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## **WASTE COMPOSITION ANALYSIS RESULTS SUMMARY AND PARTICIPATION MONITORING**

### **1 SUMMARY**

- 1.1 The purpose of this report is for Members to receive the findings of the results of the Waste Composition Analysis carried out in November 2006, and to receive recommendations on actions resulting from this analysis.

### **2 INTRODUCTION**

- 2.1 The Council commissioned Wastes Work Ltd to carry out a waste analysis to provide base line data on the weights and concentrations of materials found in the kerbside collection of residual waste and recycling. The information collected can be used to identify materials and inform decisions around collection frequencies and receptacles that will best help meet current and future recycling and biodegradable diversion targets.
- 2.2 The fieldwork was carried out in November 2006, over a two-week period by a team of four analysts. Five streets were identified to broadly represent different socio-economic groupings to be found in the District.
- 2.3 Each sample area was visited twice - once on a kerbside recycling week and once on a non-recycling week. Samples of waste and recycling were collected and bagged separately from the five streets. Approximately 40 households were included in the sample for each street. Households known to be participating in the garden waste scheme were excluded to assist in achieving consistent types of samples.
- 2.4 The Council have also received a small number of calls requesting clarification of what the sampling team were doing. A letter drafted by the Council was available for the analysts to hand out as and when required, which provided further information on the reasons for the exercise.
- 2.5 The sorting was carried out at the Luxborough Lane Household Waste Recycling Centre, Chigwell in a secure manner as described in the presentation given to Members in October 2006. Samples were unloaded and weighed on electronic platform scales, fine particles were removed and the rest of the waste was hand sorted into 48 specified sub-categories. Each sub-category was then weighed on electronic platform scales and the data recorded. At the end of each days work the waste was transferred into residual waste skips ready for disposal.
- 2.6 In 2005/06 Rochford collected 33,421 tonnes of household waste of which 4,676 tonnes was collected as recyclable material. A further 179 tonnes was collected separately as garden waste, resulting in 28,566 tonnes of waste being sent to landfill for disposal.

- 2.7 In 2005/06 14.5 per cent of waste material collected was recycled/composted, with this figure continuing to rise and is now in the region of 16.5 per cent (2006/07).

### **3 RESULTS OF THE WASTE COMPOSITION ANALYSIS**

- 3.1 From the result of the waste analysis, the following key points were identified:-

- The average weight of residual waste thrown away each week by a Rochford household is 13.5 kg, which is similar to the UK average for a household using a 240 litre wheeled bin.
  - Dominant materials in the residual waste were food waste, garden waste, card and nappies. These four types of material make up 52 per cent of the total weight of waste and therefore could be targeted for reduction.
  - On average 4 kg is food (with 97 per cent of bins containing food waste) and 0.7 kg disposable nappies.
- Households currently using the garden waste kerbside collection scheme were not included in the sampling. However 30% of the households sampled had garden waste in their residual waste bins, amounting to 1.1 kg of garden waste. Informing households that their residual waste bins will be rejected if they contain garden waste or further targeting of garden waste may be options for the Council to consider.
- The average household recycles 2.6 kg per week. The true weight of recycling per household is masked by the number of households who did not set out material for collection.
- On average a further 1.7 kg per household, per week of recyclable material is not being separated from the residual waste. This figure is not high considering the number of households who did not set out material. It may suggest that householders are participating but not on a fortnightly basis, again, this could be investigated.
- The recycling boxes set out for collection were either full or three quarters full. This suggests that there is little room in the boxes for additional materials, particularly high volume materials. To improve capture of recyclable materials it may be beneficial to add an additional container, introduce a larger container or increase frequency of collection. If new materials were introduced into the recycling scheme, additional boxes or alternative methods of collection would be necessary.
- All the households surveyed had thrown away non-recyclable paper e.g. tissues and kitchen roll. The average weight per household of this non-

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recyclable paper is 0.62 kg, of which over half of the weight could be included in a kitchen waste collection scheme.

- All the households surveyed had also thrown away plastic film e.g. crisp packets and carrier bags. Carrier bags can be returned to supermarkets where they are sent for recycling and some local authorities also collect these materials.
- 99% of households surveyed had thrown away card or cardboard, with an average weight per household of 0.8 kg.

3.2 Under the current kerbside scheme, on average 1.7 kg of each householders waste contained within the grey wheeled bin was potentially recyclable:-

- 1.2 kg is recyclable paper – 76 per cent of the bins surveyed contained newspaper and magazines.
- Recyclable glass containers made up 0.4 kg of the average bin, with clear jars being found in 42% of the bins surveyed. This is common as householders are less inclined to rinse and recycle their food jars.
- The average weight for cans is 0.2 kg. Iron cans were found in 72% of the bins surveyed and Aluminium cans in 31% of the bins.

