Local Authority Collected Waste Spatial Strategy

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Hertfordshire

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1.0 Executive Summary

1.1 The Hertfordshire Local Authority Collected Waste (LACW) Spatial Strategy sets out an assessment of desirable new and improved waste management facilities required in the county over the period to 2031 to better enable the sustainable management and disposal of LACW.

1.2 In Hertfordshire LACW is managed by the Waste Collection Authorities (WCAs), which represent the 10 districts and boroughs and are responsible for collecting waste and materials from households and businesses, and Hertfordshire County Council as the Waste Disposal Authority (WDA), responsible for managing the Recycling Centre (RCs) network, waste transfer stations and the end treatment and disposal of LACW. The WCAs and WDA together constitute the Hertfordshire Waste Partnership (HWP).

1.3 Hertfordshire County Council as the WDA aims to provide a cost-effective and efficient service for the compliant treatment of waste arising in Hertfordshire whilst contributing to the Sustainable Hertfordshire Strategy in response to the Council's 2019 Climate Change Emergency declaration. Future developments will need to be robust but flexible to accommodate changes in arrangements, waste volumes and waste composition and will be developed with consideration of the environmental implications as well as the reasonable expectations of partner authorities and residents in the County.

1.4 This updated spatial strategy is based on 2019/20 data as the most complete set available and precedes the outbreak of the Covid 19 pandemic. Initial data from 2020/21 identifies that changes brought about by the pandemic, including the requirement to work from home and the furloughing of employees, led to an increase in waste collected at the kerbside and at the RCs. A potential long-term outcome of the pandemic is an increase in home working which could result in increased volumes of LACW going forward.

1.5 The Government's Environment Bill and Resources and Waste Strategy (RWS) 2018 sets out several ambitious proposals. These are designed to reduce the amount of

waste created, increase recycling and enable waste to be managed more effectively. The strategy proposes a national 65% recycling rate for municipal solid waste at 2035 delivered through Extended Producer Responsibility, Deposit Return Schemes and the Government's consistency agenda designed to equalise and improve the range of recyclables and organics collected across the country. These requirements could have far reaching effects on the type of waste collected by local authorities and the infrastructure required to ensure waste is managed most efficiently.

1.6 Population growth could see an additional 175,000 people living in Hertfordshire by 2031. Robust infrastructure is needed to enable sustainable population growth and an increase in waste management capacity is required to effectively manage the resulting waste.

1.7 Figure 1 on page 10 and Table 1 below highlights how LACW in Hertfordshire has changed from 2009/10 to 2019/20. Overall arisings have decreased during this period primarily due to a reduction in residual waste, although dry-recycling and reuse have increased with Organics remaining relatively unchanged. The reduction in total arisings is primarily due to changes in collection services offered by the WCAs, e.g. reduced receptacle size or frequency of collections, alongside greater awareness and behavioural change on waste matters. However, future gains will be more difficult to achieve and will require investment in services and infrastructure.

Table 1. Changes in waste and material types from 2009/10 to 2019/20

Waste/Material Type	2009/10	2019/20	Change %
Residual	326,915	237,498	-37.6
Recyclables and Reused	124,628	151,131	+17.5
Organic	116,310	115,820	-0.4
Total arisings	567,853	504,449	-12.6

1.8 Consideration of the existing arrangements for waste management highlights a need for improved infrastructure to sustain service delivery, to meet the challenges identified above, mitigate the increasing costs of waste transfer and treatment, provide resilience in service provision and further improve performance. Future arrangements will need to include facilities that are appropriately sized and capable of managing fluctuations in waste composition and volume. An improved network of infrastructure is necessary to manage waste efficiently and effectively for the future.

1.9 Key report findings:

1.9.1 The requirement to develop two Waste Transfer Stations (WTS), one to serve the North of the county and one to serve the East of the county. Following the Secretary of State's decision not to grant planning permission for an Energy Recovery Facility (ERF) in Hertfordshire the procurement of long-term (10 to 15 years duration) residual waste treatment/disposal contracts was agreed by the Council's Cabinet in May 2020. A network of WTSs would enable proximate bulking and the further segregation of waste types potentially required by future RWS legislation. Once waste types are segregated, they can be sent to specialist treatment facilities for processing/treatment and/or disposal using the most economically viable option.

1.9.2 The requirement to invest in the Waterdale WTS. This strategically important facility handles a highly significant amount of Hertfordshire's residual waste (57%). As the availability of proximate disposal facilities has decreased greater reliance has been placed on this transfer station, and this combined with the need to segregate bulky waste to ensure the most cost-effective disposal routes, has placed additional strain on this important facility. The Waterdale WTS has significant potential for short, medium and long-term improvements that would substantially improve the resilience of the network and develop Hertfordshire's ability to sustainably manage its waste.

1.9.3 The preference to co-locate waste management facilities. The co-location of WTSs with facilities such as WCA depots and/or RCs such the new Welwyn Garden City Recycling Centre and depot which is being jointly developed with Welwyn Hatfield Borough Council. Co-location provides better value for money when developing sites

and an opportunity to offer service delivery benefits such as decreased travel for collection vehicles if depots are combined with transfer facilities.

1.9.4 Increased provision of privately operated Materials Recycling Facilities (MRFs) within Hertfordshire and consideration to be given to the development of a WDA/WCA owned facility once the impact of the RWS is known. The WDA considers that increased provision of privately operated MRF(s) within Hertfordshire would increase competition and reduce the WDA and WCAs reliance on a single service provider. Alternatively, more assurance and secure arrangements could be provided through the development of a WDA and/or WCA owned MRF within Hertfordshire. However, further certainty about the impact of the RWS is required before such need can be assessed. Further information in this regard is expected towards the end of 2021.

1.9.5 Behavioral change campaigns. Waste compositional analysis conducted in late 2020 (see Appendix 2) identified that 36% (81,266 tonnes) of waste placed into residual bins at the kerbside, could have been recycled, 52,000 tonnes of which is food waste. At RCs 45% of waste deposited in the residual waste stream could have been placed into alternative collection points within the RC. This shows there is significant potential to reduce the quantity of residual waste being produced. A 100% capture rate of the core set of recyclable materials in the residual waste bin would increase the total recycling rate in Hertfordshire from 52.3% to 69.3%. The role of the HWP is important in this regard and reductions in recyclables in the residual waste can be achieved by for example increasing funding for behavioral change campaigns, reducing receptacle sizes and/or less frequent collections for residual LACW. Further work is required with the HWP to identify whole system costs.

1.9.6 A strategic network of improved Recycling Centres (RCs). The current network of 17 RCs is largely not expected to be fit for purpose and/or be capable of sustaining service delivery for the plan period as detailed in the Recycling Centre Annex to the LACW Spatial Strategy published in 2019 (click here for link). The existing operation suggests that an improved network of more fit-for-purpose and strategically located RCs, designed to serve larger catchment areas, could provide a more effective and efficient service. The RCs should be easy to travel to, be larger and more flexible

than the existing centres, enable increased segregation of waste types and provide an improved customer experience including meeting improved reuse ambitions. Alongside these requirements it is imperative that all future developments to the network of facilities are mindful of the Council's Sustainable Hertfordshire Action Plan in response to the Climate Change Emergency that was declared in 2019.

2.0 Introduction and purpose

2.1 The Hertfordshire County Council (HCC) Local Authority Collected Waste (LACW) Spatial Strategy has been prepared by the Waste Disposal Authority (WDA). It is a 'live' document and will be periodically reviewed and updated to reflect influencing factors that affect the composition and total volume of LACW in Hertfordshire. Influencing factors include population and housing growth within Hertfordshire, the strength of the economy, waste legislation and local and national waste management policies (at Appendix 1). This strategy updates that which was published in 2016 and is supplemented by the Recycling Centre Annex to the LACW Spatial Strategy published in 2019 *(click here for link)*.

2.2 The Waste Collection Authorities (WCA), which represents the 10 districts and boroughs in Hertfordshire are responsible for collecting waste and materials from households and businesses. HCC represents the Waste Disposal Authority (WDA), responsible for managing the Recycling Centre (RCs) network, waste transfer stations and the end treatment and disposal of LACW.

2.3 Under Section 30(2)(a) of the Environmental Protection Act 1990, HCC is required to perform the statutory functions of the WDA for Hertfordshire. As WDA, the county council is responsible for the treatment and/or disposal of LACW arising in the county.

2.4 This document sets out an assessment of desirable new and improved waste management facilities required in the county over the period to 2031 to better enable the sustainable management and disposal of LACW.

2.5 When identifying waste management requirements, a holistic view of the LACW management process has been considered, taking into consideration the separate roles of the WDA and WCAs.

2.6 The spatial strategy is set out by material stream i.e. residual, dry recycling and organic with each stream considered to require differing solutions to provide appropriate infrastructure and arrangements.

2.7 It should be recognised that the WDA operates within changeable parameters. Projected population growth, applicable waste legislation; local and national policies and known changes to WCA services have all been considered.

2.8 This strategy does not represent a formal policy position but seeks to provide context and direction for relevant decision makers when considering the activities and functions of the WDA. It is not a prescriptive document or a rigid blueprint for future service planning but instead sets out an informed and up to date vision of the infrastructure considered by the WDA to be required in Hertfordshire to provide a deliverable, effective and efficient 'waste network'.

3.2 Local Authority Collected Waste (LACW)

2.8.1 LACW is defined as all waste collected by the local authority including commercial and industrial waste.

2.8.2 Hertfordshire's LACW is typically made up of the following types of waste:

- Household waste collected by the ten Borough and District Councils as the WCAs for Hertfordshire.
- Commercial and industrial waste collected in association with the above.
- Waste collected at the county's RCs.
- Specialised forms of LACW waste e.g. street sweepings, clinical waste, asbestos and chemicals

2.8.3 It should be noted that, whilst there are currently no performance targets for local authorities, the Environment Bill expected in 2021 will, however, set out new requirements for local authorities, including enacting aspects of the RWS 2018. As set out within Appendix 1, these National targets, although still uncertain, will be a significant increase on the previous National target of 50% by 2020 and be dependent on a number of factors such as the future makeup and consequent impact of a Deposit Return Scheme, Local Authority Collection Consistency and the Extended Producer Responsibility framework. It is a statutory requirement to report performance through Waste Data Flow and this requirement is expected to be maintained in the future.

2.8.4 Unless otherwise indicated, all figures in this report relate to LACW and its component parts.

3.3 Vision Statement

2.9 Hertfordshire County Council as the Waste Disposal Authority aims to provide a cost-effective and efficient service for the compliant treatment of waste arising in Hertfordshire whilst contributing to the Sustainable Hertfordshire Strategy in response to the Council's 2019 Climate Change Emergency declaration. Future developments will need to be robust but flexible to accommodate changes in arrangements, waste volumes and waste composition and will be developed with consideration of the environmental implications as well as the reasonable expectations of partner authorities and residents in the County.

3.0 Residual waste

3.1 Summary

The amount of residual waste has fallen gradually since 2009/10 from 56% of all LACW to 48% in 2019/20 representing 237,498 tonnes due to changes in collection services and increased awareness of waste matters. In 2019/20, 77,414 Tonnes were sent for disposal at one of two landfills and 160,084 tonnes were sent to one of four Energy Recovery Facilities (ERF).

In 2019/20, 84% of the residual LACW in Hertfordshire was exported out of the County. Post 2020, following the closure of Westmill landfill site, 100% of Hertfordshire LACW will be disposed of outside of Hertfordshire attracting significant transfer and haulage costs.

Following the Secretary of State's decision not to grant planning permission for an ERF the procurement of long-term (10 to 15 years duration) residual waste treatment/disposal contracts was agreed by the Council's Cabinet. The cost effectiveness of this solution is dependent on a strong and strategically located network of WTSs.

In 2019/20, 57% of Hertfordshire's residual waste was transferred via Waterdale Transfer Station, a further 10% was sent via The Hitchin Transfer Station and the remaining 33% was transferred directly to disposal facilities. This high dependency on one transfer station demonstrates the need to both expand the transfer station network by developing two more WTS sites, one to serve the North of the county and one to serve the East of the county, and to maximise the potential of the Waterdale Transfer Station to ensure it is able to cope with future demands.

3.4 Introduction

3.4.1 Residual waste comprises of the waste left over after materials have been separated for reuse, recycling and organic waste treatment. Figure 1 demonstrates that in the past 10 years the amount of residual waste has gradually but not substantially decreased despite an increase in population. The benefit of Government initiatives such as landfill tax, which incentivised investment in recycling, have now largely been realised and the amount of residual waste being generated has mainly plateaued.

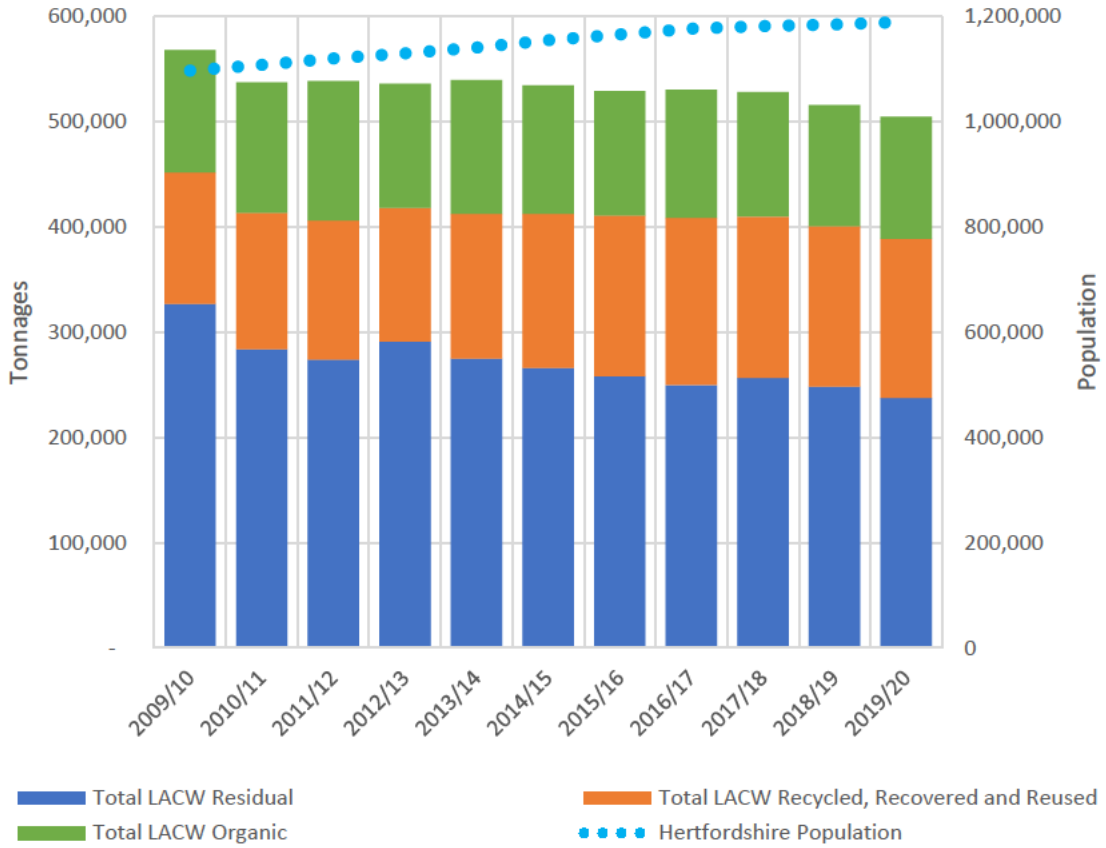


Figure 1: Total Local Authority Collected Waste

3.4.2 The Government's RWS 2018 sets out several proposals. These are designed to reduce the amount of waste created, increase recycling and enable waste to be managed more effectively, see Appendix 1 for further details.

3.4.3 Residual waste in Hertfordshire is primarily disposed of using two methods: Energy Recovery (ERF) and Landfill. The total amount of residual LACW in 2019/20 was 237,498 tonnes. The use of ERFs as a method of disposing of Hertfordshire's residual waste has increased in recent years as regional facilities have been developed and available landfill capacity has reduced. Although, there currently remains a need to utilise some landfill capacity for items unsuitable for current ERFs, such as mattresses and bulky waste or when the contracted ERFs are unavailable, for example, during periods of planned or unplanned maintenance.

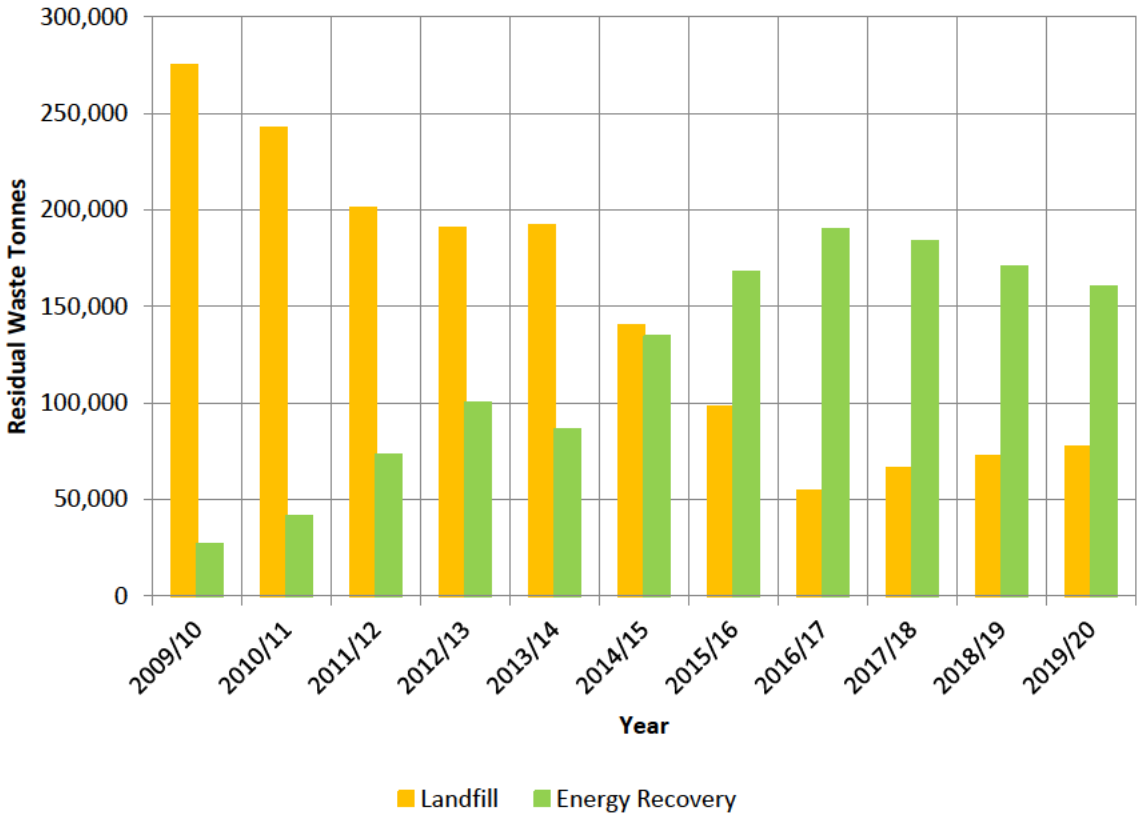


Figure 2: LACW sent to landfill and ERFs

3.4.4 The proportion of residual LACW sent to landfill and to ERFs over a 10-year period, from April 2010 to March 2020 has changed considerably as shown in Figure 2. This is due to a reduction in landfill capacity close to Hertfordshire and the procurement of regional disposal contracts with ERFs. While the majority of residual LACW is disposed of using Energy Recovery, in recent years there has been an increase in residual LACW sent to landfill.

3.5 Current disposal provision

3.5.1 The arrangements listed in Table 2 and shown in Figure 3 rely on a range of waste transfer facilities which facilitate WCAs and the WDA to deliver their waste within a reasonable distance for onward bulk transportation to landfill sites and ERFs. Only one WCA directly delivers residual waste and this is to an ERF at Edmonton.

