WasteDataFlow

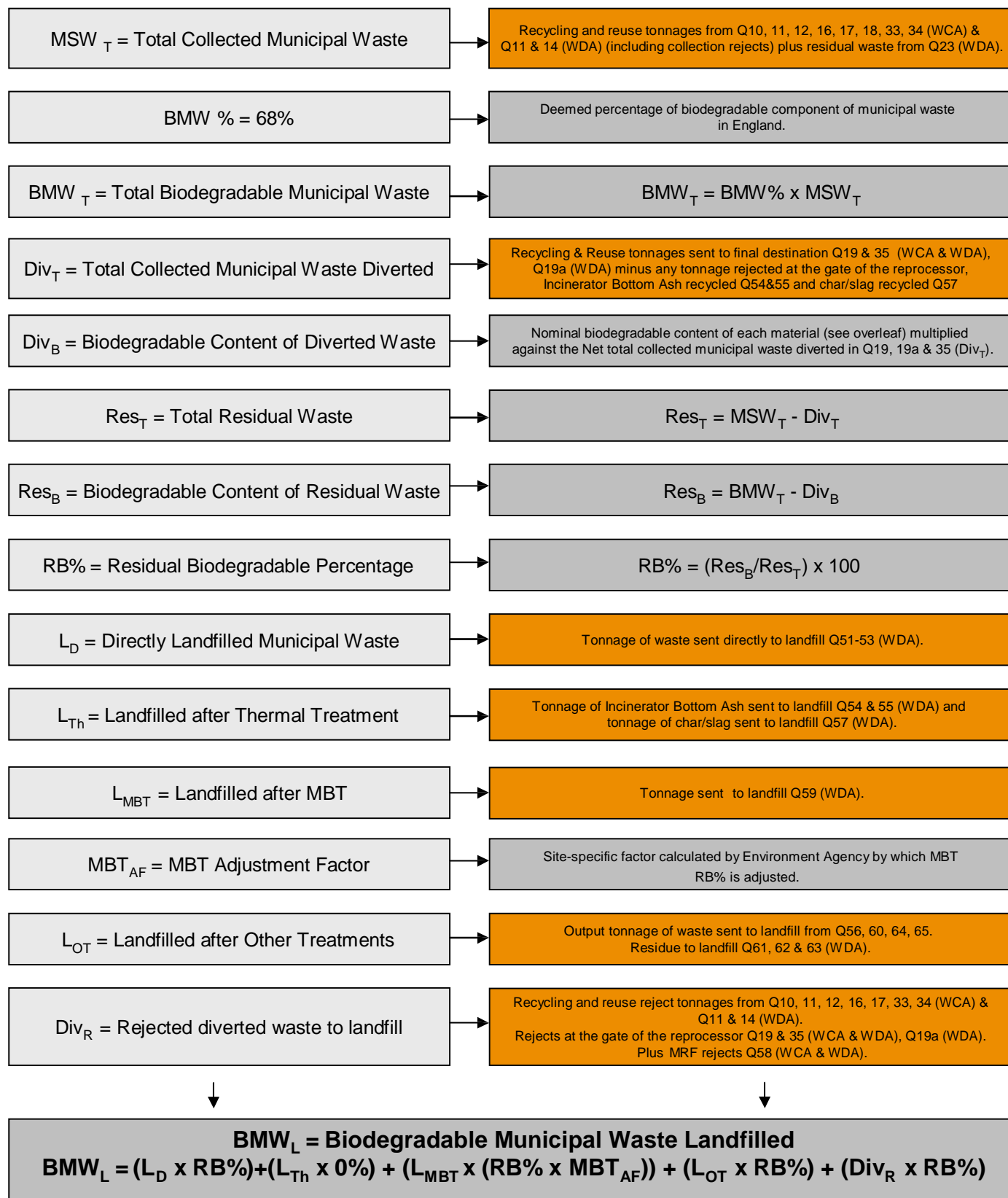## GN7: Method of calculating Mass Balance from WasteDataFlow for a Waste Disposal Authority

In order to calculate Mass Balance for a WDA, recycling data from the constituent WCAs is required from WasteDataFlow. The questions sourced from a WCA's WasteDataFlow return is indicated below by (WCA).

