WRAP support to Walsall Metropolitan Borough Council

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An assessment of an agreed 'short-list of alternative household waste collection service design scenarios

Short-listed scenarios

Scenario number	Residual		Dry recycling		Food		Garden	
	Frequency / vehicle	Container	Frequency / vehicle	Container	Frequency / vehicle	Container	Frequency / vehicle	Container
Baseline	Fortnightly, RCV	140 / 240 litre wheeled bin	Fortnightly, co-mingled, RCV	240 litre wheeled bin			Fortnightly (free - 34 weeks), RCV	240 litre wheeled bin
Scenario 1	Fortnightly, RCV	140 / 240 litre wheeled bin	Fortnightly, co-mingled, RCV	240 litre wheeled bin	Weekly, 7.5T food waste vehicle	Food external caddy and kitchen caddy	Fortnightly (free - 34 weeks), RCV	240 litre wheeled bin
Scenario 2	Fortnightly, RCV	140 / 240 litre wheeled bin	Fortnightly, co-mingled, RCV	240 litre wheeled bin	Weekly mixed with food waste, RCV	Food external caddy and kitchen caddy	Weekly mixed with food waste, RCV	240 litre wheeled bin

Inputs to Baseline cost model

	Residual	Dry recycling	Garden waste
Number of hh (including flats)	117,700	116,700	98,733
Tonnage collected	51,905	18,743	12,637
Contamination		19%	
Number of vehicles (spares in brackets)	7.5 (1.5)	7.5 (1.5)	6 (1)
Number of loaders	2	2	2

Assumed tonnages for the baseline and ‘short-listed’ scenarios

	Residual	Dry recycling	Garden waste	Food waste	Mixed food and garden waste
Baseline	51,905	18,743	12,637		
Scenario 1 (separate food waste)	45,083	18,743	12,637	6,822	
Scenario 2 (mixed food and garden waste)	48,697	18,743		641	15,204

For all scenarios, it assumed there are no losses to the system, with materials moving across each stream but the total arisings remaining the same.

Projected number of vehicles using outputs from 2019/20 KAT models (spare vehicles in brackets)

	Residual (26 tonne RCV)	Dry recycling (26 tonne RCV)	Garden waste (26 tonne RCV)	Food waste (7.5 tonne vehicle)	Mixed food and garden waste (26 tonne RCV)
Baseline	7.5 (1.5)	7.5 (1.5)	6 (1)		
Scenario 1 (separate food waste)	7.5 (1.5)	7.5 (1.5)	6 (1)	13.8 (2.2) *	
Scenario 2 (mixed food and garden waste)	7.5 (1.5)	7.5 (1.5)		2 (1)	12 (2)

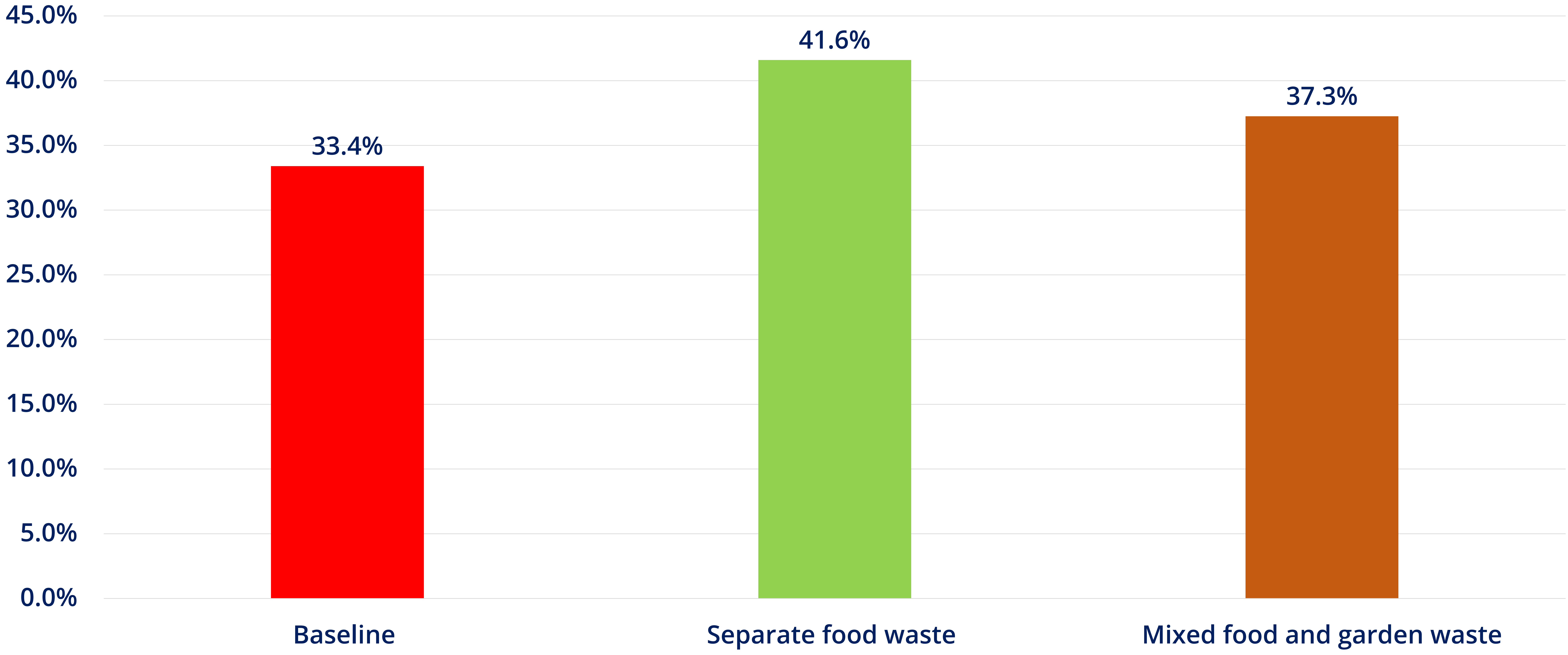
* Separate food waste scenario assumes Driver + 1 loader