Table 2. Current disposal arrangements are in place with the following facilities up to the end of *March 2024*:

Landfill	Energy Recovery Facility
Bletchley, Buckinghamshire	Ardley, Oxfordshire
Springfield, Buckinghamshire (from April 2021)	Edmonton, London
	Greatmoor, Buckinghamshire
	Rookery, Bedfordshire (from June 2021)

3.6 Landfill sites

3.6.1 In 2019/20, 77,414 tonnes (15%) of all LACW was principally disposed of at two landfill sites, see Table 3 below. In addition to facilities procured by the WDA (listed below) other facilities were used by contracted suppliers for the disposal of non-recyclable residues. However, post 2020, Westmill landfill in Ware is no longer accepting waste and is in the process of capping the landfill.

Table 3: LACW sent to landfill sites

Site	Tonnes
Bletchley, Buckinghamshire	38,758
Westmill, Ware, Hertfordshire	38,656
Total	**77,414**

3.7 Energy Recovery Facilities (ERFs)

3.7.1 In 2019/20, 160,084 tonnes (31.4%) of all LACW was disposed of at ERFs, see Table 4 below. In addition to facilities procured by the WDA (listed below) other facilities outside of Hertfordshire were also used to dispose of clinical and chemical wastes.

3.7.2 The information from Tables 3 and 4 shows that in 2019/20 84% of the residual LACW in Hertfordshire was exported out of the County attracting significant transfer and haulage costs. Post 2020, following the closure of Westmill landfill, 100% of Hertfordshire residual waste will be disposed of outside of Hertfordshire resulting in significant additional transportation costs.

Table 4: LACW sent to Energy Recovery Facilities

Site	Tonnes
Ardley, Oxfordshire	72,206
Edmonton, North London	30,659
Greatmoor, Buckinghamshire	54,889
Lakeside, Buckinghamshire	2,330
Total	**160,084**

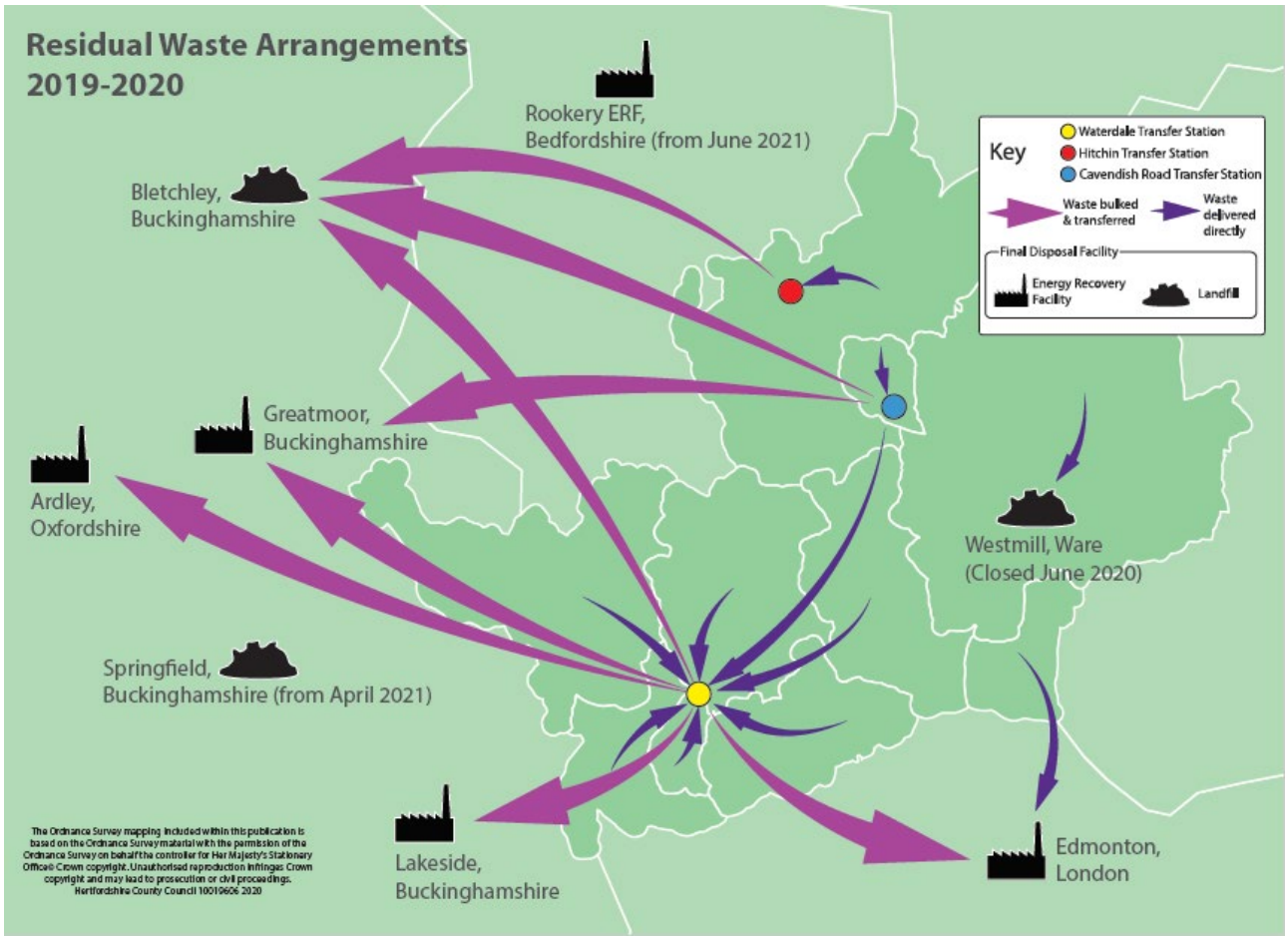


Figure 3: Residual waste disposal routes

3.8 Future residual waste disposal

3.8.1 Since 2009 the WDA had sought to secure a long-term residual waste contract with Veolia ES Hertfordshire Limited for the provision of an ERF within Hertfordshire. Following the Secretary of State's decision to refuse planning permission for an ERF at Hoddesdon in 2019 the contract with VES was terminated.

3.8.2 In May 2020 the procurement of long-term (10 to 15 years duration) residual waste treatment/disposal contracts were agreed by Cabinet. This means the WDA will be reliant on regional, or potentially national, treatment and disposal facilities depending on available capacity and cost with competition for the use of facilities from other

authorities and waste management companies. To facilitate a solution, it will be necessary to have a robust network of WTSs. Currently there are very few options for bulking residual waste within the county. The county council owns one WTS, Waterdale, and leases a small area of land from North Hertfordshire District Council in the north of the county (Hitchin WTS – also known as Bury Mead Road WTS).

3.8.3 Disposal contracts initially put in place to bridge the gap between existing contracts and the opening of a new ERF for Hertfordshire came into force on 29 March 2021 for a period of two years (plus potential extension). These contracts will be replaced by the longer-term contracts noted in 3.6.2 but these have highlighted issues with the composition of the residual LACW that is accepted at regional facilities. The facility proposed by Veolia as a long-term solution for Hertfordshire's waste included a shredding facility to deal with bulky waste. However, the regional facilities available to Hertfordshire do not have this capacity or attract higher gate fees for processing bulky wastes and therefore the waste will need to be shredded at the WTS or sent to contracted facilities at a higher rate. Proposals for shredding waste at the WTS are progressing but are not expected to be available until 2022/23 and therefore more waste will go to landfill in the interim period.

3.8.4 In accordance with the Council's Sustainability Action Plan, the tendering opportunity for longer term contracts (in 3.6.2) will prevent the use of landfill as a direct route for treatment of Hertfordshire's residual LACW.

3.9 Waste Transfer Facilities

3.9.1 Waste transfer facilities act as bulking sites for waste and facilitate a higher efficiency of transfers by transporting the materials in large capacity vehicles.

3.9.2 Table 5. shows the significant dependency on the WTS handling 57% of Hertfordshire's residual waste. The remaining 32% not included in this table is from waste sent directly to the disposal facilities or transferred from district or borough council depots as an interim measure pending delivery of a more resilient and purpose-built network of WDA provided WTSs.

Table 5. Hertfordshire's Waste Transfer Stations

Waste Transfer Station	Residual Tonnages	Percentage of residual LACW
Waterdale	136,049	57.28%
Hitchin	25,644	10.80%

3.9.3 Waterdale Waste Transfer Station

3.9.3.1 Residual LACW generated in the Southern, Western and Central parts of the county (Dacorum, Hertsmere, St Albans, Watford, Welwyn Hatfield and Three Rivers district and borough councils) is currently directed to the county council's WTS at Waterdale, North Watford.

3.9.3.2 The Waterdale WTS was built in 1982, is owned by the county council and is currently operated under contract by FCC Environment until 2026. In 2019/20, it received 157,894 tonnes of LACW.

3.9.3.3 In addition to kerbside collected residual waste the Waterdale WTS (as shown in Figure 4) currently receives residual waste regularly from 15 of the county's RCs. The facility is also used to bulk co-mingled recycling (recyclable waste collected at the kerbside within a single container) collected by two WCAs, street sweepings collected by three WCAs and clinical waste collected by all ten of the WCAs.

3.9.3.4 The input of waste and the associated vehicle movements places significant pressure on the WTS which does result in queuing back onto the main road network at peak times. There is very little room for manoeuvre at the WTS with any small issue having a significant impact on queuing and on the road network.

3.9.3.5 Concerns have also been expressed by the Environment Agency regarding the size of the waste piles in the transfer station building and the potential for fires. Whilst the WTS has a comprehensive Fire Prevention Plan and extensive mitigation measures in place, options to expand the facility and redirect wastes elsewhere to reduce volumes are considered a priority.

3.9.3.6 As housing growth continues within Hertfordshire the amount of waste requiring bulking prior to treatment/disposal will also increase. This coupled with the need to further segregate waste types to enable their efficient processing/recycling and the need to resolve the issues noted above means that an increase in strategically placed bulking capacity is required.

3.9.3.7 This increase in capacity will also mitigate the current dependency on Waterdale WTS for 57% of Hertfordshire's residual LACW, which is less than ideal in business continuity and resilience terms.

3.9.3.8 To reduce pressures on the Waterdale WTS, short, medium and long-term solutions are being explored.

3.9.3.9 Since April 2021, residual waste material has been transferred from waste collection vehicles to bulk haulage vehicles for transportation to Bletchley Landfill and Springfield Landfill, Buckinghamshire and ERFs at Ardley in Oxfordshire and Greatmoor in Buckinghamshire (Rookery Pit ERF in Bedfordshire is expected to be available from June 2021). The collection of co-mingled recycling is coordinated by the WCAs contractor, Pearce Recycling based in St Albans. Street sweepings are collected for reprocessing by Invixon in Cambridgeshire. Clinical waste is collected by Novus Environmental and sent to Royston for processing.

Figure 4. Residual waste tipping hall at Waterdale Waste Transfer Station

3.9.4 Hitchin Waste Transfer Station

3.9.4.1 The Hitchin Waste Transfer Station as shown in Figure 5. is used to transfer residual LACW from North Hertfordshire. The site is owned by North Hertfordshire District Council and is operated by FCC Environment under contract to the WDA until 2026. The site handled 25,644 tonnes of Hertfordshire's residual LACW in 2019/20. This waste is transferred to bulk haulage vehicles for transportation to the Greatmoor or Ardley ERF and Bletchley Landfill. 1,333 tonnes of street sweepings were also bulked at this site ready for collection and reprocessing by Invixon in Cambridgeshire.

3.9.4.2 The site is not purpose built for waste transfer and is very basic. The site has limited capacity and is not capable of accommodating future waste growth. The restrictive nature of the site also prohibits the separate bulking of waste materials and the local road network is a prohibitive factor against expansion.

Figure 5. Bury Mead Road Hitchin Waste Transfer Station

3.9.4.3 As the site is owned by North Hertfordshire District Council its continued availability is not assured and a more fit for purpose facility that can serve North Herts District Council and Stevenage Borough Council who currently transfer from their own collection depot is required.

3.9.5 Eastern Transfer Station

3.9.5.1 The proposed location of an Eastern transfer station as shown in Plan 3, is co-located with the new Ware Recycling Centre close to the junction of the A10 / A602. A WTS in the East of Hertfordshire with an approximate max capacity of 100,000 tonnes would reduce the dependency upon the Waterdale WTS. This facility would have the capacity to bulk transfer residual, organic and recyclable waste streams and would be powered by landfill gas generation from the neighbouring Westmill landfill site, now closed for the acceptance of 'active' wastes.

3.10 WCA depot facilities

3.10.1 Plan 1 identifies the location of existing WCA depots in the county and the Waterdale and Hitchin WTSs. Both Stevenage and East Herts WCAs currently have capacity at

their depots to bulk residual waste which is collected by bulk haulage vehicles. Broxbourne, Dacorum, St Albans and Welwyn Hatfield WCAs have bulking capacity at their depots for waste types such as street sweepings.

3.11 Private (commercial or 'merchant') facilities

Private waste bulking and transfer facilities within the county are very limited. The long-term residual waste solution and the requirement for WCAs to travel a reasonable time to a point of treatment/disposal highlights the need for additional bulking and transfer facilities.

3.10 Residual Waste Projections 2031

3.10.1 Three models have been used to project recycling levels until 2031:

a) Current level of recycling with household growth of 9.4% from 2019/20 to 2030/31
b) Achievement of a 60% recycling rate by 2030/31 (sensitivity test)
c) Proposals for a national recycling rate target of 65%

3.10.2 The impact of these projected recycling rates on residual LACW in Hertfordshire over the period to 2031 is shown in Figure 6. Standard waste growth projections based on household growth suggest an increase in residual waste of 10% between 2019/20 to 2030/31, an increase of 23,718 tonnes.

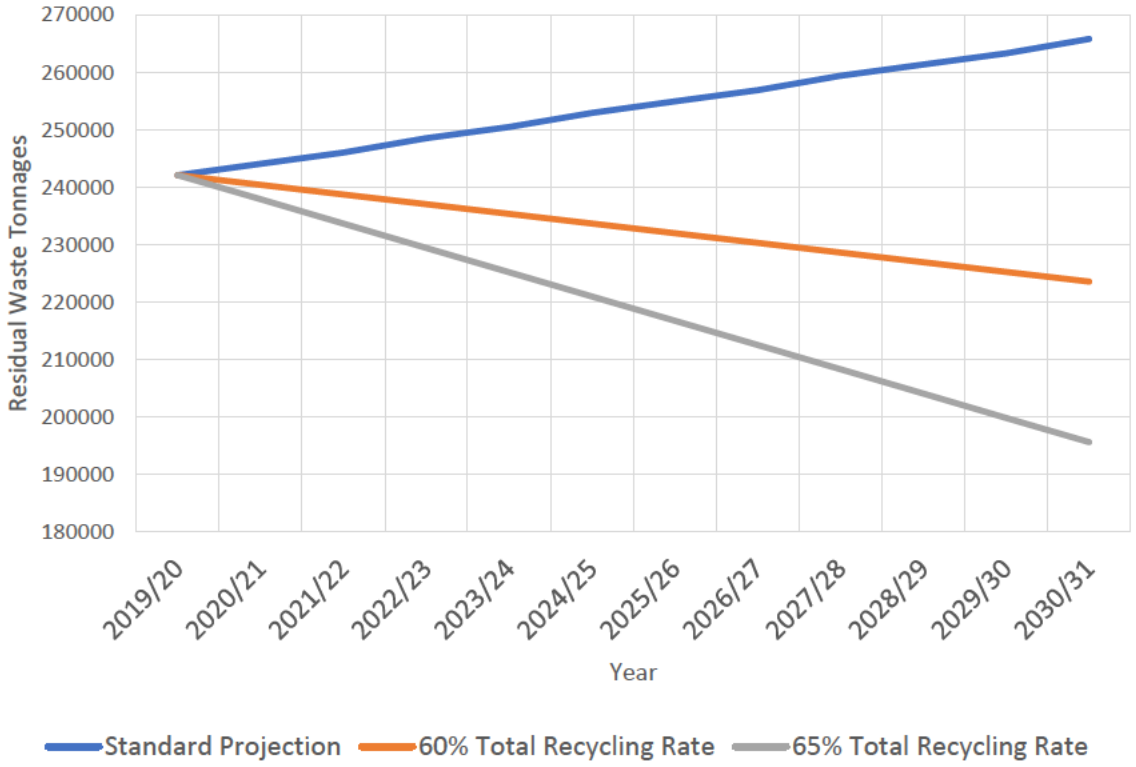


Figure 6. Projected residual waste tonnages growth to 2031

3.10.2 A simple sensitivity test which assumes that the amount of recycled, reused and composted LACW will linearly increase to 60% and residual LACW will decrease to 40% of the total LACW by 2031 confirms that the volume of residual LACW at 2030/31 would remain significant in the region 223,589 tonnes.

3.10.3 The RWS 2018 proposes a national 65% recycling rate for municipal solid waste at 2035. Applying a 65% recycling, reuse and composting rate for LACW is still projected to result in 195,640 tonnes of residual LACW by 2031.

3.10.4 As is shown by Figure 7, the percentage of residual LACW has fallen gradually from 56% to 48% of all waste received. This may in part be due to comprehensive services already being in place across the County. It is hoped that proposals in the RWS 2018 for Extended Producer Responsibility (EPR), Deposit Return Schemes (DRS), and greater consistency among collection authorities will reduce this figure further.

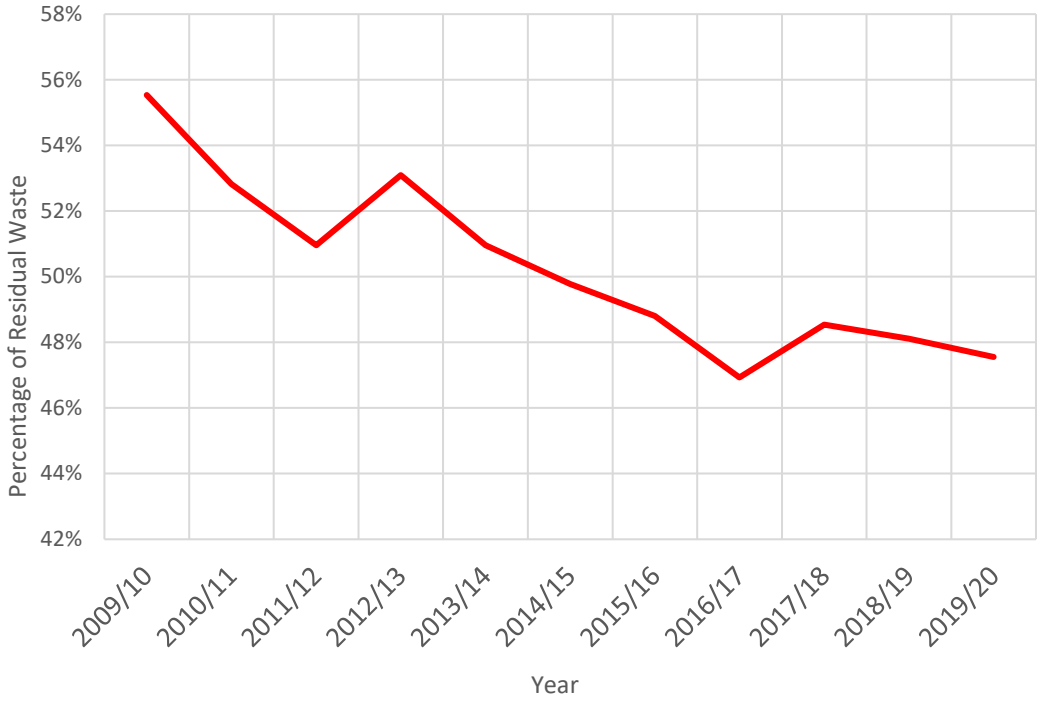


Figure 7: Residual LACW as a percentage of all LACW

3.10.5 Although the challenge of further separation is acknowledged, waste compositional analysis in 2020/21 (see Appendix 2) identified that 36% (81,266 tonnes) of waste was placed into residual bins at the kerbside which could have been recycled, 52,000 tonnes of which is food waste. At RCs 45% of waste deposited in the residual waste stream could have been placed into alternative collection points within the RC. This shows there is significant potential to reduce the quantity of residual waste being produced. The role of the HWP is important in this regard and reductions in recyclables in the residual waste can be achieved by for example increasing funding for behavioural change campaigns, reducing receptacle sizes and/or less frequent collections for residual LACW.

