A framework to enable the circular economy

A call to action: Our 10-point regulatory framework to support reform across the waste sector to unlock growth and meet net zero targets.

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Introduction

This report is derived from an extensive research project that explored waste reforms in-depth across seven resource streams and four resource management methods. The project has been completed with Sancroft, the award-winning sustainability consultancy, utilising their deep understanding of the UK's waste and resource management industries.

This short introduction to Reconomy's framework covers a vast sector in a purposefully compact way to deliver the core principles and messaging of the work. Reconomy is seeking to restructure the waste industry, to ensure it is meeting the requirements of businesses and government, both for sustainability in general and for combatting climate change.

The UK's waste industry is constantly at work; collecting, sorting, recycling and recovering materials to support the transition to a circular economy and playing our part in combatting climate change by utilising precious resources and reducing pollution. However, the industry is struggling to revitalise stagnant recycling rates, keep pace with new materials entering the market and develop better systems to tackle growing waste in a complex system.

Emissions from the waste sector, including energy-from-waste (EfW) plants, accounted for 6% of UK GHG emissions with landfill emissions accounting for 60% of waste sector emissions (UK CCC, 2020). To support the achievement of the UK's Net Zero target, we need initiatives that drive waste separation, end landfill and incineration as easy disposal methods for materials, incentivise responsible waste management and keep resources in circulation, to reduce the extraction and consumption of virgin materials.

Reconomy, a circular economy specialist, wants to work with businesses and the government to ensure the waste industry boosts stagnant recycling rates. We want to be able to invest confidently in the future to manage resources effectively. Businesses should be at the heart of the transition to a circular economy to ensure reforms are aligned with sustainable growth strategies and work across sectors.

We propose a framework to support the circular economy, across seven resource streams and four resource management methods. To ensure the framework principles are effective, easy to adopt and business friendly, we engaged waste experts as well as public and private sector organisations throughout the project and invite those interested to discuss this work with us in more detail.

Our framework creates a consistent regulatory market within which businesses can operate, while mitigating the negative environmental impacts of waste. The series of structured and consistent reforms will simplify the waste system and generate much needed investment in the system and move resources up the waste hierarchy.

Inconsistent recycling rules leads to the contamination of +16% of dry recycled materials. Of the 5.5 million tonnes of dry recycling produced in 2022, 913,000 tonnes was contaminated and ended up incinerated or in landfill

The circular model decouples economic activity from the consumption of finite materials. It aims to reduce waste by:

Designing out waste in all stages of design, manufacture and disposal

Keeping materials and products in use by preserving their value and re-using them to reduce the reliance on virgin materials

Relying on renewable sources and energy to regenerate nature and move away from fossil fuels

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Why act now?

1. Large-office based UK businesses could save as much as £24,000 per year by changing the way they manage their waste[1]. Waste is simply wasted money, with linear economies allowing for cheap disposal of valuable materials. Therefore, the retention of materials aligned with the circular economy is increasingly necessary in a resource-constrained world.
2. We consume more resources than we have available, to support future generations. The UK must reduce its production and consumption footprint by 75% by 2030 to bring itself within sustainable planetary boundaries (WWF, 2021). While consumer awareness is not an output of legislation, it is supported by consistent separate collections and widespread communication campaigns that create clarity, and more importantly, engage the least engaged individuals in the resource chain – the consumer.
3. In the UK, many materials and products are bought from abroad. When used, they are then buried, burnt, or shipped off to be reprocessed at their end of life. Sometimes, reprocessed material is then re-imported at a higher cost. Managing the processing in the UK would ensure businesses retain control of their resources and avoid costly and environmentally damaging shipments.
4. Waste generated in the UK contributed 3.7 million metric tons of carbon dioxide emissions in 2021. The industry is aware of its ability to support the UK's Net Zero strategy, and through actions such as nation-wide food collections, we can reduce greenhouse gas emissions from decomposing food in landfill. However, we can't do this alone as waste needs to be uncontaminated across separate streams to manage and move resources up the waste hierarchy effectively. The waste industry needs to decarbonise but can't do this in its current state.

