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Waste Compositional Analysis
Next Steps / Near Zero Landfill?
Vapes, Batteries, & Fires

JWDB


21st September 2023



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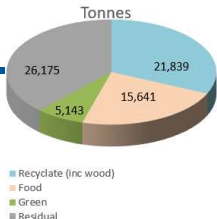
Waste Composition Analysis – 2022 Recap



What did we do?

- Waste composition sampling was undertaken for all 3 Councils, results applied to Waste Flow Forecast (WFF)
- Identified materials within the residual waste that if collected in the correct container at the kerbside, or delivered to the HWRCs, would have been recycled
- Applying the results to the WFF we identified the level of recyclate within the kerbside collected residual waste, and applied it to the contract prices at the time.

Saving	Amount
Recyclate Tonnage in Kerbside Residual Waste	£1,453,151
Wood Tonnage in Kerbside Residual Waste	£53,452
Green Tonnage in Kerbside Residual Waste	£254,628
Food Waste Tonnage in Kerbside Residual Waste	£1,552,438
Potential Disposal Saving	£3,313,668
Council Recyclate Share	£1,689,101
Potential Net Savings	£5,002,769



■ Recyclate (inc wood)
■ Food
■ Green
■ Residual

Overall Data (all Councils):

- 22/23 Waste Flow Forecast = 68,798 tonnes
- 31.9% (21,831tonnes) = Recyclates (inc wood)
- 22.4% (15,641 tonnes) = Food waste
- 7.8% (5,143 tonnes) = Green Waste
- **62.1% (42,623 tonnes) should not be in the residual waste**
- 37.9% (26,175 tonnes) = Residual Waste

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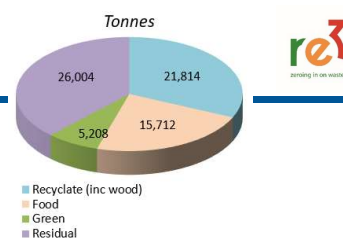


2023 Sampling to be undertaken

What are we doing:

- Compositional analysis sampling being undertaken in September to same standard
- Applied previous sampling % to current contract and recycle prices as a comparison (not new sample data)
- Once sampling has been undertaken, we will apply the new results to the current pricing to see if anything has changed

Saving	Amount
Recyclate Tonnage in Kerbside Residual Waste	£1,660,625
Wood Tonnage in Kerbside Residual Waste	£67,582
Green Tonnage in Kerbside Residual Waste	£296,813
Food Waste Tonnage in Kerbside Residual Waste	£1,556,094
Potential Disposal Saving	£3,581,113
Council Recyclate Share	£1,058,694
Potential Net Savings	£4,639,807



Overall Data (all Councils):

- 23/24 Waste Flow Forecast = 68,738 tonnes
- 31.7% (21,814 tonnes) = Recyclates (inc wood)
- 22.9% (15,712 tonnes) = Food waste
- 7.6% (5,208 tonnes) = Green Waste
- **62.2% (42,734 tonnes)** should not be in the residual waste
- 37.8% (26,004 tonnes) = Residual Waste

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Next Steps & actions



- Once new sampling data produced, this will highlight initiatives to generate savings and increase revenue
- Councils and collections teams can identify measures to encourage residents to place materials in the correct bin or container
- This information can be used to target specific comms campaigns withing areas, and targeting specific materials. HWRC booking system could be utilised.
- Provide education to residents regarding recycling and the services provided by the Councils
- FCC are reviewing technology for the MRF to aid further and more efficient recovery of materials
- Working with reprocessors on developing markets such as film and flexible plastics



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Is near zero landfill achievable?



- Circa 13k tonnes per annum are landfilled, including HWRC, bulky collections and fly tip material
- New legislation has led to diversion of domestic seating to EFW due to Persistent Organic Pollutants (POPs), this range of materials is likely to increase
- Bulky waste needs to be processed and shredded prior to going to EFW, however, this can be expensive due to being heavily regulated, also there are Calorific Value (CV) implications, as shredded material has a higher CV level, so material requires 'blending'
- We are currently reviewing and developing priced options for the processing and shredding of bulky material
- The partnership has 70k tonnes of contracted capacity at EFW; currently a shortfall in suitable waste arisings, with shortfall likely to increase as initiatives to remove recycle from waste deliver benefits
- Asbestos has to be landfilled, although tonnage is low in comparison



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Summary – What could we achieve, and how?



- Partnership could achieve 99% diversion from landfill
- Only material being delivered to landfill would be asbestos
- Potential to develop shredding facility, which could future proof the partnership, and potentially work with other Local Authorities
- By maximising collections and recycling more material means reduced costs and increased revenue delivering financial benefit
- Increase reuse, potential shop and/or repair hub
- Be at the forefront of new technology within the MRF, maximising performance and returns
- Re3 partnership could lead the way for Local Authorities.....



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Vapes, Batteries & Fires



- Over 30 million single-use vapes are bought per month by UK adults 16+ (double compared to Material Focus research conducted of adults 18+ in 2022)
- Only 17% of people who buy vapes (“vapers”) say that they recycle single-use vapes in a shop or local recycling centre
- Nearly 3 million single-use vapes a month are being hoarded in UK cupboards
- 73% of UK vapers say they throw away single-use vapes
- Equates to nearly 5 Million vapes thrown away each week
- They contain batteries, which if damaged cause fires
- Waste industry has circa 700 fires per year in facilities and vehicles caused by batteries, often hidden inside electrical items and vapes



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Fires at re3 Facilities



- 8 X fires on site YTD. 1 HWRC (battery container), 1 TS (within waste) 6 MRF
- All potentially started by battery / vape
- Thankfully and luckily all were extinguished without injury, major damage or disruption. Fire Brigade on site on 3 occasions
- Significant loss of revenue to partnership due to loss of material c £75,000
- Minor damage to equipment and disposal of contaminated water c £5,000
- Large incident could impact ability to gain insurance in an already difficult industry
- Fire within vehicle could be significant, especially electric vehicles which have large lithium batteries
- Significant fire could close facility for considerable time – tipping away (potential electric vehicle issue), disruption to collections, loss of revenue, additional costs residents using only 1 HWRC.....
- We need to take some action!



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What do we need to do?



- Increase our communications with residents regarding the dangers of batteries & vapes – utilise booking system, advertising on refuse collection vehicles, press releases
- Utilise existing campaigns 'Take Charge' & 'Zombie Batteries'
- We can accept batteries and vapes at the HWRC – this needs to be promoted further
- Potential drop off points at universities, Libraries, Council facilities? Potential collaboration with FCC & the Councils?
- We need to make recycling an easy option for residents, rather than them being discarded in refuse bins, or on the street, before it's too late



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Any questions?



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