3.11 Residual waste infrastructure requirements

3.11.1 There are no privately owned facilities available for the treatment/disposal of residual LACW within Hertfordshire. Following closure of the Westmill Landfill Site and the Secretary of State's decision to refuse planning permission for an ERF at Hoddesdon all of Hertfordshire's residual LACW will be treated/disposed of outside of the county.

3.11.2 This means the WDA is currently reliant on regional, or potentially national, treatment and disposal facilities depending on available capacity and cost.

3.11.3 The WDA has a statutory power to direct WCAs to whatever point of disposal the WDA has arranged for all waste types. Theoretically this means that WCAs could be asked by the WDA to deliver their residual LACW directly to any given waste disposal facility or WTS. However, the WDA would need to make a 'reasonable' payment to the WCAs and therefore, the distance to a waste disposal facility or WTS is important for both tier authorities in Hertfordshire.

3.11.4 Following the Secretary of State's decision not to grant planning permission for an ERF it was agreed by the Council's Cabinet in May 2020 that a procurement of long-term (10 to 15 years duration) residual waste treatment/disposal contracts would be offered to the market.

3.11.5 As current (and likely future) residual disposal facilities are predominantly too far for the direct delivery of residual waste the WDA requires the provision of a network of strategically located WTSs to transfer the waste.

3.11.6 When identifying a preferred location for provision of a network of WTS to serve Hertfordshire, three strategic locations within the county were identified. The locations took into account the cost of development, the availability of suitable land and travel times with the preferred locations being close to the major road network and accessible to WCA vehicles from all 10 WCAs.

- Land in the vicinity of the M1 / A405 junction in the west of the county.
- Land in the vicinity of the A10 / A602 junction in the east of the county.
- Land in the vicinity of the A1 / A505 junction in the north of the county.

3.11.7 The existing Waterdale WTS is located next to the M1 / A405 junction in the west of the county, as shown in Plan 1, is a strategically important facility and as such is safeguarded and allocated within the adopted Waste Local Plan. Maximising the potential of this facility to ensure it is able to cope with future demands is a key consideration of the WDA.

3.11.8 An area of Council owned land adjacent to the Ware RC and close to the A10 / A602 junction (see Plan 3) has been identified for the provision of a WTS in the eastern part of the county to serve Broxbourne Borough Council, East Herts Council and potentially Welwyn Hatfield District Council. The facility is currently in the design phase and a planning application is expected to be submitted in autumn 2021.

3.11.9 Provision of a WTS in the northern part of the county to serve North Hertfordshire District Council and Stevenage Borough Council with capacity of at least 100,000 tonnes could be delivered on Council owned land in the vicinity of the A1 / A505 junction, see Plan 3. The WDA considers the Hitchin WTS to be unsuitable for development as the site is constrained by its size and layout. Also, increased operations at the site may impact the local highway and the safe operation of the site.

3.11.10 All of the county's major centres of population lie within approximately 20 minutes' drive time of at least one of the three strategic locations (see plan 2a). Through providing WTSs facilities in strategic locations that are no more than 20 minutes' drive time from the county's main population centres, waste collection vehicles will not have to spend more than an hour delivering their load to a WTS (assuming a 20 minute drive there and back plus 20 minutes 'tipping time' at the facility). Provision of WTSs enable collection vehicles to spend the majority of their working day on their rounds rather than travelling to and from a waste treatment/transfer facility, thereby enabling more efficient waste collection rounds and reduce the environmental and financial impact on Hertfordshire taxpayers of transporting waste.

3.11.11 The whole of Hertfordshire except for the most Western tip and a considerable amount of the surrounding area of neighbouring Counties are covered by a 30-minute journey time, see Plan 2b. This considerably reduces the amount of time taken to travel to the out of county waste treatment and disposal solutions that Hertfordshire is largely dependent on.

3.11.12 Whilst the 20 and 30 minutes can only be a 'rule of thumb' in this respect, it generally accords with the distances travelled by those WCAs and haulage companies that travel to and from the proposed WTS network.

3.11.13 In line with the Waste Local Plans, this spatial strategy promotes the co-location of WCA depots, WDA transfer facilities and RCs. Co-location could offer service delivery benefits such as decreased travel for refuse collection vehicles and better value for money when developing a site. Current co-location opportunities include: A WTS facility and RC to serve the north of the county potentially co-located with a new depot for North Hertfordshire District Council.

3.11.14 The LACW spatial strategy reflects the specific needs of Hertfordshire. In developing the spatial strategy, the WDA has considered a wide range of government guidance and information.

3.11.15 The National Planning Policy for Waste 2014 states that positive planning plays a pivotal role in delivering the county's waste ambitions through ensuring that waste management is considered alongside other spatial planning concerns, such as housing and transport. Sites within Hertfordshire have been safeguarded for the management of waste within the Minerals and Waste Development framework for Hertfordshire, although the size and location of identified sites may not lend themselves to the development of an efficient and strategic waste management network. It is recognised that the predominantly residential and light industrial nature of development within the county combined with limited availability of land not allocated as Green Belt within district and borough Local Development Plans presents challenges in identifying waste management sites.

4.0 Dry-recycling and reused materials

4.1 Summary

The amount of dry-recycling and reused materials has increased to 29.5% of all LACW in 2019/2020, combined with treated organic waste, a recycling rate of 52.3% was achieved in 2019/2020.

The precise elements of the RWS's DRS and EPR are yet to be confirmed and could have significant impacts on the amount and quality of materials collected at the kerbside. The market for recyclables continues to fluctuate, with the average annual price per tonne for the majority of materials remaining relatively low, however, EPR will take away some of the market risk from fluctuating material prices with net payments from producers to cover the waste management costs.

Only one commercial ty MRF is located within Hertfordshire and is privately operated by Pearce Recycling Group Ltd. It is recommended that development of an in-County MRF for Hertfordshire is explored through the Hertfordshire Waste Partnership, once further certainty around the impact of the RWS are known, with the aim of reducing costs and increasing efficiency by processing a consistent set of materials collected across the county. Future bulking needs can be also be met by increased flexibility within a network of WDA transfer stations and WCA depots.

Subject to developments within the RWS, increased options would also improve the WCA's and WDA's resilience to market fluctuations and ability to use MRFs outside of the county, thereby increasing competition for provision of the services.

4.2 Introduction

4.2.1 The total amount of LACW recycled and reused in 2009/10 was 23% of all LACW and this figure has steadily increased to 29.5% in 2019/20. Recyclable waste is separated at our RCs and at the kerbside in the form of either co-mingled recycling collections or pre-sorted collections.

4.2.2 RCs provide facilities for residents to dispose of waste such as large amounts of green garden waste, bulky wastes, domestic electrical appliances, and wood waste. At the RCs, waste is segregated into recyclables and items for reuse and recovery and a total of up to 33 different materials can be diverted from the residual waste stream. In 2019/20, the RC network handled 39,127 tonnes of recyclable LACW with a total recycling, reused, recovered, or composted rate of 66.4%. All materials recycled and recovered are sent to a wide range of privately owned facilities for reprocessing with 86.52% of materials reprocessed in the UK as shown in Figure 10. Items for reuse are sold at the three Reuse Centres at Ware, Waterdale and Harpenden Recycling Centres (a total of 1,322 tonnes in 2019/20).

4.2.3 Kerbside collected recyclables predominantly consist of waste discarded on a daily basis such as card, paper, plastic, cans and glass packaging. In 2019/20, the total amount of recyclable material collected and recycled was 148,954 tonnes as shown in Figure 8. WCAs make their own arrangements with privately operated facilities and/or waste brokers for the sorting and reprocessing of these materials.

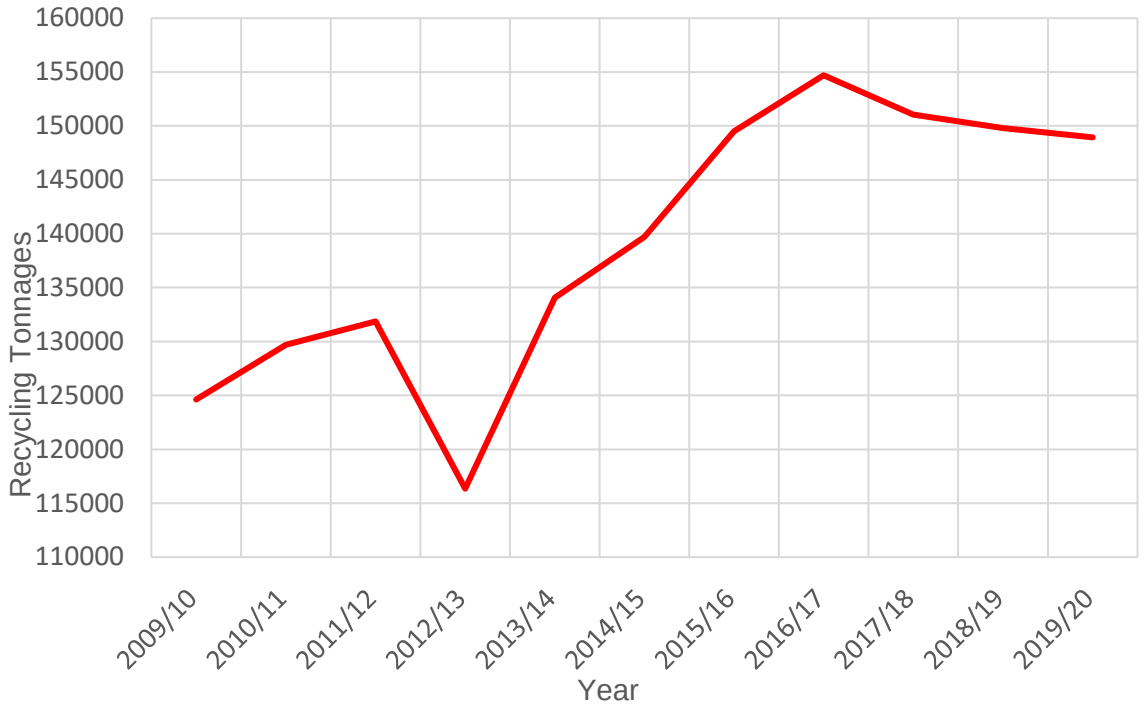


Figure 8: Historic LACW recycling and reuse rates

4.2.4 The market for recyclables fluctuates considerably as shown in Figure 9 and this impacts on the financial cost of recycling service provision. Depending on the strength of the market the WCAs/WDA will either receive an income for recyclable material or pay for its treatment. The average annual price per tonne for most materials has however decreased over the last 10 years. Recent procurements for recycling services across the county therefore reflects a trend of a net payment for treatment of material once transport costs and bulking arrangements are taken into consideration. EPR will take away some of the market risk from fluctuating material prices with net payments from producers to cover the waste management costs.

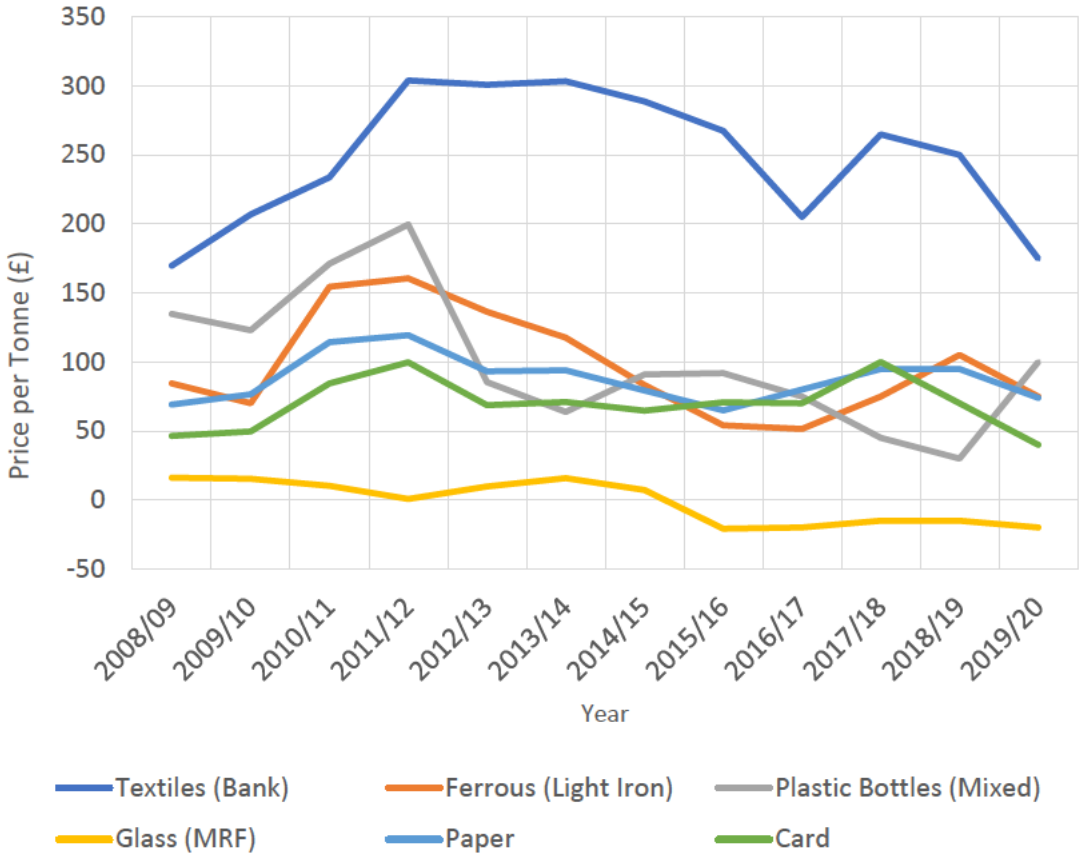


Figure 9: Recyclable materials average annual price per tonne. Source: Letsrecycle.com/prices

4.2.5 All the WCAs provide comprehensive kerbside recycling services for the core set of material for households. It is clear from the waste composition data (see Appendix 2) that there remain considerable amounts of recyclable and compostable material left in the residual waste stream and that LACW recycling rates could significantly improve at the kerbside. With a 100% capture rate of all recyclable and compostable materials in the residual waste stream, the LACW recycling, reuse and composting rate would be 69.3%, 17% higher than current levels. This indicates the recycling rate of 65% by 2030 identified in the RWS is an achievable but challenging prospect which requires significant investment and behavioral change. This would increase the overall amount of dry recycling handled by our network of WTS and WCA depots by 5.6% or 27,000 tonnes.

4.3 Appraisal of current provision

4.3.1 Only one MRF is located within Hertfordshire, located in St Albans as shown in Plan 4. This privately owned facility receives the majority of Hertfordshire's LACW recycling from the RCs and from seven WCAs. From here as shown in Figure 10, 86.5% of Hertfordshire's recyclables have end destinations in the UK.

4.3.2 Recyclable materials collected by St Albans and Welwyn Hatfield WCAs are taken directly to material processing facilities, the remaining majority is first taken to intermediate bulking facilities such as depots and waste transfer stations as shown in Plan 1. These include:

- The Waterdale WTS - Watford
- WCA Depots e.g. Cavendish Road - Stevenage, Buntingford - East Herts and North Herts, Brookfield - Broxbourne and Cupid Green – Dacorum

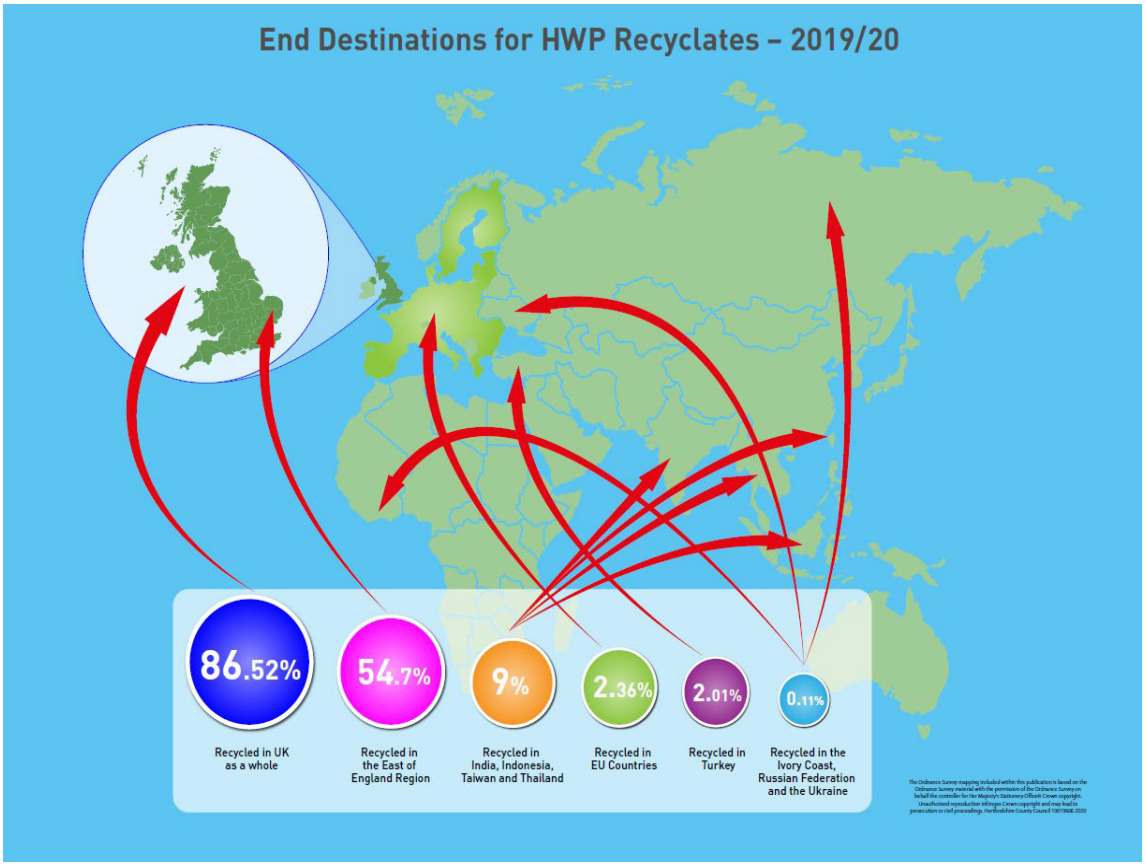


Figure 10. End destinations of waste

4.3.3 Depots owned and managed by the WCAs perform an important role in the bulking of recyclable materials such as street sweepings, paper and Waste Electrical and Electronic Equipment (WEEE). Broxbourne Borough Council, East Herts and North Herts District Councils, Stevenage Borough Council and Dacorum Borough Council bulk dry recyclable materials at their depots and send them directly to nationwide reprocessing facilities.

4.3.4 To accommodate the increase in recyclables collected by the WCAs a structure for the bulking of recyclable materials was built at Waterdale in 2013 as shown in Figure 11. This facility is used to bulk dry recyclable materials from two WCAs and street sweepings from three WCAs. This facility received 18,823 tonnes of recyclable material in 2019/20 and 2,816 tonnes of street sweepings.

Figure 11. Recycling Bays at Waterdale Waste Transfer Station

4.4 Projected recyclable material tonnages growth to 2031

4.4.1 Three models have been used to project recycling levels until 2031 as shown in Figure 12:

a) Current level of recycling with household growth of 9.4% from 2019/20 to 2030/31
b) Achievement of a 60% recycling rate by 2030/31 (sensitivity test)
c) Proposals for a national recycling rate target of 65%

These models assume a 60:40 future split of recyclables between dry-recycling and organic waste respectively.