[1]https://www.edie.net/offices-can-cut-24k-off-annual-costs-by-reducing-waste/

Effective Extended Producer Responsibility (EPR) implementation in the UK is projected to generate £80.2m in societal benefits annually by 2033 through reduced greenhouse gas emissions.

Our vision

Reconomy's framework for future waste regulation aims to standardise the operating environment in England to make it easier for consumers, industries such as construction and textiles, and the wider waste sector to manage resources.

Ten principles have been created that build on current successes of regulation, including those seen in other UK nations, advocate for agreed aspects of incoming regulation and offer remedies to overcome complexity in the system.

The principles apply to the waste sector as a whole, however, they can be tailored to a number of waste streams and management methods to support the movement of resources up the waste hierarchy.

[2]https://www.wrap.ngo/resources/guide/tackling-contamination-dry-recycling

In 2021, 84%[2] of discarded textiles in the UK were incinerated, equating to 29 garments per person annually. Eco-conscious garment design, focused on longevity and repairability, can significantly reduce our waste production*

**84% represents textiles that are unable to be reused, resold or recycled. 49% of all used textiles in the UK were disposed of in general waste. Of these items 84% was was incinerated with energy recovery.*

No.	Guiding Principle	What we need to do
1	National minimum standards	All waste providers must be held to a new higher sustainability standard. This standard will create a level playing field, that will ensure maximum value is extracted from previously waste materials. If providers fall below this standard, councils should then have the power to renegotiate and avoid the long length of contracts.
2	Strategic infrastructure planning	Waste management infrastructure development has been sporadic and reactive. A national infrastructure strategy needs to be drawn up that considers today's needs, whilst planning for the reduction in waste in the future. Tactical infrastructure planning should include specific consideration for utilising brownfield sites.
3	Consistent separate collection	Variability of collections is the biggest barrier to consumer engagement with recycling. We need to have consistent collections across the country, which is recognisable wherever the consumer is. This could involve a three-tiered approach for management considering urban, suburban, rural locations.
4	Increased frequency of recycling collections	Local authorities, within their updated contractual standards, should be encouraged to increase the frequency of food waste and dry recycling collections, alongside a reduction in residual waste collection.
5	Track waste to inform reduction targets	Baseline data of waste figures needs to be established and effective systems created for continuous collection. Accurate data can be used to establish national, evidence-based reduction targets that are widely communicated and easily monitored.
6	Extended Producer Responsibility (EPR)	Implementation of the planned EPR regulation ensures the burden of waste management is shifted onto producers. Within the EPR system, Principles 7 and 8 will play key roles.
7	Ecodesign standards	Around 80% of a product's environmental impact is determined in the design phase; therefore, standards which minimise environmental impacts at the design phase are key. Ecodesign standards should include: • Mandatory standards for returnable packaging • Less complex material compositions • Designing for reuse, repair, and recyclability as a third priority
8	Financial incentives & disincentives	EPR funding must be ringfenced to ensure spending supports improved circularity within the resource stream from which it is collected. Whilst hypothecation of taxes is complex, subsidies will be required to stimulate demand and create an effective market for recycled materials.
9	Digitisation of information	Digital tracking of resources and their end-of-life management in real time will ensure materials are managed in a compliant manner and allow for informed decisions on improving England's waste strategy. This is supported by the introduction of material passports across a variety of resources
10	Governing body to track enforcement	Following the effective implementation and roll out of Principles 1 – 9, and to ensure effective enforcement, governing bodies independent of the Government should be created to enact change. This final stage is only viable once the correct and simple system has been created for businesses to adhere to.

The adoption of the principles should be sequenced, to ensure that the principles for material management are matched by effective provision of suitable waste facilities and markets for materials, especially for resources already on the market which are difficult to recycle:

Sequential application (1-5):

The first five principles are designed to be applied in order. Each principle addresses a specific aspect of the implementation process and builds upon the preceding one.

