RECAP Resources and Waste Strategy (2025-2031)

September 2025

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Foreword

"I'm proud to share this RECAP Resources and Waste Strategy (2025-2031), which celebrates the progress and achievements of RECAP and outlines a pragmatic, forward-looking approach to collaboratively addressing current and future challenges of district, city, county and unitary authorities across the Cambridgeshire and Peterborough area - together, as a united partnership.

RECAP has made considerable progress in transforming waste management across the partnership area. The expansion of kerbside collections to include a wider range of materials has increased recycling opportunities for residents, while education and awareness programmes have helped to embed the principles of reduction, reuse and recycling within our communities. Targeted investment has enhanced the efficiency and sustainability of our collection services and fleet, supporting both environmental and public health outcomes.

At the same time, a strong commitment to performance reporting and the sharing of best-practice case studies and investment in waste compositional and strategic service option analysis has improved public understanding and encouraged greater engagement in tackling the challenges we face. As the newly elected Chair, I am proud to acknowledge these achievements and look forward to supporting the partnership in building on this strong foundation for the future.

Whilst it is important to recognise our past achievements, areas of improvement should be addressed in equal measure. Moreover, we recognise that further action is required to improve the efficiency of our waste management services.

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This strategy represents an interim period of local government and waste policy reform, within which the partnership will be required to navigate changes to the scope and composition of materials that we manage, collect, process and report on. We recognise that these changes to waste services, driven by policy reforms, will only be effectively implemented through behavioural changes and the support of the communities we serve. The pace of legislative and market change is creating challenges across the industry. As everyone works to adjust, we're seeing a lag in market readiness — making it harder to commission projects in a landscape that's increasingly fast-moving, uncertain, risk-averse, and resource-constrained.

Importantly, the strategy is pragmatic in its approach to addressing these opportunities, recognising the economic, political and contractual challenges that are associated with delivering waste management efficiency improving initiatives. Furthermore, the challenge of managing waste sustainably in Cambridgeshire and Peterborough is intensified by rapid population growth, increasing the strain on services. This must be managed with limited resources and ongoing financial pressures. The case for stronger collaboration - within the partnership and neighbouring authorities - is clear. We need to capitalise on the benefits of partnership working, not just with each other, but also across regions, and in partnership with the private sector, third sector, and local communities."

Cllr Ros Hathorn
Chair

Executive Summary

This RECAP Resources and Waste Strategy (2025-2031) sets the strategic direction for the RECAP partnership, aiming to deliver more sustainable and integrated waste management.

The strategy is set against a backdrop of national legislative reform and evolving responsibilities for local authorities. It addresses the management of waste that falls under the control of local authority (municipal waste), while acknowledging the influence local government can have on broader waste streams such as commercial and industrial waste. Through a collaborative approach, the strategy aims to improve service delivery in the face of increasing demand and financial constraints, particularly given the region's growing population.

Central to this strategy are thematic priorities that include strengthening Contracts and Procurement frameworks to support more flexible and cost-effective service delivery, as well as addressing pressing Waste Management Infrastructure needs. It outlines investment in transfer stations and other facilities to improve system efficiency and environmental outcomes. Recognising the importance of Communications and Behavioural Change, the strategy underlines the need for public engagement to embed practices aligned with the Waste Hierarchy—focusing on prevention, reuse, and recycling before disposal. The link between sustainable waste management can efficiently and effectively contribute to reducing carbon with emissions reduction.

In addition, the strategy places a strong emphasis on Recording, Monitoring and Reporting, ensuring transparency and enabling data-led decision-making. It also highlights emerging Commercial Opportunities, advocating for a more circular economy by reframing waste as a valuable resource. Importantly, the strategy calls for strengthened collaboration across local, regional, and sectoral boundaries to maximise outcomes and resilience in a time of ongoing policy, economic and environmental change.

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Introduction

Who and what is RECAP?

Cambridgeshire and Peterborough Waste Partnership (RECAP) is a voluntary partnership founded in 2008 between county, district and unitary authorities within Cambridgeshire and Peterborough with the vision of delivering cost effective waste services for the benefit of local communities in the Cambridgeshire and Peterborough area. RECAP emerged from the need for greater efficiency in waste services across a broad geographical area.

RECAP works to strengthen the waste services provided by the region through collaborative working, sharing resources, and providing opportunities for sharing current and future planned waste infrastructure and services. The RECAP geographical area covers several local authority political boundaries (figure 1) including the following partners:

- Cambridgeshire County Council (CCC);
- Peterborough City Council (PCC);
- Fenland District Council (FDC);
- *South Cambridgeshire District Council (SCDC);
- East Cambridgeshire District Council (ECDC);
- Huntingdonshire District Council (HDC); and,
- *Cambridge City Council (CCiC).

** Cambridge City Council and South Cambridgeshire District Council have formed the Greater Cambridge Shared Waste Service which provides waste services for both authorities.*

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Figure 1: *RECAP partner authority boundaries*

Introduction

Structure of RECAP

The local authority partners within RECAP operate under differing statutory and non-statutory remits. Statutory functions encompass the legally mandated responsibilities associated with the collection and disposal of municipal waste.

Cambridgeshire County Council serves as a designated Waste Disposal Authority (WDA), while the constituent district councils fulfil the role of Waste Collection Authorities (WCAs). Peterborough City Council functions as a Unitary Authority (UA), thereby assuming responsibility for both the collection and disposal of municipal waste. Figure 2 illustrates the respective statutory responsibilities of the RECAP partner authorities.

In addition to statutory obligations, each authority also undertakes a range of non-statutory functions which, while not legally mandated, contribute to the delivery of RECAP's strategic objectives and enhance the whole system performance. These activities support waste minimisation, promote resource recovery, and generate broader social value. They include the implementation of behavioural change programmes aimed at reducing residual waste, and the operation of supplementary collection services for materials such as green waste, bulky household items, and Waste Electrical and Electronic Equipment (WEEE). Furthermore, initiatives that facilitate reuse and recycling - such as repair cafés, donation routes through charity organisations, and targeted public engagement campaigns - form an integral part of these efforts. Figure 2 below provides a detailed breakdown of the functional responsibilities held by each local authority within RECAP.

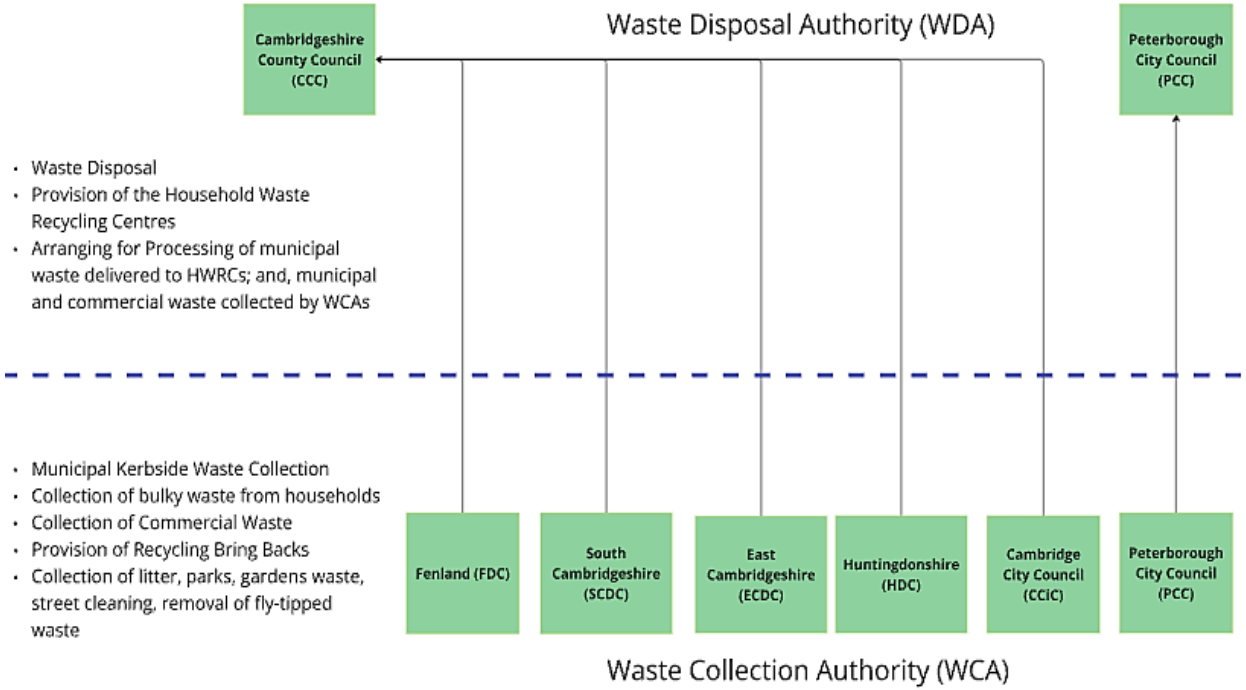

Figure 2: *Responsibilities of local authority partners within RECAP*

Introduction

Future Structure of RECAP

In February 2025, the Minister of State for Local Government and English Devolution wrote to all councils within RECAP, requesting them to submit unitary proposals for local government reorganisation (LGR) by the deadline of 28th November 2025.

The English Devolution White Paper (2024), sets out a framework for local government reorganization in England, aiming to improve efficiency, decision-making, and accountability across local authorities. It outlines a shift towards unitary authorities, where powers and responsibilities currently split between county and district councils could be consolidated into a single-tier system. This restructuring is designed to simplify governance, streamline service delivery, and reduce costs.

RECAP partners are currently evaluating various LGR options to determine the most optimal proposal. This could involve a single-tier local authority for the entire county or multiple single-tier authorities covering one or more districts. This process presents future opportunities to formalize aspects of the partnership and collaborate more closely with organisations like the Cambridgeshire & Peterborough Combined Authority.

Such collaboration could include sharing waste collection fleets, standardising services (such as bin sizes, collection frequencies and chargeable waste policies), and driving efficiencies and cost savings. Public engagement campaigns will play a vital role in these efforts.

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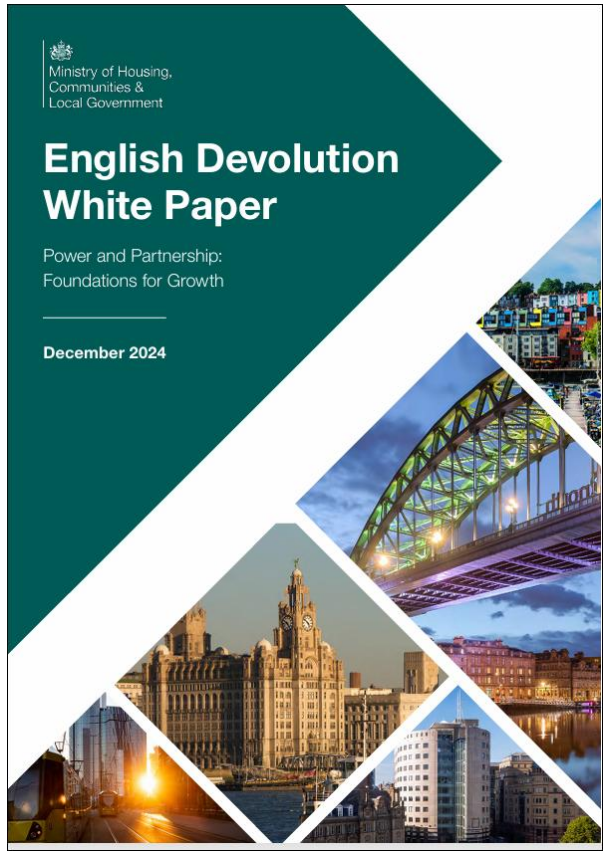
Importantly, the timing of this waste strategy prior to LGR means that RECAP can ensure that waste management remains consistent, regardless of the changes in governance structure. It allows for careful consideration of factors like fleet sharing, service standardisation, and cross-boundary cooperation, ensuring that any shifts in responsibility or structure do not disrupt essential services. It also helps to address long-term goals such as sustainability, efficiency, and cost-effectiveness, which can be critical in a period of organisational change.



Introduction

Governance of RECAP

To streamline communication and facilitate collaboration and coordination within RECAP, several sub-teams have been developed.

The governance structure within RECAP consists of a RECAP Board and the Senior Officer Group (SOG) which represent the strategic functions of RECAP. The SOG consists of a senior officer from each authority who monitor the performance of the programme annually, set forward ideas to the RECAP Board, and receives information from the four sub-groups which are detailed below. The RECAP Board discusses proposals from the SOG and is responsible for the direction of RECAP.

- The SCRAP enforcement group, which is primarily focused on the prevention and enforcement of fly-tipping, and the illegal dumping of waste.
- The Operations Panel consists of operational officers from each authority in RECAP, enabling operational knowledge and expertise sharing on the waste operations in their respective areas.
- The Marketing Group consists of a recycling officer from each authority and focuses on promotion of reuse, recycling, and waste prevention across RECAP.
- The data group is responsible for data monitoring for RECAP and monitors data such as waste, recycling, street scene service operations and waste contracts.

A key tenet of RECAP is collaboration with internal and external partners.

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For example, RECAP authorities have previously partnered with local businesses who can offer discounts on reusable items such as nappies to drive behavioural change, or, liaising with the Town and Country Planning Association (TCPA) new Communities group to ensure the roll out of Household Waste Recycling Centres where residential areas expand from new housing developments. Additionally, the Place Directors Group, are consulted with to provide input where appropriate.

Joint-working is at the core of the new RRWS and is essential for the successful delivery of actions across all strategy themes, although a notable prerequisite for strategy application, governance and review procedures. This is further discussed in later sections of this strategy document.

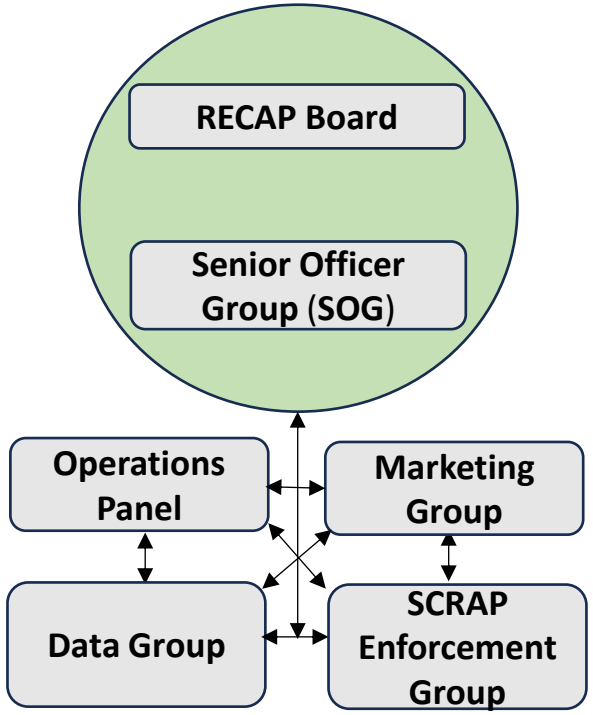

Figure 3: *Governance structure within RECAP*

Introduction

Requirement for Strategy Revision

The previous waste management strategy covered the period from 2008 to 2022 and has now expired. The lack of national strategy over the latter part of this period has inhibited the progress that is desired by the partnership to deliver an efficient and effective waste management service across the area. Delivering better infrastructure, certainty of service delivery, risk aversion, efficient use of budgets and consistency of services are overarching drivers for this revised waste strategy. Furthermore, the changing policy and legislative landscape trigger the need to review our waste treatment and disposal arrangements too.

The key principles of waste prevention, recycling, and composting, outlined in the previous strategy remain highly relevant, although the landscape of waste management policy has evolved. The Environment Act 2021, a significant waste legislation, introduced clear waste management policy requirements. This includes recycling and waste minimisation, such as halving residual waste produced by 50% by 2042 from 2019 levels and recycling 65% of municipal waste by 2035. Whilst these national legally binding targets push for improvements in waste management services, waste services also must also respond to the wider drivers of population growth and carbon reduction.

What Does the Strategy Include

This RRWS is a strategic framework providing direction on the approach to collection, transfer and processing of RECAP's Municipal Waste. The RRWS covers the interim period from 2025-2031. The scope of the strategy includes Municipal Waste that falls under the control of a local authority, specifically: all waste collected from households, all household waste taken to recycling banks or household recycling centres, wastes from street cleaning, litter, bulky waste collections, fly tipped waste and waste produced by commercial premises that is collected by, or on behalf of RECAP.

Structure

The strategy is structured into two parts. Part one of the strategy is the RRWS strategy report (this document) which provides a review of current waste services within RECAP, introduces upcoming waste policy reforms, a review of current performance levels, and an introduction to the strategy themes. Within each thematic area, the strategy outlines principles of good practice and sets out the aims.

Part two of the strategy is an accompanying RRWS Action Tracker that provides a granular breakdown of actions and sub-actions required to deliver the aims of the strategy. The Action tracker is structured into eight key Strategy 8 Themes, 17 aims, 34 actions and 111 sub-actions. The eight Strategy Themes are as follows:

1. Waste Management Infrastructure;
2. Waste Hierarchy;
3. Communications and Behavioural Change;
4. Legislation, Contracts and Procurement;
5. Carbon reduction and emissions;
6. Data Capture, Recording, Monitoring and Reporting;
7. Commercial Opportunities; and,
8. Strategy Application, Review and Governance.

Strategy Context - Local Characteristics

Population Growth

Population growth is an important factor in planning for future wate management arrangements. The Cambridgeshire and Peterborough areas have experienced significant residential, commercial and industrial growth in recent years and are amongst the fastest growing local authorities in England. The total permanent resident population of Cambridgeshire increased by 9.2% (57,400 residents) and the total number of households increasing by 10.5% (36,800 additional households) between the 2011 and 2021 Census. Peterborough experienced higher relative increases, with the total permanent resident population increasing by 17.5% (32,100 residents) and the total number of households increasing by 14.2% (10,500 additional households) from Census 2011 to Census 2021. It is estimated that between 2022 and 2031 there may be additional population growth of 12% within Cambridgeshire and 8% within Peterborough.

Local Development

To accommodate this growth, Homes England and Cambridgeshire & Peterborough Combined Authority (CPCA) have formalised a Strategic Place Partnership (SPP) to develop a shared plan to accelerate local housing, regeneration and growth proposals. Furthermore, there are several substantial planned housing developments in Cambridgeshire and Peterborough. For example, Northstowe, one of Britain's largest new settlements, has almost completed the first phase of more than 1,000 homes and the site is expected to grow to include 10,000 homes by 2040. Additionally, Great Kneighton, situated in the southern part of Cambridge, is nearing completion and will eventually consist of some 2,300 homes. Homes England has also committed considerable funding to accelerate the Waterbeach New Town development, with the potential to deliver a further 11,000 homes.

The East-West Rail Link, a planned new rail link between Oxford and Cambridge, shall support collaborative opportunities through enhanced connectivity between key cities like Oxford and Milton Keynes. Moreover, improved accessibility for both residents and businesses is expected to attract investment, particularly in sectors like technology, life sciences, and advanced manufacturing, strengthening Cambridgeshire's position as a hub for innovation.

To facilitate this growth and maximise opportunities for collaborative partnership working, effectively planned infrastructure, including waste and resource management infrastructure, shall be essential. The latter point emphasises a current lack of waste management infrastructure in the Anglia region and is discussed further in *Section 6: Developments in the Waste Sector*.

