Calculation Methodology for Table 1 of Annex B to the Zero Waste Plan

This document describes how SEPA data is used to populate Table 1 of Annex B to the Scottish Government's Zero Waste Plan.

Additional waste management infrastructure is required in Scotland to sort and process recyclable materials which have been separately collected and to manage the remaining residual waste in a way which maximises resource value and minimises the impact of disposal on the environment. Table 1 sets out the national shortfall in the operational capacity required to meet the Zero Waste Plan (ZWP) targets in 2025.

To ensure that all authorities collectively plan for waste management facilities to meet the requirements of the ZWP the capacity shortfall is allocated to groups of local authorities or development plan areas. These allocated capacities must be read in conjunction with the policy set out in Annex B and should not be treated as a limit to development.

The methodology assesses the quantity of waste currently landfilled and determines how this tonnage will be managed in 2025, in the context of 70% recycling targets for household, commercial and industrial (C&I) and construction and demolition (C&D) waste and the ban on biodegradable waste to landfill. An assessment of the quantity of additional capacity required to manage this waste either by recycling/composting or other recovery is made. For simplicity, it is assumed the materials which are recycled or composted are materials which have been separately collected. The majority of the material being sent for "other recovery", including incineration, will comprise residual waste.

In 2013 the Scottish Government set waste prevention targets which aim to reduce waste arisings by 7% by 2017 against the 2011 baseline. In order to take account of waste prevention measures that have already occurred since 2011, and thereby avoid an oversupply of waste infrastructure, a 2% reduction has been applied to the 2011 waste arisings and management data used to calculate the Table 1 figures.

Step 1 – Waste requiring alternative management by 2025

The total Scottish waste landfilled in 2011 was 4,591,030 tonnes. Of this 1,021,006 tonnes was categorised as soils and stones from the construction sector (EWC Code 17 05 04). Additional waste management facilities are not required to manage surplus soils so this tonnage is subtracted from the total leaving 3,431,300 tonnes of waste available for alternative waste management.

Step 2 – Operational capacity to reach 70% recycling

Waste management data is split into household and C&I and the tonnage of additional recycling required to reach 70% recycling for each of these waste streams is calculated.

Household waste arisings 2011	2,554,624
Household waste recycled	1,024,144
% Household waste recycled	40%
Additional recycling to reach 70%	764,093

C&I waste arisings 2011	4,453,828
C&I waste recycled	1,529,187
% C&I waste recycled	34%
Additional recycling to reach 70%	1,588,493

In 2011, 1,306,310 tonnes of C&D waste was landfilled of which 1,021,006 tonnes were soil and stones and 138,725 tonnes were hazardous waste or non-recyclable and non-combustible materials. As explained above, surplus soil and stones only require other construction sites in order to be used and hazardous wastes such as asbestos will always be landfilled. The remaining 146,579 tonnes of C&D waste landfilled was made up of separately collected recyclable materials and mixed C&D waste which is assumed to be recyclable after, for example, separation at a C&D MRF or processing at an aggregates plant.

Step 3 – Tonnes of waste requiring alternative management

These three capacity gaps for recycling are summed together to determine the national shortfall of operational recycling capacity in Scotland. The capacity gap for residual waste management is calculated by taking the difference between the total available for alternative treatment and the calculated capacity gap for recycling.

	Tonnage	Percentage of Total
Waste to be diverted to an alternative management method	3,431,300	100%
Recycling capacity[1] required to meet 70% recycling	2,499,165	73%
Recycling/recovery capacity[2] for residual waste	932,135	27%

[1]Capacity to manage source segregated recyclables includes clean MRFs (for sorting dry recyclables), anaerobic digestion and composting (for source segregated biowastes).
[2]Capacity to manage residual waste includes dirty MRFs, mechanical sorting, biological treatment and thermal treatment processes (such as incineration, gasification, pyrolysis).

Step 4 – Allocating regional capacity

In Table 1, the additional capacity figures for Scotland are split by development plan area or local authority area(s). The allocation is made on the basis of the proportion of waste arisings in the specified area in relation to total waste arisings in Scotland.

These are the figures presented in Table 1 rounded to the nearest 5,000 tonnes.

Landfill Capacity for Scotland

A ten year rolling capacity for landfill was also required. This is calculated as the total amount of Scottish waste landfilled in 2011 multiplied by ten. The total figure for Scotland is allocated to specified areas as described in Step 4.