Simultaneous implementation (6-8):

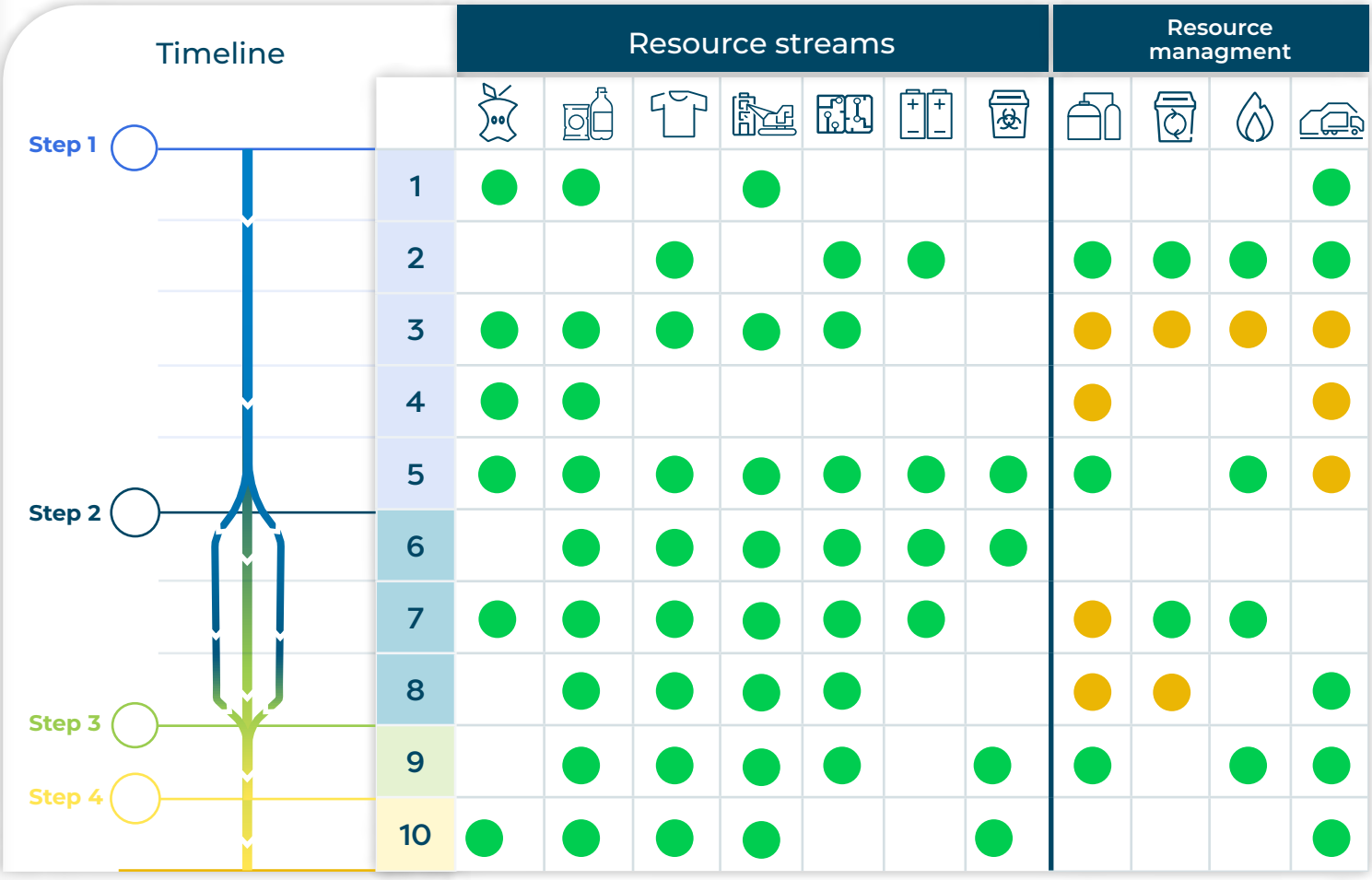
Principles 6 to 8 should be implemented simultaneously. This ensures that certain aspects of implementation, such as evaluation and analysis, occur alongside each other.