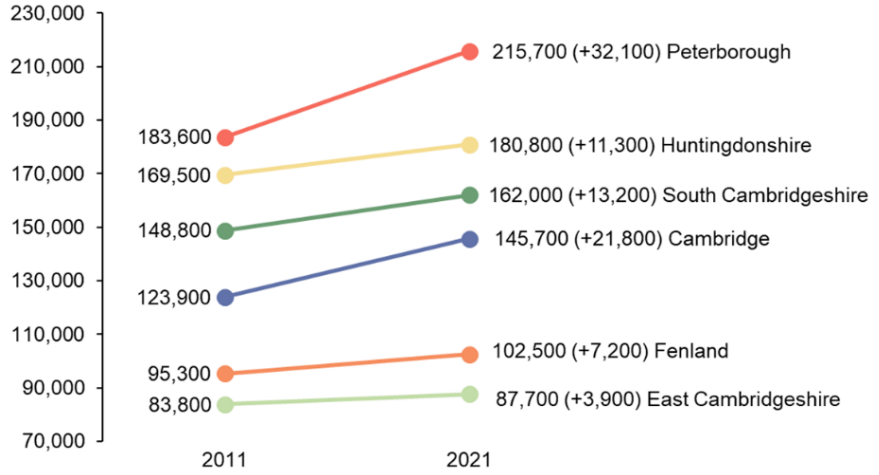

Figure 4: *Population Growth from 2011 to 2021*

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Strategy Context - Local Characteristics

Commercial and Industrial Growth

Domestic growth within RECAP is closely mirrored in commercial and industrial sectors. A report published by the Cambridgeshire Chamber of Commerce highlighted that more new businesses were established in the Ceremonial County of Cambridgeshire (including Peterborough) during 2023 than in any previous year to date, making the county one of the most successful in the UK.

Cambridge has excelled in knowledge-intensive industries and is set for continued growth in life sciences, with the expansion of the Cambridge Biomedical Campus and companies like AstraZeneca and GSK, while its AI sector will grow with investments in quantum computing and machine learning from firms like Arm Holdings. Peterborough has built a strong reputation as a hub for advanced manufacturing, logistics, and sustainability, driving industrial growth across diverse sectors. For example, major companies such as Caterpillar, BGL Group, and Amazon have strategic bases for their manufacturing, distribution, and engineering operations.

The commercial and industrial landscape within RECAP has thrived due to strategic initiatives like Enterprise Zones, a surge in new business formations, increased foreign investment, and large-scale development projects such as the Oxford-Cambridge Arc. Moreover, the Chancellor recently announced plans to create “Europe’s Silicon Valley” between Oxford and Cambridge that will add up to £78bn to the UK economy within a decade.

Looking forward, the creation of innovation hubs and research parks is anticipated to attract further investment within industries such as clean energy technologies and biotech startups.

Strategy Context - Local Characteristics

Partnership to achieve shared goals

In addition to economic partnerships, collaboration across various sectors and regions within the United Kingdom is crucial in tackling environmental challenges. Wider partnerships are required to bring together stakeholders to develop and implement sustainable solutions.

National initiatives, such as the Climate Change Act and Net Zero Strategy, provide frameworks for coordinated action, while local partnerships drive forward collaborative efforts between industries, academic institutions, and environmental organisations; for example, by supporting innovation in clean technologies and green infrastructure. These collective efforts strengthen the UK's capacity to meet climate targets and build a sustainable future for all.

Importantly, collaboration between Cambridgeshire and Peterborough is a key factor in driving regional growth, as both areas work together to align infrastructure, economic development, and innovation efforts, ensuring a unified approach to tackling challenges and capitalising on opportunities. A clear example of this relationship is demonstrated through the Cambridgeshire and Peterborough Combined Authority (CPCA), which was established in 2017 to foster coordinated development and governance across the region. The CPCA facilitates the alignment of strategic planning, investment, and infrastructure projects with the area's needs and helps establish a shared vision for the region's future success. This collective effort promotes economic growth by encouraging partnerships, supporting innovation, and tackling challenges such as housing and transportation. For the purposes of clarity, waste collection and disposal does not fall under the scope of the CPCA.

What does this mean for the Strategy

Local context is a key factor in designing the regions future waste management approach, specifically in understanding the future demands, regional challenges and opportunities that may be targeted.

As new businesses and housing developments emerge, the volume and complexity of waste streams may grow, requiring more efficient and sustainable waste management solutions. The distribution of waste facility capacity across RECAP may also alter over the coming years.

Innovation will be key in meeting these challenges, with advancements in recycling technologies, circular economy initiatives, and digital waste tracking systems helping to optimise collection routes and processing efficiency. Additionally, investment in waste management facilities and greater collaboration between local authorities, businesses, and residents will be essential to ensure that waste is managed responsibly, minimising environmental impact while supporting economic growth. Knowledge sharing and pragmatic solutions must be prioritised to improve waste minimisation and recycling performance, exploring measures such as altering collection frequency and container capacity.

Furthermore, forward-thinking policies and strategic planning will be crucial in adapting to these changes, ensuring that waste management systems remain resilient and capable of supporting a thriving, sustainable region.

Strategy Context - Progress by RECAP

Reviewing progress achieved by RECAP

A review of the previous waste management strategy is an important stage in developing the revised RRWS. The review highlights what worked well, what challenges were faced, and where improvements are needed. This ensures the new strategy builds on past successes, avoids repeating mistakes, and reflects changes in legislation, population, waste trends, and technology. Ultimately, it supports the creation of a more effective and future-ready waste management approach.

Waste Hierarchy

In 2008, RECAP sent all their residual waste (i.e. waste which is not recycled or composted) to landfill. However, the strategy recognised that disposal to landfill is the least preferable option in the waste hierarchy after prevention, minimisation, reuse, recycling and energy recovery. Furthermore, the previous strategy set out an action to treat all residual waste in order to minimise landfilling.

The proposed approach to managing the transition away from landfill differed between the Cambridgeshire and Peterborough. Cambridgeshire procured a mechanical biological treatment (MBT) facility to extract recyclable materials from residual waste and reduce that which is sent to landfill. In contrast, Peterborough committed to procuring an Energy Recovery Facility (ERF) facility, processing waste through recovery rather than disposal pathways. Since the publication of the previous strategy, both facilities have now been commissioned, with the Peterborough ERF facility and the Waterbeach MBT facility opening in 2015 and 2013, respectively.

In addition to infrastructure improvements, the JWMWS committed to implementing changes within the individual collection authorities to achieve the recycling and composting targets set out within the strategy. For example, actions included introducing additional collection schemes (plastics, textiles and food) in Peterborough and the introduction of plastic bottle kerbside collections in SCDC, ECDC, and glass at FDC. These commitments have since been successfully implemented

Image 1: *Peterborough ERF*

Strategy Context - Progress by RECAP

Performance Targets – Household Waste

The previous strategy set out several highly ambitious recycling targets, including:

- 45 to 50% of household waste recycled by 2010;
- 50 to 55% of household waste recycled by 2015, and
- 55 to 60% of household waste recycled by 2020, with Peterborough aspiring to achieve 65%.

Actual household waste recycling rates of RECAP authorities are presented in table 1 below.

Table 1: *Previous strategy target against actual household waste recycling performance (EX NI192)*

Year	Previous strategy household waste recycling Target (%)	RECAP household waste recycling performance (%)
2010/11	45-50	48.0
2014/15	NA	55.7
2015/16	50-55	54.5
2020/21	55-60	51.0
2023/24	NA	47.5

Historic data is SOURCED from the DEFRA published "local authority collected waste generation annual results 2023/24 (England and regions) and local authority data annual results 2023/24".

RECAP were successful in meeting the Household Waste recycling targets for 2010/11 and 2015/16, although a drop off in recycling rates led to a shortfall against the 2020/21 target and a continued post-covid drop-off has led to the lowest Household Waste recycling rates in 2023/24. Immediate action, as set out within this strategy, is required from RECAP to drive forward recycling rates. Any future targets set by RECAP following the publication of this strategy must be evidence based and proportionate.

It is worth highlighting that at a national level, individual local authority recycling rates ranged from 15.8% to 62.9% in 2023/24. Furthermore, RECAP attained a household waste recycling rate of 47.5% in 2023/24, sitting above the average rate for England of 42.3%.

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Strategy Context - Progress by RECAP

Processing of Local Authority Collected Waste

The household waste recycling rate presented in the previous section provides a useful performance metric to monitor progress against, although it does not offer further insight into how the remaining waste (not reused, recycled, or composted) is processed. Additionally, household waste does not include the non-household sources (e.g., commercial) collected by RECAP that together make up Municipal Waste. A further analysis of the processing route for municipal waste and how this has changed over time is discussed below.

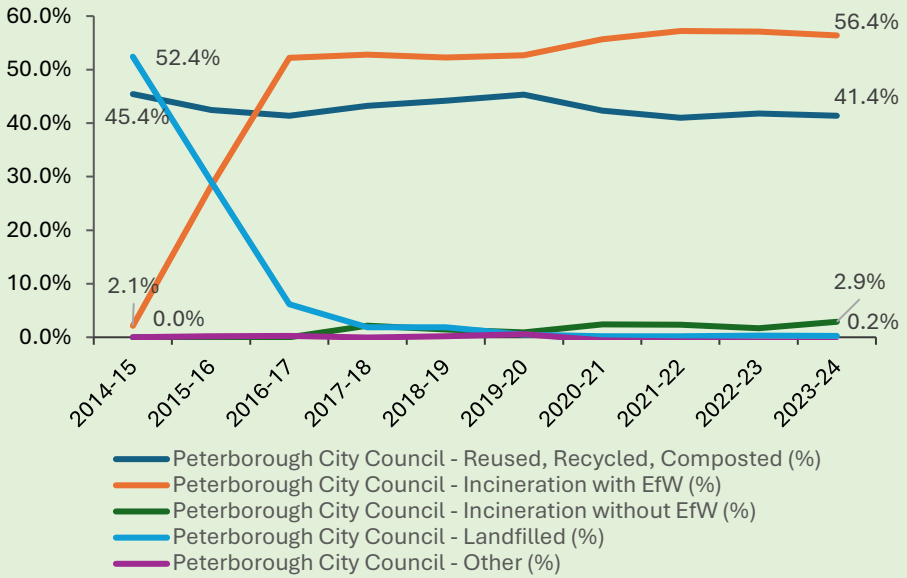

Figure 5: *Municipal Waste processing from 2014/15 to 2023/24 (Peterborough)*

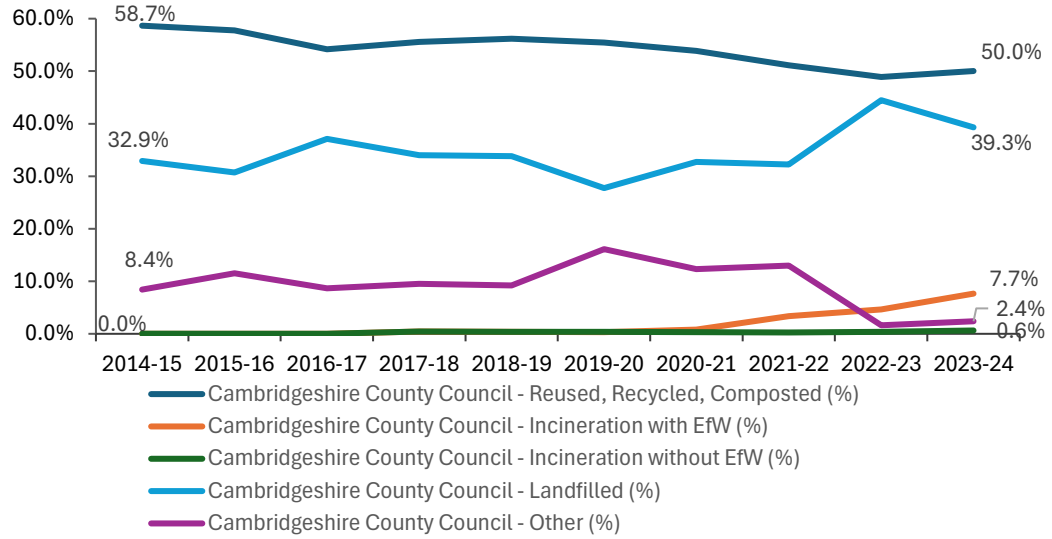

Figure 6: *Municipal Waste processing from 2014/15 to 2023/24 (Cambridgeshire)*

Municipal Waste - Reused, Recycled, or Composted

- Cambridgeshire began the period with a strong reuse, recycling and composting rate of 58.7% in 2014-15, although this declined to 50% by 2023-24. Despite this, recycling remains the most utilised waste treatment route in the county, consistent with the mid-tier of the waste hierarchy. Peterborough maintained a relatively steady reuse, recycling and composting performance, beginning at 45.4% in 2014-15 reducing by 4 percentage points to 41.4% in 2023-24.
- The reductions observed within Cambridgeshire and Peterborough's highlight opportunities for increased investment in public-facing recycling campaigns and an expansion in scope of waste streams that are collected – the latter point will be driven also as a result of waste collection policy reforms.

Cambridgeshire and Peterborough recycles

Strategy Context - Progress by RECAP

Municipal Waste - Landfilling & Energy from Waste (ERF)

Peterborough has achieved a dramatic and sustained reduction in the proportion of municipal waste that is sent to landfill, dropping from 52.4% in 2014-15 to just 0.2% in 2023-24. EFW became a core component of Peterborough's waste strategy, increasing from 2.1% in 2014-15 to 56.4% in 2023-24. This shift occurred rapidly between 2015 and 2017 with the commissioning and opening of the 85,000 tonnes per annum ERF facility as part of a 30-year Public Private Partnership deal. The facility produces electricity and injects this into the National Grid. Once complete, the Peterborough Integrated Renewables Infrastructure (PIRI) project looks to capture the facility's steam and convert that into a heat source, distributed to buildings across the community via underground pipes.

In contrast, landfilling has remained a significant component of Cambridgeshire's waste treatment approach. Beginning at 32.9% in 2014-15, the proportion of waste sent to landfill has increased to 39.3% by 2023-24. Cambridgeshire's use of EFW has remained minimal throughout period, reaching 7.7% in 2023-24. Residual waste from Cambridgeshire is treated at the Mechanical Biological Treatment (MBT) facility in Waterbeach under a long-term PFI contract. When the facility is unavailable due to breakdowns, maintenance, or upgrades, residual waste is sent directly to landfill or alternative treatment facilities.

The lack of significant EFW use has contributed to the continued high landfill rate in the county. This trend runs counter to national and regional priorities which aim to phase out landfill in favour of recovery and recycling. The continued reliance on landfill represents an opportunity to recover resources and reduce environmental impacts.

Municipal Waste – Incineration without Energy from Waste (EFW)

Both authorities have minimised incineration without recovery, which aligns with both the waste hierarchy and carbon reduction objectives. The goal for both councils should be zero use of non-EFW incineration.

Table 2: *Summary of Municipal Waste Processing Route and Strategy Implications*

Waste Processing Route	Peterborough	Cambridgeshire	Strategy implications
Reused, Recycled, Composted	Moderate but relatively stable (45.4% → 41.4%)	High but noticeably declining (58.7% → 50.0%)	Refresh public engagement approach and expand scope of collections (including food waste).
Incineration with EFW	Major increase (2.1% → 56.4%); now dominant treatment route. Extensive use and well-integrated.	Underutilised. Minimal growth (0% → 7.7%).	Explore access to infrastructure, regional partnerships
Landfill	Drastic reduction (52.4% → 0.2%); nearly eliminated by 2017	Overutilized. Increased over time (32.9% → 39.3%); remains the largest treatment route	Reduce landfill use through improved waste prevention, reduction, reuse and recycling performance, alternative treatment routes.
Non-EFW Incineration	Low and stable (<2%), 1.9% by 2023–24	Negligible use (<1%), 0.6% by 2023–24	Maintain current low levels and aim for complete elimination of non-recovery incineration to fully align with the waste hierarchy.

Strategy Context - Progress by RECAP

Performance Targets – Waste Reduction

Waste Prevention and Reuse was a core theme of the previous municipal waste strategy. Furthermore, RECAP recognised waste prevention and reuse as a priority area and committed to reduce the amount of waste produced per person by actively promoting waste prevention, reduction and re-use activities. The previous strategy targets for residual household waste per household compared with the achieved waste arisings is presented in table 3 below.

Table 3: *Previous municipal waste strategy residual waste target against actual residual waste arisings (EX NI192)*

Year	Authority	Previous strategy target residual waste arisings (kg/hh/yr)	RECAP actual residual waste arisings (kg/hh/yr)
2019/20	CCC	535	451.7
	PCC	468	548.9
2023/24	CCC	NA	484.6
	PCC	NA	566.8

Since the publication of the JWMWS there has been a shift in the makeup of residual waste targets from kg per household to kg per person. Moreover, the Environmental Targets (Residual Waste) (England) Regulations 2023 and the 2023 Environmental Improvement Plan has set an interim target for the total mass of residual municipal waste in a year not to exceed 333 kg per person. Both authorities are under this target, with Cambridgeshire and Peterborough currently collecting 224 kg and 234 kg of residual municipal waste, respectively.

However, waste reduction does not only apply to reducing residual waste but also recyclable waste. Based on 2023/24 data, Cambridgeshire household waste is currently sitting at 403 kg per person, and Peterborough is 376 kg per person. Total household waste collected per person (ex BVPIa) is presented in figure 4 below.

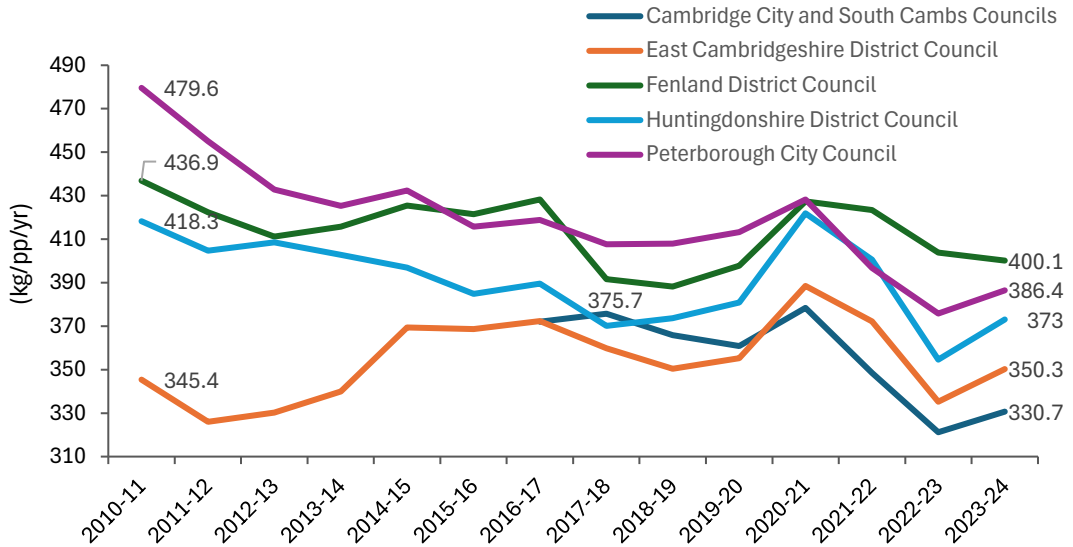

Figure 7: *Waste Collection Authority Household Waste (Ex BVPI 84a) Per Person (kg/pp/yr)*

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Strategy Context - Progress by RECAP

Performance Targets – Waste Reduction

Across RECAP, the overall trend in household waste collected per person has either remained stable or declined, reflecting a broader movement towards waste minimisation. This outcome aligns positively with the waste hierarchy, where prevention is the most preferred option, and demonstrates incremental success in shifting public behaviours and local authority service design.

Peterborough shows the most substantial decrease in household waste collected per capita, falling from 479.6 kg in 2010/11 to 386.4 kg in 2023/24 - a reduction of nearly 20% over the period. East Cambridgeshire was the only authority where the mass of waste has not reduced, although this has remained stable with a c.1% increase within the time period. While this increase is minimal and the figures remain broadly stable, it suggests that current waste minimisation initiatives may not be achieving the same levels of impact as elsewhere in the region. This stability could point to either a plateau in behavioural change or a need for renewed policy focus on waste reduction interventions. Without action, the area risks falling behind national and regional targets for waste prevention and circular resource use.

Furthermore, the significant reductions in Peterborough should be further studied to extract replicable practices that could benefit other districts - including communication strategies, incentive structures, and collection system design.

