facilities in some cases. Operators will need the right supporting framework in order to optimise decisions on a case by case basis. ESA has established a Biodiversity Group to help in this area and which is designing a framework for the recycling and waste sector. This Group also contributed to the Environmental Services chapter in the “Get Nature Positive” Handbook developed for Defra’s Sustainable Business Council.

5. *What are the main opportunities in terms of governance, policy, regulation and market mechanisms that may help solve any of the Commission’s nine challenges for the Next Assessment? What are the main barriers? Your response can cover any number of the Commission’s challenges.*

- Future recycling infrastructure could usefully be supported through measure to stimulate the demand for recycled materials. The introduction of the plastics tax from April 2022 will be a good start, but both the tax rate and the recycled content threshold will need to increase over time (similar to the landfill tax escalator) to drive higher domestic investment in reprocessing capacity. To meet the higher future targets domestically would require the recycled content threshold to move from 30% to 50% over a 10 year period.
- The Government’s recycling reforms under the Resources & Waste Strategy should also prioritise the supply of materials to domestic reprocessing facilities to stop our ongoing reliance on waste exports. A potential solution to this could be a requirement for the EPR and DRS scheme administrators to prioritise domestic reprocessing,
- Recycling targets should be set by recycling rate rather than tonnage.
- An obligation should be placed on developers to accept heat from local networks. This would overcome the key barrier of demand-side/offtake risk which hinders investment in new projects.
- The Scheme Administrators responsible for the new Deposit Return and Extended Producer Responsibility schemes should be obligated to phase in low emission vehicles for their suppliers by 2030.
- At present, there is a lack of consistency in policies across the governmental departments, such as packaging definitions varying between HMRC and DEFRA. This inconsistency leads to uncertainty and confusion and will make investments more difficult.
- There is a lack of clarity on how systems will operate over the next decade. For example, the Resources and Waste Strategy policies will have significant impacts on the waste management system, but there is uncertainty regarding timelines and changes to waste stream composition.

6. *In which of the Commission’s sectors (outside of digital) can digital services and technologies enabled by fixed and wireless communications networks deliver the biggest benefits and how much would this cost?*

- The Government is soon to introduce digital waste tracking for our sector, which is an important initiative both for the development of more comprehensive data, and also to prevent material leaking out of the legitimate system and into illegal activity.

7. *What barriers exist that are preventing the widescale adoption and application of these new digital services and technologies to deliver better infrastructure services? And how might they be addressed? Your response can cover any number of the Commission’s sectors outside digital (energy, water, flood resilience, waste, transport).*

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8. *What are the greatest risks to security of supply in a decarbonised power system that meets government ambition for 2035 and what solutions exist to mitigate these risks?*
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9. *What evidence do you have on the barriers to converting the existing gas grid to hydrogen, installing heat pumps in different types of properties, or rolling out low carbon heat networks? What are the potential solutions to these barriers?*
- As above, the biggest barrier to the roll-out of heat networks is the lack of certain demand from end users. An obligation on developers to accept heat from new networks would address this.
 - Another critical element for investment in heat networks connected to energy from waste facilities would be for the Government to explicitly recognise these as part of the green taxonomy. These essential facilities save 200kgCO₂/tonne of waste diverted from landfill and will be further decarbonised as we increase plastic recycling and roll out carbon capture going forward.
10. *What evidence do you have of the barriers and potential solutions to deploying energy efficiency in the English building stock?*
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11. *What barriers exist to the long term growth of the hydrogen sector beyond 2030 and how can they be overcome? Are any parts of the value chain (production, storage, transportation) more challenging than others and if so why?*
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12. *What are the main barriers to delivering the carbon capture and storage networks required to support the transition to a net zero economy? What are the solutions to overcoming these barriers?*
- For the waste sector, retrofitting energy from waste (EfW) facilities with carbon capture utilisation and storage (CCUS) technology is part of the solution to further decarbonise EfW, with further opportunities to produce negative emissions through the biogenic content of waste inputs.
 - Currently, CCUS retrofit of EfWs involves high capital expenditure and commercial risk, as well as the issue that CCUS retrofit may not be feasible at all EfWs. This depends on the space available on site (e.g. EfW plants located in dense urban areas) and location of the site (e.g. 'Dispersed sites' that are not proximal to CCUS Clusters and Transport and Storage (T&S) networks).
 - The inclusion of the EfW sector in BEIS' Industrial Carbon Capture (ICC business) model is a step in the right direction; however, it is currently likely to favour facilities close to CCUS Clusters who have access to CO₂ Transport and Storage (T&S) infrastructure over dispersed sites. In order to ensure a level playing field across industry, it is therefore important that the CCUS business model benefits all plants, both those proximal to clusters and dispersed sites.
 - Considering the challenges with deploying CCUS at EfWs, we also recommend that alongside trial and development activity to deploy carbon sequestration solutions that it is important that we focus on investment in activities that both remove and reduce carbon

emissions from EfWs. Firstly, removing plastic from EfWs, via increasing investment in domestic recycling capacity, will be a key priority for reducing fossil content of waste inputs. Beyond this, deploying solutions, such as improved metal recovery, bottom ash recycling, electricity generation, efficiency improvements (including R1/recovery Status), connection to district heating networks and hydrogen production will also help to avoid further carbon emissions prior to CCUS deployment.