MSW_T = Total Collected Municipal Waste	Recycling and reuse tonnages from Q10, 11, 12, 16, 17, 18, 33, 34 (WCA) & Q11 & 14 (WDA) (including collection rejects) plus residual waste from Q23 (WDA).
BMW % = 68%	Deemed percentage of biodegradable component of municipal waste in England.
BMW_T = Total Biodegradable Municipal Waste	$BMW_T = BMW\% \times MSW_T$
Div_T = Total Collected Municipal Waste Diverted	Recycling & Reuse tonnages sent to final destination Q19 & 35 (WCA & WDA), Q19a (WDA) minus any tonnage rejected at the gate of the reprocessor, Incinerator Bottom Ash recycled Q54&55 and char/slag recycled Q57
Div_B = Biodegradable Content of Diverted Waste	Nominal biodegradable content of each material (see overleaf) multiplied against the Net total collected municipal waste diverted in Q19, 19a & 35 (Div_T).
Res_T = Total Residual Waste	$Res_T = MSW_T - Div_T$
Res_B = Biodegradable Content of Residual Waste	$Res_B = BMW_T - Div_B$
RB% = Residual Biodegradable Percentage	$RB\% = (Res_B/Res_T) \times 100$
L_D = Directly Landfilled Municipal Waste	Tonnage of waste sent directly to landfill Q51-53 (WDA).
L_{Th} = Landfilled after Thermal Treatment	Tonnage of Incinerator Bottom Ash sent to landfill Q54 & 55 (WDA) and tonnage of char/slag sent to landfill Q57 (WDA).
L_{MBT} = Landfilled after MBT	Tonnage sent to landfill Q59 (WDA).
MBT_{AF} = MBT Adjustment Factor	Site-specific factor calculated by Environment Agency by which MBT RB% is adjusted.
L_{OT} = Landfilled after Other Treatments	Output tonnage of waste sent to landfill from Q56, 60, 64, 65. Residue to landfill Q61, 62 & 63 (WDA).
Div_R = Rejected diverted waste to landfill	Recycling and reuse reject tonnages from Q10, 11, 12, 16, 17, 33, 34 (WCA) & Q11 & 14 (WDA). Rejects at the gate of the reprocessor Q19 & 35 (WCA & WDA), Q19a (WDA). Plus MRF rejects Q58 (WCA & WDA).

$$BMW_L = \text{Biodegradable Municipal Waste Landfilled}$$
$$BMW_L = (L_D \times RB\%) + (L_{Th} \times 0\%) + (L_{MBT} \times (RB\% \times MBT_{AF})) + (L_{OT} \times RB\%) + (Div_R \times RB\%)$$

Percentage biodegradability of separated fractions of MSW – as appears in the Landfill Allowances & Trading Scheme (England) Regulations 2004

Type of waste	Amount of biodegradable municipal waste (percentage by weight)
Paper and Card	100%
Putrescible waste	100%
Vegetable oil	100%
Footwear	50%
Furniture	50%
Textiles	50%
Mineral oil	0%
Electrical and electronic equipment	0%
End-of-life vehicles	0%
Glass	0%
Inert construction and demolition waste	0%
Metal	0%
Plastic	0%
Soil	0%

Explanation of Terms:

WCA   **Waste Collection Authority**

WDA   **Waste Disposal Authority**

MSW   **Municipal Solid Waste**

BMW   **Biodegradable Municipal Solid Waste**

MBT   **Mechanical Biological Treatment**

MRF   **Material Recycling Facility**

MBT$_{AF}$ **Mechanical Biological Treatment Adjustment Factor is the % the MBT process reduces the biodegradability of the Municipal Solid Waste.**

Net Total   **Tonnage of material sent for recycling/reuse minus any rejects.**

Note – How are Incinerator Bottom Ash and metals treated for the purposes of LATS.

In relation to LATS, any **IBA** that is sent for recycling is **removed from the mass balance calculation**. **Metals** on the other hand are **included in the MB calculations**. WasteDataFlow requires that IBA and metals, which are recycled following the EfW process, are reported in Qu54/55 and Qu19a. In Qu19a IBA is reported under 'rubble' and metals under 'other scrap metal'. In calculating the DivT (total collected municipal waste diverted) the tonnages sent for recycling and reuse are calculated from Qu19, Q35 and Q19a, **minus any IBA recycled from QU54/55.** So effectively, the IBA recycled is removed from the calculation and not included in the diversion tonnages. The same principle is applied to char/slag which is recycled from Qu57. Further guidance on this is available from the EA Change to Mass Balance Guidance Note, available to download from the WDF website.