Figure 8: *Waste Hierarchy*

Strategy Context - Progress by RECAP

Procurement

The previous RECAP municipal waste strategy recognised the role of procurement in promoting collaborative working and reducing the environmental impacts of services. The strategy included a specific action to ensure environmentally friendly goods for delivering the waste management service and to investigate and pursue opportunities for joint procurement (via joint contracts and jointly procured contracts) for bring sites, Materials Recovery Facilities, bulking and transfer stations or joint kerbside collection contracts, where feasible.

Dry Mixed Recyclables Contract

The districts and unitary authorities within the Cambridgeshire and Peterborough area signed a waste contract in 2024 for an initial period of 5 years, with an option to extend for one or more periods totalling 2 years, for a contract to provide bulking via transfer stations and processing of the DMR. The contract was for a total of c. 82,000 tonnes per annum of DMR. The evaluation criteria for the contract was set at 60% quality, 35% price and 5% social value.

The procurement integrated RECAP's aims (within the previous RECAP strategy) to reduce its environmental impacts from waste management activities. Furthermore, as part of the Quality and Social Value criteria, Bidders were required to reduce carbon within their supply chain over the contract term.

Cambridgeshire and Peterborough recycles

The districts and unitary authorities went through two procurements rounds. The initial procurement elicited very few responses as the requirements for the contract included the provision of waste transfer station and DMR processing capacity in a single lot. Moreover, very few waste management organisations had this total space available in their existing MRF's and there was insufficient tonnage to justify building a new MRF. Three bidders were shortlisted in the procurement and due to insufficient provision of relevant guarantees by one of the bids, as well as the bids that were received were very high priced, the original procurement was abandoned on the grounds of affordability.

A revised procurement shortly followed, although separating the requirement for the provision of waste transfer station infrastructure to open up opportunities to the market. The letting of a new DMR contract to a state-of-the-art MRF has supported waste management objectives, albeit with concession to the proximity principle.

Figure 9: *MRF Facility*

Strategy Context - Progress by RECAP

Integrated Waste Management Contract - PFI

Cambridgeshire County Council signed a Waste Contract in 2008 under a private finance initiative (PFI) agreement for a 28-year period until March 2036 (with an option to extend for up to 5 years) this contract is for the management of the network of nine Household Recycling Centres, the treatment of all residual waste, and the composting of organic waste collected in Cambridgeshire. The Council receives a waste infrastructure grant from central government to support the cost of providing the PFI contract services.

The PFI contract allowed new treatment facilities and an Education Centre to be constructed at Waterbeach which are funded, maintained and operated by Thalia Waste management Ltd, to reduce the biodegradable content of residual waste sent to landfill and compost organic waste. The PFI contract provided improved facilities for Waste Collection Authorities, Household Recycling Centre staff and a Waste Education Centre at Waterbeach Waste Management Park.

Since the contract commenced, changes in law and policy have seen the removal of the Landfill Allowances Trading Scheme, the escalation of landfill tax costs significantly higher than the rate of CPI inflation, a requirement to incinerate waste upholstered domestic seating containing persistent organic pollutants, the introduction of the Industrial Emissions Directive and Best Available Techniques conclusions for biowaste treatment facilities.

The PFI contract incentivises the contractor to continually improve the recycling and composting rates at the Household Recycling Centres (the 2025/26 target is to recycle over 55% of the waste received).

Future of the PFI

Changes in law and policy are anticipated in the remaining contract term for the introduction of Simpler Recycling collection changes; Extended Producer Responsibility for packaging; a deposit return scheme for drinks containers; expansion of the UK Emissions Trading Scheme to include waste incineration and Energy from Waste; and the near elimination of biodegradable waste to landfill. This will likely see the following changes in how the waste and services within scope of the contract are managed:

- Increased diversion of residual waste from landfill disposal to alternative treatment/disposal methods such as energy from waste treatment;
- The treatment of separately collected food waste by anaerobic digestion to recover energy and a nutrient-rich digestate that can be used as fertilizer; and,
- The continued development and/or refurbishment of Household Recycling Centres to improve the safety environment for residents and meet the needs of Cambridgeshire's growing population.

The County Council has an option for Mechanical Biological Treatment facility at Waterbeach to revert to its ownership at the end of the contract so that it can continue to be used to treat Cambridgeshire's residual waste if desired. This option requires evaluation as the dependence on landfill has increased the average cost of waste treatment as a result of previous legislative changes

Strategy Context - Progress by RECAP

Conclusion of Progress Review

The review of the previous Joint Municipal Waste Management Strategy identifies four important reflections that can inform RECAP's future waste management planning :

1. One key lesson is the importance of aligning ambition with deliverability. While the strategy set out highly aspirational recycling targets, actual performance often fell short, partly due to external factors such as policy and market shifts, but also due to limitations in infrastructure, public engagement, and service harmonisation. This highlights the need for future strategies to be both ambitious and grounded in a realistic understanding of operational and behavioural change capabilities.

2. A second lesson concerns the critical role of infrastructure investment and long-term planning. Peterborough's successful transition from landfill dependency to energy recovery through its Energy Recovery Facility (ERF) demonstrates the impact of decisive, forward-looking infrastructure procurement and delivery. In contrast, Cambridgeshire's continued reliance on landfill points to the challenges of underutilised or less integrated treatment facilities and contractual limitations. Furthermore, the contract was structured to comply with the legislative framework in place in the early 2000's which was about reducing the biodegradable content of waste to landfill and trading allowances; whereas the focus had now shifted to reducing all residual waste from landfill. Future strategies should prioritise adaptable infrastructure development and regional partnerships to ensure waste treatment routes remain aligned with policy priorities, technological advancements and financial incentives.

3. Thirdly, the strategy underscored on the need for robust public engagement and behavioural change initiatives. Although several service enhancements were implemented, such as kerbside collections for new materials and the provision of a waste education centre and staff as part of the PFI contract arrangements, these did not translate into sustained improvements in recycling rates. This problem is not isolated to Cambridgeshire, many local authorities have not seen sustained improvements in recycling rates. This suggests a need for more innovative, targeted, and sustained communication strategies that build participation. Embedding behaviour change at the core of strategy implementation, alongside system design improvements and clear performance monitoring, will be essential to achieving more circular, low-impact waste systems in the future.

4. Finally, a key metric of a successful strategy is its levels of utilisation. Interviews undertaken with council stakeholders during the preparation of this strategy highlighted that the previous strategy action tracker had not been utilised in the latter stages of the strategy period. This is a common challenge with longer term strategy where a divergence occurs between the strategy's contents and the dynamic nature of regulations, policies, targets and government priorities. The interim strategy focuses on an interim 5-year period where waste policy reforms are understood.

Strategy Context – Municipal Waste Services

RECAP Municipal Waste Kerbside Collection Services

The collection and processing arrangements for kerbside collected municipal waste is summarised below:

- All Waste Collection Authorities (WCAs) within RECAP operate a biweekly kerbside collection system for residual and DMR municipal waste, ensuring consistency in service delivery across the partnership.
- Residual waste collected in Peterborough is delivered to the Fengate Energy Recovery Facility (ERF). Residual waste collected in Cambridgeshire is processed at the Mechanical Biological Treatment (MBT) facility in Waterbeach, managed by Thalia as part of a long-term Private Finance Initiative (PFI) contract.
- Dry Mixed Recycling (DMR) collected in RECAP is processed at a Materials Recycling Facility (MRF) in Newry, Northern Ireland, for sorting and processing.
- Food waste management varies by RECAP partner. In Peterborough, food waste is processed at an Anaerobic Digestion (AD) facility in North London. In Cambridgeshire, food waste is processed at an In-Vessel Composting (IVC) facility at Waterbeach.
- South Cambridgeshire, East Cambridgeshire, and Cambridge City collect garden and food waste together (comingled), with the material processed at the Waterbeach IVC facility.
- In Peterborough, Huntingdonshire, and Fenland, source segregated garden waste is collected fortnightly through an optional annual subscription service, with material also sent to the Waterbeach IVC site.
- Alternative arrangements are in place for when the Waterbeach facility is not available.
- This approach outlines the operational structure and treatment routes currently in place for the management of municipal waste across RECAP.

Table 4: *Summary of kerbside collection services within RECAP*

RECAP Partner Authority	Fortnightly residual waste collection	Fortnightly dry mixed recycling collection	Weekly food waste collection	Fortnightly co-mingled food and garden waste collection	Fortnightly subscription garden waste collection
Peterborough City Council	✓	✓	✓	✗	✓
Fenland District Council	✓	✓	✗	✗	✓
South Cambridgeshire District Council	✓	✓	✗	✓	✗
East Cambridgeshire District Council	✓	✓	✗	✓	✗
Huntingdonshire District Council	✓	✓	✗	✗	✓
City of Cambridge Council	✓	✓	✗	✓	✗

Cambridgeshire and Peterborough recycles

Strategy Context - Municipal Waste Services

Municipal Waste Processing & Contracts

The baseline understanding of current services and contracts forms the foundation of the updated RRWS and outlines how facets of RECAP's current contractual framework has evolved from the previous 2008 strategy. This section outlines several key existing Municipal Waste services and processing contracts.

Cambridgeshire County Council: Integrated Waste Management Contract

The County Council signed the Waste Contract in 2008 under a private finance initiative (PFI) agreement for a 28-year period to March 2036 (with an option to extend for up to 5 years) to manage and the network of nine Household Recycling Centres, the treatment of all residual waste and the composting of organic waste collected in Cambridgeshire.

MBT Process

Residual waste is processed at Waterbeach using mechanical sorting to recover metals and low quality recyclable materials, followed by aerobic decomposition in a composting hall over seven weeks. Gases are filtered before release, and residual material is sent to an onsite landfill. Landfill gas is captured and used for electricity generation.

IVC Process

Co-mingled food and garden waste is shredded and treated in sealed chambers at 60°C for two days, then matured in open windrows for 4–6 weeks. The final compost meets PAS100 standards and is available to residents and farmers.

Cambridgeshire and Peterborough recycles

Peterborough City Council: Waste Treatment Contracts

Residual Waste – Energy Recovery Facility (ERF)

Peterborough operates separately from the Cambridgeshire PFI contract and has a long-term agreement with Viridor for the ERF, operational since 2015 and contracted through to 2045. Residual waste is incinerated at high temperatures, producing electricity for the national grid via steam turbines. Emissions are treated to meet regulatory standards.

Food Waste – Anaerobic Digestion (AD)

Food waste is treated at Severn Trent's AD facility in Hertfordshire. After depackaging, waste is digested in oxygen-free tanks, producing biogas for energy or transport fuel and a PAS110 nutrient-rich fertiliser.

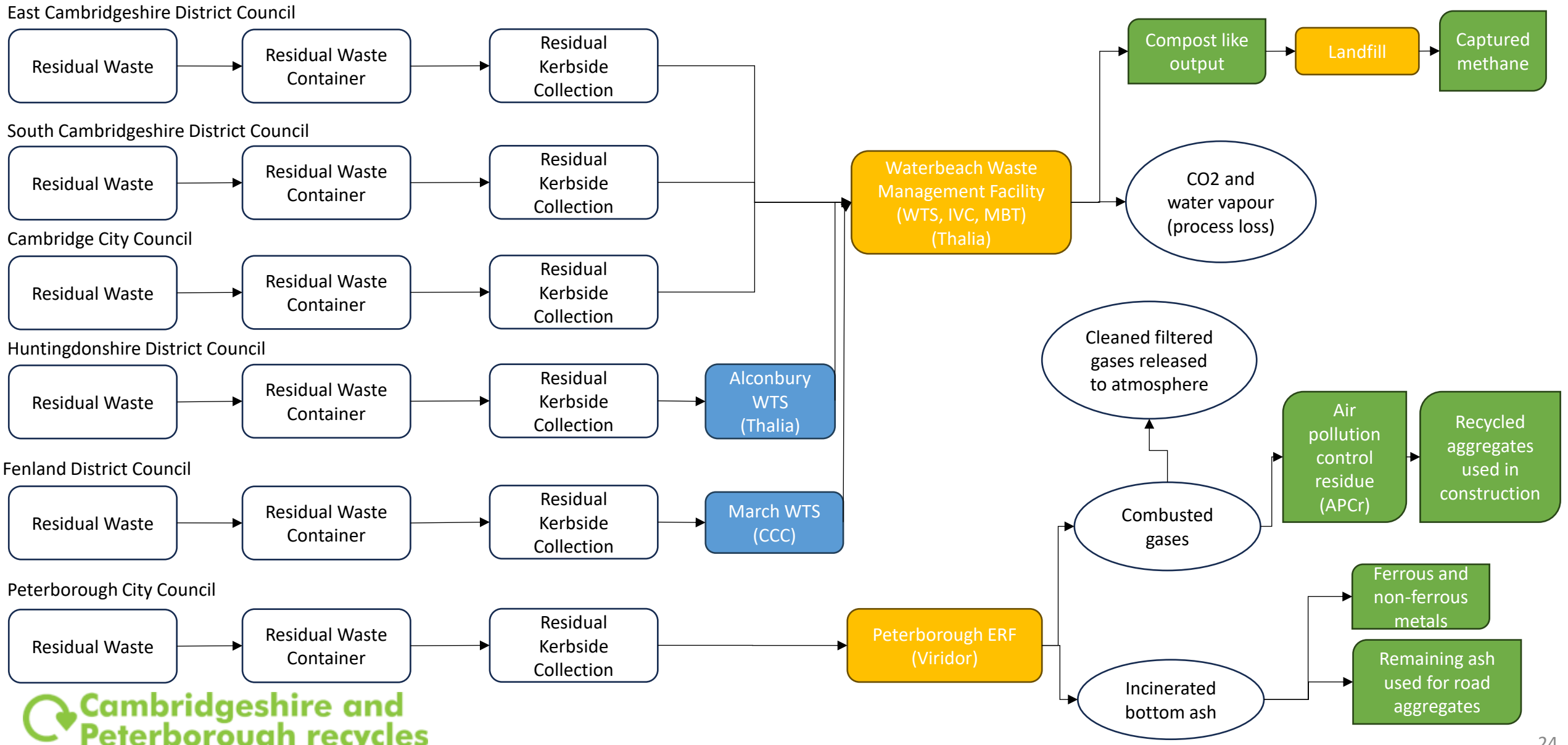
Garden Waste – Open Windrow Composting (OWC)

Garden waste is processed at AWO's Bury Lane Farm site under a contract running from 2020 to 2025 (with a possible extension to 2028). Waste is composted in open windrows, reaching and maintaining required temperatures to produce PAS100 compost.

Municipal Waste System Process Flow

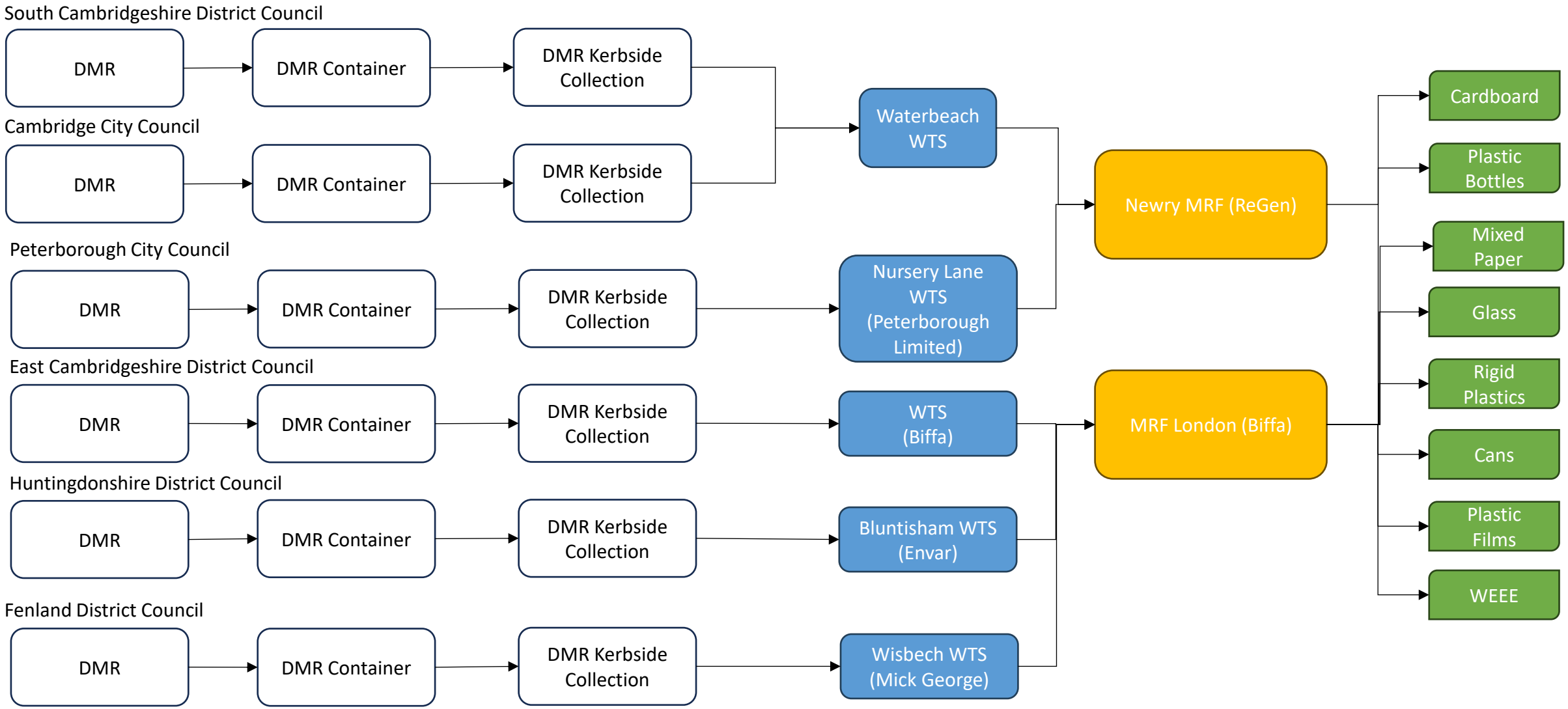
Each RECAP partner operates under distinct contracts for different waste streams. These arrangements shape the region's approach to waste treatment and resource recovery, as detailed in the process flow diagrams. The process flow diagrams also display the waste transfer stations (WTS) that partners use as well as products made from respective waste processing facilities

Residual Waste Process Flow



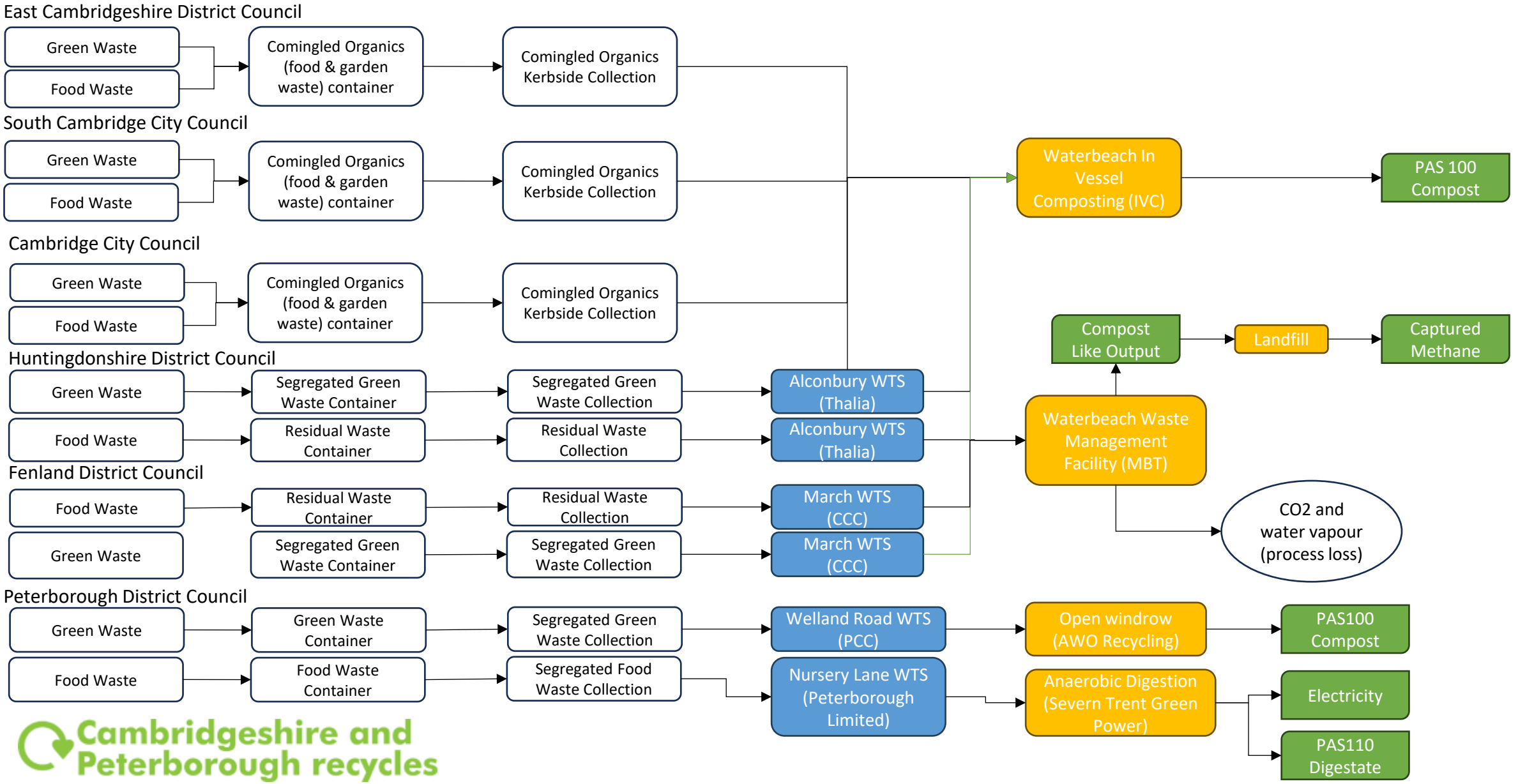
Cambridgeshire and Peterborough recycles

Dry Mixed Recycling (DMR) Process Flow



Cambridgeshire and Peterborough recycles

Organics Waste Process Flow



Cambridgeshire and Peterborough recycles

Legislation, National Policy & Strategy

Introduction

National level waste strategy and legislation has evolved since the early 2000's. Both Waste Strategy 2000 and the Waste Strategy for England 2007 emphasised landfill diversion and set out statutory recycling targets of at least 40% by 2010, 45% by 2015, and 50% by 2020. Throughout the 2010's, the combination of austerity measures, limited new funding for waste management programs, the removal of statutory recycling targets, and fragmented policy development led to a period of policy uncertainty. During this time, the national level recycling rate stagnated at 44%. Between 2015 to 2018 central government began to acknowledge the need for a more holistic approach to waste and resource management, and the Resource and Waste Strategy for England was published in 2018. The publication of this strategy, together with measures in the Environment Act 2021has resulted in a period of significant reform for the waste sector and has provided direction for local authorities to review and further develop local waste strategies.