13. *In what ways will current asset management practice need to improve to support better infrastructure resilience? Your response can cover any number of the Commission's sectors.*

- Ensuring flexibility will be critical to driving long-term resilience within the waste management system, so that we can respond to market changes and enable a smooth and stable transition towards a circular economy. Putting contingency measures in place so that waste has a viable and environmentally safe end destination will therefore be critical. The introduction of landfill bans in Scotland in 2025 and England in 2028 will remove the flexible back-stop option for disposing of waste when EfW facilities are down for maintenance. To address this, we will need to build extra capacity - to take on additional capacity and handle new materials to be collected under consistency of collections reforms, large amounts of sorting infrastructure (e.g. MRFs and Waste Transfer Stations) will require upgrades and retrofitting, therefore requiring contingency plans for when sites are shut down for a period to undertake upgrades. In addition, if energy from waste capacity is limited, alternative temporary landfill and storage solutions need to be made available. Furthermore, collections bins and Refuse Collection Vehicles will need to be changed and upgraded to meet new collection requirements, whilst also ensuring upgrades align with net zero ambitions to decarbonise collections fleets. To balance these needs, an industry transition and capacity building plan is required to ensure that new and improved infrastructure is developed at a pace which balances ongoing operational demands and maintains a trajectory to meet long-term capacity demands, with infrastructure spread effectively across UK geographies.

14. *What are the barriers to and solutions for expanding recycling capacity, both now and in the future to deliver environmental and net zero targets?*

- Increasing domestic recycling capacity is a key priority and industry is progressing collaboratively to innovate and deploy new and improved technologies, with large-scale investment in sorting and recycling infrastructure, worth approximately £10bn required. However, there are significant commercial challenges and investment uncertainty which are preventing the sector from achieving this.
- **the challenging investment environment:** the recycling sector can be seen as an unattractive investment environment due to potential low margins from activities, linked to the volatility in virgin vs. recycled material prices
- **an uncertain policy design framework and implantation timeline:** Resources and Waste Strategy (RWS) policies have the opportunity to provide significant market stimulus to build UK domestic recycling capacity and drive market demand. However, we are currently in a hiatus period with delays in investment in new recycling infrastructure resulting from the RWS timetable and policy design being pushed back.
- For policy to be effective, it must also be designed to level the playing field for industry, de-risk investment and also ensure that funding is proportionally distributed across collections, sorting and domestic reprocessing infrastructure, with an appropriate level of direct monetary stimulus to recyclers guaranteed to further support end markets for materials. To ensure investment is proportionately targeted towards the reprocessing industry, the incoming EPR Scheme for packaging needs to provide ring-fenced funding for recycling. This will also help to drive the wide-scale adoption and market acceptance

of technologies (mechanical and non-mechanical recycling) that have been demonstrated to recycle hard-to-recycle materials.

- One of the biggest barriers to investment in expanding recycling capacity is a lack of demand for recycled materials. To support domestic plastic reprocessing specifically, the Plastic Packaging Tax will act as an important mechanism to drive demand for recycled content in packaging products, alongside EPR, Deposit Return Scheme and Consistency of Collections policies. However, we recommend that an escalator be applied to both the recycled content threshold and rate of tax to provide a continued incentive to industry, unlock investment in infrastructure and to ensure the tax reaches its full potential.
- Another major barrier is a lack of security of supply for reprocessors. The Government should clarify how the scheme administrators for the future deposit return scheme and extended producer responsibility will guarantee feedstock for domestic reprocessors.
- **Unfair competition towards exports:** Today, there is unfair competition from exports which significantly contribute towards achieving recycling rates but which do not need to meet equivalent conditions as domestic facilities, creating unfair advantage against UK-based reprocessors. In its current format EPR doesn't favour domestic reprocessing and as a possible rebound effect, it may continue to stimulate export markets, rather than towards domestic reprocessing. As a result, we recommend that a UK-based recycling rate is introduced as part of the incoming EPR scheme for packaging to incentivise UK infrastructure development, ensuring that Local Authorities and businesses achieve a minimum recycling rate domestically. In addition, phasing out plastic exports would provide additional stimulus to significantly incentivise demand for domestic reprocessing and build up infrastructure capacity. Opportunities to drive this forward could be supported by extending the ban on export of mixed plastics to OECD as well as non-OECD countries by 2025, ensuring that domestic reprocessing avenues can be further prioritised.
- **A slow planning process and the need to build up engineering skills capacity:** Alongside supportive market mechanisms to drive up demand for recycled materials and encourage investment in domestic reprocessing, the planning system also needs to be aligned with the pace of change in order to achieve objectives to increase domestic recycling capacity. Speeding up this process to reduce the lead in time from initial investment in a new facility to it becoming operational will be key. Considering existing skills gaps and shortages, building skills capacity and ensuring sufficient levels of qualified engineers are available will be key, due to the number of facilities that require retrofit and construction
- Permitting capacity at the Environment Agency is also currently proving a significant brake on investment in new capacity. Current timelines for acquiring permits can run into several years and investment decisions are being distorted as operators cannot rely on receiving permits in a timely manner.
- In addition, it would be beneficial to introduce measures to incentivise producers to phase out difficult-to-recycle formats, and clearer binary labelling to make it easier for consumers to separate their recycling properly.
- Chemical recycling will play an important role in dealing with low grade plastics, but it is important that it's not seen as a silver bullet. The inclusion of plastic films and cartons will change the waste collection system and the material input at sorting facilities, which will require retrofitting and replacement.

15. *What is the likely environmental impact of waste streams from construction across economic infrastructure sectors, over the next 30 years, and what are the appropriate measures for addressing it?*

- The stronger application of Duty of Care for tier 1 developers (at Board-level), which would incentivise them to monitor and self-regulate their supply chains would be the best measure for avoiding poor and illegal practice in the management of construction waste.

16. *What evidence is there of the effectiveness in reducing congestion of different approaches to demand management used in cities around the world, including, but not limited to, congestion charging, and what are the different approaches used to build public consensus for such measures?*

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17. *What are the barriers to a decision making framework on interurban transport that reflects a balanced approach across different transport modes?*

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