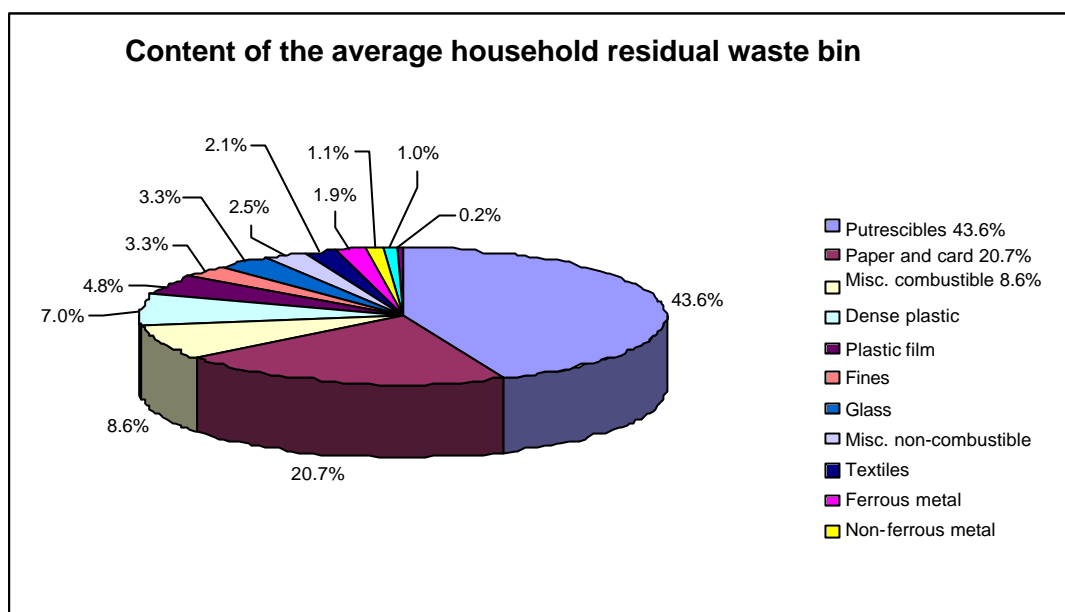
On average households recycled:-

- 1.8 kg of paper;
- 0.7 kg of glass; and
- 0.1 kg of cans.

3.4 The overall capture rate is 60%, with the overall diversion rate of 17%. Very little contamination was found in the recycling samples.

3.5 Biodegradable waste made up 71% of the total material collected at the kerbside. The current recycling scheme is achieving a diversion rate for biodegradables of 12%. Capture and diversion rate figures for biodegradable material could be significantly raised if kitchen waste and card were collected at the kerbside.

**Diagram One: Content of the average household residual waste bin**



- Putrescible waste which includes garden waste, all food waste, animal bedding and excrement, made up the greatest concentration for all samples at approximately 44% by weight.
- In terms of the overall average figures, food waste is 4 kg per household per week, and garden waste 1 kg per household per week. As food waste makes up 32% of the weight in the residual waste bin, it is an obvious target for reduction. With a 60% capture rate, potentially 2.4 kg of material per household per week could be diverted.
- Although garden waste was found in the residual waste in all sample areas, as an average it was only found in 30% of the bins sampled, making up approximately 1 kg per household per week, or 8% of the total weight.
- Paper and card made up the second highest concentration by weight for each sample at approximately 20%. Cardboard and card are currently not included in the kerbside recycling or compost scheme. The survey showed that 99% of households had this material in their waste, with an average per household figure of 0.8 kg; this is equivalent to 6% of the total weight of waste. If this material were included in an extended kerbside recycling scheme, then with a capture rate of 60% of households, an additional 0.5 kg per household per week could potentially be diverted.

- Disposable nappies were found in 14% of the bins surveyed. As an average across all households, the figures round down to 0.7 kg per household per week, equivalent to 5.4% of the total weight of waste. The average for just the households with nappies is significantly higher at 5 kg per household. However, there is no alternative to disposal currently.
- For householders in all sample areas, paper, card and putrescibles made up 60% of the total weight of their waste. Miscellaneous combustibles, specifically nappies, and dense plastic materials brought the figure up to 80% for the most affluent households.

#### **4 CONCLUSIONS**

- 4.1 The Landfill Allowance Trading Scheme (LATS) is a key Government performance measure. It aims to reduce the amount of biodegradable municipal waste going to landfill and is a market-based mechanism that introduces progressively tighter restrictions. Currently the charge for a disposal authority exceeding its LATS allowance is £150 per tonne.
- 4.2 The main points arising from the analysis show that to encourage greater recycling, larger containers are required as there is insufficient space in existing containers for the average household. This results in excess recycling material being deposited in the residual bin.
- 4.3 Several householders said they were unable to recycle, as they did not have a box. Recent leafleting of all properties in the district has resulted in boxes being provided to a number of properties, as well as second boxes being provided when requested.
- 4.4 If additional materials were to be collected, either an additional container would be needed or a larger container such as a wheeled bin supplied. It was often found that householders fill their boxes to carrying capacity and then throw away additional materials in to the residual bin. If additional or larger containers are not appropriate an alternative would be to increase collection frequency.

#### **5 PARTICIPATION MONITORING**

- 5.1 As Members are aware, a programme of participation monitoring was carried out recently over a six-week period that involved leafleting households that had not put out any recycling material. This was carried out across all the collection rounds and appears to have been very successful, as over the last two months there has been a significant increase compared to the same time last year, in the number of requests received for blue boxes. It should also be noted that during this monitoring exercise we have not received any complaints from residents that received the leaflet.

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**6 RECOMMENDATION**

6.1 It is proposed that the Committee **RECOMMENDS**

- (1) That through the procurement process consideration is given to collecting additional materials particularly card, cardboard, plastics and kitchen waste.
- (2) That through the procurement process larger containers for recycling are considered and/or the frequency of collection is increased.
- (3) That as part of the new contract, consideration be given to rejecting residual bins where garden waste is deposited and/or a green waste option is offered in the new contract.
- (4) That officers ensure that each household on the scheme has at least one recycling container to enable the resident to participate in recycling or in the case of most flatted accommodation, has access to a communal recycling bin.

Jeremy Bourne

Head of Community Services

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**Background Papers:-**

None.

For further information please contact Alan Lovett on:-

Tel:- 01702 546366 Ext.3326  
E-Mail:- alan.lovett@rochford.gov.uk

If you would like this report in large print, braille or another language please contact 01702 546366.