Resources and Waste Strategy 2018

The Resources and Waste Strategy 2018 was published by the Department for Environment, Food & Rural Affairs (DEFRA) providing a framework for future waste and resource management policy. This included targets for recycling, objectives to reducing single-use plastics, and measures to encourage the adoption of the circular economy. The strategy outlined several targets which sets UK's vision for waste:

- eliminate avoidable waste of all kinds by 2050 whilst doubling resource productivity;
- shift the economy from linear to circular (reuse, recycle, repair);
- to recycle 65% of municipal waste by 2035, with no more than 10% going to landfill; and,
- eliminate food waste being sent to landfill by 2030, recommending anaerobic digestion as the best environmental processing approach.

The Environment Act 2021

The Environment Act 2021 establishes a legal framework and obligations for local authorities, packaging producers, and businesses by implementing and supporting key elements of the 2018 Resources and Waste Strategy. This involves the adherence to stricter recycling targets, implementing waste segregation systems, investment in waste infrastructure. The Environment Act contains the following components:

- **Consistency in Collections:** Mandating local authorities to adopt a consistent approach to waste collection for households and businesses, including:
  - Separate or comingled collection of recyclable materials (glass, metal, plastic, paper and card, food waste), and
  - Weekly food waste collection.
- **Extended Producer Responsibility (EPR):** Requires packaging producers to bear the cost of recycling their products and packaging with payments being made to local authorities.
- **Deposit Return Scheme (DRS):** A system to incentivise and further increase the recycling of drink containers;
- **Targets for Recycling and Waste Prevention:** Establishes legally binding goals to reduce waste and improve recycling rates, including:
- Halving residual waste kg per person by the year 2042 Aims to drive the amount of waste we produce and encourage reuse; reduction is measured from 2019 levels.

Legislation and National Policy & Strategy

Collection and Packaging Reform Roadmap

The Collection and Packaging Reforms (CPR) which includes consistency in collections, EPR and DRS, collectively incentivise waste minimisation and proper processing practices by assigning accountability to producers and encouraging consumer behavioural shifts. These measures drive collaboration efforts to implement the circular economy, drive waste minimisation, and meet the UK's ambitious environmental goals. Figure 13 is a timeline released in August 2024 by DEFRA as part of the Resources and Waste Joint Engagement Forum:

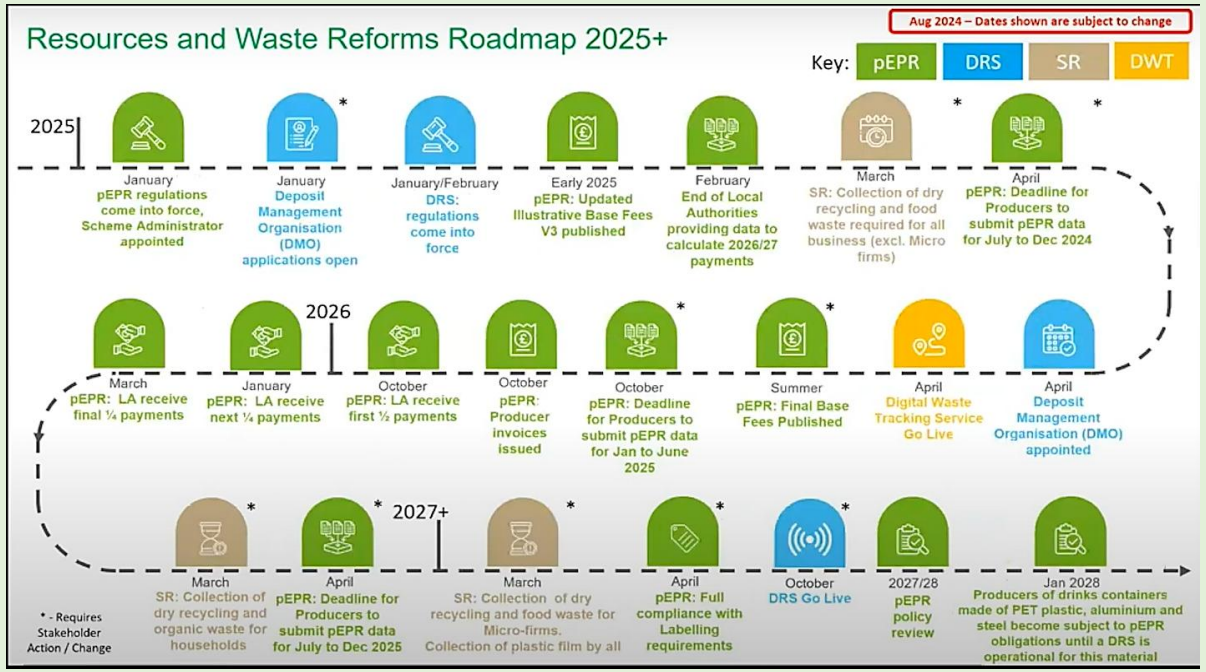


Figure 13: *Resources and Waste Reforms Policy Roadmap 2025+*

This section now examines in greater detail the components of the Environment Act 2021 and Resources & Waste Strategy 2018, with this policy and legislation providing important context to the RRWS.

Simpler Recycling

Arising from the Environment Act 2021, Simpler Recycling covers the Consistency in Collections theme and requires all local authorities to collect the same set of core materials (glass, metal, plastic, paper and card, food waste). In number the Simpler Recycling in England: policy update was announced which sets out new default requirements of having paper and card as a separate collection, therefore requiring separate containers for residual, food waste (can be mixed with green waste) paper and card, and other DMR. Simpler Recycling seeks to reduce confusion over which materials can be recycled in different councils in the country, increasing the proportion of recyclable materials in manufactured items, and to allow as much waste to be recycled as possible. Simpler Recycling requires:

31st March 2025: Businesses and non-domestic premises (nursing home, hospital, educational establishments) should have arranged for the collection of core recyclable waste streams. This is glass, metal, plastic, paper, card, and food waste). It is not expected to arrange for garden waste at this point.

31st March 2026: Local authorities will be required to collect the core recyclable waste streams via kerbside collection for households. This includes the collection of weekly food waste, unless the local authority is in a transitional agreement.

31st March 2027: Businesses, relevant non-domestic premises (companies with 10 employees or less) and houses will be introduced to kerbside plastic film collections. This involves packaging films and pouches made from mono-PE (polyethylene) and mixed PE/PP.

Figure 14: *Simpler Recycling Timeline*

What Simpler Recycling means for RECAP

RECAP will need to adopt the new collection requirements through procuring waste containers, collection vehicles and creating timetables for collections for the food waste and separate paper and card recyclable stream. If RECAP are to deem the separate collection of paper and card from other DMR to be technically or economically impracticable or provides no significant environment benefits, then a short-written assessment (TEEP assessment) can be produced which will allow the co-collection of paper and card in the DMR. RECAP is currently in the process of submitting a joint TEEP assessment for all partners requiring paper and card to be collected within the DMR stream, therefore anticipating procurement tasks mentioned above will be required only for the food waste. DEFRA announced in March 2024 that £295million would be available to support councils who have yet to implement a weekly food waste collection through procurement of containers and vehicles. Funding is calculated using a financial model which considers rurality, deprivation levels, number of properties, amount of food waste produced and existing food waste collection in place.

RECAP authorities who currently do not have a separate food waste collection in place will have to source segregate the waste or co-mingle food waste with garden waste. Waste Disposal Authorities (WDA) in RECAP who are yet to arrange for the disposal of food waste will need to make arrangements for food waste treatment by utilising existing merchant processing infrastructure or supporting the development of dedicated infrastructure. The weekly food waste collections alongside core recyclable materials will decrease the amount of residual waste sent for recovery or disposal, thereby delivering a key policy objective.

Under the Simpler Recycling reforms packaging and collection reforms, local authorities are expected to receive additional funding via Extended Producer Responsibility (EPR) and “new burdens” funding to cover both capital and ongoing service costs. Importantly, government funding does not cover expansion or upgrades of depots and waste transfer stations, which are often essential when service changes require more space or processing capacity. The importance of WTS infrastructure to support an efficient waste management service is discussed in strategy theme four.

Legislation, National Policy & Strategy

Deposit Return Scheme (DRS)

The Deposit Return Scheme (DRS) was introduced within the Environment Act 2021 to improve recycling rates and reduce littering. Materials in scope include Polyethylene terephthalate (PET) bottles; steel and aluminium cans (eligible containers) and includes single-use drink containers that are between 150ml to 3 litres.

The DRS provides a financial incentive for buyers of eligible containers to recycle; if the container is returned to a reverse vending machine or other designated sites, then the deposit is returned to the buyer. The aim of the DRS is to increase recycling rates of eligible containers from 70% to 85% within the first year, incentivising containers returning to the market rather than sent to landfill.

The announcement of DRS has provoked widespread debate across the waste and resource management sector, especially over the exclusion of glass bottles. Central government has decided that inclusion of glass within DRS would be difficult for consumers over the transporting and handling glass bottles to the reverse vending machine, raising the price of consumers shopping. Moreover, as part of the Keep Britian Tidy litter analysis in 2020 it was found that 4% of litter was from glass, compared to 55% PET and metal containers, therefore the DRS wishes to target materials which contribute higher to litter rates. The DRS was due to be introduced across England in 2025 for although has been now been delayed to 2027 .

What DRS means for RECAP

For RECAP it is expected that there will be a reduction in DRS scope materials in the residual and DMR waste streams collected at the kerbside. Moreover, DEFRA's impact assessment assumes that only 7%-10% of all DRS eligible containers placed on the market will continue to be collected by kerbside collections. Furthermore, it is expected that the introduction of DRS will lower the total recyclables in kerbside collection, whilst maintaining contamination levels. This is due to contamination being reliant on education on items which can go in the recycling versus residual bins. Moreover, this may reduce recycling rates as products such as plastic bottles will no longer be in the municipal waste stream and will be recycled via the DRS.

The introduction of DRS also offers potential for income generation for local authorities from the DRS. DEFRA have inferred that local authorities can separate containers in collected waste streams and redeem the deposit. Additionally, local authorities may look to host their own reverse vending machine with handling fees received by the Deposit Management Organisation (DMO).

Extended Producer Responsibility (EPR)

The Extended Producer Responsibility (EPR) initiative is a scheme where producers of packaging pay a fee for the packaging they place on the market within the UK. Eligible packaging producers must have a turnover of over £1 million and place over 25 tonnes of packaging into the UK market. Packaging is defined as 'any material that is used to cover or protect goods'. Packaging materials included within the EPR and that must be reported are aluminium, fibre-based composite, glass, paper, cardboard, plastic, steel, wood and other, which includes hemp, silicone and bamboo amongst others.

It should be noted that in the April 2024 EPR policy paper by DEFRA it was stated that aluminium, steel, and PET plastic drink containers in the DRS are excluded from the EPR scheme for packaging disposal cost fees.

The EPR scheme aims to incentivise producers to use less packaging, promote a circular economy through the reuse of materials in packaging, and make producers responsible for the entire lifecycle of their products, from creation to disposal. A further objective of the EPR scheme is to increase the use of recyclable materials in packaging and simplify packaging material selected to improve the recyclability of packaging.

The fee that is paid will go to RECAP authorities directly or via a scheme administrator to support the costs of collecting, managing, recycling, and disposing of packaging waste. The payments made to local authorities from the proceeds of EPR will be based upon the characteristics of each council, waste tonnages received and managed, and estimated waste composition. Central government has indicated that funding provided through EPR will be significant in supporting wider changes to waste management policy as set out in the Environment Act.

What EPR means for RECAP

The RECAP authorities will receive payments from producers, shifting the economic burden of responsibility for the further management of their waste. In November 2024, DEFRA sent local authority chief executives an assessment notice, covering a cost assessment, payment estimation for the first year, guidance on method used to calculate payment, and a payment schedule. Following further clarification of the detail, local authorities are expecting the first EPR payments to commence between October and December 2025, with second and third payment between January and March 2026. From April 2026 onwards, local authorities receive four quarterly payments.

Beyond the receipt of additional funding, the medium to long term impacts associated with the introduction of EPR may mean a decrease in materials in the residual waste stream and an increase in dry mixed recyclables, due to the financial incentive for producers to switch from non-recyclable materials in packaging. Local authorities, often via contractor(s) delivering the services on behalf of a local authority, will be required to undertake compositional analysis to understand the full impact of EPR as justification for EPR payments received.

Legislation, National Policy & Strategy

Digital Waste Tracking

From April 2026, RECAP will be required to submit characteristics about the waste type, such as quantity, waste carrier, destination, and method of disposal to a software which will be developed and supported by waste producers, carriers, brokers, dealers, waste site operators, local authorities, and regulators in the UK.

Waste will be recorded at the point the waste arrives at a permitted receiving site. Digital waste tracking is being introduced so that waste can be regulated more effectively and to help businesses comply with duty of care obligations.

The regulation incentivises the circular economy as it is mandatory to note which method of the waste hierarchy has been used when treating the waste. Local authorities will be able to utilise digital waste tracking to track waste tonnages in real time and improve decision making by producing better insight on the management and fate of each waste stream.

Climate Change Act 2008

Alongside iterations of national level waste management strategies, there has been an increased awareness at an international, national and local level of the need to further prevent, mitigate and adapt to the impacts of climate change.

The Climate Change Act 2008 targeted a reduction in carbon emissions by 80% by 2050. This was amended in 2019 to achieve net zero by 2050. The Act introduced the approach of setting carbon budgets which provides targets at 5-year intervals to provide a pathway to reach UK's net zero target.

The UK met the first, second and third carbon budgets but is not on track to meet the fourth budget from 2023 to 2027. The carbon contribution of the waste sector in 2022 for the UK was around 3.7 million metric tons of carbon dioxide emissions, highlighting the priority of reducing greenhouse gas emissions associated with waste management. There have been a number of policies in the waste sector to achieve carbon reductions, one being the Emissions Trading Scheme.

Legislation, National Policy & Strategy

Emissions Trading Scheme (ETS)

The UK Emissions Trading Scheme (ETS) was launched on 1 January 2021 following the UK's departure from the EU. It operates on a 'cap and trade' model, where a limit is set on total greenhouse gas emissions. Businesses that emit less than their cap can sell surplus carbon credits, creating a financial incentive to reduce emissions. Credits can be traded via government systems or approved third-party platforms, supporting the UK's goal of reaching net zero by 2050.Industries covered by the ETS—mainly energy-intensive sectors—must monitor, report, and verify their annual emissions using the Government's reporting portal. Participants are also required to hold permits or monitoring plans, such as greenhouse gas emissions permits or aviation emissions plans, issued by UK ETS regulators to ensure compliance.

In 2024, the government consulted on including waste incinerators and energy recovery facilities (ERF) in the ETS. These facilities are increasingly used for waste disposal, with DEFRA reporting that around 50% of local authority waste was incinerated in 2023/24. Under the proposed expansion, monitoring and reporting will begin in 2026, with full trading starting in 2028. The waste ETS will apply only to fossil-based emissions (e.g., plastics), not biogenic emissions (e.g., food or garden waste). As a result, accurate waste composition data will be essential, complementing other policies like the packaging waste Extended Producer Responsibility (EPR) scheme.

To help mitigate ETS impacts, it is anticipated that some ERF operators will adopt carbon capture, utilisation, and storage (CCUS) technologies. The Department for Energy Security and Net Zero (DESNZ) is supporting this through Industrial Carbon Capture (ICC) business models to promote low-carbon innovation.

Residual waste capacity update

In December 2024, DEFRA announced stricter local and environment conditions for planning approval for waste incinerators. Residual waste treatment infrastructure will only be approved where it can demonstrate it diverts non-recyclable waste away from landfill, or enable the replacement of less efficient facilities. New energy-from-waste projects will need to be built carbon capture ready, and meet high standards on air pollution as well as other impacts to receive a permit. These changes demonstrate the UK's pledge to net zero by 2050 focusing on efficiency and the circular economy.

What ETS means for RECAP

The impact of the UK ETS shall vary between RECAP partners. The ETS will apply a tax to carbon emissions produced from non-renewable content in waste.

For Peterborough, who currently send residual waste to an ERF facility, it is anticipated that the ETS will lead to an increased gate fee (£/t) for residual waste. Some industry estimates suggest that the increased costs may be in the region of £20-40 per tonne of residual waste. The projected increase in gate fee is due to the associated carbon credits which will have to be purchased by the waste processor to account for the non biogenic carbon emissions emitted during recovery.

The remaining RECAP authorities (except for Peterborough) send their residual waste to Waterbeach MBT, where some recyclable/organic components within the residual waste stream are removed. The remaining non-recyclable fraction is termed compost like output (CLO) and is sent to landfill. At times when the MBT is not operational, agreements are in place with several ERF facilities to offtake a proportion of the residual waste stream, although the majority of residual waste continues to be disposed of at landfill.

Within the UK ETS, refuse-derived fuels (RDF) will also be taxed based on non-renewable content and therefore supply chains which include RDF will expect increases in cost. For Cambridgeshire who send their residual waste to MBT, and where the MBT compost hall outputs are then sent to landfill, it is anticipated that the landfill tax rates will be increased to make landfill more expensive than EfW/ERF to avoid creating a financial incentive to divert waste from EfW to landfill; which is lower on the waste hierarchy.