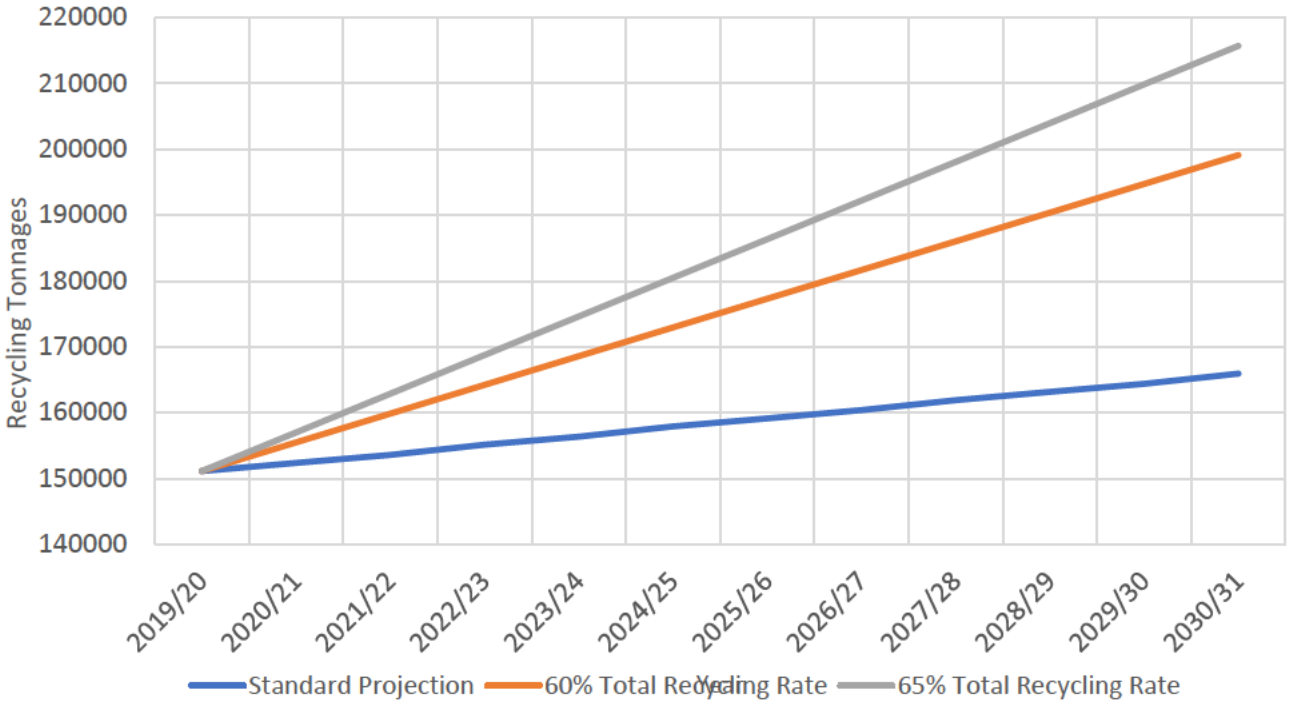


Figure 12: Recycling material tonnages projections

4.5 Analysis of influencing factors

4.5.1 In line with the RWS, WCAs will by law have to provide collection services for the core set of recyclable materials from 2023 as outlined in Appendix 1, subject to transition arrangements being determined through consultation, and this is likely to positively affect the amount of recyclables collected at the kerbside. These separate collection requirements are designed to promote high quality recycling and would require improvement in the existing infrastructure to accommodate the further segregation of different waste types.

4.5.2 The precise elements of the RWS's Consistency, DRS and EPR are yet to be confirmed and could have significant impacts on the amount and quality of materials collected at the kerbside.

4.6 Recycling infrastructure requirements

4.6.1 Plan 4 identifies existing MRF and facilities with planning permission within 30 miles from the centre of Hertfordshire. Only one MRF is located within Hertfordshire.

4.6.2 The WDA considers that increased provision of privately operated MRF(s) within Hertfordshire would increase competition and reduce the WDA and WCAs reliance on a single service provider. Support should be given to further privately owned provision of MRFs in the County by the WDA. Alternatively, more assurance and secure arrangements could be provided through the development of a WDA and/or WCA owned MRF within Hertfordshire processing a consistent set of materials collected across the county. The development of a WDA/WCA owned MRF in Hertfordshire remains a potential option but further certainty about the impact of the RWS is required before a need can be assessed as part of HWP discussions.

4.6.3 In the absence of direct delivery options for recyclable waste, a network of WTSs and depots that reduces the travel time of WCA vehicles to the point of tipping would be beneficial. As is the case with residual LACW proximity to arisings, this WTS network would enable collection vehicles to spend the majority of their time on collection rounds instead of travelling to and from a remote point of disposal, the 20 minute and 30 minute journey times are shown in Plans 2a and 2b.

4.6.4 Furthermore, co-location of WCA depots and WDA transfer stations could deliver operational efficiencies and increase bulking capacity. The WDA considers there is a need to work closely with the WCAs over the period to 2031 to maximise this potential. This could also advance thinking in areas such as bulky waste reuse and consolidate tipping locations.

5.0 Organic waste

5.1 Summary

The amount of organic waste treated in 2019/20 was 115,820 tonnes or 23% of the LACW. To reflect the different practices in the collection of organic wastes, a range of technologies are used to treat the waste including Windrow Composting for Green Garden Waste, In-Vessel Composting (IVC) for mixed Food Waste and Green Garden Waste and Anaerobic Digestion (AD) for Food Waste.

The WCAs may introduce service changes at any stage throughout the plan period. In the last six years eight of the of WCAs have introduced charges for the collection of green garden waste.

Going forward it is likely that the RWS will require more consistent collection services by 2023, subject to transition arrangements being determined through consultations, which may result in WCAs collecting food and garden waste separately. If this is the case this will increase the demand for AD and windrow composting facilities whilst decreasing the need for IVC facilities. Hertfordshire is comparatively well served for AD facilities but not for windrow facilities.

The waste compositional analysis of 2020/21 has identified 52,065 tonnes of food waste within the kerbside residual waste stream and therefore highlights the need for increased HWP behaviour change engagement. If an improvement in capture rate is achieved this additional organic waste tonnages will need to be handled by our contracted treatment facilities.

Within the county there is a lack of equally dispersed facilities to treat green garden waste and increased housing development threatens the viable operation of existing facilities. To support this we need to explore developing existing contracts and seek out new suppliers. The lack of facilities in the west of the county, combined with the potential loss of existing facilities may increase the amount of organic waste exported outside of the county for treatment. To facilitate the use of organic waste facilities by the WCAs and increase resilience, a developed network of compliant and flexible waste transfer station bulking facilities are required.

5.2 **Introduction**

5.2.1 Organic waste comprises of green garden waste and food waste. The amount of organic waste treated in 2019/20 was 22.7% of all LACW and has plateaued in the last 10 years. The fluctuations shown in Figure 13 are generally associated with differing year on year growing conditions or substantial changes in services provided at the kerbside, such as 2011/12.

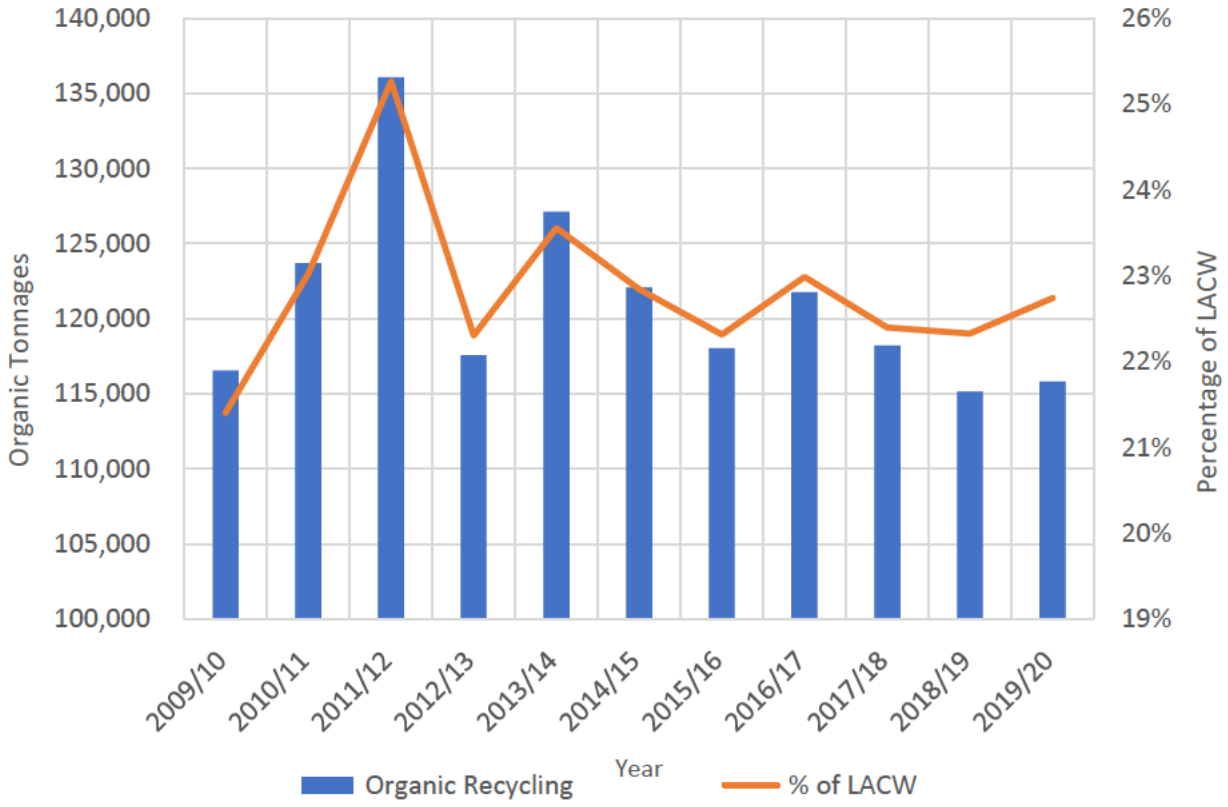


Figure 13: LACW organic recycling rates and tonnages

5.2.2 Organic waste is separated through facilities at the RCs and at the kerbside in the form of either a green garden waste bin and a separate food caddy or a co-mingled green garden waste and food waste collection. To reflect the different methods used to collect organic waste three processes are used for its treatment; Windrow Composting, IVC and AD.

- Windrow composting – green garden waste is shredded and constructed into elongated open-air piles called windrows, each typically 1.5 to 3 metres high. The windrows are turned periodically to introduce fresh air and watered to maintain ideal conditions for composting.

- In Vessel Composting (IVC) - similar to windrow composting but the processing of mixed green garden and food waste is carried out in an enclosed vessel or building. This allows a greater degree of control of the process temperature, oxygen and moisture required to safely process the food waste.

- Anaerobic Digestion (AD) – a process by which micro-organisms break down biodegradable material, such as food waste, in the absence of oxygen. Methane gas captured in the digester tank is used to produce energy and a stabilised residue known as leachate is used as fertiliser.

5.3 Appraisal of Current Provision

5.3.1 In 2019/20, 115,820 tonnes of organic waste were treated as shown in Figure 13. All of the facilities, as shown in Table 6, that are used for the treatment of organic waste by HCC are privately operated facilities.

5.3.2 In line with the agreed HWP Joint Municipal Waste Management Strategy for Hertfordshire Action Plan, the WDA procured long term organic waste arrangements to 2025 including underpinning the development of two Hertfordshire based facilities (Cumberlow Green and South Mimms), see Table 6. These contracts were procured at a time when best practice guidance identified the joint collection of green garden waste, cardboard, and food waste as the best way of diverting biodegradable waste away from the residual waste stream. Contracts are also in place for the short-term provision of windrow composting and AD.

5.3.3 Since October 2020 the WDA also took over the contract for the composting of green garden waste from Recycling Centres. This contract is also with Cattlegate Farm and expires in March 2023.

5.3.4 The end of the In Vessel Composting contracts in 2024 and 2025 in particular provide an opportunity to review organic processing contracts going forward with a view to, wherever possible, moving towards all contracts processing separately collected food waste through Anaerobic Digestion facilities.

Table 6: Organic Waste Treatment in 2019/20

Facility Type	Site	Location	Contract end Date
In Vessel Composting	Cumberlow Green	Rushden, North Hertfordshire	Oct-24
	Severn Trent Green Power	South Mimms	Apr-25
Windrow Composting	Biogen	Lackford, Suffolk	March 2022 (with option to extend for further 3 years)
	Cattlegate Farm	Enfield	Contract for processing green garden waste from Broxbourne - expires March 2022 (with option to extend for further 3 years)
			Contract for processing green garden waste from Recycling Centres - expires March 2023
Anaerobic Digestion	Severn Trent Green Power	Coursers Farm, nr Colney Heath	Apr-25
	Biogen	Hoddesdon	Apr-22

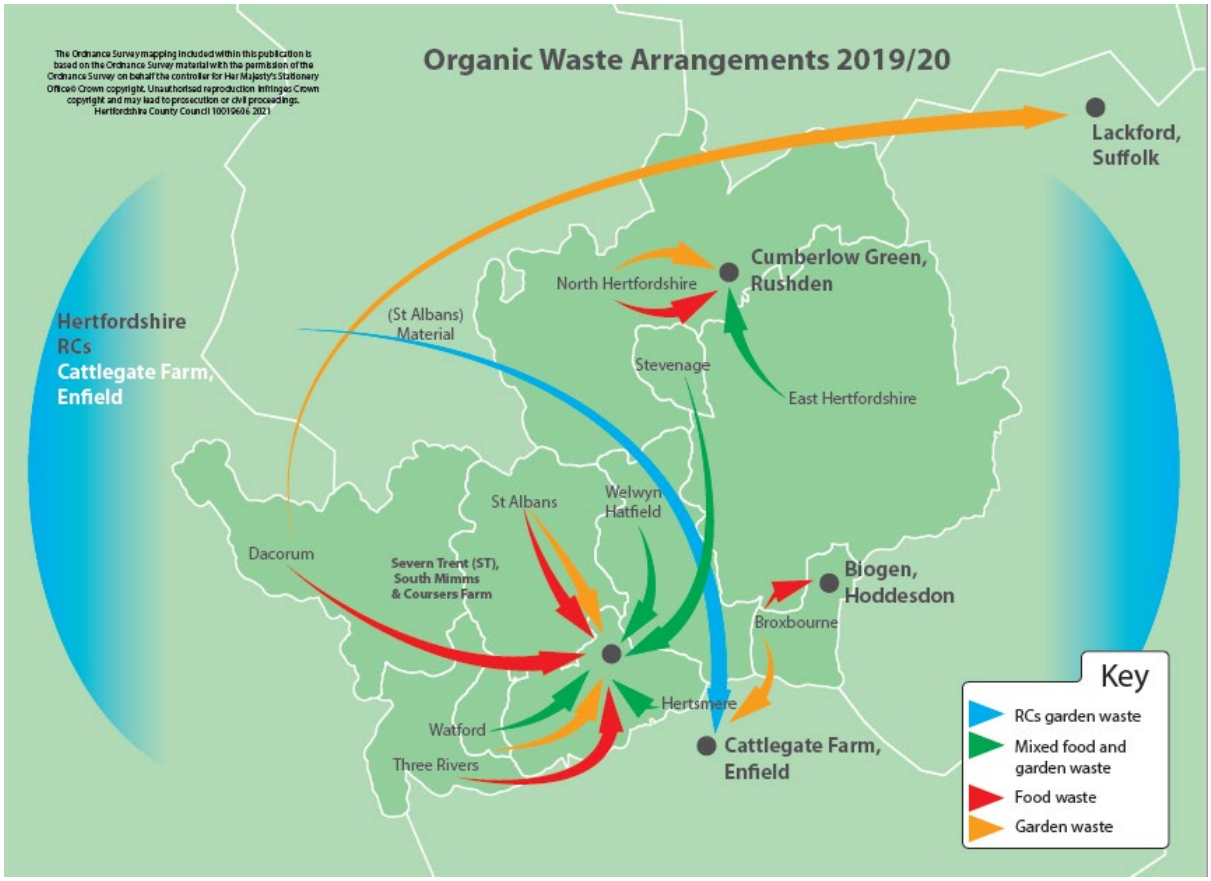


Figure 14. Hertfordshire's organic waste treatment arrangements 2019/20

5.4 Organic waste projections 2031

5.4.1 Three models have been used to project organic waste arisings until 2031 (shown in Figure 15 below):

a) Current level of organic waste treatment with household growth of 9.4% until 2030/31

b) Achievement of a 60% recycling rate by 2030/31

c) Proposals for a national recycling rate target of 65% for municipal solid waste by 2035

These models assume a 60:40 future split of recyclables between dry-recycling and organic waste respectively.

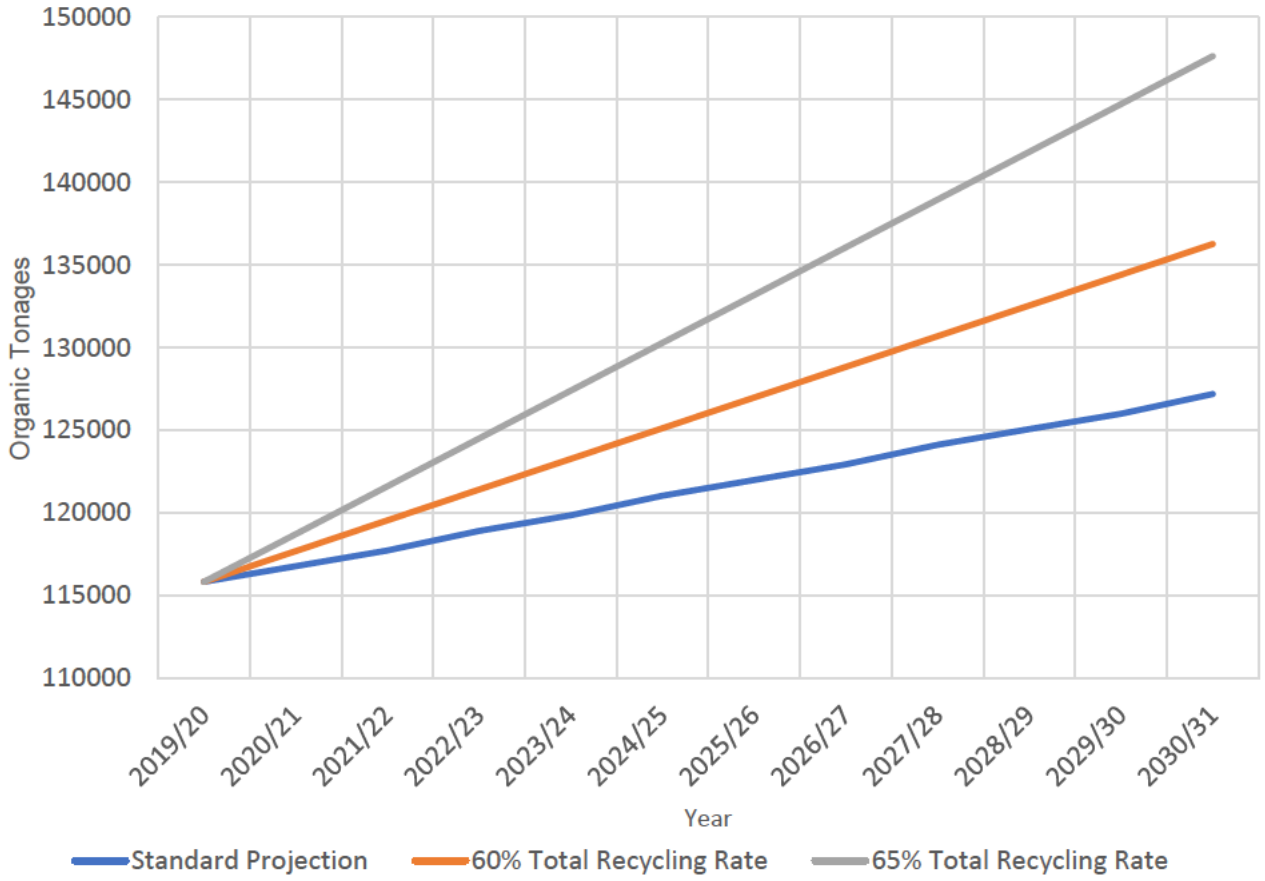


Figure 15: Organic waste stream projections to 2031

5.5 Analysis of influencing factors

5.5.1 The waste composition analysis conducted in 2020, see appendix 2, identified 52,065 tonnes of food waste and 2,491 tonnes of garden waste placed into residual bins by residents living houses and flats. This suggests that LACW recycling and organic waste treatment rates could significantly improve at the kerbside. This indicates the aspirational HWP recycling rate of 60% and proposal for a national recycling rate of 65% could best be met with comprehensive provision of food waste services at the kerbside. If there was a 100% capture rate of the organic materials remaining in the residual waste stream, the LACW recycling rate would rise from 23% to 36%, increasing the tonnages of organic waste by 54,556.

