

Appendix 6: Gap Analysis of Municipal Waste Compositional Evidence

A summary of data gaps identified by this project, in respect of municipal waste compositional evidence for the UK, is presented in Table 6.1. Further comments on the most significant data gaps are provided below.

6.1 England: kerbside and HWRC wastes

This project has collated a considerable body of compositional data in respect of kerbside waste streams in England. Our analysis in Appendix 4 suggests that the collated kerbside data meeting our selection criteria provide good coverage within England, particularly in terms of kerbside residual waste. Coverage of HWRC waste streams in England is also good, though with a bias towards more affluent areas.

The lack of detail in some WDF recycling categories produces significant uncertainties for kerbside recycling compositional estimates for some materials, which also makes the estimation of biodegradable content in municipal waste problematic; (see Appendix 4.4).

6.2 Devolved administrations: kerbside and HWRC wastes

In respect of the Devolved Administrations, there are scant compositional data available on kerbside and HWRC wastes in Scotland. Wales has been the subject of the most comprehensive assessment of municipal waste composition within the UK, though this study is becoming dated (2003) and there is a dearth of more recent data in respect of kerbside and HWRC wastes. A recent assessment of Northern Ireland's municipal waste composition has been carried out, but although the coverage for this assessment has been reasonable in terms of kerbside and HWRC wastes, there is arguably a requirement for broader coverage of these waste streams in Northern Ireland in future studies.

6.3 Other waste streams

There are significant data gaps for the remaining municipal waste streams in the UK (ie excluding kerbside and HWRC wastes). The degree to which each of these waste streams contribute to overall municipal waste arisings varies. For example, non-household residual waste (excluding HWRC non-household waste) – chiefly from commercial waste collections carried out by local authorities – constitutes around 11% of England municipal waste arisings, and is clearly a significant element of municipal waste overall. 25 compositional datasets have been collated in relation to this waste stream, which is probably insufficient in relation to the large tonnages represented by non-household residual waste.

“Other household residual” waste - from street sweepings, litter and bulky waste collections - accounts for around 6% of England's municipal waste. This project collated 14 street sweepings & litter datasets and 16 bulky waste collection datasets. This is again probably insufficient in relation to the relatively large tonnages that these waste streams represent, particularly in terms of street sweepings and litter, which is considered likely to constitute the majority of WDF “Other household residual” waste tonnages.

Bring sites recycling accounts for around 2% of England's municipal waste. Fortunately WDF provides a compositional breakdown of this waste stream in a reasonable level of detail.

However only 1 bring site compositional study was collated and so there is virtually no data on the more detailed compositional breakdown of bring site materials.

Finally, WDF does not report non-household recycling in terms of material categories which introduces uncertainties to estimates for the compositional breakdown of this waste stream; however non-household recycling accounts for less than 1% of England's municipal waste.

Table 6.1: Summary of UK municipal waste compositional evidence gap analysis

Waste stream	Coverage	Quality	Work undertaken	Gaps
<p>Kerbside residual</p> <p>number of studies =357</p> <p>number selected for analysis in England= 120</p>	<p>Coverage very good across English districts</p> <p>Northern Ireland: 10 datasets</p> <p>Scotland: 19 datasets</p> <p>Wales: 11 datasets (9 from 2003 study, 2 additionally collated)</p>	<p>Main reasons for reject: single phase studies, studies pre-2005</p>	<p>Primary category list applied, exploratory analysis of district-level variation, regression model for garden waste, secondary category analysis: plastics; assessment of 4 scenarios for weighting data</p> <p>combined kerbside composition with WDF 2006/07 at district level</p> <p>produced estimates for residual kerbside linked to WDF tonnages</p>	<p>More Scottish studies needed to cover seasonality, Welsh study from 2003 needs up-dating</p>
<p>Kerbside recycling</p> <p>number of studies =211</p> <p>number selected for analysis in England= 94</p>	<p>Coverage very good across English districts by system type</p> <p>most recycling studies are linked to kerbside residual studies</p>	<p>Main reasons for reject: single phase studies , studies pre-2005</p>	<p>Dry recycling datasets used to refine WDF tonnages so that detail matches primary category list</p> <p>combine with the recycled materials data from WDF 2006/07 at district level</p> <p>produced estimates for recycling kerbside based on WDF tonnages</p>	<p>Gaps in WDF coverage in accounting for material-specific recycling, difficulty of accounting for % BMW</p>
<p>HWRC residual</p> <p>number of studies =56</p> <p>number selected for analysis in England= 34</p>	<p>Generally good, but bias towards more affluent areas</p>	<p>studies rejected with inadequate category list, large quantities unsorted black bag waste or undifferentated input studies</p>	<p>developed primary category list with reference to residual list, but extending for HWRC specific materials</p>	<p>Quality of research design & consistency needs to be improved: seasonality, control for day of week</p>
<p>HWRC/ bring recycling</p> <p>number of studies =1</p>	<p>HWRC recycling covered to some extent by in-put studies</p> <p>only one study with bring site composition</p>		<p>input compositions & other studies used to define co-mingled tonnages</p>	<p>Issue with WDF lack of material-specific recycling tonnages</p>
<p>Other household sources</p> <p>number of studies =64</p>	<p>Few studies across a variety of different waste streams</p>	<p>Lack of consistency in study design, sampling</p>	<p>reviewed detailed categories with WDF to assess which streams can be estimated from limited data</p>	<p>limited data & lack of consistency in study types, but better than grossing-up compositions using combined k/side & HWRC profile?</p> <p>Gap in basic compositional data</p>
<p>Non household residual/ recycling</p> <p>number of studies =39</p>	<p>Few studies across a variety of different waste streams</p>	<p>Lack of consistency in study design, sampling</p>		<p>WDF: does not differentiate non-household recycling by material and no directly relevant compositional data available</p> <p>Gap in basic compositional data</p>