The ETS may provide an incentive for ERF operators to invest in the installation of CCUS technologies to abate the release of carbon emissions associated with the recovery operations. Over time, if the costs of installing CCUS technology decreases and if the technology achieved high CO2 capture rates, it is possible that carbon tax savings and potential other income streams associated with the captured CO2 can offset the costs that would otherwise be incurred from the ETS.

It should be noted that the actual impacts for RECAP shall be determined by a number of factors, including the costs of carbon (£/t) , the final scheme design and contractual arrangements.

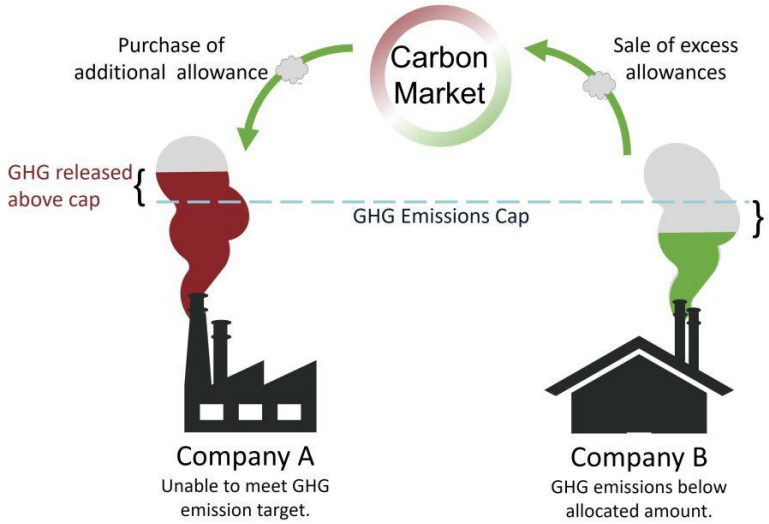


Figure 15: *ETS process flow*

Legislation, National Policy & Strategy

Landfill Tax Escalator

As a response to the UK government's overarching target to reach net zero by 2050, the amount of waste being sent to landfill is expected to decrease. One mechanism which disincentivises the use of landfill is the landfill tax escalator in which the rate of landfill tax increases incrementally each year.

Introduced in 1996 under the Finance Act 1996, the Landfill Tax is an environmental tax on waste that is deposited at Landfill. The Landfill Tax is charged by (£/t) weight and is an additional charge to base Landfill fees (£/t).
From 2025 to 2026, the landfill tax is set to increase from £103.70/tonne to £126.15/tonne for standard rates, which is applied to general waste including: household, construction, demolition, and other non-hazardous wastes. The inert rate, which applies to less environmentally harmful materials, such as rocks, clean soil, and concrete will increase from £3.30/tonne to £4.05/tonne for lower rates . Revenue made from the Landfill Tax is used to fund environmental initiatives and developing waste management infrastructure.

What Landfill Tax means for RECAP

As the Landfill Tax increases, it becomes both economically and environmentally unsustainable for local authorities to send their waste to Landfill, encouraging increased efforts for waste prevention, reuse, recycling and the use of alternative residual waste processing technologies such as EFW.

WEEE Regulations

The WEEE Regulations (waste electrical and electronic equipment) 2017 introduce a set of annual targets for the recycling of all waste electricals, aiming to reduce the amount of electric waste being incinerated or sent to landfill.

Producers and retailers of electrical and electronic goods must ensure that processes and collection systems are in place, so that electronics can be reused and recycled. Electronics that come under the WEEE regulations range from white goods, kettles, toothbrushes, smart devices, TV's, remotes, lighting, drills, garden tools, gaming consoles, medical devices, measuring devices, and automatic dispensers. Any obligated company who does not meet the required target must pay a compliance fee, which was introduced first in 2014. The Joint Trade Association oversees the administration of the fund and channels received funds towards environmental projects. The total household WEEE collection target for 2024 is 482,335 tonnes, an increase of 2% from 2023.

What WEEE Regulations means for RECAP

Despite the responsibility to recycle and reuse products being on the manufacturer, it is integral that local authorities provide the infrastructure required for this to happen. This means ensuring that electronics as outlined in the regulations can be recycled either kerbside or at HWRC's.

Legislation, National Policy & Strategy

Cambridgeshire and Peterborough Minerals and Waste Local Plan (MWLP)

The Cambridgeshire and Peterborough Minerals and Waste Local Plan (MWLP), adopted on 28 July 2021, establishes the framework for minerals extraction and waste management development in the region up to 2036.

For waste facilities, the MWLP provides specific site allocations deemed suitable for waste management activities. Operators seeking to develop or expand waste facilities are expected to do so within these designated areas, facilitating a more streamlined planning process. Additionally, the plan sets out policies to ensure that waste management developments adhere to environmental standards, promote recycling and recovery, and minimise impacts on local communities. The MWLP also includes Consultation Areas around allocated and existing mineral and waste management sites. Within these zones, district councils are required to consult with the County Council on planning applications to ensure that proposed developments do not conflict with existing or planned waste management operations.

Summary of Requirements and Targets

With the legislation, national policies and strategies described in this section of the strategy, RECAP must adopt a RRWS that aligns to a variety of national level statutory targets and legislation set by the UK Government.

The headline targets and service requirements are as follows:

- To eliminate avoidable waste of all kinds by 2050 whilst doubling resource productivity;
- To recycle 65% of municipal waste by 2035,;
- To eliminate all food waste being sent to landfill by 2030;
- Halve residual waste by the year 2042, with no more than 10% going to landfill;
- Implementing a weekly household food waste recycling service by 31st March 2026;
- Implementing kerbside collection of plastic film including mono-PE (polyethylene) and mixed PE/PP by 31st March 2027.

In addition to these statutory targets, several local authority partners within RECAP have their own localised carbon reduction targets pertaining to their waste management services.

RECAP Waste Policy Readiness

This sub-section presents a summary of the current municipal waste services RECAP partner authorities offer, assessing readiness to forthcoming policy and legislation changes. At a national level, the UK's net zero target of 2050 may be supported by local authorities within RECAP by providing effective and efficient waste management services.

Table 5 below shows the waste services of each RECAP authority benchmarked against policy requirements.

All collection authorities within RECAP currently collect the core dry recyclable streams (or the Simpler Recycling requirements. A TEEP assessment 'technically or economically impracticable' will be required to allow for the continued co-mingling of paper and card with glass, metals and plastic.

Fenland and Huntingdonshire will be required to introduce household food waste collections by March 2026. All RECAP collection authorities presently offer a garden waste collection with a mixture of free and subscription services.

Table 5: *Policy readiness review of RECAP local authority partners services against policy requirements*

Policy	Material stream and/or requirements		PCC	FDC	SCDC	ECDC	HDC	CCiC
Environment Act - Simpler Recycling	Required recyclable materials	Glass	✓	✓	✓	✓	✓	✓
		Cardboard and Paper	✓	✓	✓	✓	✓	✓
		Metals	✓	✓	✓		✓	✓
		Plastic	✓	✓	✓	✓	✓	✓
	Other requirements (TEEP)	Separate collection of cardboard and paper	X	X	X	X	X	X
	Weekly Food waste Collection (Comingled or segregated)		✓ separate	X	✓ Co-mingled	✓ Co-mingled	X	✓ Co-mingled
	Kerbside Plastic Film Collections		✓	X	✓	X	✓	✓
	Garden Waste		✓ optional	✓ Optional, charged (£)	✓ Co-mingled, free	✓ Co-mingled, free	✓ Optional , charged(£)	✓ Co-mingled, free

Policy Impacts – Food Waste Collections

In November 2024, DEFRA's Simpler Recycling policy update stated that an exemption has been introduced to allow food and garden waste to be co-collected as a co-mingled stream, to allow for maximum flexibility for local authorities and households. All partners within RECAP have confirmed that they are looking to proceed with source segregated food waste collections.

As part of the strategy preparation, modelling has been undertaken to understand the municipal food waste tonnages that would be available within RECAP following the rollout of food waste collections. The approach used to undertake this exercise is based off the Evaluation of the WRAP separate food waste collection trials from 2009 , which draws upon the recorded performance of food waste recycling initiatives which were found to correlate to the index of multiple deprivation (IMD).

Key parameters used in the methodology were:

- The number of recorded households within each local authority's administrative area. In the internal market report this data was based on the latest 2021 census;
- IMD as collated by Office for National Statistics, where the variable 'Authority wide average IMD' was used;
- The use of the IMD and household data points in WRAP's estimation approach from the 2009 report.

The number of projected households from 2025-2031 is based on modelling work undertaken by the Cambridgeshire and Peterborough Insight.

The implication of source segregated food waste collections is that a large tonnage of food waste shall be removed from residual waste stream and available for processing at a higher point within the waste hierarchy, supporting the circular economy principles.

Table 6: *Projected segregated food waste collections (tonnes per annum)*

Local Authority	Unit	2026/2027	2027/2028	2028/2029	2029/2030	2030/20312031/2032
East Cambridgeshire	tn/yr	3,306	3,357	3,408	3,459	3,511	3,562
Fenland	tn/yr	2,937	2,980	3,022	3,065	3,107	3,150
Huntingdonshire	tn/yr	6,441	6,515	6,589	6,664	6,738	6,812
Peterborough	tn/yr	5,217	5,280	5,343	5,406	5,469	5,532
South Cambridgeshire	tn/yr	6,193	6,308	6,424	6,540	6,655	6,771
Cambridge City Council	tn/yr	4,307	4,354	4,400	4,447	4,494	4,541
Total		28,401	28,794	29,187	29,581	29,974	30,367

Policy Impacts on Kerbside Municipal Waste

As highlighted within the individual policy analysis sections, the forthcoming waste policy reforms shall have several varying impacts on waste composition and mass (tonnage) for municipal waste, including kerbside collected DMR and kerbside collected residual waste streams.

As part of the strategy development, an exercise was undertaken to model the impact of policy reforms on the composition and mass of kerbside collected waste streams. Figure 16 below presents a projection of kerbside collected residual and kerbside collected DMR waste tonnage. A business-as-usual projection (baseline) is modelled for each waste stream which excludes upcoming policy reforms. Additionally, a policy projection has been modelled for each waste stream which includes projected population growth and anticipated capture rates from the introduction of source segregated food waste collections (2026), DRS (2027) and collection of plastic film (2027). The inclusion of extended producer responsibility was not included within the policy projection due to the uncertainties of how the market shall respond.

Modelling Results

The policy impact modelling suggests that the DRS shall reduce the tonnage of high value drinks containers within the DMR stream. However, the introduction of the plastic film collections and population growth offsets the reduction in total DMR tonnage. Furthermore, the tonnage of hard to recycle plastics is projected to increase. As such, the DMR baseline and DMR policy trend a very similar trend, explaining why only three trend lines are visible in figure 16. The introduction of source segregated food waste collections in 2026 shall significantly reduce the tonnage of food waste within the residual waste stream. Additionally, there is projected to be reductions in plastic film and in scope DRS material streams, although these currently make up a small proportion of the residual waste stream.

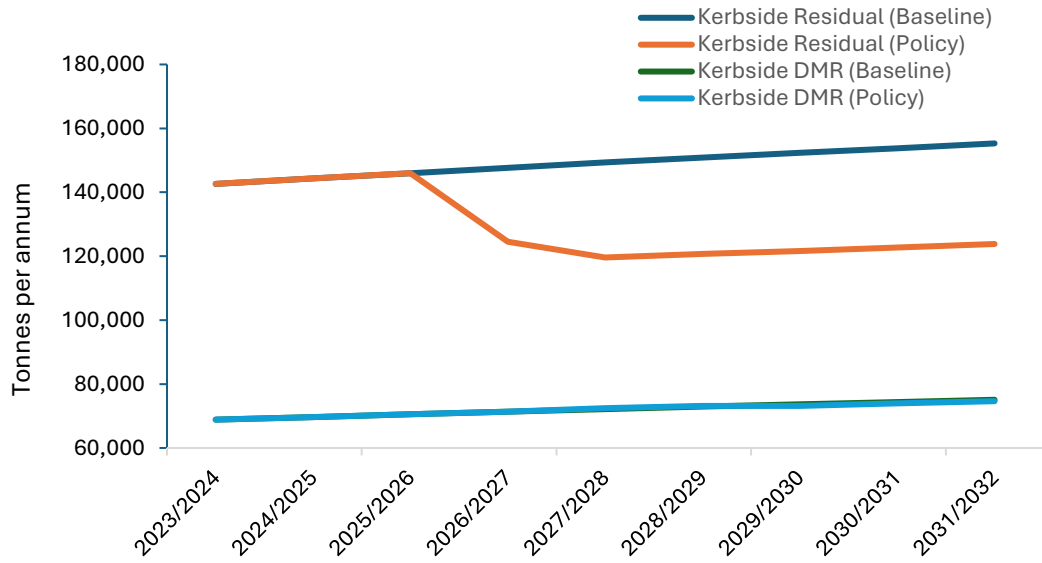


Figure 16: *Impact of policy reforms on kerbside collected waste streams within RECAP*

Legislation, National Policy & Strategy

Policy Impacts - Importance of Communications

The waste policy analysis is useful in understanding the impact of policy reforms and population growth in isolation. However, several other factors influence waste growth and composition which include the waste collection approach (e.g., size of containers and frequency of collections) and behavioural change interventions. Moreover, the waste policy reforms shall not occur in isolation from other external factors which will affect the future waste composition and waste growth within the region. For example, whilst the population in Cambridgeshire and Peterborough has increased by c. 10% from 2011 to 2021, household waste tonnage has not followed this same trend. Moreover, household total household waste within RECAP reduced by 1.5% from 2014/15 to 2023/24.

Furthermore, effective communications and behavioural change interventions are essential components of waste prevention strategies. While policy reforms and demographic trends provide important context, they alone do not fully explain changes in waste generation. The divergence between population growth and waste tonnage in Cambridgeshire and Peterborough highlights the potential impact of well-designed behavioural initiatives and public engagement. By influencing everyday habits and encouraging more sustainable practices, communication strategies can play a critical role in reducing waste and supporting long-term environmental goals, ensuring that policy reforms translate into meaningful, on-the-ground outcomes.

Developments in the waste sector

Since the last strategy in 2008, the availability of waste infrastructure in and around Cambridgeshire and Peterborough has evolved and developed. The additional capacity and capabilities offered by this infrastructure supports increases in efficiency of waste operations works to reduce the environmental impact of waste. Waste treatment technologies delivered locally include Energy Recovery Facility (ERF) and Anaerobic Digestion (AD) which may be classed as energy recovery facilities, turning waste into a resource and fuel. Figure 17 illustrates the locations and types of municipal waste infrastructure that has been developed since the previous version of the RRWS, including in-house and merchant facilities.

Waste Transfer Stations

Figure 17 shows council-owned and merchant WTS which are in the RECAP boundary. Currently, CCC own March WTS, and PCC own the Welland Road and Nursery Lane WTS. All other WTS are merchant owned by third party waste management companies.

Residual waste

Residual waste treatment capacity includes the Waterbeach Mechanical Biological Treatment (MBT) and IVC facility, operated by Thalia Waste Management. The site is located on Ely Road, Waterbeach and is used to treat residual waste from Cambridgeshire authorities (excluding Peterborough) as part of a 28-year PFI contract. The park also has a MRF and a landfill site with the latter receiving non-recyclable outputs from the MBT facility.

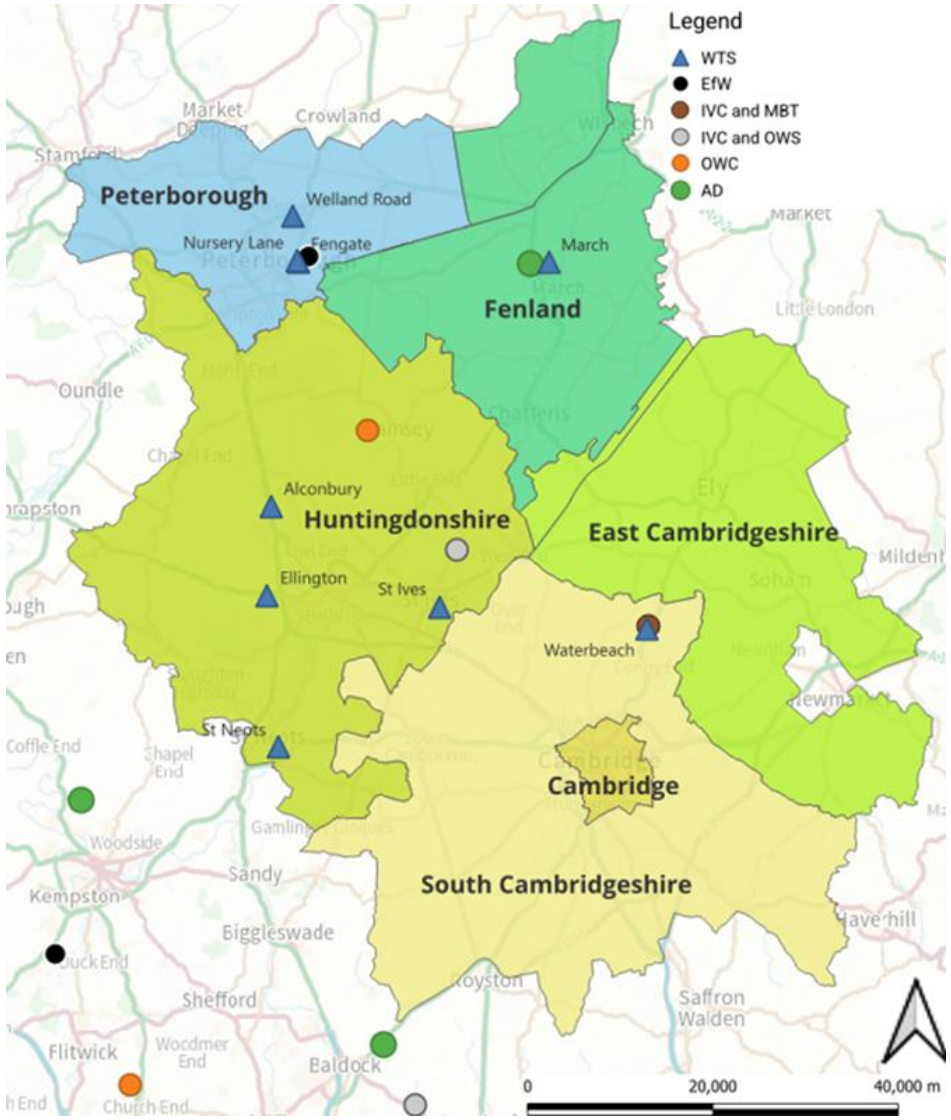


Figure 17. Municipal waste infrastructure developed in RECAP area

Developments in the waste sector

A further residual waste treatment facility is the Viridor Energy Recovery Facility (ERF) which is operated under a Public Private Partnership (PPP) between Peterborough and Viridor Peterborough Limited. The current waste throughput at the Peterborough ERF is 90,000 tonnes, of which 51,000 tonnes are provided by Peterborough City Council, with the remainder sourced as third-party waste by Viridor. While the facility has planning and permit approval to process up to 110,000 tonnes at maximum efficiency, operational improvements are still ongoing to reach this full capacity

The Rookery South ERF has been developed and operated by Encyclis and is located in Bedford, in close proximity to the RECAP boundary. The site has a permitted capacity of 657,000 annually and accepts residual waste from a variety of local authorities from south and east England. In 2023, the facility was understood to have around 60,000 tonnes of capacity spare.

Food waste

Several food waste anaerobic digestion (AD) plants have been developed in and around RECAP boundary. This includes the Local Generation facility operated by BioteCH4, located in Westry, March. The site has an annual permitted capacity of 120,000 tonnes per annum of food waste, and is understood to be close to maximum capacity. The site is contracted to receive waste from multiple commercial and local authority customers. The Bygrave Lodge AD facility operated by Biogen, located in Baldock, Hertfordshire is on the periphery of the RECAP area and has a permitted capacity of 54,000 tonnes per annum.