5.5.2 The separate collection of food waste and green garden waste has the potential to increase as WCAs identify further ways to divert organic material away from the residual waste stream. Evidence from WCAs in Hertfordshire demonstrates that a weekly food waste collection service results in the most food waste being diverted from the residual waste stream.

5.5.3 WCAs can unilaterally introduce service changes that affect the composition of organic waste kerbside collections. The introduction of charges for the collection of green garden waste has been adopted by eight of the WCAs, with seven authorities introducing the separate collection of green garden waste and food waste at the kerbside. Under the upcoming Environments Bill and RWS, the current government proposals are for a free fortnightly garden waste service, however this is yet to be finalised.

5.5.4 The number of WCAs collecting food and green garden waste separately has the potential to further increase as the RWS has proposed that every householder and appropriate businesses are provided with this service by 2023, subject to transition arrangements and the outcome of ‘live’ consultations. It remains unclear if the RWS will permit charging for a garden waste service or if charging is permissible, if a 'cap' will be placed on those authorities with the power to charge for this service. With separate garden and food waste, the requirements for windrow composting and anaerobic digestion facilities will increase with the need for In-vessel composting facilities decreasing. The increased capture of business food waste will also increase the need / capacity for AD.

5.5.5 The RWS consultation view suggests that charging for green garden waste collections has the potential to reduce the amount of green garden waste collected by the WCAs but could increase the amount of residual waste collected if a separate food waste collection is not offered. Potential additional effects include an increase in the amount of green garden waste taken to RCs and an increase in home composting. However, it should be noted that data from the 2020/21 waste compositional analysis indicates that garden waste capture rates from WCAs that do and do not charge are broadly similar at 97.6% and 97.1% respectively.

5.5.6 Existing contracts enable nine of the WCAs to directly deliver organic waste to treatment facilities either within the county or close to the county border. Cupid Green, Dacorum's depot, is used to bulk green garden waste, which is collected for processing in Bedfordshire, and food waste which is transported to South Mimms for processing.

5.5.7 Nine of the WCAs are unable to bulk large quantities of green garden waste, separate food waste and/or combined green garden waste and food waste at their depots.

5.6 Organic infrastructure requirements

5.6.1 Whilst significant in its own right, the cost of developing organic waste treatment facilities such as IVC, windrow composting and AD is considerably less expensive than developing residual waste treatment facilities. This means the WDA considers it more viable for the treatment of organic waste to occur in multiple locations and as close as possible to the origins of the waste (the proximity principle). Although it is recognised that this is not always achievable as:

- Treatment facilities are not equally dispersed throughout the county
- The type of facility required will depend on the organic waste collection method used by the WCA
- Planning constraints, sensitive receptors such a greenbelt land
- Organic waste presents challenges specifically concerning Animal By-Products Regulations (ABPR).

5.6.2 Plans 5, 6 and 7 identify existing privately-owned organic waste treatment facilities and sites with planning permission that are within 30 miles of the centre of Hertfordshire. The plans demonstrate a lack of privately owned facilities in the west of the county but generally adequate provision elsewhere.

5.6.3 Where suitable facilities are not close to the point of origin it will be necessary to make provision for the bulking of organic wastes.

5.6.4 As WCAs have moved away from the joint collection of green garden waste and food waste it is possible that IVC facilities may adapt to meet the needs of the market and introduce windrow composting and/or AD to their facilities. A significant potential barrier to the introduction of windrow composting is the development of surrounding land for the provision of housing.

5.6.5 If existing contracted facilities are unable to process green garden waste and mixed food and green garden waste alternative provision will be required, along with bulking facilities to accommodate WCAs not located within a reasonable distance of a treatment facility. As a result, the development of a network of waste facilities capable of bulking a range of wastes in fluctuating quantities is again key to meeting future needs. This network includes the full utilisation of WCA depots as shown in Plan 1 and the development of a Waste Transfer Station network as shown in Plan 3.

5.6.6 The current capacities of contracted facilities within Hertfordshire are shown in Table 7. Projected organic waste figures for 2030/31 are between 127,200 and 147,624 tonnes. Therefore, the current network of organic waste treatment facilities is sufficient for our projected organic waste requirements to 2031, subject to 5.6.7 below.

Table 7: Organic waste treatment capacity in Hertfordshire

Method	Capacity (tonnage)
Aerobic Digestion	174,000
Composting (IVC & Windrow)	92,000

5.6.7 Whilst there may be sufficient capacity to meet the WDAs projected needs, it should be noted that there is competition for use of the facilities from other authority areas

and the commercial waste sector. The capacity is provided by a small number of reasonably sized facilities and as such, should one or more become unavailable, capacity would quickly reduce.

5.6.8 It should be noted that for Table 7 IVC and Windrow treatment methods are grouped together here as the facilities in Hertfordshire are capable of operating under both systems of work.

5.6.9 An expansion of existing capacity and new privately owned organic waste facilities in the County would increase competition and bolster resilience and should therefore be supported by the WDA.

5.6.10 The methods used by those WCAs that do not separately collect green garden waste and food waste are expected to evolve in the short and medium term. In response to these changes and those already made by the WCAs, shorter, more flexible contracting arrangements are currently preferred for the treatment of organic waste. This approach should enable the WDA to respond to changes and for the most appropriate and best value method of organic waste treatment to be procured without the need to invest in long term contracts for the development of new infrastructure.

6.0 Glossary

Anaerobic Digestion	is a collection of processes by which microorganisms break down biodegradable material in the absence of oxygen. The process is used for industrial or domestic purposes to manage waste and/or to produce fuels;
Bulk / Bulking	the gathering and loading of LACW ready for onward transportation to a treatment or disposal facility.
Bulking Facility	a facility where LACW is delivered and bulked for onward transportation to a treatment or disposal facility.

Co-mingled collections	Mixed dry recyclables (cans, card, glass, papers and plastics) collected together for sorting at a Materials Recycling Facility
Commercial Waste	Waste from premises used wholly or mainly for the purposes of a trade or business or for the purpose of sport, recreation, education or entertainment, but excluding household, agricultural or industrial waste.
Composting	means a biological process in which biodegradable wastes, such as garden and food wastes, are decomposed in the presence of air to produce compost or soil conditioner;
Disposal	means any waste management operation serving or carrying out the final treatment and disposal of waste;
Deposit Return Scheme	A recycling system in which consumers pay a small deposit for plastic and glass bottles, which can be refunded upon **return** to a shop.
EPA	means the Environmental Protection Act 1990;
Energy Recovery Facility	generates a usable form of energy which also reduce the solid volume of residual waste
Extended Producer Responsibility	Extended producer responsibility schemes seek to make producers responsible for the full net costs of managing their products at end of life
Food Waste	biodegradable waste derived from food materials typically consisting of cooked and uncooked fruit and vegetables, meat and fish scraps, excess or spoiled prepared food, and other discards from domestic kitchens;
Green Garden Waste	biodegradable waste such as green catering waste (i.e. raw fruit and vegetables), vegetation and plant matter (includes trimmings, leaves, shrubs, plants, grass, and trees etc.) from household gardens, local authority parks and gardens, and commercial landscaping;

Household Waste	as defined in the Controlled Waste Regulations 1992 and includes wastes from household collection rounds, street cleansing, bulky household waste collections, household hazardous waste and clinical waste;
RCs	Recycling Centres;
RS	Recycling Service;
In Vessel Composting	generally describes a group of methods that which confine the composting materials within a building, container, or vessel. In-vessel composting systems can consist of metal or plastic tanks or concrete bunkers in which air flow and temperature can be controlled, using the principles of a "bioreactor". Generally the air circulation is metered in via buried tubes that allow fresh air to be injected under pressure, with the exhaust being extracted through a biofilter, with temperature and moisture conditions monitored using probes in the mass to allow maintenance of optimum aerobic decomposition conditions.
Joint Municipal Waste Management Strategy / JMWMS	means the Joint Municipal Waste Management Strategy for Hertfordshire agreed by the Partners in 2007;
Landfill	a landfill (also known as a tip, dump, rubbish dump or dumping ground) is a site for the disposal of waste materials by burial and is the oldest form of waste treatment;
Local Authority Collected Waste (LACW)	All waste collected by the local authority including commercial and industrial waste;
Materials Recycling Facility	a materials recycling facility is a specialized plant that receives, separates and prepares recyclable materials for marketing to end-users;
Municipal Waste	household waste and that from other sources which is similar in nature and composition, which will include a significant proportion of waste generated by

	businesses and not collected by Local Authorities
Open Windrow Composting	is the production of compost by piling organic matter or biodegradable waste, such as animal manure and crop residues, in long rows (windrows). This method is suited to producing large volumes of compost. These rows are generally turned to improve porosity and oxygen content, mix in or remove moisture, and redistribute cooler and hotter portions of the pile. Windrow composting is a commonly used farm scale composting method.
Organic Waste	Food waste and / or green waste collected by the WCAs pursuant to section 45 of the EPA;
Recovery	means (i) the recovery of waste by means of recycling or, reuse or any other process with a view to extracting secondary raw materials; or (ii) the use of waste as a source of energy;
Recycling	means the collection and separation of selected materials and subsequent processing to produce marketable products;
Reduce	means the reduction of waste at source, by understanding and changing processes to reduce and prevent waste;
Residual Waste	waste other than that collected for reuse, composting or recycling;
Reuse	the use of waste items for their original or for another purpose without reprocessing;
Revised Waste Framework Directive	means EU Directive 2008/98/EC which sets a framework for waste management in the EU, promoting both reuse and recycling, including energy recovery as a recovery activity within the revised waste hierarchy;

Waste Collection Authority or WCA	means a waste collection authority pursuant to section 30(3)(a) of the EPA;
Waste Disposal Authority or WDA	means a waste disposal authority pursuant to section 30(2)(a) of the EPA;
Waste Transfer Station	a facility where waste is bulked ready for onward transport to a recycling facility or disposal facility.

Appendix 1 - National and Local Policy

Summary

The UK's withdrawal from the EU adds uncertainty to current and future waste disposal arrangements, as well as potential recycling targets. The new Environment Bill and Resources and Waste Strategy are likely to impact the waste sector significantly but details remain unclear at the time of writing. Within the waste industry there is a general consensus of opinion that the current legislation within which the industry operates will remain broadly similar, however the Deposit Return Scheme and Extended Producer Responsibility Framework are two aspects of the RWS that are likely to create significant changes to how the industry operates.

The general direction of law and strategy is one which aims to create a society that concentrates on prevention, reuse, recycling and energy recovery based on the notion that waste is a resource, especially under the context of the circular economy[1].

The following national and local policies have been considered throughout this document. This is not an exhaustive list.

The Environment Bill

The Environment Bill was introduced into parliament on 15 October 2019. It was re-introduced to parliament following a general election on 30 January 2020. The bill has been postponed due to the COVID-19 pandemic and is likely to go to parliament towards the end of 2021.

The Environment Bill 2020 sets out how we plan to protect and improve the natural environment in the UK. The Environment Bill helps to manage the impact of human activity on the environment, creating a more sustainable and resilient economy, and enhancing well-being and quality of life. The Environment Bill has been prepared through consultations with the public on numerous measures, including: environmental governance; the clean air strategy; biodiversity net gain; trees; conservation covenants; extended producer responsibility for packaging; recycling; a deposit return scheme for drinks containers and water.

The resources and waste measures in the bill build on those developed in the Resources and Waste Strategy produced in 2018 and will help move our economy away from the ‘take, make, use, throw’ system to a more circular economic model. The ambition is to keep resources in use for longer and ensure that we extract the maximum value we can from them.

The Environment Bill introduces a series of measures that will fundamentally change the way government, businesses and individuals produce, consume and dispose products.

- It contains powers to introduce clear product labelling, which will enable consumers to identify products that are more durable, reparable, and recyclable and will inform them on how to dispose of used products.
- The Bill will also enable the government to set minimum ecodesign requirements for products and require provision of information to buyers of products and materials to support a shift towards durable, repairable and recyclable products, and banning those products or packaging which cannot be reused or recycled (where appropriate).
- Powers in the Environment Bill to introduce new extended producer responsibility schemes will enable the government to reform the existing producer responsibility arrangements and introduce new schemes in the future.
- The Bill will improve the management of waste and reduce the risk of economic, environmental and social harm that illegal activity often causes. These measures will help level the playing field by ensuring all businesses are adopting legitimate waste management practices, including through powers to introduce an electronic waste tracking system.
- The Bill will also support citizens’ efforts to recycle more as it stipulates a consistent set of materials which must be collected from all households and businesses, including food waste. This will help make services more consistent across the country. The Bill also sets out how government will mandate weekly collections of food waste for every household, subject to consultation.

The Resources and Waste Strategy

This strategy sets out how the government will preserve the Country’s stock of material resources by minimising waste, promoting resource efficiency and moving towards a circular

economy. It also outlines how they will minimise the damage caused to our natural environment by reducing and managing waste safely and carefully, and by tackling waste crime. It combines actions that are to be taken now with firm commitments for the coming years and gives a clear longer-term policy direction in line with the 25 Year Environment Plan. This formed the building blocks and represents a blueprint for eliminating avoidable plastic waste over the lifetime of the 25 Year Plan, doubling resource productivity, and eliminating avoidable waste of all kinds by 2050.

Important areas within this strategy include:

- Invoke the 'polluter pays' principle and extend producer responsibility for packaging, ensuring that producers pay the full costs of disposal for packaging they place on the market and harness the potential of extended producer responsibility for other product types.
- Stimulate demand for recycled plastic by introducing a tax on plastic packaging with less than 30% recycled plastic.
- Set minimum requirements through ecodesign to encourage resource efficient product design.
- Provide consumers with better information on the sustainability of their purchases.
- Ban plastic products where there is a clear case for it and alternatives exist.
- Improve recycling rates by ensuring a consistent set of dry recyclable materials is collected from all households and businesses.
- Reduce greenhouse gas emissions from landfill by ensuring that every householder and appropriate businesses have a weekly separate food waste collection, subject to consultation

The (revised) Waste Framework Directive (WFD)

A guiding principle of both European and national waste management is the concept of the waste hierarchy. In general terms the hierarchy identifies that the best way to manage waste is not to generate it in the first place (prevention), followed by reusing and then recycling / composting and recovering energy where practicable. Generally the disposal of waste to landfill is considered to be the least preferred option. The revised WFD amended the waste hierarchy as shown below:

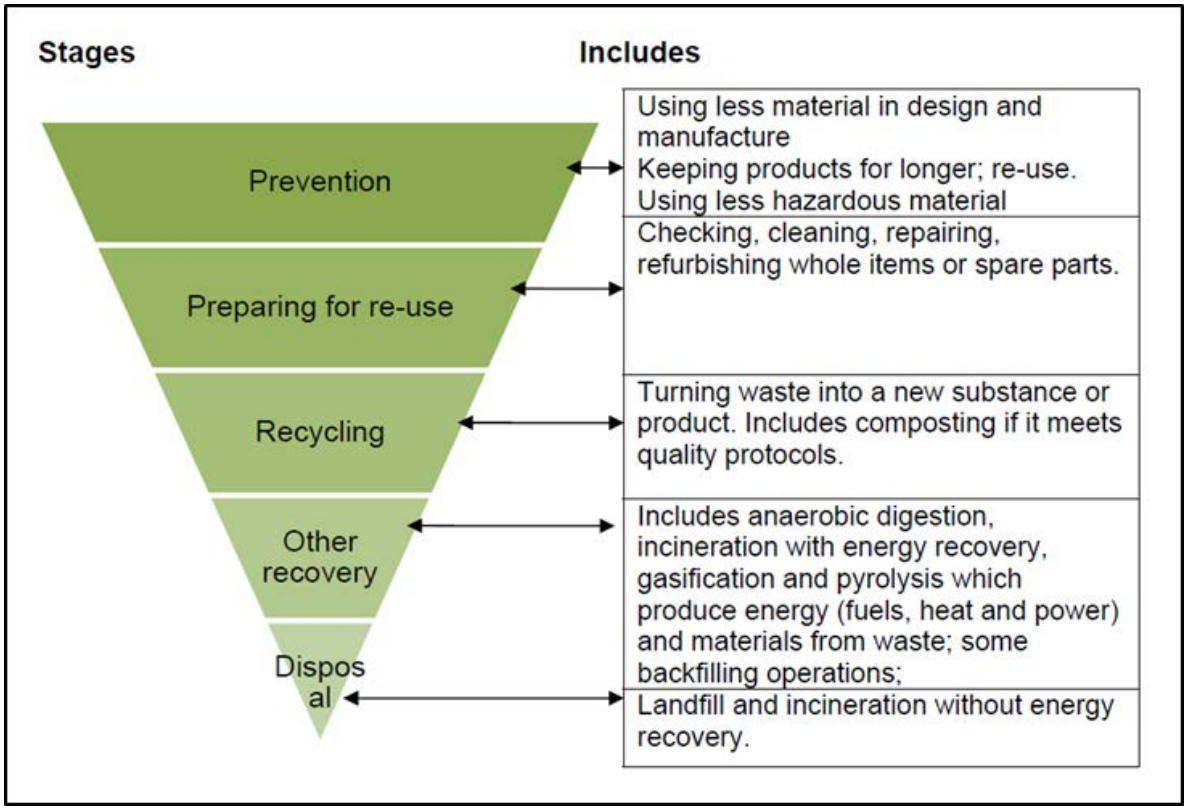


Figure 1. The waste hierarchy

The revised hierarchy draws a distinction between the reuse of materials which do not require preparation and those which do. It also confirms that waste to energy recovery processes is preferential to disposal e.g. landfill, especially when considered under the context of carbon reduction requirements.

The WFD originally provided guidance on the effective management of wastes throughout the EU. It was and remains one of the main European legislative drivers requiring the production of national strategies to encourage waste prevention and reuse along with appropriate recovery and disposal technologies supported by regulatory frameworks that protect the environment and public health.

The EU adopted a revised WFD on the 12 December 2008 which was subsequently transposed into UK law through the Waste (England and Wales) Regulations 2011. Significant updates in the revised WFD include targets as noted below:

- Recycling 50% of household waste by 2020

- Recycling and / or reusing 70% of non-hazardous construction and demolition waste by 2020
- Separate collections for paper, metal, plastic and glass by January 2015
- Implementation of waste prevention programmes by December 2013.

(revised) Waste Framework Directive - targets

The revised Waste Framework Directive (rWFD) sets a household waste recycling target for member states of 50% by 2020. This is reflected in a similar national target versus the Hertfordshire Waste Partnership Joint Municipal Waste Management Strategy that set a 50% target by March 2013.

Whilst the Hertfordshire Waste Partnership (HWP) achieved 50% recycling by March 2012 subsequent issues with non-compostable material in the organic waste stream saw recycling drop to 45.5% in 2012/13 before climbing to 49.3% in 2013/14 and 49.4% in 2014/15. The household waste outturn for 2015/16 is 50.4% and the LACW outturn 49.7%.

EU targets are national level targets with Member states free to decide how such targets are translated into national law. The response in Northern Ireland, Scotland and Wales has been to set statutory targets for local authorities designed to exceed the 50% target by 2020. However, considering that over 80% of the tonnage relevant to the UK target arises in England, based on current trajectories, the UK as a whole is required to significantly improve from its current 'flat-lining' position to achieve 50% by 2020.

The situation is compounded by the fact that English local authorities have not had statutory targets since 2007/08. This was highlighted by a House of Commons Environment, Food & Rural Affairs Committee report into the state of waste management in England. In assessing barriers to achieving 50% recycling by 2020 the report raises the prospect of reintroducing statutory targets for local authorities and noted that fiscal pressures on local authorities could lead to changes such as charged green garden waste services which could negatively affect the rates achieved.

The National Waste Strategy 2007 / The Defra Waste Review 2011

The National Waste Strategy was last properly revised in 2007 with new national recycling targets set at 40% by 2010 and 50% by 2020 in line with the European 50% recycling target also to be achieved by 2020.

However since then, despite the Government undertaking a waste policy review in 2011, other than the removal of statutory targets for English local authorities, no fundamental changes have been made to national policy that significantly impact local waste management services.

EU Circular Economy Strategy

A circular economy is an alternative to a traditional 'linear' economy (i.e. make, use, dispose) in which we keep resources in use for as long as possible, extract the maximum value from them whilst in use, then recover and regenerate products and materials at the end of each service life.