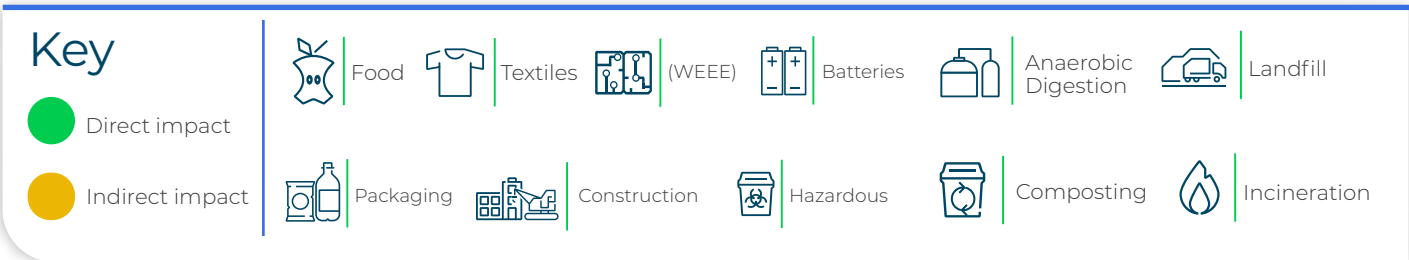
Ongoing execution (9):

Principle 9 involves continuous monitoring, adjustment, and improvement of waste management based on evolving circumstances and feedback. It tracks the effectiveness of the waste system using digital technology for efficiency and speed.

Requirement following implementation (10):

The final step in the process is contingent upon the completion of principles 1 to 9. Only after the initial nine principles have been fully actioned can principle 10 be effectively and fairly implemented to track enforcement.





The impacts of change

Our framework prioritises action in the most important areas of the system and will have a material impact on emissions reduction as resources are recovered and re-used until their eventual end-of-life. Most importantly, it will align waste sector efforts with national efforts to keep global warming temperatures below 2°C.

Now is the time to act.

The implementation of the guiding principles must be championed by a government showing clear leadership and commitment to the circular economy and Net Zero. A sustainable waste management system will require resources from the private sector as the responsibility for managing waste shifts to producers and many local authorities face budgetary crises. Supported by consistency, the industry can then confidently invest alongside Government and unlock the economic and environmental benefits of a circular economy, which could increase the value of the UK economy by £82 billion (GVA) and create around 284,000 jobs in London by 2030 and an estimated 450,000 jobs nationally by 2035

Reconomy wants to work with industry, the government and local authorities to establish a simplified and consistent approach to waste management across England that will reduce the burden on consumers and facilitate better collection, sorting and movement of waste up the waste hierarchy to play our role in emissions reduction.