The site is understood to accept food wastes from households, commercial and industrial waste sources, and the hospitality industry. The site is understood to be close to its permitted capacity and accepts waste from local authorities from

London, Northamptonshire and Hertfordshire. The Twinwoods AD facility, also operated by Biogen, which is located in, Bedfordshire on the periphery of the RECAP boundary, has a permitted capacity of 42,000 tonnes per annum and accepts food wastes from local authorities from London, Hertfordshire and Northamptonshire as well as commercial food waste. In 2023, the facility was understood to have around 10,000 tonnes of spare capacity.

Co-mingled food and garden waste

With several RECAP authorities collecting co-mingled food and garden waste, a major composting facility has been developed at St Ives and is operated by Envar Composting Ltd. The facility is a combined IVC, OWC and WTS and has a permitted composting capacity of 135,000 tonnes per annum for garden waste, food waste, and co-mingled food and garden waste. The site is understood to be close to capacity and receives around 60,000 tonnes of waste from local authorities in Cambridgeshire. Cumberlow Green Farm is a combined IVC and OWC facility that has been developed in Hertfordshire on the periphery of the RECAP area accepting food and garden waste. This site has an permitted capacity of 40,000 tonnes per annum and in 2023 accepted around 27,000 tonnes of waste.

Developments in the waste sector

Open Windrow Composting

OWC sites which have been developed for garden waste is Bury Lane Farm, operated by AWO Recycling Ltd. Located in Ramsey, Cambridgeshire, the facility has an annual permitted capacity of 25,000 tonnes per annum and in 2023 accepted around 22,600 tonnes of organic wastes. The Faldo Farm facility is OWC and is operated by Material Change Composting with a permitted capacity of 25,000 tonnes per annum. In 2023 the facility received around 14,300 tonnes of green waste.

Planned waste infrastructure in and around RECAP

Looking forward, RECAP has the potential of forming arrangements with new waste management and treatment infrastructure which has been announced and/or is being developed waste service.

Figure 18 shows the location of planned infrastructure in the RECAP area. This involves a planned OWC facility at the Eye Landfill on Eyebury Road, Peterborough, organised and operated by Biffa. Development and operation of the facility was granted in December 2023 by the Environment Agency. The facility will accept green municipal and commercial waste, and currently has a permitted capacity of 75,000. Currently there are two planned ERF's in the RECAP boundary area. Firstly, the Wisbech ERF located north of Fenland which will be developed and financed by MVV Environment Ltd, with an expected capacity of 626,600. Construction is due to commence in early 2025 and will take approximately three years.

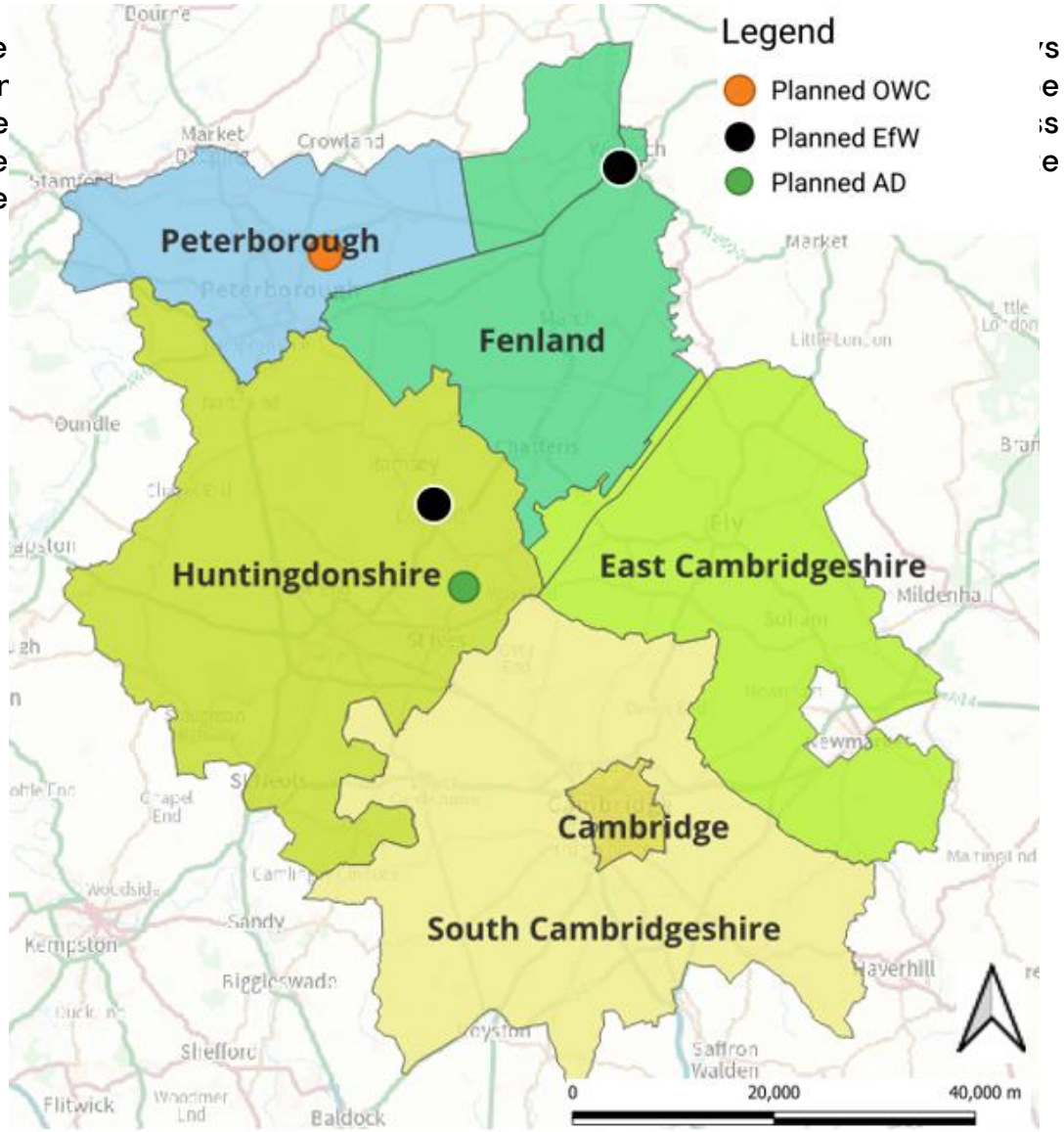


Figure 18. Planned waste infrastructure within the RECAP area

Developments in the waste sector

If granted approval, the Warboys Energy Recovery Facility (ERF) would be developed on the site of the former Warboys landfill in Cambridgeshire (Puddock Road, PE28 2TX). The proposal aims process around 87,500 tonnes of residual waste each year, diverting it from landfill and generating energy.

In July 2024, a planning permission was granted by the Environment Agency for the construction of a dry anaerobic digestion facility at St Ives which is being developed and operated by Envar Composting Ltd. The expected capacity of the facility will be 70,000 tonnes per annum, accepting co-mingled food and garden waste, with produced biomethane fed into the gas grid or used as an alternative fuel) for vehicles.

Waste Innovation: What areas are of interest to RECAP?

To ensure a comprehensive Joint Waste Strategy, the partnership will continue to review the emerging technologies in the waste sector, offering processing techniques which seek to create resources from waste. These are detailed below.

Sustainable Aviation Fuels (SAF)

Sustainable Aviation Fuels are biofuels or alternative fuels derived from sustainable feedstocks such as cooking oil, non-palm waste oils, residual waste, packaging, paper, textiles and food waste which would otherwise go to landfill or ERF.

There is a clear drive from the UK Government towards SAF production through the SAF mandate, which is part of the Renewable Transport Fuel Obligations (Sustainable Aviation Fuel) Order 2024. This has made the use of SAF obligatory starting from 2025, stating that 2% of total UK jet fuel demand should be from SAF. This will increase linearly to 10% in 2030 and 22% in 2040. Incentives for growing SAF is also provided by market-based mechanisms such as the Advanced Fuels Fund, which is funding provided by the UK government to develop SAF production plants, and the inclusion of the aviation industry in the UK ETS scheme. Proximate airports to RECAP have expressed interests in the adoption of SAF, notably Heathrow Airport which wishes to increase SAF use to 11% by 2030.

Gasification

Gasification is the chemical process where municipal solid waste (MSW) is heated in a low-oxygen environment to create syngas and char. Gasification requires a homogenous feedstock, limiting the inputs to a gasifier to single streamed wastes such as wood chippings, forestry residues and energy crops. Syngas can be used for electricity generation, production of chemicals such as ammonia, as well as SAF. For SAF, gasification uses the fischer-tropsch process to convert syngas to jet fuel, hence several gasification projects have been funded by the Government such as the Alfanar's Lighthouse Green Fuels project at Teesside. There have been several high profile local authority waste gasification projects in the UK which have become distressed, and RCEAP will therefore monitor the continued development of this technology to fully assess and understand its development.

Developments in the waste sector

Pyrolysis

Pyrolysis is the thermal treatment of organic materials in the absence of oxygen and requires lower temperatures to heat the waste than gasification. A variety of feedstocks can be accepted at a pyrolysis plant, ranging from refuse derived fuels (RDF), hard plastic waste (HDPE), solid recovered fuels (SRF), wood waste, energy crops, biomass and agricultural residues, mixed plastics and rubber, paper, cardboard and forestry residues. The moisture content of the feedstock must be 20%. Outputs of pyrolysis can be a syngas, hydrogen, biochar, and naptha wax.

Cambridgeshire and Peterborough recycles

A revised waste strategy for RECAP

Applying the context of evolving waste management policy and legislation to the characteristics of RECAP reveals several waste strategy themes. These themes, which have been developed through a structured process of analysis, assessment, and engagement with stakeholders from across RECAP authorities include:

1. Embedding the waste management hierarchy & circular economy
2. Effective waste communications
3. Legislation, contracts and procurement
4. Waste management infrastructure
5. Carbon and emissions reduction
6. Commercial Opportunities & Innovations
7. Data Capture, Monitoring, Recording & Reporting
8. Strategy Application, Review and Governance

Each theme is introduced and contextualised, with specific actions from each theme being detailed in the supporting waste strategy action plan.

Cambridgeshire and Peterborough recycles

Theme 1: Embedding the waste management hierarchy & adopting a circular economy

A crosscutting theme throughout this RRWS strategy is the continued application of the waste hierarchy and circular economy principles.

Waste hierarchy as a guiding principle

The waste management hierarchy is a long-established concept which continues to be relevant. The waste sector has made good progress at elevating material up through the lower levels of the hierarchy from disposal through to recovery and recycling, although a continued focus on the upper levels of the hierarchy is required. Decision making guided by the higher levels of the waste hierarchy, specifically prevention and re-use, is integral in addressing the growing environmental, economic, and social challenges associated with waste management.

Adopting the circular economy

The circular economy concept is the principle of shifting the thinking from 'take, make dispose' to promoting the reuse and recirculation of materials in the system. In this system, waste is rethought of as a valuable resource rather than an item that is discarded, and manufacturers are urged to design products to maintain its life and encourage reuse and repair. The circular economy works on the three main principles of:

- Reducing and eliminating waste and designing products considering their entire life cycle;
- Preserving and extending the life of materials through the application of the eight R's: Refuse, Rethink, Reduce, Repair, Reuse, Recycle, Refurbish, and Remanufacture; and,

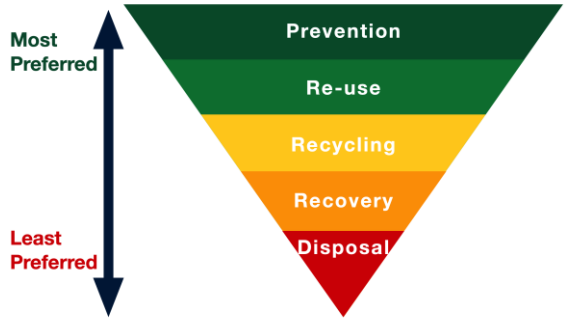


Figure 19: *Waste Management Hierarchy*

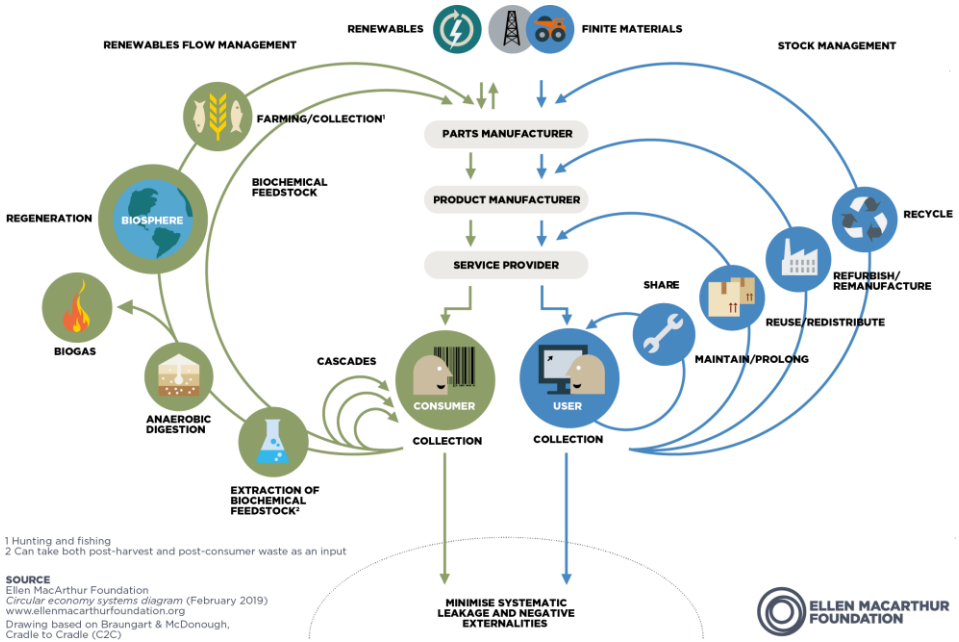


Figure 20: *The circular economy concept*

Cambridgeshire and Peterborough recycles

Theme 1: Embedding the waste management hierarchy & adopting a circular economy

- Regenerating natural systems and allowing natural processes to thrive such as: forests which have been cleared for manufacturing.

The waste hierarchy interlinks and contributes to a circular economy by encouraging waste prevention, and sustainable management of waste such as re-use and recycling. This encourages social norms around using waste as a resource rather than the last stages of the waste hierarchy which is disposal. With effective waste awareness and behavioural change initiatives, RECAP has an opportunity to reinforce circular economy principles to provide social value and environmental benefits.

How is RECAP currently promoting the waste hierarchy?

Waste Prevention and Re-use is at the top of the waste hierarchy and has been the focus of numerous schemes and initiatives implemented by RECAP since the last strategy in 2008. To align with the principles of the waste hierarchy above, these schemes aim to reduce the amount of residual waste individuals within RECAP produce. In working to deliver successful schemes which implement the waste hierarchy and in particular waste prevention, RECAP has the opportunity to collaborate and work with local community groups, third sector charities, and the public.

RECAP has promoted the following initiatives which seek to reduce waste and promote reuse, including but not limited to:

- Signposting residents to prevent and reuse apps such as Too Good To Go, the Kitchen app, and Olio sharing app;
- Supporting non-profit organisations such as 'Cambridge Sustainable Food' which hold community events and focuses on issues such as food poverty, reducing ecological impacts, and building community knowledge on food waste;
- Sponsoring the Cambridgeshire Repair Café Network;
- Partnering with companies to offer discounts on reusable period and zero waste products;
- Signposting to clothing swap events, such as K1 Co-Housing's Swish and Trumpington Kids Clothes Hub.

Cambridge has several local re-use projects which aim to reduce residual waste being produced and waste which would otherwise be sent to landfill. These events involve community engagement and outreach which serves to shift consumer attitudes from a linear to circular economy, where waste is repaired and reused rather than thrown away.

Outcomes of good practice

Theme 1: Embedding the waste management hierarchy & adopting a circular economy

Waste hierarchy & circular economy: Aims, objectives and actions

RECAP will continue to build on progress in raising awareness on waste prevention and reuse as part of the waste hierarchy. Key actions of this strategy are to continue working with charities and the community sector in promoting behavioural change towards viewing waste as a resource, and incentivising individuals to think twice before purchasing and item they might do not need or throwing away a product which could be repaired.

The aims, objectives and actions for RECAP pertaining to this waste hierarchy theme are detailed below and will be reviewed annually:

Aim 1 : RECAP shall increase opportunities for waste prevention and reuse within the partnership area by promoting sustainable practices, supporting innovative initiatives, and fostering collaboration among local authorities, businesses, and communities to reduce waste generation and extend the lifecycle of materials..

Aim 2: RECAP shall seek to treat and process all residual waste in order to minimise landfilling, by implementing effective waste treatment technologies, promoting recycling and recovery, and exploring alternative waste management solutions that align with sustainability goals and circular economy principles of this strategy.

Cambridgeshire and Peterborough recycles

Cambridge Re-use Charity: A Case Study

Cambridge Re-Use, based in the city of Cambridge, is a community-based furniture re-use store. The charity is primarily set up to help low-income households buy affordable furniture, electrical appliances and other household goods. This demonstrates a local community project and business which provides local social value whilst repairing and reusing furniture, demonstrating that re-using resources can save money for the consumer.

Theme 2: Effective waste communications

Clear communications with residents within RECAP authorities is an essential part of attaining a sustainable waste management system, implementing the waste management hierarchy, and instigating the circular economy concept. At an industry level, the level of communications to residents on waste management issues has decreased, and the policy ambitions announced in the Environment Act and Resources & Waste Strategy necessitate a renewed communication and engagement approach.

Many of the recent policy developments focus on systemic and technical approaches, albeit the success of such approaches is, to a degree, contingent on the adoption of behaviours that support such approaches. For example, communications that direct residents to behavioural change initiatives are a primary approach to driving the waste prevention, minimisation and reuse levels that sit atop the waste management hierarchy. Encouraging sustainable actions such as shifting away from single-use plastics to reuseable products, correct use of recycling containers, performing at-home composting, and repairing items works to ensure a better quality and quantity of recycling whilst minimising the amount of residual waste requiring recovery at ERF or disposal via landfill.

Waste communications also have an instructive role in achieving an efficient and optimised waste management system. As services evolve, waste collection authorities will need to provide information on what types of items should go in each bin and ensuring that it is accessible and understood by all demographics. Communications are also important in building buy-in and confidence in waste and recycling services by providing transparent information on the reprocessing and treatments routes into which collected materials are delivered.

Communications and behavioural change intersect with waste collection and processing; for example, successful waste communications can increase the correct separation of waste streams, ensuring that waste is disposed of correctly which improves the efficiency and lowers cost of waste processing, ultimately providing better value for residents.