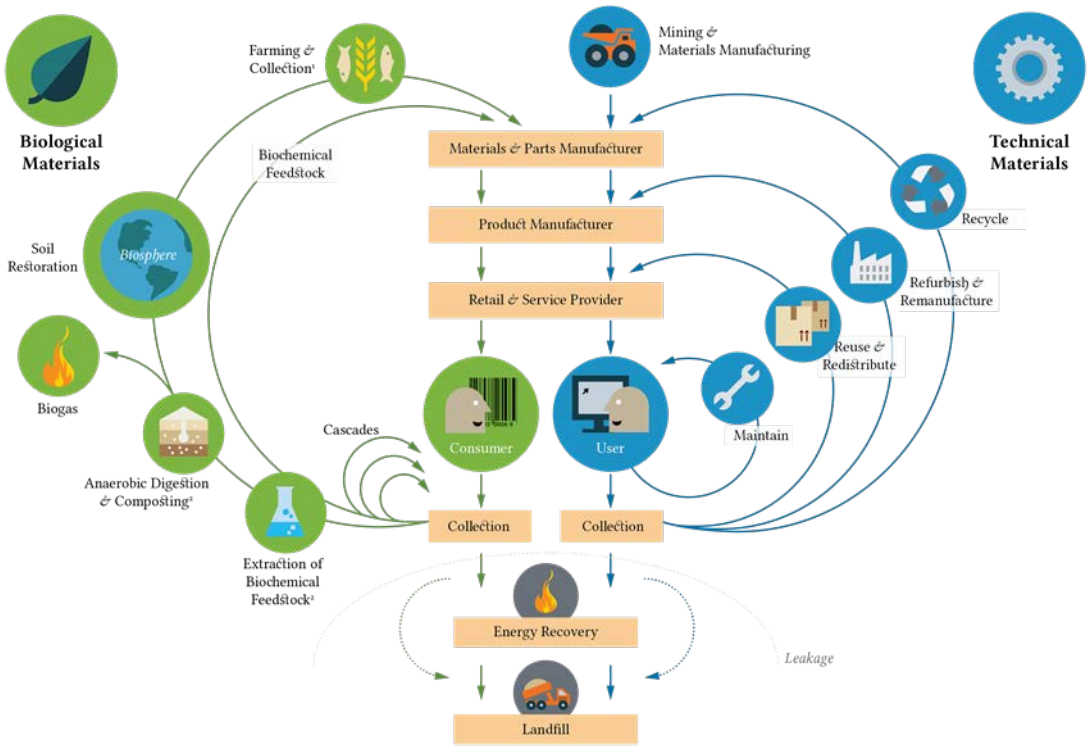


Figure 2. The circular economy. Source: Ellen MacArthur Foundation.

Published on 2 December 2015, the Strategy aims to transform Europe into a more competitive resource-efficient economy, addressing a range of economic sectors, including waste.

The new strategy set out in its EU Action Plan for the Circular Economy and accompanying Annex, includes a proposal to impose legally binding targets on most member states to recycle 65% of all municipal waste by 2030. Currently the UK has a household waste recycling rate of 44% and is already struggling to meet the current target of 50% by 2020.

The key provisions of the Strategy are as follows;

- A common EU target for recycling 65% of municipal waste by 2030;
- A common EU target for recycling 75% of packaging waste by 2030;
- A binding landfill target to reduce landfill to maximum of 10% of all waste by 2030;
- A ban on landfilling separately collected waste;
- Promotion of economic instruments to discourage landfilling;
- Simplified and improved definitions and harmonised calculation methods for recycling rates throughout the EU;
- Concrete measures to promote reuse and stimulate industrial symbiosis - turning one industry's by-product into another industry's raw material;
- Economic incentives for producers to put 'greener' products on the market, i.e. support recovery and recycling schemes such as, for packaging, batteries, electrical and electronic equipment and vehicles.

In order to achieve a 65% recycling target, Hertfordshire authorities, through the Hertfordshire Waste Partnership (HWP), would need to 'capture' significant amounts of material currently within the residual waste stream. The size of the challenge may require the following list of issues to be considered:

- Weekly recycling – perhaps one of the last significant operational changes still available across the UK is to increase kerbside recycling to a weekly service to prioritise efforts to divert waste from landfill.
- Reductions in residual waste capacity – WCAs could consider further reductions in residual waste capacity either through reducing bin sizes in line with the approaches in North Hertfordshire and Three Rivers or through further frequency reductions as

implemented elsewhere in the UK. A smaller residual waste bin encourages behavioural change by encouraging people to recycle and reuse more and reduce the amount of waste they produce.

- Weekly food waste collections – recent waste compositional analysis indicates that food waste continues to make up approximately 30% of the residual waste bin in Hertfordshire. If this could be effectively captured it could make one of the biggest contributions to closing the gap between current performance and 65% recycling by 2030. Currently three WCAs provide a separate food waste collection service and another WCA is due to start in 2017.
- Commercial Waste Recycling – The revised Waste Framework Directive, which applied from January 2015 onwards, requires the separate collection of paper, metals, plastics and glass of commercial waste. The clear intention is that all commercial waste service providers should now be providing recycling services. That said the overall level of commercial waste handled by Hertfordshire authorities is not currently significant and therefore any recycling extracted from this waste stream is likely to make a minimal contribution to meeting future targets.
- Legislative tools – to support such efforts waste authorities may need to consider whether the current suite of legislative tools available are sufficient or whether additional powers such as being able to ban food waste from residual waste bins with subsequent enforcement, is needed.
- WasteAware[2] – an important part of any future service in Hertfordshire will be the continued and enhanced promotion of services that support efforts to prevent, reduce and recycle on the part of residents and local businesses.

Waste (England and Wales) (Amendment) Regulations 2012

The regulations require that separate kerbside collections must be deemed to be practical in each of the assessment areas, i.e. technically, environmentally and economically practicable (TEEP). If separate collections fail in any one of these areas then they are not required.

[2] WasteAware is a partnership between the 10 District and Borough Councils and the County Council working together to promote waste issues.

Based on the TEEP tests conducted across the country so far it would appear that whilst technical practicality does not present any issues the majority of the time economical practicality cannot be established when aspects such as vehicle costs are taken into account, i.e. greater income through keeping materials separate does not usually compensate for higher collection costs. A situation exacerbated by recent significant falls in prices for a number of recyclates.

In addition, it should be considered that fully commingled collections also tend to outperform sorting wastes into separate containers at the kerbside in terms of tonnage capture reflecting their ease for residents. Therefore, even taking into account higher contamination levels, it is increasingly being argued that separate collections also fail the environmental practicability test as a result of diverting less material from landfill whilst using additional vehicle resources.

The Landfill Directive 1999

The Directive sets targets for the reduction of biodegradable municipal wastes (BMW) such as green garden waste and food waste sent to landfill. Transposition of the Directive into UK law took advantage of a 4 year exemption available to a number of member states with historic reliance on landfill. The relevant targets for the UK were / are to have reduced the amount of BMW going to landfill by:-

- 75% of that produced in 1995 by 2010
- 50% of that produced in 1995 by 2013
- 35% of that produced in 1995 by 2020

National Planning Policy for Waste 2014

The National Planning Policy for Waste (NPPW) 2014 seeks to enable local authorities to put planning strategies in place through their local development plans which shape the type of waste facilities in their area and where they should go. The NPPW states that positive planning plays a pivotal role in delivering the country's waste ambitions through:

- delivery of sustainable development and resource efficiency, including provision of modern infrastructure, local employment opportunities and wider climate change benefits, by driving waste up the waste hierarchy;
- ensuring that waste management is considered alongside other spatial planning concerns, such as housing and transport, recognising the positive contribution that waste management can make to the development of sustainable communities;
- providing a framework in which communities and businesses are engaged with and take more responsibility for their own waste, including by enabling waste to be disposed of or, in the case of mixed municipal waste from households, recovered, in line with the proximity principle;
- helping to secure the reuse, recovery or disposal of waste without endangering human health and without harming the environment; and
- ensuring the design and layout of new residential and commercial development and other infrastructure (such as safe and reliable transport links) complements sustainable waste management, including the provision of appropriate storage and segregation facilities to facilitate high quality collections of waste.

The policy requires that a proportionate evidence base flowing from a robust analysis of the best available data and information is used to plan provision.

The policy states that when identifying a need for waste management facilities local authorities should work collaboratively, through the statutory duty to co-operate, to provide a sustainable network of facilities to develop sustainable waste management.

It states the disposal of waste and recovery of mixed municipal waste should be planned for in line with the proximity principle. With opportunities for the co-location of waste management facilities considered.

It also states that priority should be given to the reuse of previously developed land and sites identified for employment use and that the capacity of existing and potential transport infrastructure to support the sustainable movement of waste be assessed.

Minerals and Waste Local Plans for Hertfordshire

The Minerals and Waste Local Plans for Hertfordshire is written by the Spatial Planning and Economy Unit of HCC and identifies the strategy for the future of minerals and waste planning in the county.

The Waste Development Framework is made up of the Waste Core Strategy and Development Management Policies Development Plan Document. The Waste Core Strategy sets out the vision, objectives and spatial strategy for waste planning in Hertfordshire up to 2026 providing the basis for a longer term spatial strategy that complements the Hertfordshire Waste Partnership Joint Municipal Waste Management Strategy 2007.

The vision for waste management in 2026 is:

Through engagement with the community and working with partners, by 2026, Hertfordshire will be waste aware and responsible, and the county council and its partners will lead the county in its adoption, promotion and implementation of the waste hierarchy. Members of the general community, industry, local councils and the county council alike will place significant emphasis on waste prevention, reduction, reuse and recycling, with waste disposal to landfill minimised. A mix of established, newer emerging technologies and waste recycling markets that maximise recovery value are being embraced to ensure that waste is innovatively and effectively managed within Hertfordshire.

Waste management facilities will be well designed, appropriately sized and sensitively located so that they reduce the environmental and social impacts, meet the needs of communities and businesses, and seek enhancement of the locality. Sufficient waste management facilities (to reduce, reuse, recycle) will be located as close as practicable to the origin of waste, making use of sustainable transport links, where practicable, to ensure existing and new communities deal with their own waste, especially in relation to areas where future growth is likely to occur.

To achieve the vision Hertfordshire specific objectives and strategic policies have been developed, including the safeguarding of land and sites where planning permission exists but is not yet implemented; or land and sites on which planning permission is subsequently granted for waste management facilities. The Waste Planning Authority (HCC) may oppose development proposals which are likely to prevent or prejudice the use of land identified or

safeguarded for waste management purposes unless alternative or enhanced provision is made.

Hertfordshire Joint Municipal Waste Management Strategy 2007

The WDA and the WCAs in Hertfordshire work jointly in the collection and disposal of waste through the Hertfordshire Waste Partnership (HWP).

In 2002, the Partnership endorsed a Joint Municipal Waste Management Strategy (JMWMS 2002). This strategy was reviewed in 2007, taking on board developments since 2002 including changes in Government policy, changes in recycling and composting and changes in the growth of waste. A further review of the strategy commenced in 2015.

The JMWMS 2007 and accompanying Action Plan set out how the Partnership intends to manage LACW over the period to 2020 and beyond. Central to the Strategy and Action Plan is a commitment to recycle at least 50% of household waste by 2012 and reduce residual household waste to less than 285 kg per person by that time.

The JMWMS 2007 identified a core objective 'to manage a growing proportion of Hertfordshire's residual waste within the county and manage all other waste at the nearest appropriate facility by the most appropriate method or technology'. It acknowledged that there would always be some waste material that cannot be reused or recycled but contained a commitment to moving away from a reliance on landfill for the disposal of this waste. It set out the following objectives

- To ensure a minimum of 60-80,000 tonnes per annum of residual waste treatment capacity is in place by 2011/12.
- In the longer term (to 2020), to ensure that additional residual waste treatment capacity is in place.

It was recommended in the JMWMS 2007 that capacity decisions be reviewed at the appropriate juncture in line with growth rates and recycling/composting performance.

A review of the JMWMS is currently underway. This section of the spatial strategy will be updated to reflect any notable changes to the JMWM

Appendix 2 - Waste Composition Analysis

The Hertfordshire Waste Partnership carried a county wide Waste Compositional Analysis from the 7th September – 23rd October 2020. The analysis included 9 out of 10 boroughs and districts (herein referred to as districts) as well at the county council's recycling centre network.

For boroughs and districts the analysis included assessing kerbside collected residual and recycling wastes, residual and recycling wastes from flats and separately litter. From the County Council's network of Recycling Centres (RCs) residual wastes were analysed.

The main findings were:

Waste from RCs

- Overall 7.5% of the waste being disposed of could have been recycled in the dry recycling receptacle on the kerbside.
- Overall, 3.97% of the waste could have been recycled in the organic waste receptacle(s) on the kerbside.
- 44.92% of waste deposited in the residual waste stream could have been placed into alternative collection points within a RC.
- Overall 56.4% of waste deposited in the residual waste stream at RC's could have been recycled.

The compositions of the residual waste from the RCs network are shown in Figures 1, 2 and 3 below.

Figure 1 Recycling Centres Residual Waste Content Broad categories

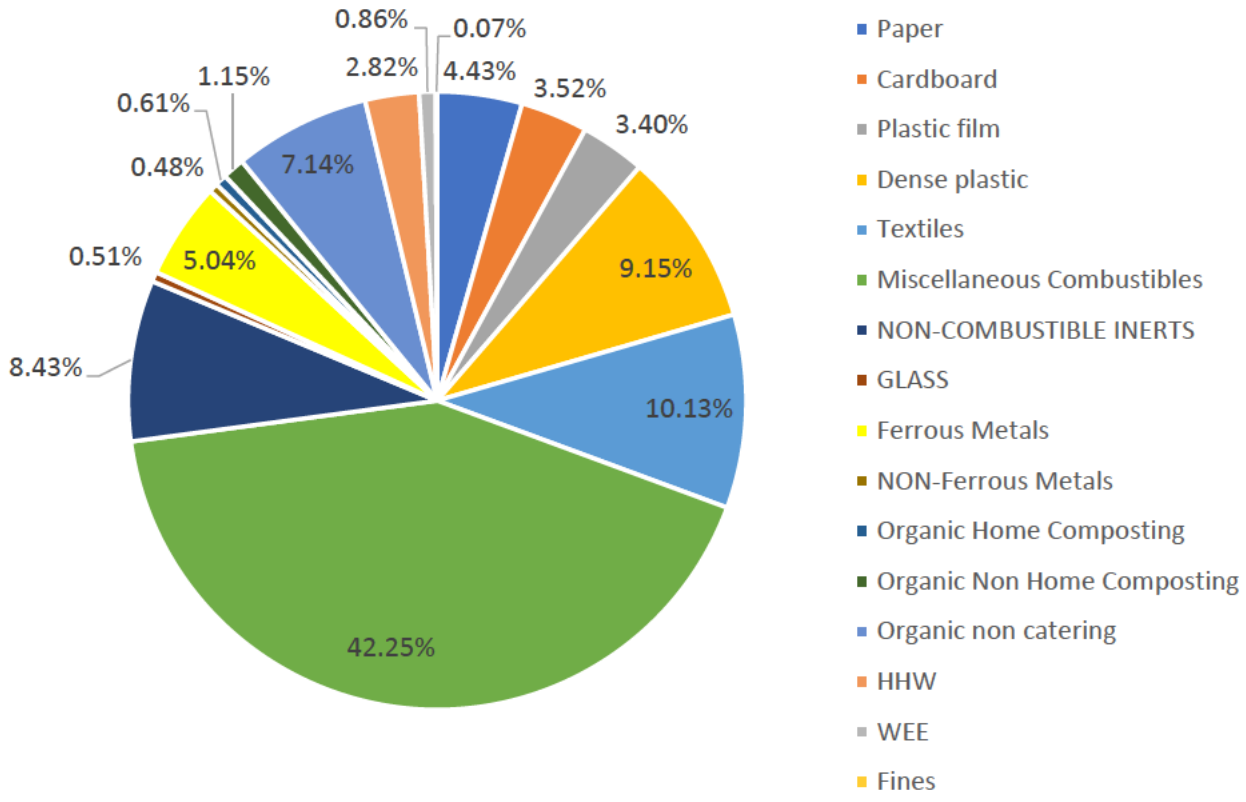


Figure 2 MISCELLANEOUS COMBUSTIBLES Breakdown

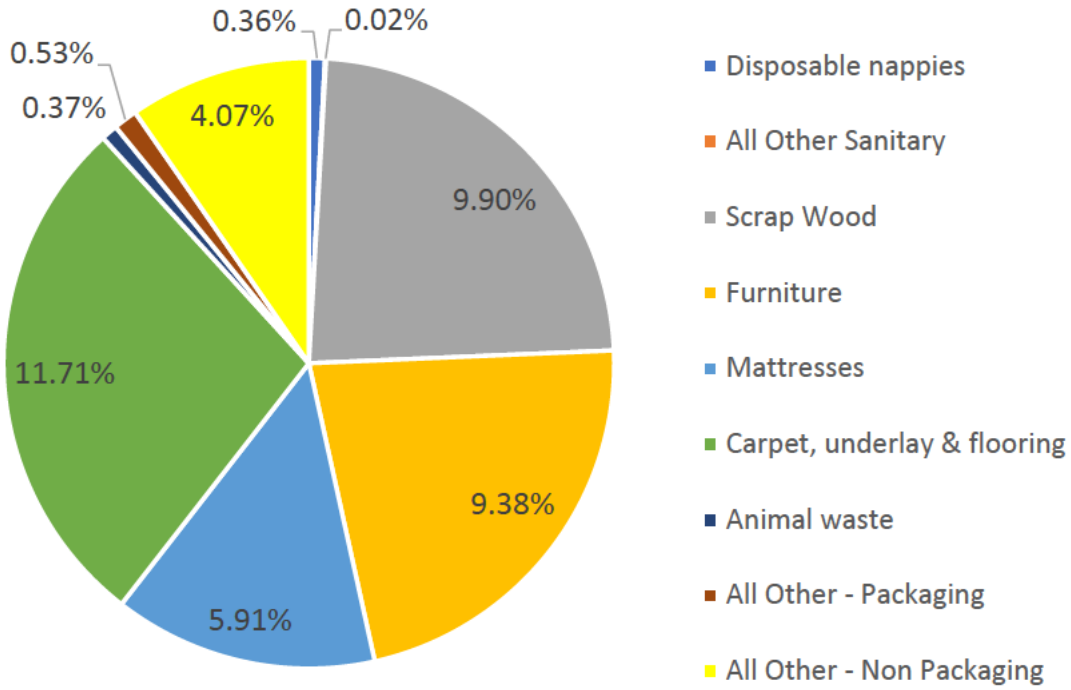
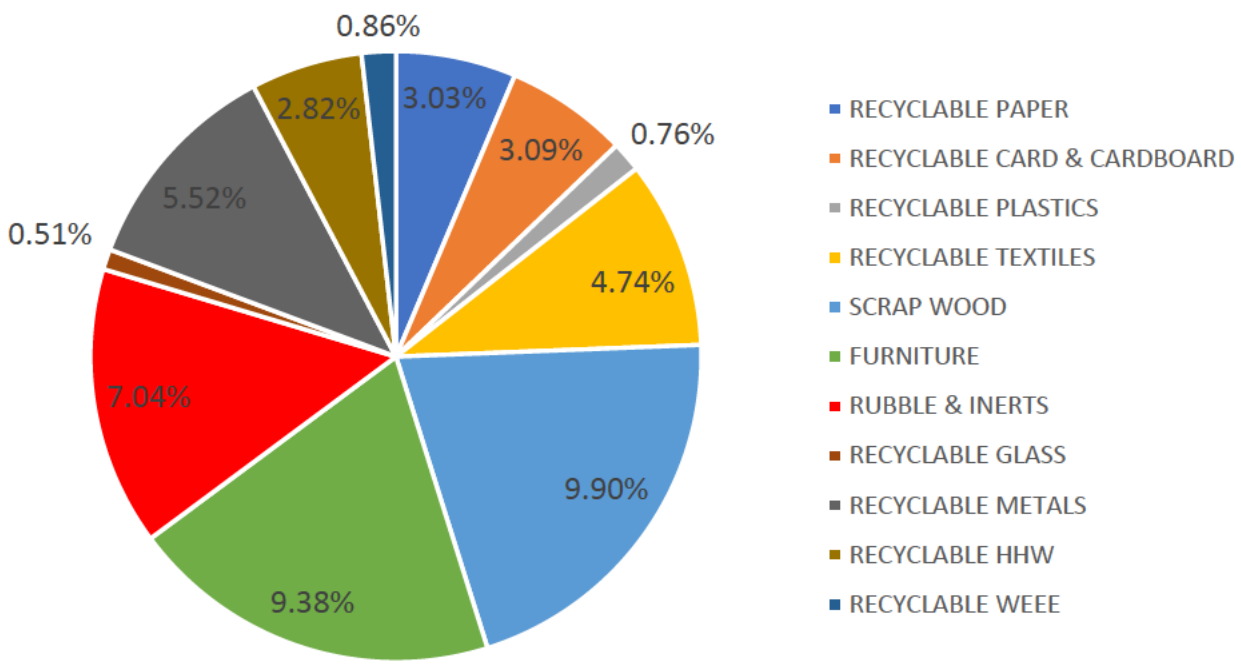


Figure 3 Breakdown of Dry-recyclables in residual waste stream



Waste from Kerbside

- Organic waste was seen to be the major component of residual waste forming 33% of the total.
- The average percentage of food in the residual waste from flats and houses where dedicated food waste services are provided is **23.49%** and **24.12%** respectively, compared to **27.97%** and **31.88%** where a service is not provided.