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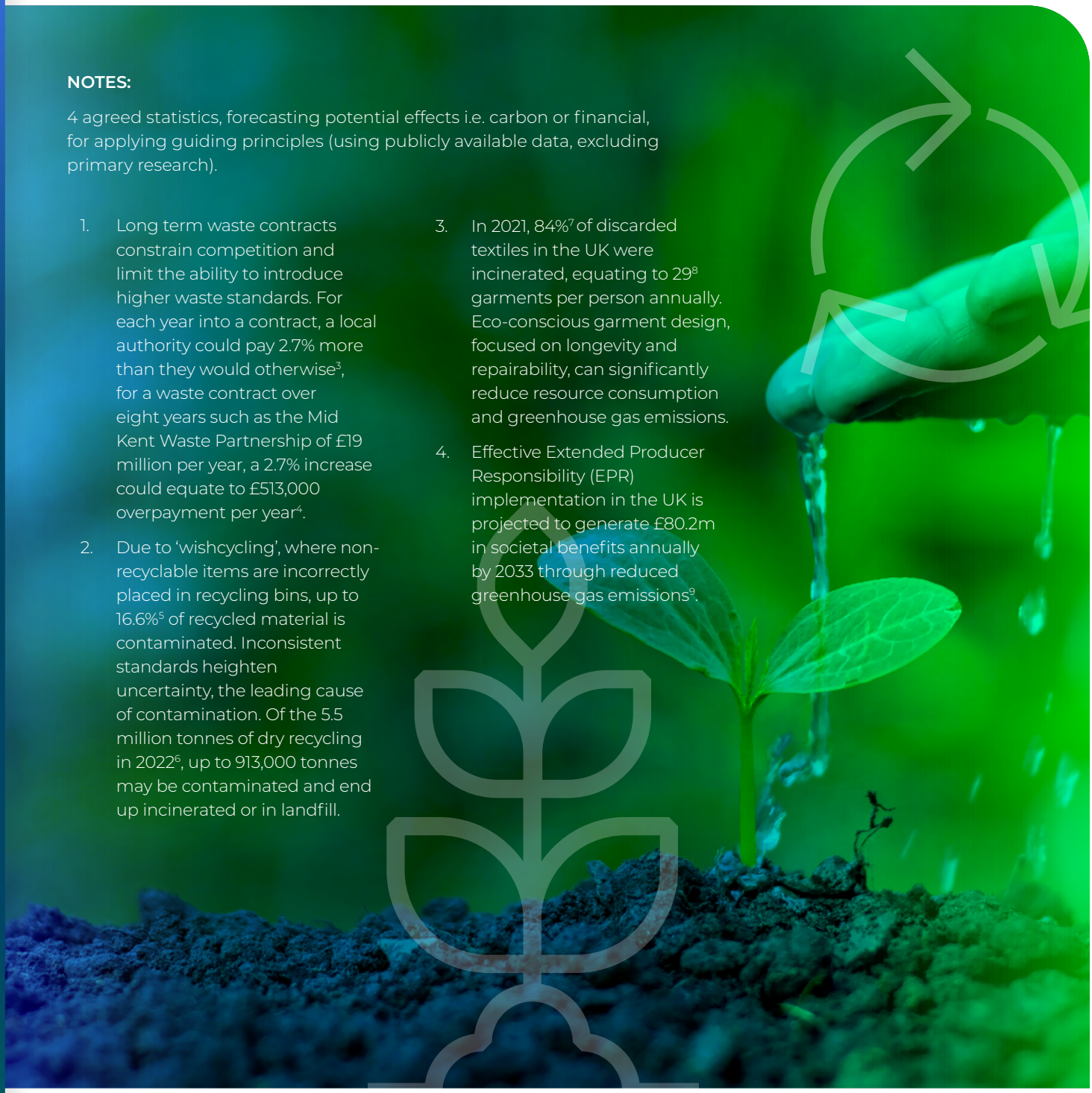

NOTES:

4 agreed statistics, forecasting potential effects i.e. carbon or financial, for applying guiding principles (using publicly available data, excluding primary research).

1. Long term waste contracts constrain competition and limit the ability to introduce higher waste standards. For each year into a contract, a local authority could pay 2.7% more than they would otherwise[3], for a waste contract over eight years such as the Mid Kent Waste Partnership of £19 million per year, a 2.7% increase could equate to £513,000 overpayment per year[4].
2. Due to 'wishcycling', where non-recyclable items are incorrectly placed in recycling bins, up to 16.6%[5] of recycled material is contaminated. Inconsistent standards heighten uncertainty, the leading cause of contamination. Of the 5.5 million tonnes of dry recycling in 2022[6], up to 913,000 tonnes may be contaminated and end up incinerated or in landfill.
3. In 2021, 84%[7] of discarded textiles in the UK were incinerated, equating to 29[8] garments per person annually. Eco-conscious garment design, focused on longevity and repairability, can significantly reduce resource consumption and greenhouse gas emissions.
4. Effective Extended Producer Responsibility (EPR) implementation in the UK is projected to generate £80.2m in societal benefits annually by 2033 through reduced greenhouse gas emissions[9].

[3]https://assets.publishing.service.gov.uk/media/5a82d56240f0b6230269cf31/local-authority-waste-contracts-cma-analysis.pdf

[4]https://news.maidstone.gov.uk/home/news/2024/january/mid-kent-waste-partnership-announces-new-contractor

[5]https://www.wrap.ngo/resources/guide/tackling-contamination-dry-recycling

[6]https://www.gov.uk/government/statistics/local-authority-collected-waste-management-annual-results/local-authority-collected-waste-management-annual-results-202223#:~:text=Dry%20recycling%20was%205.5%20million,million%20to%2012.1%20million%20tonnes.

[7]https://www.wrap.ngo/resources/report/textiles-market-situation-report-2024

[8]https://www.wrap.ngo/resources/report/textiles-market-situation-report-2024

[9]https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1063588/epr-final-impact-assessment.pdf

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