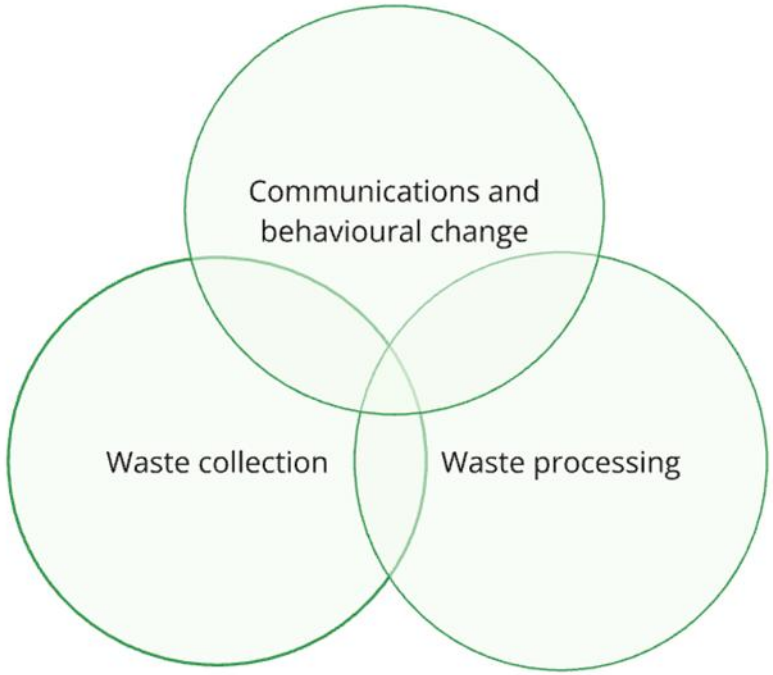


Figure 21: *Venn diagram of waste management service change*

Theme 2: Effective waste communications

Outcomes of good practice

There are several positive outcomes that derive from effective communication and behavioural change initiatives, including but not limited to:

- a circular economy in which the waste hierarchy is followed closely by all individuals, organisations and businesses;
- a society where there are no informational barriers to engagement as a result of effective dissemination of resources on waste prevention, reduction and reuse;
- normalisation of sustainable behaviours by demonstrating their widespread adoption;
- targeted communication approaches, including tailored messages and interventions to specific groups (e.g., households, businesses, schools) to ensure relevance;
- encouraging businesses and individuals to adopt waste conscious habits such that waste is reduced at the source;
- improved public awareness and engagement enabled through effective educational campaigns leading to a better understanding and participation in waste management programmes;
- increase the demand for reusable products and zero-waste solutions to encourage businesses to develop sustainable alternatives and circular economy models.
- increasing the number of items that are repaired, refurbished or repurposed instead of being discarded, extending their lifespan and reducing the demand for new products; and,
- improved awareness and proper waste segregation leading to more materials being recycled efficiently (e.g., reduced contamination rates, increased capture rates), diverting waste from landfills and incineration.

To achieve these good practice outcomes, RECAP partner authorities shall deploy strategies and implement initiatives which seek to ultimately change residents' behaviour towards the materials they buy, where they are bought from, and how they are processed. These strategies will seek to integrate local communities and help residents realise the benefits of recycling, whilst being transparent and educating residents of all demographics how waste is disposed of. RECAP will ensure that such communications shall be clear and accessible.

With the rise of artificial intelligence models, its importance in aiding communication strategies and behavioural change cannot be undermined as the use of AI has the potential to enhance efficiency of communication teams and inspire innovative ideas on communication techniques and materials. RECAP will continue to monitor development in AI and shall incorporate and adopt these to support resident communications where beneficial.

Theme 2: Effective waste communications

Communications and behaviour change options

RECAP will work to implement behavioural changes at an individual and community level to promote waste reduction and appropriate waste segregation; and increase reuse and recycling rates. A selection of approaches are explored that RECAP partners may implement to promote adherence to the waste hierarchy and a circular economy whilst fostering community engagement.

Carbon Awareness
Educational initiatives such as carbon literacy training seeks to raise awareness of the impact from emissions on environmental and human health. The workshop sessions are also used to help inform individuals on how they can promote emission reduction through their job role.

Benefits: Encourages sustainable choices which can lead improved human and environmental health.

Digital apps
WCAs can implement a downloadable app with a range of waste resources by the council and RECAP. This can include bin collection dates, collection and disposal processes for each waste stream, what items to put in each bin with pictures, etc. Currently only PCC has a council-made bin app.

Benefits: Can cater to a young audience and is downloadable for anyone with a device.

Community events
Hosting clothing-swap events, repair cafes, reuse fairs, food waste workshops where leftover food is turned into meals, community recycling competitions, composting workshops, tours to local processing facilities, etc. This encourages application of the waste hierarchy at the highest level for pre-used items. Communications can be incorporated at these locations to direct citizens to other community initiatives and provide general education on the waste hierarchy.

Benefits: fosters a sense of community and builds social value from paid positions or volunteers.

Targeted Communications and engagement
Reaching hard to reach communities through pop-up hubs, peer champions, social media campaigns, and events linked to schools and cultural festivals. These approaches build on trusted networks and local traditions to make waste reduction, recycling, and reuse more relevant and accessible.

Benefits: ensures inclusive communication, encourages lasting behaviour change, and strengthens community ownership of waste initiatives.

RECAP & Partner website
This involves providing a range of waste information on the council's website. Information provided should be transparent and avoid being vague. This includes waste process flows for waste streams collected, bin collections, materials for each bin, easy to access infographics, and tonnage information.

Benefits: Increases residents trust to the local council and allows residents to stay informed.

Composting groups/events/discounts
To encourage reusing materials and reducing waste, compost events or groups can be established. This can be a drop off point where residents can drop off food waste and scraps, or a social event where the resulting compost is used for a communal garden. Discounts for composting can be advertised.

Benefits: Can reduce food waste in residual bins, encourages and educates circular economy principles.

Cambridgeshire and Peterborough recycles

Theme 2: Effective waste communications

Building upon our existing communications approaches

RECAP have several initiatives in place which exhibit the outcomes of good practice for waste communications and behavioural change.

Currently, Cambridgeshire County Council has a comprehensive website titled 'What happens to your waste' which details the waste streams accepted, where they are taken to, and the waste process they undergo. As well as informative text, the site presents videos with animated mascots to cater to a younger audience which visualise the waste processing techniques.

Moreover, at Waterbeach Management Park there is currently an education centre which provides waste educational activities, for schools, community organisations, and Cambridgeshire businesses. The education centre offers visits to the Thalia facility, which comprises an MBT, IVC facility and landfill. The provision of this education centre is supported by attendance at community events, free recycling outreach workshops, and downloadable resources. This allows direct engagement with the local community and direct learning to help residents understand what happens to their waste.

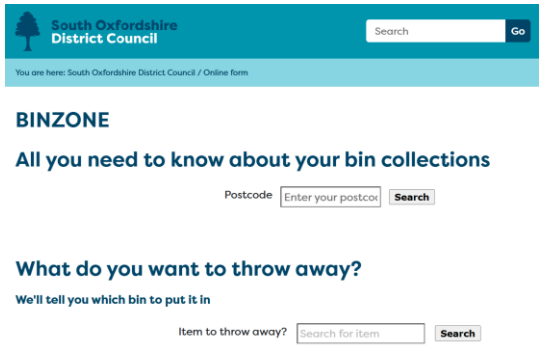
The Peterborough ERF operated by Viridor has a comprehensive website detailing the process of energy recovery at a Viridor facility and also allows for schools and community groups to visit, with a range of excellent resources that are available for schools to use.

Cambridgeshire and Peterborough recycles

Waste communications case studies

Cotswold District Council: Cotswold District Council's website includes information on the management of all municipal waste streams, including garden waste, food waste, glass, paper and cardboard, aluminium cans and textiles and has detailed the collection, transfer and processing method. The Council builds on good practice by hyperlinking the facilities which processes the waste, allowing the resident to know the company, location and name of the site.

South Oxfordshire District Council: South Oxfordshire District Council's website has a detailed 'what plastics can you recycle at home?' pdf which has each room in the house with plastic items that can and cant be recycled. The items are numbered and for each number, information is provided on which bin to place the item in. If residents are still unsure if the item can be recycled they are advised to check the Binzone app.



Theme 2: Effective waste communications

Effective waste communications: Aims, objectives and actions

A waste strategy action plan has been developed to support the implementation of this strategy. The plan includes several objectives and actions for RECAP to progress the aims of this theme:

Aim 1 : RECAP authorities shall inform and educate stakeholders within the RECAP boundary of upcoming service changes to increase awareness and consistency of any behavioural changes that shall be required.

Aim 2: RECAP shall improve the structure of current communications and behavioural change initiatives, increase transparency of current processes, improve the level of collaboration, coordination and sharing of resources within the RECAP partnership - with the aim of supporting waste management in alignment with the waste hierarchy.

Cambridgeshire and Peterborough recycles

Theme 3: Legislation, contracts & procurements

A range of new waste policy announcements introduces additional requirements into this waste strategy which will flow through into current contracts and future procurements.

Responding to recent waste sector reform

The Resources and Waste Strategy provides a key policy framework for future waste management policies with a focus on reducing single-use plastics, promoting recycling and a circular economy.

The Environment Act 2021 requires the separate collection of recyclable materials including plastic, metal, glass, paper and card. Waste collection authorities are required to collect paper and card separately if technically, environmentally or economically practicable (TEEP) to do so. A TEEP assessment must be submitted if a local authority proposes to co-collect these paper and cardboard. By March 2027, the collection of recyclable plastic films is required. From March 2026, weekly household food waste collections are required with authorities opting to co-mingle with garden waste depending on local circumstances. Businesses and non-domestic premises are obligated to arrange for food waste recycling collections by March 2025.

Overarching **national** targets which RECAP authorities will support through effective and efficient waste services are:

- the Environment Act 2021 targets of halving the amount of residual waste produced per capita by 2042; and,
- the Climate Change Act 2008 which requires the UK to meet its national net zero target by 2050.

Attaining these national targets will require behavioural change initiatives and strategic objectives relating to existing contracts and future procurements.

Outcomes of good practice

The procurement of future contracts will be essential in overcoming numerous challenges RECAP face, from infrastructure limitations to decarbonising refuse collection vehicles. Successful procurements will integrate the eight themes of this strategy when implementing a waste collection or waste disposal service for local authorities within RECAP, with good practice ensuring the following outcomes:

- Ensuring that RECAP Authorities comply with and adhere to all policy requirements and legislation within waste management. This involves Simpler Recycling, Environment Act 2021, and targets outlined within the Resources and Waste Strategy;
- Maximising the efficiency of waste services, if possible, through collaborative opportunities. This involved sharing services between LAs and investigating cross-border procurement opportunities;
- Adoption of the wate management hierarchy and proximity principle to minimise the environmental impact of waste collection and disposal activities;
- Procurement of a service which follows principles of good practice for disposal and collection as outlined in theme 1, and delivers best value for residents;
- Aiding RECAP in implementing and communicating behavioural change initiatives to encourage a circular economy and establish social norms

Theme 3: Legislation, contracts & procurements

Legislation, contracts & procurement: Aims, objectives and actions

A waste strategy action plan has been developed to support the implementation of this strategy. The plan includes several objectives and actions for RECAP to progress the aims of this theme:

Aim 1: To ensure that RECAP partners adapt to and maintain compliance with upcoming and emerging policy reforms throughout the strategy period.

Aim 2: To maximise efficiency of services through capitalising on collaborative procurement opportunities.

Aim 3: To reduce instances of fly tipping to reduce illegal waste activities through robust enforcement.

Aim 4: To increase the procurement of environmentally conscious services and works for delivering the waste management service required by partners within RECAP and future changes associated with LGR (where practicable) whilst aligning with best value obligations.

Aim 5: To develop an understanding of the medium to long term options available for the processing of DMR from RECAP and changes to LGR and develop a strategy to enable options that align with the principles of good practice within the RRWS report.

Theme 4: Waste management infrastructure

With the prospect of local government reorganisation, more waste infrastructure will need to be developed so that multiple authority partners within RECAP can share infrastructure, forming strong cross boundary partnerships.

A continued need to develop sustainable waste management infrastructure

Waste management infrastructure includes facilities used for the collection, storage and processing of RECAP's waste in a way that enables policy ambitions and targets to be met. This includes but is not limited to:

- Waste transfer stations (WTS);
- Household waste recycling centres (HWRC's);
- Mechanical biological treatment (MBT) facilities;
- Material recovery facilities (MRF);
- Anaerobic digestion (AD) plants;
- Energy Recovery Facility (ERF) facilities; and,
- Open windrow composting (OWC) and in-vessel composting (IVC).

Waste management infrastructure is integral in enabling WCAs and WDAs to perform their statutory duties. Effective and well-designed waste infrastructure will allow RECAP authorities to provide services to residents, to reduce the environmental impact of waste by following the waste hierarchy, and to promote a circular economy within RECAP.

Cambridgeshire and Peterborough recycles

Waste infrastructure will need to be strategically located to facilitate joint working opportunities, capitalise upon collaborative waste management opportunities, and to enable application of the proximity principle.

Peterborough City Council: Local ERF and WTS delivery

Within RECAP, Peterborough provides an excellent local infrastructure development case study. This includes an Energy Recovery Facility (ERF) which enables residual waste to be directly delivered to a local disposal point. The plant, which has been operational since 2015, is permitted to treat 110,000 tonnes per annum of residual waste. The energy generated by this plant powers up to 20,000 local homes, showcasing the principle of driving material up the waste hierarchy from the disposal to the recovery level. The plant was constructed and is operated by Viridor until 2043 (contract expiry).

Peterborough has also developed waste transfer stations for food and garden waste, located at Nursery Lane and Welland Road respectively. These council-owned assets provide Peterborough with greater control and flexibility when procuring treatment contracts beyond direct delivery distance. Developing these sites offers social value by creating several new skilled jobs and opportunities for local business.

Theme 4: Waste management infrastructure

Sherborne Recycling: Local authority infrastructure collaboration exemplar

With the prospect of local government reorganisation, waste infrastructure will need to be developed so that multiple RECAP authorities can share processing and treatment capacity, forming strong cross boundary partnerships. Sherborne Recycling, a partnership between a number of midlands local authorities provides an excellent example of where this has occurred for the treatment of DMR waste. The plant provides a case study where waste management infrastructure has been created and owned by several local authorities seeking to address the rising costs of waste treatment contacts, lack of processing infrastructure in the region, and volatile resale market for recyclables.

Figure 22: *Sherbourne MRF*

Cambridgeshire and Peterborough recycles

Sherborne recycling Ltd is a partnership between 8 local authorities in the West Midlands which was founded in 2021 which designed, developed, and operated a materials recycling facility (MRF) in Coventry. The MRF opened in August 2023 and is permitted to process up to 175,000 tonnes per annum. The plant has 18 sorting robots and 14 optical sorters provided by MachineX. The partnerships priority on sustainability was incorporated into the design of the facility, with solar panels installed on the roof and the site equipped with a fully electric fleet.

A focus on waste transfer station capacity

A key priority within this RRWS is ensuring there is adequate waste management infrastructure in and around the Cambridgeshire and Peterborough region, which is able to receive, collect, store and transfer municipal waste.

This aims to increase the application of the proximity principle and future proof of waste infrastructure would give autonomy to RECAP in terms of contracts, i.e picking contractors for procurement, and flexibility over implementing initiatives to reduce waste generation and promoting reuse and recycling. Additionally, developing adequate waste infrastructure is a key enabler for the local authorities in RECAP to achieve Best Value Duty Obligations within the Local Government Act 1999. This is where the local authority must demonstrate it is making waste arrangements which are economic, efficient and effective.

In ensuring an efficient, sustainable and cost-effective waste service for residents, it is essential that RECAP has access to a suitable amount of waste transfer stations (WTS), as this can be a limiter for competition at procurement. A lack of transfer capacity can limit competition as a waste company can monopolise the surrounding market, restricting where RECAP can send their waste. Having access to WTS will also allow RECAP to follow the principles of good collection, noted in Theme 5.

Theme 4: Waste management infrastructure

Waste transfer stations in the RECAP boundary

Figure 23: *WTS locations within RECAP*

A greater need for waste transfer capacity

There are multiple WTS facilities in the RECAP administrative area which are owned and operated by private sector service providers. Cambridgeshire County Council currently own the March WTS and the Waterbeach facility, which may be used as a transfer station, is reverting to the council at contract expiry.

Peterborough City Council currently own the Nursery Lane WTS and Welland Road WTS but have confirmed that there is no surplus capacity that could be available for other neighbouring RECAP partners to utilise.

Whilst these facilities provide good coverage in some parts of the RECAP area, others have an acute lack of WTS capacity. A key priority and action within this strategy is to identify areas in which additional WTS capacity may be required. With the prospect of local government reorganisation, more waste transfer capacity will need to be developed so that multiple RECAP authorities can share infrastructure to drive efficiency into waste collection and haulage services, irrespective of the specific authority boundaries and structure that will be defined through governmental reorganisation.

Theme 4: Waste management infrastructure

The benefits of adopting good practice

The outcomes of well-planned waste management infrastructure that provides a range of capabilities and capacities will be instrumental in realising RECAP's aims of adopting the circular economy, driving waste hierarchy, and advancing RECAP partner's carbon reduction targets where they are a priority. Such outcomes will:

- Help RECAP to reach targets such as reaching 65% recycling by 2035 and eliminating biodegradable waste disposal to landfill by 2028;
- Implement the proximity principle. Waste infrastructure will be well positioned and provide good coverage to RECAP areas, in close proximity to Cambridgeshire and Peterborough, with capacity to accommodate changes in population and prevailing waste policy;
- Reduce carbon emissions associated with handling and processing of waste, aligning with RECAP's individual partner authority carbon targets;
- Where applicable, and subject to local government reform, facilitate cross-boundary partnerships and by providing shared services to RECAP authorities.

Cambridgeshire and Peterborough recycles

Waste Management Infrastructure: Aims, objectives and actions

A waste strategy action plan has been developed to support the implementation of this strategy. The plan includes several objectives and actions for RECAP to progress the aims of this theme:

Aim 1: To ensure that there is adequate, affordable and energy efficient waste management infrastructure (waste transfer, bulking and processing facilities) in close proximity to Cambridgeshire and Peterborough that is available to receive, accept and/or process municipal waste from RECAP, accounting for future changes in population growth and waste policy.

The measure of "adequacy" relates to the ability of local waste management infrastructure to satisfy both of the following requirements:

a) manage current and future tonnage requirements; and,
b) open up opportunities for RECAP to encourage bids from an increased pool of prospective processing contractors and thus encourage a good level of competition and best value.

Theme 5: Carbon and emissions reduction

Since the publication of the previous strategy there has been an increased awareness at an international, national, and local level of the need to reduce carbon emissions. A key progression in this RRWS is a focus on carbon emissions alongside traditional weight-based waste management targets.

Supporting decarbonisation by reducing waste related emissions

The UK's Climate Change Act 2008 establishes a legal requirement for the UK to reach net zero emissions by 2050.

An interim commitment to deliver a 68% reduction in emissions by 2030 was introduced in 2024, aligning the UKs ambition with the 2015 Paris Agreement to limit an increase in global temperature to 1.5 by 2100

The Climate change Act also introduced a series of carbon budgets to provide a target pathway. The UK has passed the first, second, and third carbon budgets but is not on track to meet the fourth budget from 2023 to 2027. The Department for Energy Security and Net Zero (DESNZ) estimated that the

waste sector accounts for c.5% of the UK's territorial greenhouse gas emissions in 2022. DESNZ estimates that landfill accounts for over two-thirds of national waste sector emissions, mainly due to methane released from the decomposition of biodegradable waste. Importantly, the 7th budget (published 2025) calls for the near elimination of all waste to landfill by 2045 (and near elimination of biodegradable waste to landfill by 2028). The Local Government Association's Waste Routemap sets out interventions for local authorities to embed sustainability in waste management, many of which are reflected in the strategy action plan to support progress towards waste reduction, reuse and recycling targets.

Table 7: *Waste Processing and Waste Fleet Emissions Targets*

Local authority in RECAP	Net Zero target	Waste sector carbon reduction targets
Peterborough City Council	2040	
Cambridgeshire County Council	2045	
Fenland District Council	-	
Cambridge City Council and South Cambridgeshire District Council	45% by 2025, 75% by 2030	50% waste emissions by 2025, and 90% by 2030
East Cambridgeshire District Council	2050	
Huntingdonshire District Council	2040	

Theme 5: Carbon and emissions reduction

Carbon emission reduction pervades this strategy although is particularly relevant to the themes of the waste hierarchy and circular economy, waste minimisation and behavioural change, legislation, procurements and contracts, and waste management infrastructure.

Waste treatment and disposal emissions

All emissions associated with the disposal of waste managed by Cambridgeshire County Council are accounted. CCC's Annual Carbon Footprint Report (2023/24) highlights that 60% of CCCs GHG emissions originated from the treatment and disposal of waste collected by local authorities in RECAP, excluding Peterborough. The transport of waste is not included in this figure and is instead reported in WCA's GHG reports.