Table 1 shows all of the remaining core set of dry recyclables in the residual wate stream for both houses and flats. Table 2a and 2b shows the impact on recycling rates if there was a 100% capture of these materials in the correct waste streams. Table 3 is a summary of this information. The summary below has some limitations as it does not consider a number of issues such as:

- Performance changes at the County Council's Recycling Centres;
- Impacts arising from the implementation of consistency, deposit return schemes, or extended producer responsibility;
- Wider macro-economic factors such as business cycles and employment levels;
- More immediate issues such as the ongoing impact of the pandemic.

Table 1 – Core Set dry recyclables remaining in the residual waste – houses & flats											
Core Set	**BBC**	**DBC**	**EHDC**	**HBC**	**NHDC**	**SADC**	**SBC**	**TRDC**	**WBC**	**WHBC**	**Total**
Food Waste	4,835	5,112	8,311	5,895	4,127	3,542	5,731	3,254	4,736	6,520	52,065
Paper	766	1,102	903	1,058	731	384	567	273	491	512	6,786
Plastics	745	786	1,029	776	498	403	689	566	687	559	6,737
Cardboard	595	1,016	1,012	612	441	570	700	355	655	426	6,381
Glass	336	1,132	389	862	259	238	524	757	484	428	5,410
Cans	398	532	567	303	271	364	384	310	364	395	3,887
Garden Waste	731	81	77	877	518	48	42	25	63	28	2,491
Sub Total	**8,405**	**9,762**	**12,288**	**10,383**	**6,845**	**5,548**	**8,637**	**5,541**	**7,480**	**8,867**	**81,266**

Table 2a – 2019/20 recycling, composting and overall rates (actuals)										
	BBC	**DBC**	**EHDC**	**HBC**	**NHDC**	**SADC**	**SBC**	**TRDC**	**WBC**	**WHBC**
2019/20 dry rate	20.2%	24.8%	23.5%	20.3%	26.3%	27.9%	19.0%	30.3%	25.2%	24.2%
2019/20 compost rate	21.3%	28.0%	26.6%	24.0%	31.2%	35.1%	20.4%	33.8%	20.2%	22.3%
2019/20 Overall rate	**41.5%**	**52.8%**	**50.1%**	**44.4%**	**57.5%**	**63.0%**	**39.5%**	**64.1%**	**45.3%**	**46.6%**

Table 2b – 2019/20 recycling, composting and overall rates (possible)										
	BBC	**DBC**	**EHDC**	**HBC**	**NHDC**	**SADC**	**SBC**	**TRDC**	**WBC**	**WHBC**
2019/20 dry rate	28.3%	33.3%	30.6%	29.9%	33.5%	33.1%	28.4%	37.2%	33.8%	30.4%
2019/20 compost rate	37.1%	37.6%	42.1%	42.0%	41.3%	42.2%	39.3%	43.9%	35.2%	39.6%
2019/20 Overall rate	**65.3%**	**70.8%**	**72.7%**	**72.0%**	**74.8%**	**75.3%**	**67.7%**	**81.1%**	**68.9%**	**69.9%**

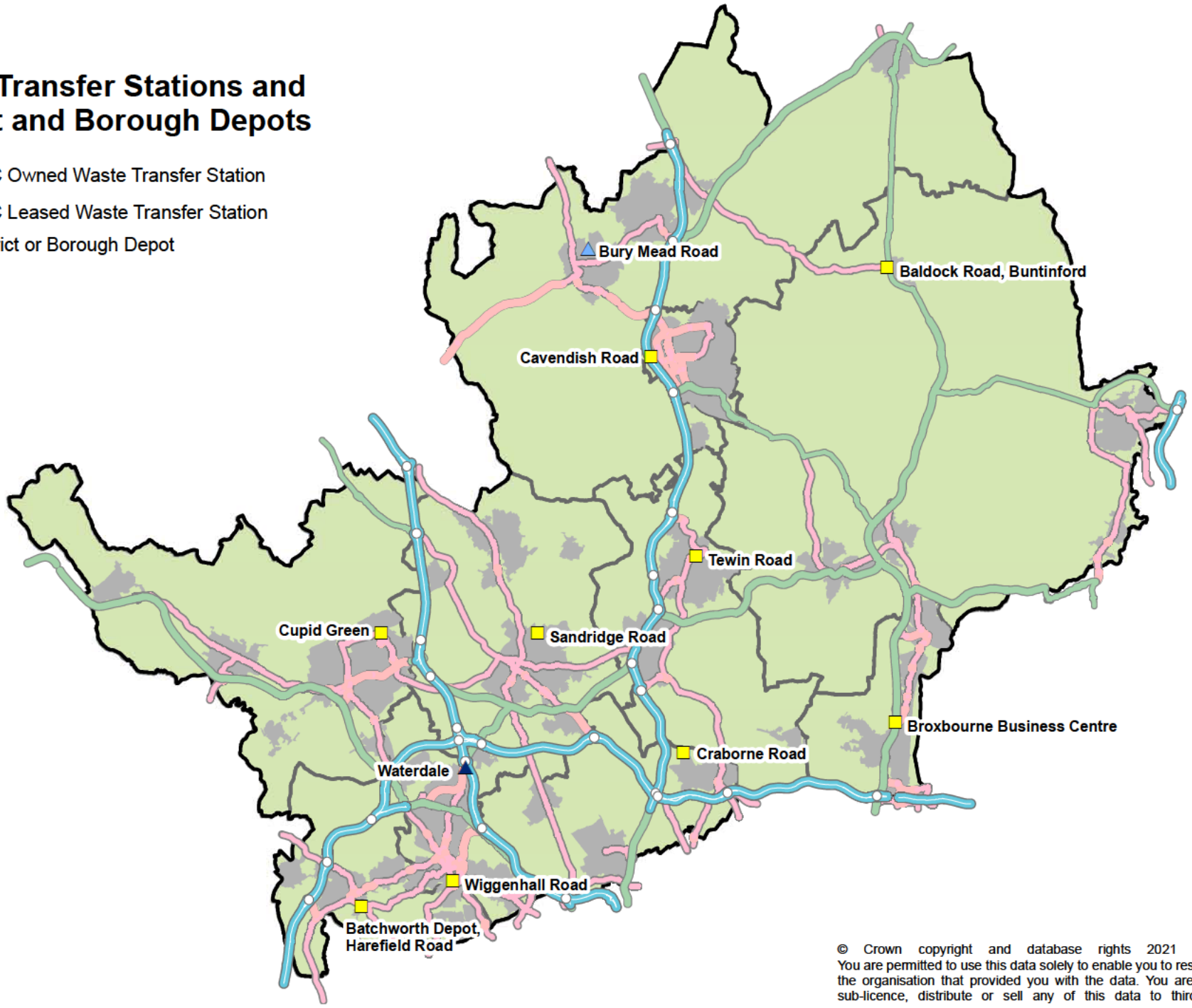
Table 3 Summary of actual vs the possible with 100% capture rate.

HWP Totals	**2019/20 (actual)**
Dry Recycling	131,972
Re-use	1,595
Composting	117,229
Residual	228,684
Sub Total	**479,480**
HWP Performance	**2019/20 (actual)**
Dry Recycling	27.5%
Re-use	0.3%
Composting	24.4%
Overall	**52.3%**

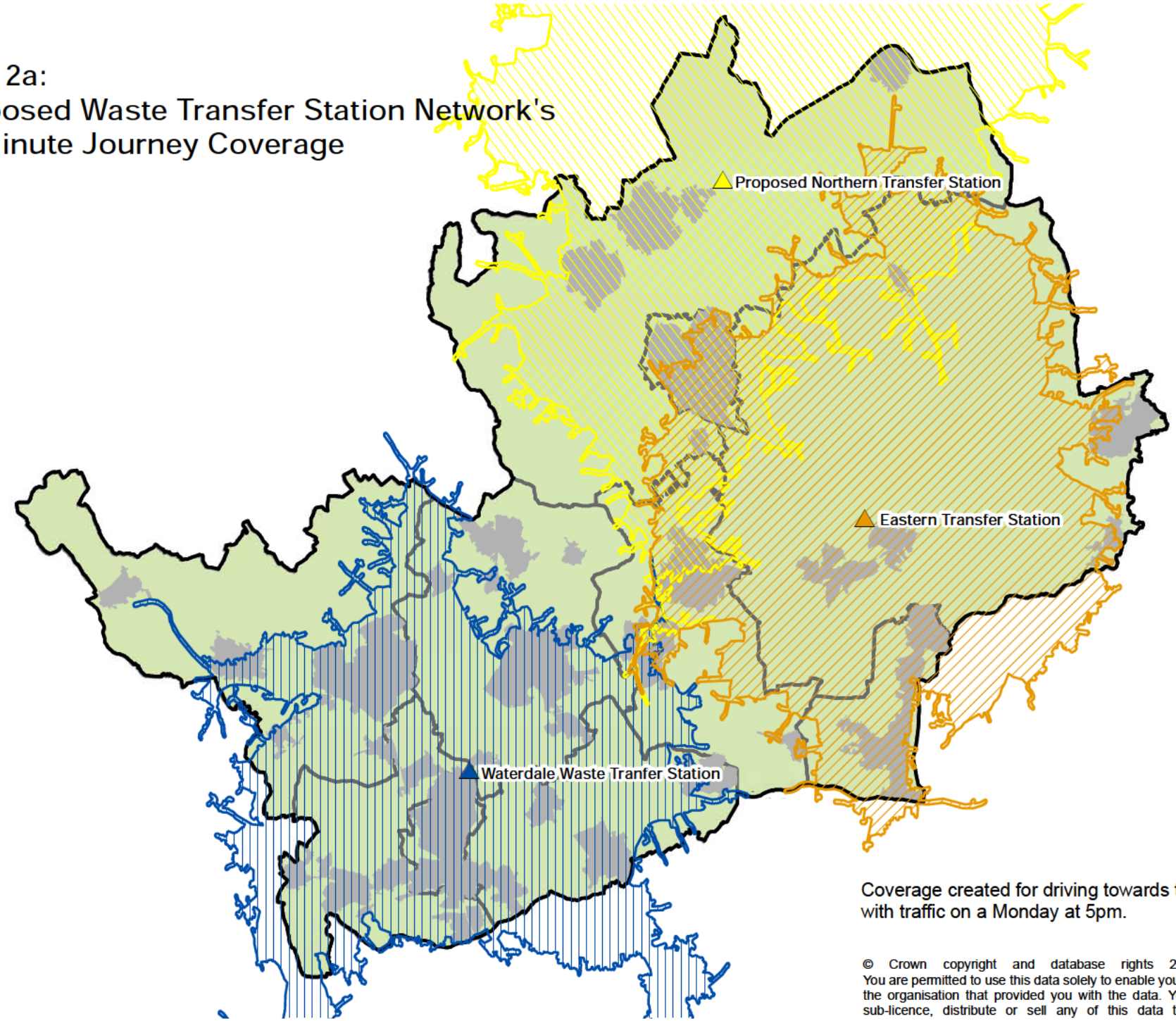
HWP Totals	**2019/20 (possible)**
Dry Recycling	158,682
Re-use	1,595
Composting	171,785
Residual	147,418
Sub Total	**479,480**
HWP Performance	**2019/20 (theoretical)**
Dry Recycling	33.1%
Re-use	0.3%
Composting	35.8%
Overall	**69.3%**

Plan 1:
Waste Transfer Stations and District and Borough Depots

- HCC Owned Waste Transfer Station
- HCC Leased Waste Transfer Station
- District or Borough Depot

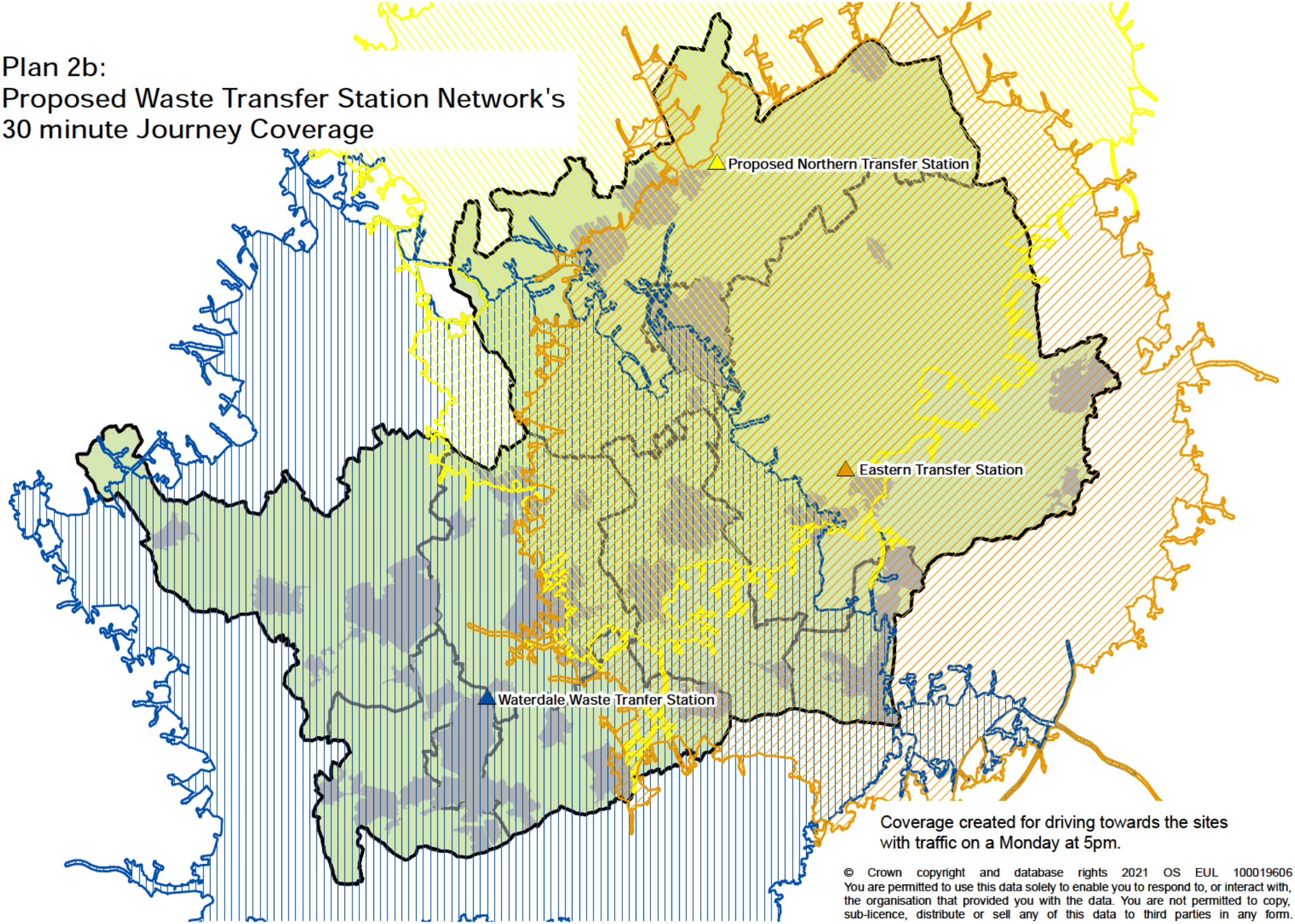


Plan 2a:
Proposed Waste Transfer Station Network's
20 minute Journey Coverage



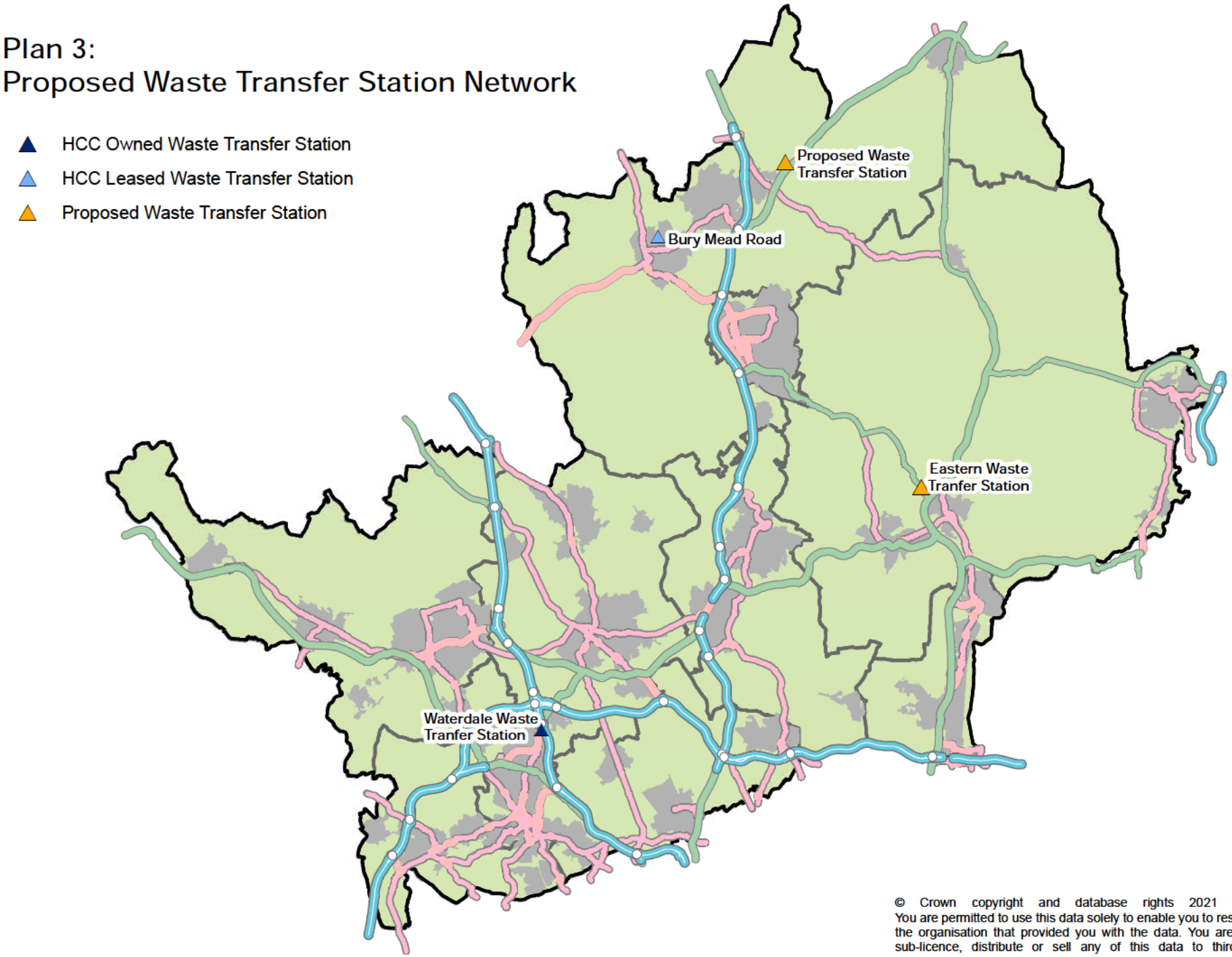
Coverage created for driving towards the sites with traffic on a Monday at 5pm.