Cambridgeshire County Council have segmented the waste treatment carbon emission in line with the mixture of treatment approaches and fates of waste. The apportionment between residual waste treatment and disposal and recycling and composting is roughly even, with landfill representing the leading emissions segment at 38%. This provides an opportunity for the CCC to further invest in and to adopt sustainable recycling and recovery approaches such as ERF, AD, and composting to recover resources from residual waste, and to reduce carbon emissions from landfill.

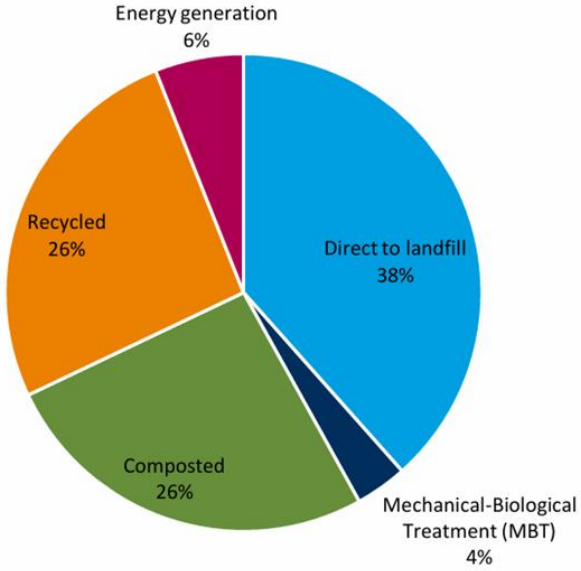


Figure 24: *CCC breakdown of waste processing emissions*

Waste collection emissions

Refuse collection vehicles (RCV's) are the main contributor of carbon emissions in the waste collection segment of the supply chain. With policy requiring collection of an increasing range of waste streams, WCA's face a challenge in containing and reducing these emissions.

This strategy provides an option for RECAP authorities to review their RCV fleet to reduce carbon emissions with the transport of waste through adoption of alternative fuel types.

Additionally, collection authorities can drive reductions in collection carbon emissions by signposting residents to initiatives which focus on the higher priority stages of prevention, re-use and recycling, thereby reducing the quantity of material requiring collection.

Theme 5: Carbon and emissions reduction

The use of alternative fuels to decarbonise waste collections

Alternative fuels are sources of fuel that produce less carbon than conventional diesel fuel and include (but are not limited to) electric, hydrotreated vegetable oil (HVO) and biomethane. Their adoption enables RECAP authorities to advance net zero targets where they are a priority, improve air quality and deliver social value. RECAP councils are at different stages in reducing emissions from their RCV fleets, with many first adopting HVO. HVO is recognised as an interim step, cutting emissions while electric heavy vehicle technology and supporting grid infrastructure continue to develop. Furthermore, Biomethane, produced via anaerobic digestion of household food waste, offers a circular local solution.

Achievements in decarbonising waste fleet

Greater Cambridge Shared Waste Service (GCSWS)

The Greater Cambridge Shared Waste Service (GCSWS), a collaboration between Cambridge City and South Cambridgeshire District Councils, has been a pioneer in decarbonising its collection fleet, becoming the first RECAP authority to operate an electric refuse collection vehicle (ERCV) and now running four ERCVs alongside its electric vans. In July 2022, GCSWS introduced its first fully electric Faun Zoeller E-Rotopress vehicle, and the service plans to replace diesel RCVs with electric or alternative-fuel vehicles as they reach end-of-life. Ambitions include building an on-site RCV charging facility at the depot to convert half of the fleet to electric, supporting broader goals to reduce emissions and improve air quality.

Cambridgeshire and Peterborough recycles

Achievements in decarbonising waste fleet

Peterborough City Council

Peterborough performed a trial of using HVO across Peterborough Highways fleet. The trials began in 2019 and a full implementation occurred during 2021 and 2022. Since 2022, the use of HVO saved around 239 tonnes of carbon dioxide, stated in Peterborough's Roadmap to Net Zero. In the council's net zero plan it was stated that the use of HVO for all compatible vehicles will begin in 2030 once vehicles are in need of replacement.

In September 2023 the council procured 2 new 26-tonne electric vehicles for the RCV fleet. Peterborough City Council's contract with Viridor for the ERF facility could see the implementation of electric for their RCV vehicles.

Fenland District Council

Fenland has optimised routes and improved fuel efficiency of their diesel vehicles. Fuel usage for Fenland's RCV fleet has decreased by 20% despite number of properties increasing by 12%.

Fenland's priority for the upcoming food waste collections will be procuring RCVs which are HVO compatible; the district's rural geography and long collection routes make use of electric vehicles challenging with current available technology.

Huntingdonshire District Council

Between November 2023 - June 2024 Huntingdonshire undertook a trial testing the effectiveness of HVO in a range of vehicles, which included RCVs, vans, mowers and street sweepers. The trial was a collaboration with Cambridgeshire Fire and Rescue Service. Results showed that HVO was successful and had no impact on fuel consumption, power output and engine efficiency.

Resulting from the report, it was recommended that HVO be adopted across the Council's fleet. Reducing emissions from council owned fleet to be net zero by 2040 was identified as a priority action within travel and transport in Huntingdonshire's climate strategy.

Theme 5: Carbon and emissions reduction

Carbon and emissions reduction : Aims, objectives and actions

Noting the initial progress each local authority within RECAP has made on implementing alternative fuels, RECAP has further opportunities to decrease carbon emissions associated with waste collection through continued adoption of alternative fuels. Further emission reductions will be attained by optimising rounds and the availability and location of waste transfer infrastructure.

RECAP will continue to drive emission reductions into the treatment and disposal of waste by specifying low emission technologies and integrating the proximity principle when disposing of waste.

A waste strategy action plan has been developed to support the implementation of this strategy. The plan includes several objectives and actions for RECAP to progress the aims of this theme:

Aim 1: RECAP shall measure and reduce carbon emissions of its waste management services by developing robust assessment methods and tracking systems. Targeted strategies will be implemented to promote low-emission technologies and circular economy initiatives. Collaboration with stakeholders will drive sustainable waste solutions and behavioural change. RECAP will implement an effective and efficient services that aligns with the environmental objectives for each partner authority.

Figure 25: *Anaerobic Digestion Facility*

Theme 6: Commercial opportunities & innovation

Increasing the value derived from RECAP's waste materials

Within the waste sector commercial opportunities exist to generate additional revenues from the management and treatment of waste. A core principle of accessing these commercial opportunities is thinking of waste as a resource rather than a material requiring disposal. Behaviour change has a role to play in how communities view waste, as does valorising products produced from waste by following the circular economy principle of keeping materials and products in their highest possible state..

Commercial opportunities from waste have the potential to drive further change. Additional revenues can be invested back further to develop the quality of existing waste services and infrastructure and invest in behavioural change initiatives. Within this RRWS, the commercialisation of waste interlinks with the themes of the waste hierarchy, waste processing, waste collection, and behavioural change.

Commercial opportunities for recycling and recovery

The recycling and recovery stages of the waste hierarchy present a multitude of opportunities to generate additional revenues whilst supporting the environmental objectives of individual RECAP authorities. Within these stages is the principle of 'waste valorisation' where waste is transformed into high value resources which can be sold.

There are three main types of valorisation:

- Material valorisation; recovery of valuable materials from waste, such as metals, plastics, glass, etc. These can be recycled and reused to make new products. Example: Reuse shop and MRFs.
- Energy valorisation; converting waste into energy through a range of technologies: energy from waste, incineration, anaerobic digestion, carbon credits and sustainable aviation fuels
- Biological valorisation; converting organic waste (food and garden waste) into compost or fertilisers through technologies: In-Vessel composting, open windrow composting, anaerobic digestion.

Through these approaches, the enhanced revenues received for waste products can result in cost savings for RECAP through reduced gate fees. For example, a typical 2025 gate fee for landfill ranges from £146 to £156 per tonne; upcoming policy requirements such as providing a weekly food waste collection provides an opportunity for RECAP to send food waste to AD or IVC which gate fees ranging from £5 to £40. With food waste become segregated from the residual 'general' waste this will result in lower tonnages being sent to landfill or ERF providing cost savings for RECAP and allowing the opportunity to re-invest savings into service improvements.

Council owned infrastructure opportunities

The income and revenue generating opportunities associated with valorisation of waste may provide a commercial basis for RECAP to explore local authority owned infrastructure, such as the Sherborne recycling Case study presented in earlier sections of this strategy.

Theme 6: Commercial Opportunities & Innovations

Specific valorisation technologies that can be adopted to a greater extent by RECAP include:

- MRF – Kerbside collected recyclables such as paper, glass, plastic are collected and sorted into different categories and can be sold back to manufacturers to be made into new closed-loop products.
- EFW - Converting residual 'general' waste into energy by burning waste. Incinerated bottom ash (IBA) is produced and can be used in construction. Electricity is produced which can be supplied to the national grid.
- AD - Converting food and/or garden waste through biological treatment and can produce a PAS110 digestate, biogas and/or biomethane. Biogas can be used for heat and electricity or further refined to biomethane which can be used as gas or an alternative fuel.
- Open windrow composting and In-Vessel Composting – In-Vessel Composting can be used to sterilise food and garden waste co-mingled, which can then be placed in open windrows to form a PAS100 compost which can be sold to farmers or residents. Open windrows can compost garden waste without the initial IVC step to produce a PAS100 compost.

In making arrangement for waste treatment, RECAP shall work to drive these valorisation opportunities to access the variety of benefits.

Cambridgeshire and Peterborough recycles

Commercial opportunities driven by policy

The Environment Act 2021 introduces a deposit return scheme (DRS) which will commence October 2027 offering another potential income stream for local authorities. DEFRA's response to the consultation "*Introducing a Deposit Return Scheme for drinks containers in England, Wales and Northern Ireland*" suggests that it is likely that a relatively significant proportion waste materials (c. 10%) which are eligible for DRS payments will be collected in municipal waste streams.

Local authorities within RECAP can participate in the DRS by separating DRS eligible containers at MRFs and redeeming the deposit. LA's can also apply to the deposit management organisation (DMO) to become a voluntary return point and will receive handling fees from the DMO. These return points within RECAP can be placed at council-owned estates such as HWRC, bring bank sites, reuse shops, and other locations across the public realm.

Policy requirements to provide collections to businesses in the commercial and industrial sectors offer the prospect of additional commercial opportunities. By March 2025, all businesses and non-domestic premises are required to arrange for the collection of the core recyclables (plastic, metal, glass, paper and card), residual waste and food waste. By March 2027, this extends to micro-businesses with less than 10 employees and will require the collection of plastic films. Currently, this demand is being serviced by the Greater Cambridge shared waste service, Huntingdonshire District Council and Fenland District Council who collect DMR, residual waste and food waste. RECAP partners shall work to expand these services where commercial opportunities exist.

Theme 6: Commercial opportunities & innovations

Commercial opportunities & innovation: Aims, objectives and actions

A waste strategy action plan has been developed to support the implementation of this strategy. The plan includes several objectives and actions for RECAP to progress the aims of this theme:

Aim 1: RECAP will identify, assess, and maximise commercial opportunities in waste collection and processing. This partnership will explore innovative, cost-effective, and sustainable solutions to enhance service efficiency, generate revenue, and improve environmental outcomes, while ensuring compliance with regulatory frameworks and aligning with circular economy principles where possible.

Case study: deriving increased value for reuse and repair

The Renew Hub is a large-scale reuse project being undertaken by Suez recycling and recovery in partnership with the Greater Manchester Combined Authority (GMCA). The renew hub is more than 5000m2 and is the largest re-use operation in the UK.

From donation containers and 20 (HWRCs) in Greater Manchester, items such as furniture, toys, bikes, white goods, electrical and bespoke items have been donated to the renew hub. The hub has 4 distinct zones; the first zone receives items from HWRCs, checks the items, cleans them, and prepares to go to reuse shops. The second zone is the creative area, where workshops and pods are made; this focuses on repairing white goods and small electrical appliances, restoring and upcycling of furniture, and bicycle repair and maintenance. The pods are run in partnership with qualified organisations who train apprentices and volunteers. The third zone is the 'click and collect' area where bespoke and items of value are sold on Ebay. The fourth zone is an events area, where training, school visits, corporate events etc occur. Items from the reuse hub can then be resent to 3 HWRCs in Greater Manchester, with money raised going to local communities. As part of the partnership SUEZ has committed to donating £100,000 every year from the shops sales to the Greater Manchester Mayor's Charity on homelessness. This illustrates how the importance of strong public private partnerships in the circulation of waste as a resource, providing social value for residents and the local council whilst progressing waste reduction targets.

Theme 7: Data Capture, Recording, Monitoring and Reporting

A key theme within this strategy is the data capture monitoring, recording, and reporting of waste services provided by RECAP. Monitoring, recording and reporting are interlinked and are integral to RECAP maintaining and improving waste services.

A requirement to better understand wastes managed by RECAP at a time of change

A wide range of performance data will need to be monitored, recorded and reported to support continued service improvements. This includes data on the quantity of each waste stream and a significant increase in compositional analysis to support the implementation of extended producer responsibility and the waste emissions trading scheme. Data on downstream supply chains will support the validation of contractual arrangements, and waste collection round data on pass rates and missed bins shall support improvements in the efficiency and quality of services.

The Digital Waste Tracking commitment outlined in DEFRA's Resources and Waste Strategy 2018 requires WCAs to digitally record waste at the point it arrives at a permitted facility (e.g. WTS) and each site thereafter.

There are also opportunities to record and report non-statutory responsibilities of partners which include: recording the effectiveness of behavioural change initiatives, recycling schemes, traffic to council and RECAP's website, location of public resources and results of pilot programs which have commenced.

Cambridgeshire and Peterborough recycles

Monitoring, recording and reporting is vital to managing the effectiveness of the waste service, ensuring compliance with legislation, tracking progress to RECAP's waste targets and identifying risks in waste management infrastructure. The monitoring of data provides a platform for rapid decision making and short-term responses to challenges.

Behavioural change and waste hierarchy initiatives will be continuously monitored and reported to promote knowledge sharing among local authorities. With monitoring, an opportunity for RECAP is to set internal targets and key performance indicators (KPIs) for their waste services to improve accountability and operational efficiency.

RECAP will enhance its data reporting framework to provide greater insight in tracking RECAP's progress to reducing costs, waste and carbon reduction as well as compliance to waste legislation.

The reporting of data internally will allow RECAP to monitor the impact of its waste service and behavioural change initiatives, and data will be reported online via RECAP or local council's websites to improve transparency of waste services to the public. Reporting and monitoring within RECAP will continue to be within the four sub-groups of data, operations panel, marketing, and SCRAP, and will be reported regularly to the JWOG.

Theme 7: Data Capture, Recording, Monitoring and Reporting

An act underpinning the requirements of recording, monitoring and reporting is the Local Government Act 1999 legislation which outlines the framework for the governance of local authorities in England. This requires local authorities to show how it is delivering 'best value' in which services are delivered in an effective and efficient way. Accordingly, local authorities must demonstrate that arrangements are enabling continuous improvement in services.

Outcomes of good practice

Successful recording, monitoring and reporting will enable RECAP to assess progress towards the objectives and aims within this strategy. Additionally, it is crucial for ensuring transparency and accountability for RECAP. The following outcomes are to be expected:

- Utilisation of quantitative data to ensure effective decision-making, with sustainable waste management solutions delivered;
- Advancements within the wider waste management sector are reported and monitored;
- Recording and reporting of successful schemes across RECAP to promote good practice;
- Long-term and interim targets developed for key aspects of the waste service, i.e., recycling targets at HWRCs, reuse targets and % of waste diverted from landfill;
- Targets and waste data is easily accessible online for internally and the public

Cambridgeshire and Peterborough recycles

Next steps for RECAP

Aligning with RECAP's main theme of recording, monitoring and reporting the strategy aims to create a comprehensive framework to enable effective real-time decision making and collaboration between the local authorities in RECAP for an efficient and sustainable waste service. A waste strategy action plan has been developed to support the implementation of this strategy. The plan includes several objectives and actions for RECAP to progress the aims of this theme:

Aim 1: To promote knowledge sharing among local authorities by systematically recording, reporting, and disseminating insights on initiatives and innovations that advance principles of good practice in waste management. This includes aligning with RECAP's principles and the broader waste sector to improve efficiency, sustainability, and service delivery through collaboration and shared learning.

Aim 2: To utilise quantitative data to objectively measure progress against RECAP's collective aims and targets, ensuring data-driven decision-making, continuous improvement, and accountability in delivering effective and sustainable waste management solutions.

Aim 3: To understand how internal and external factors influence key performance indicators such as waste composition, mass of each waste stream, and associated Reuse, Recycling, Recovery and Disposal rates attained by RECAP authorities..

Theme 8: Strategy application, review & governance

The final theme of this strategy is to apply the RRWS progress towards the aims set out in this strategy, and to deliver on the tasks and sub-tasks outlined in the accompanying action plan. Successful implementation of the RRWS will allow RECAP to make progress against each theme within this strategy and shall create a waste service which aligns with good practice for waste collection, processing and behavioural change.

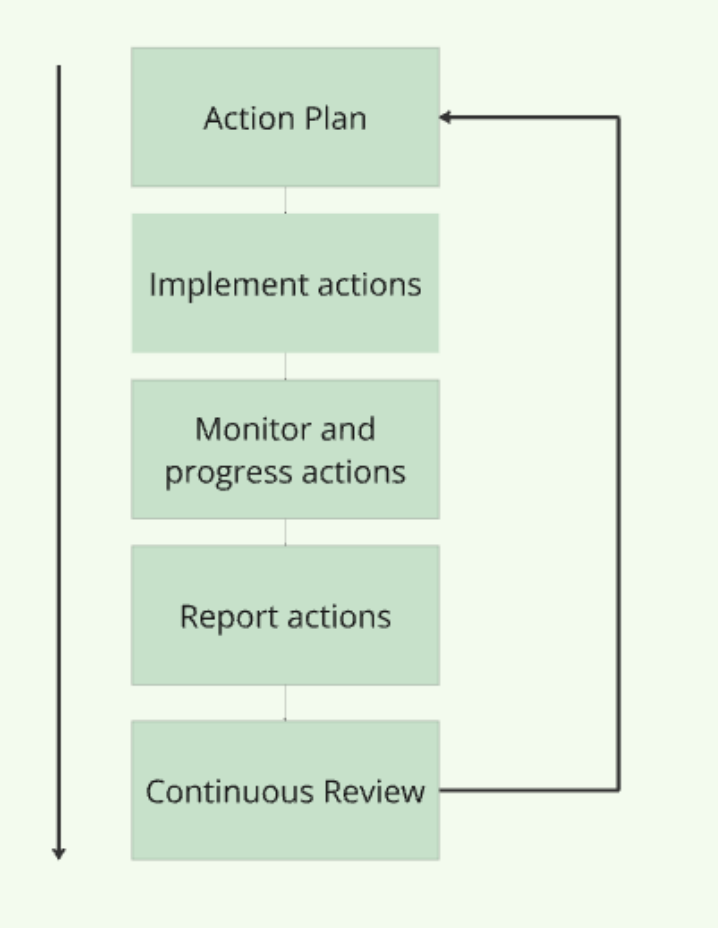
The RRWS will be implemented using the accompanying strategy action plan, which will be continuously reviewed by RECAP partners and marked as 'achieved' 'in progress' or 'planned'.

The RRWS is a live document and will be reviewed annually against changes or updates to policy and legislation, ensuring the strategy remains relevant and effective. Changes will be reviewed and the updated RRWS will be clearly signposted on RECAP and local councils' websites.

Next steps for RECAP

A waste strategy action plan has been developed to support the implementation of this strategy. The plan includes several objectives and actions for RECAP to progress the aims of this theme:

Aim 1: To ensure the continued relevance, responsiveness, and effectiveness of the Waste Strategy and its associated action plan throughout the strategy period by regularly reviewing and updating objectives, actions, and performance indicators. This will involve staying aligned with emerging policy developments, technological advancements, and best practices in waste management.



Cambridgeshire and Peterborough recycles

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