Plan 2b:
Proposed Waste Transfer Station Network's 30 minute Journey Coverage



Coverage created for driving towards the sites with traffic on a Monday at 5pm.

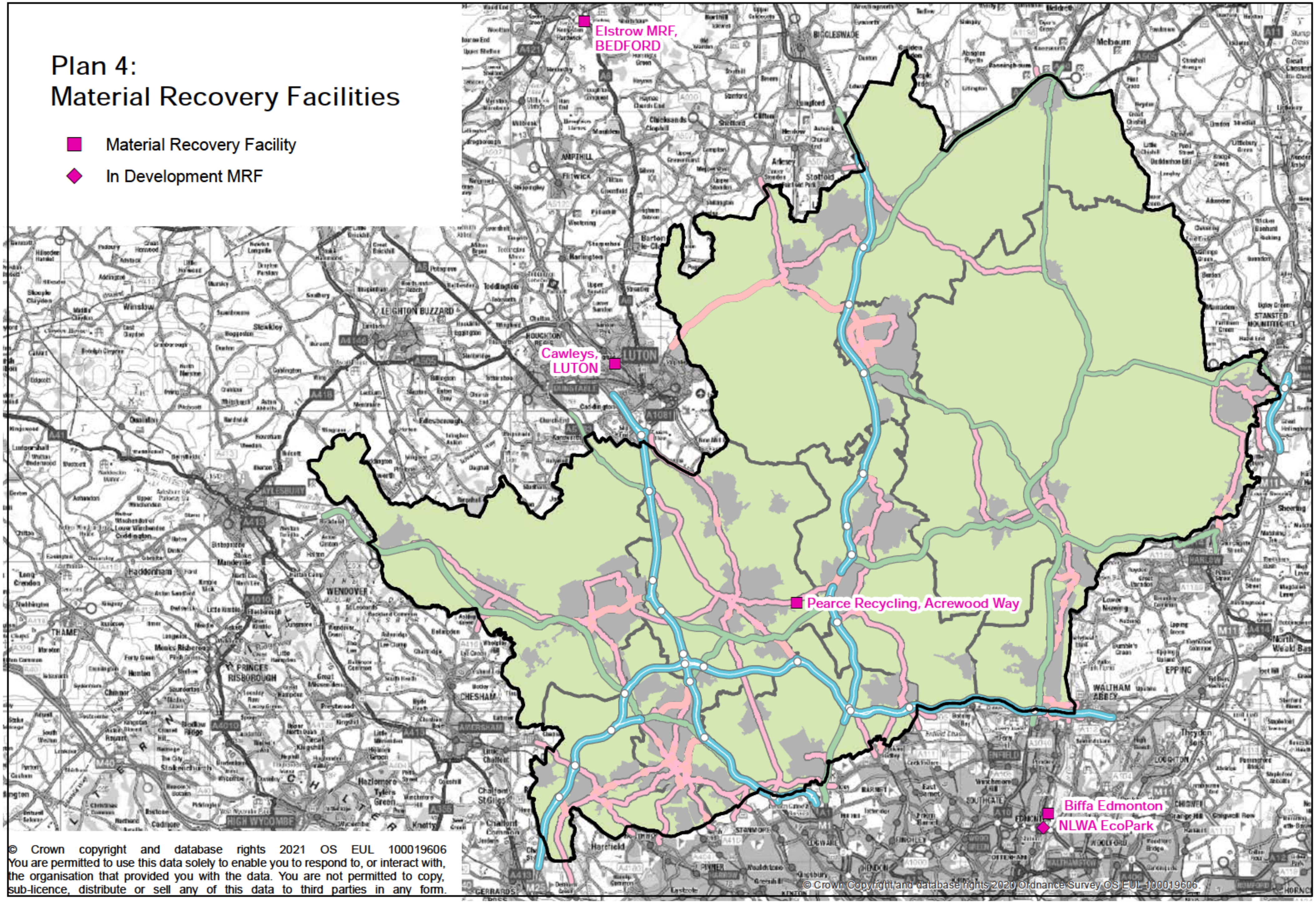
Plan 3:
Proposed Waste Transfer Station Network



Plan 4: Material Recovery Facilities

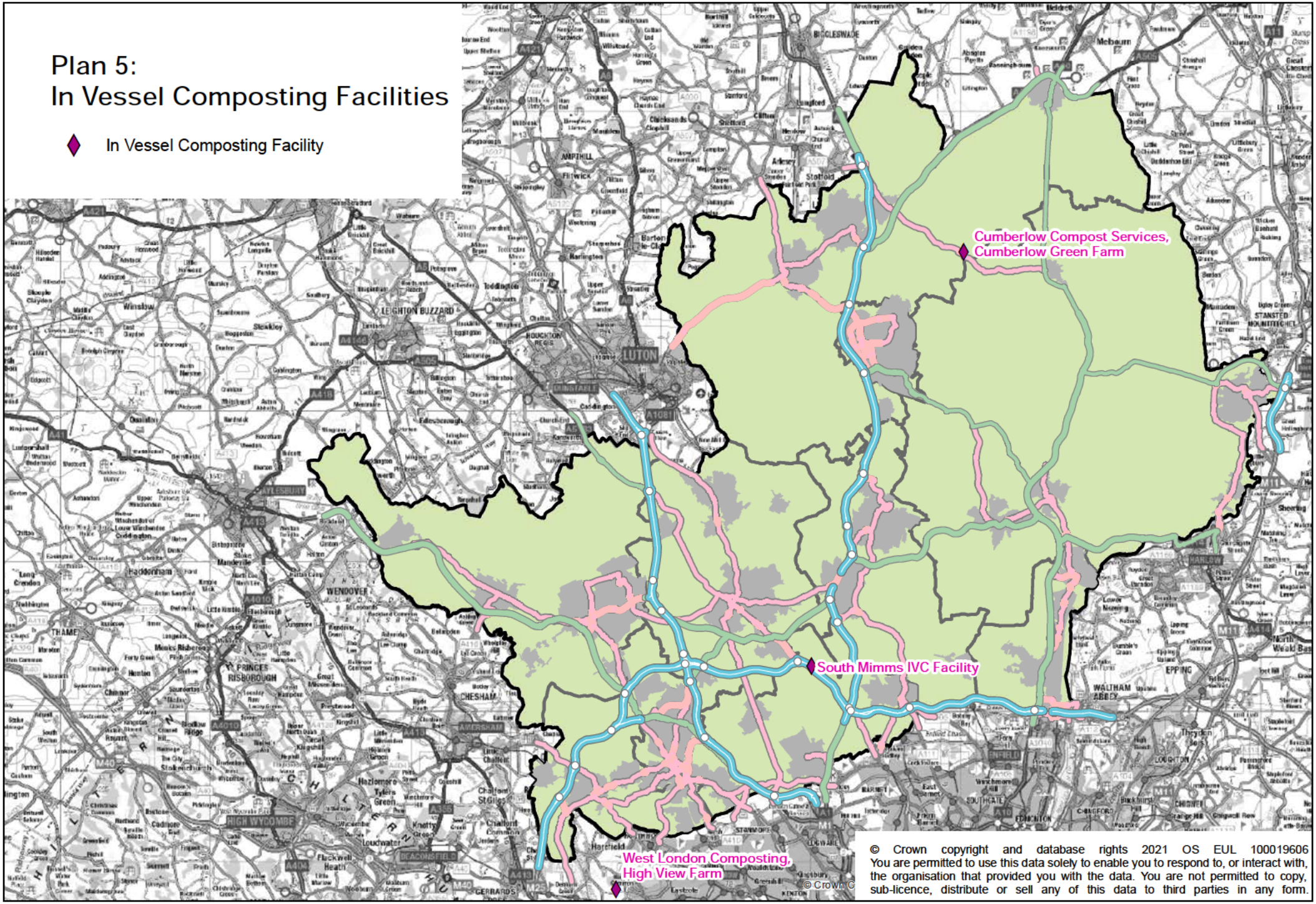
■ Material Recovery Facility

◆ In Development MRF



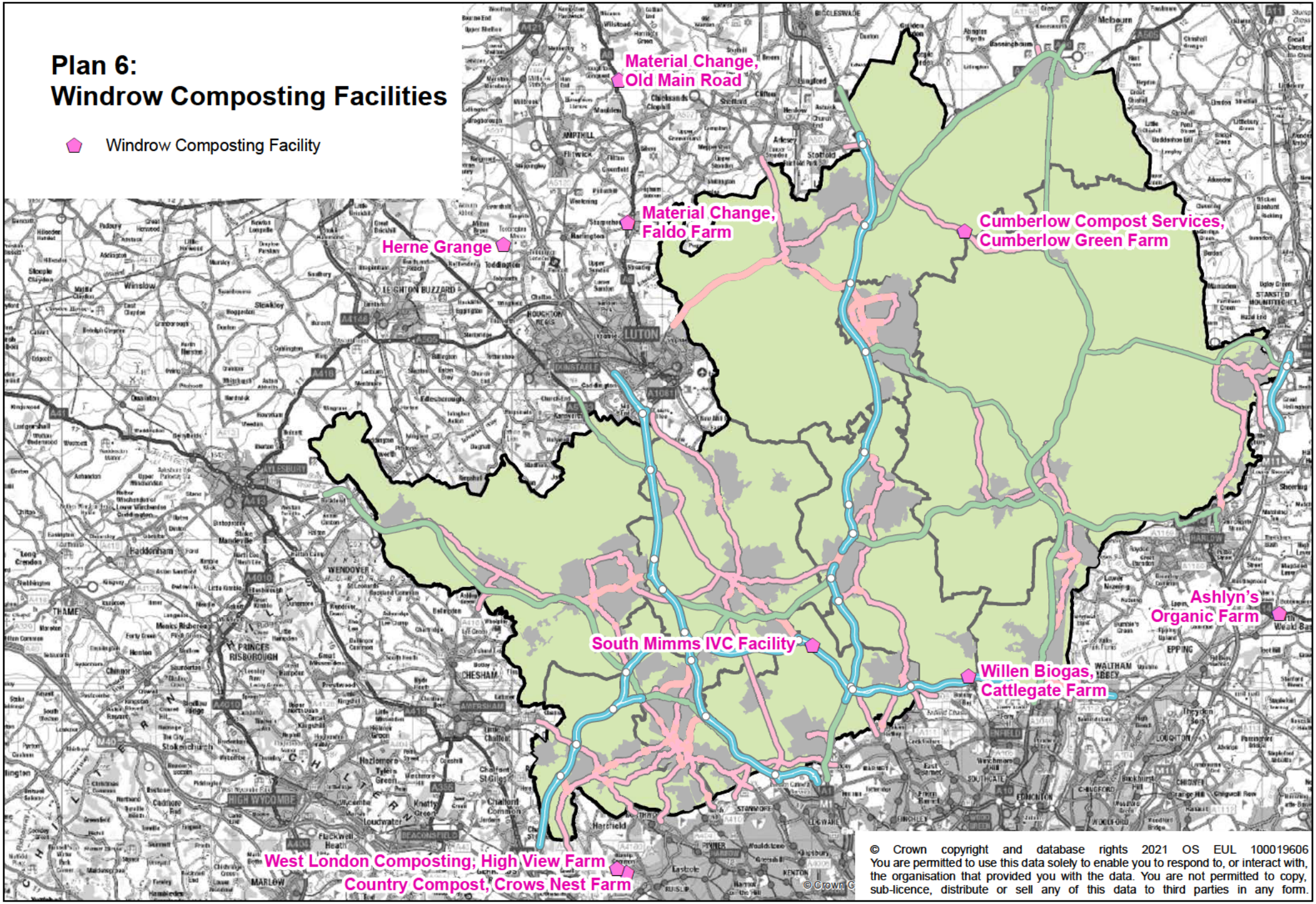
Plan 5:
In Vessel Composting Facilities

♦ In Vessel Composting Facility

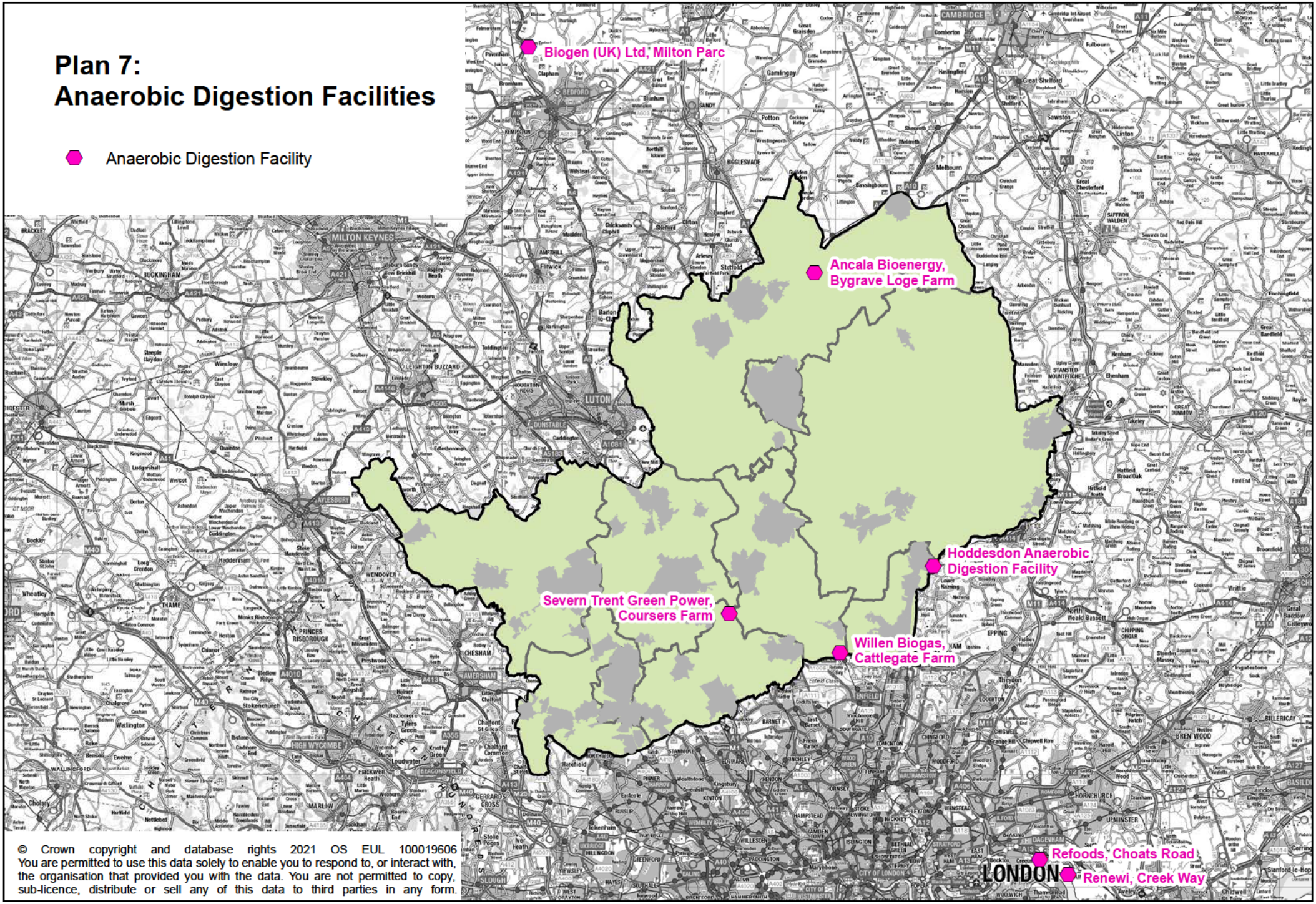


Plan 6:
Windrow Composting Facilities

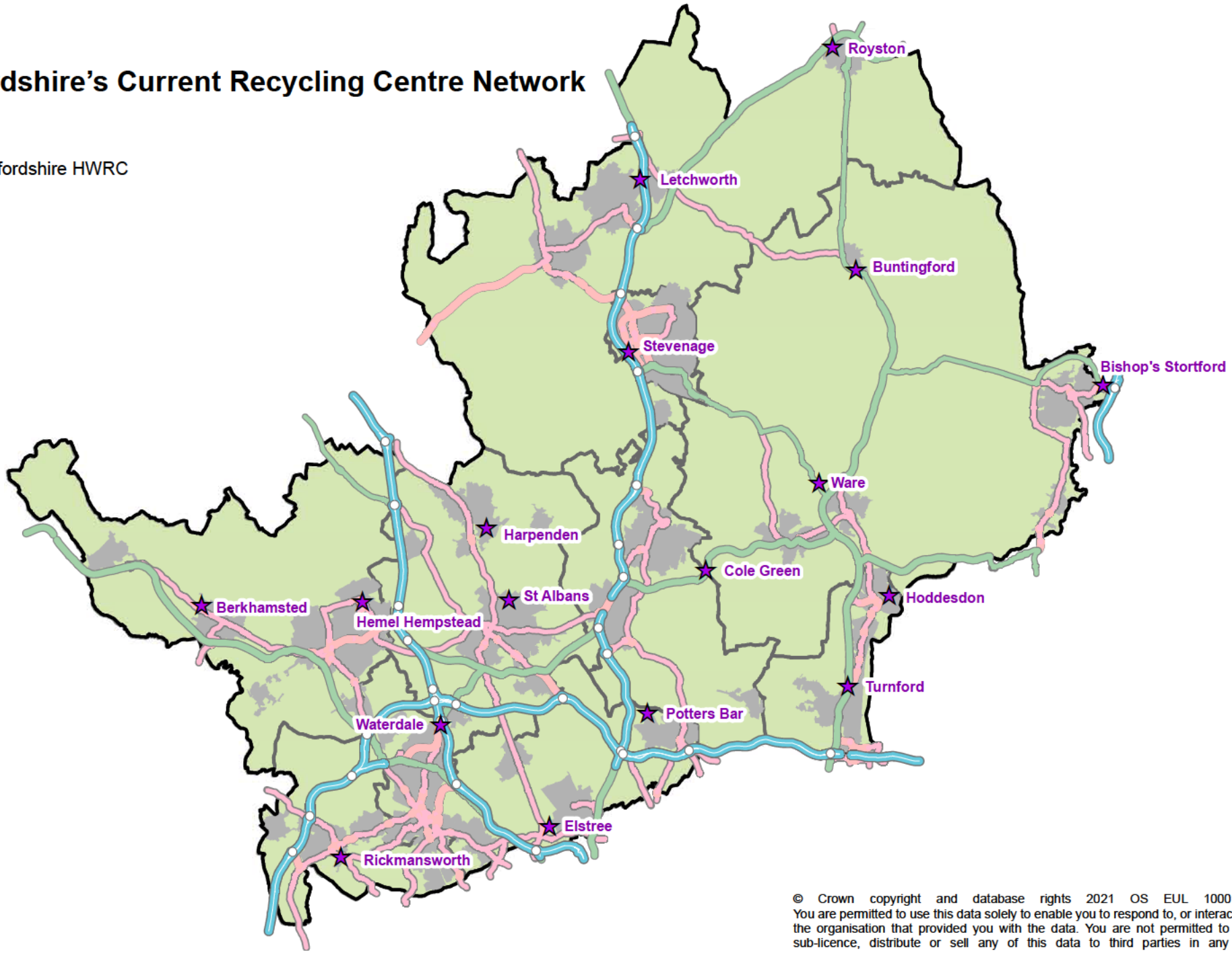
Windrow Composting Facility



Plan 7:
Anaerobic Digestion Facilities



Plan 8:
Hertfordshire's Current Recycling Centre Network



Hertfordshire County Council - making Hertfordshire an even better place to live by providing:

Care for older people
Support for schools, pupils and parents
Support for carers
Fire and rescue
Fostering and adoption
Support for people with disabilities
Libraries
Admission to schools
Road maintenance and safety
Protection for adults and children at risk
Trading standards and consumer protection
Household waste recycling centres

These are only some of our services.
Find out more at **www.hertfordshire.gov.uk**

Every Hertfordshire library has internet access for the public

Call **0300 123 4042** if you would like help to understand this information or need it in a different format. You can ask to speak to someone in your own language.

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