Key financial assumptions for future scenarios

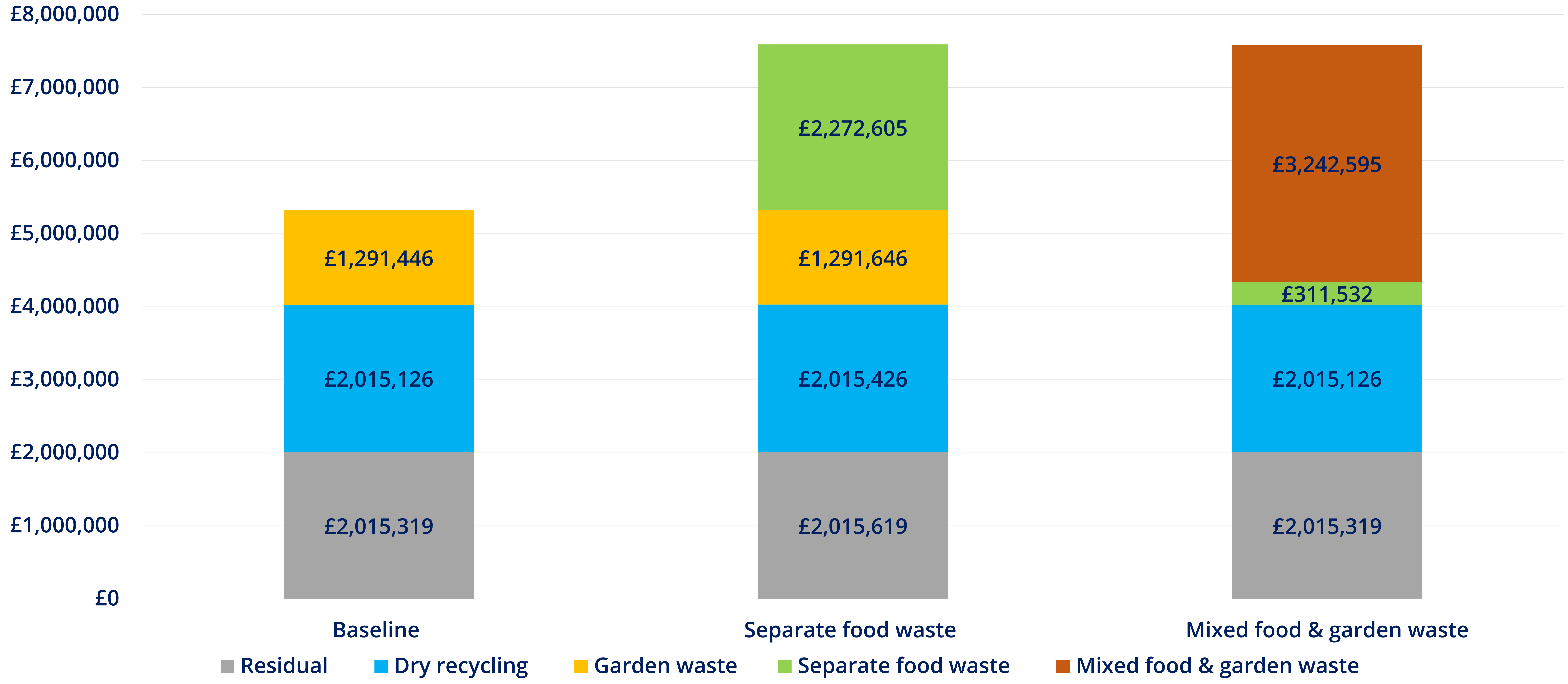
	Refuse	Dry	Garden waste	Food
Average unit cost for kerbside container (140 bin or 23 litre kerbside caddy) including delivery	£31.65	£31.65	£31.65	£5.00
Average cost for 180 litre wheeled bin				
Average unit cost for kitchen caddy				£2.00
Capital cost per 26 tonne RCV	£250,000	£250,000	£250,000	
Annual standing costs per 26 tonne RCV	£2,000	£2,000	£2,000	
Annual running costs per 26 tonne RCV	£4,000	£4,000	£4,000	
Fuel costs per 26 tonne RCV	£12,000	£12,000	£12,000	
Capital cost per 7.5 tonne dedicated food waste vehicle				£110,000
Annual standing costs per food waste vehicle				£1,500
Annual running costs per food waste vehicle				£3,000
Fuel costs per food waste vehicle				£4,500
Vehicle depreciation period/planned lifespan (years)	7	7	7	7
Driver unit cost	£63,385	£63,385	£63,385	£63,385
Loader unit cost	£46,904	£46,904	£46,904	£46,904
Supervision cost	£170,000	£170,000	£170,000	£170,000
Overheads cost (% of collection costs)	10%	10%	10%	10%
Gate fee (per tonne) - treatment 1	£55.00	£90.00	£70.00	£20.00
Gate fee (per tonne) - treatment 2	£120.59		£32.50	
Income (per tonne) - material stream 1 - DMR		-£15.00		
Recycling Credit income (per tonne)				
Handling/Bulking per tonne		£12.00	£18.00	£18.00
Contamination per tonne (£)				

What did we find?

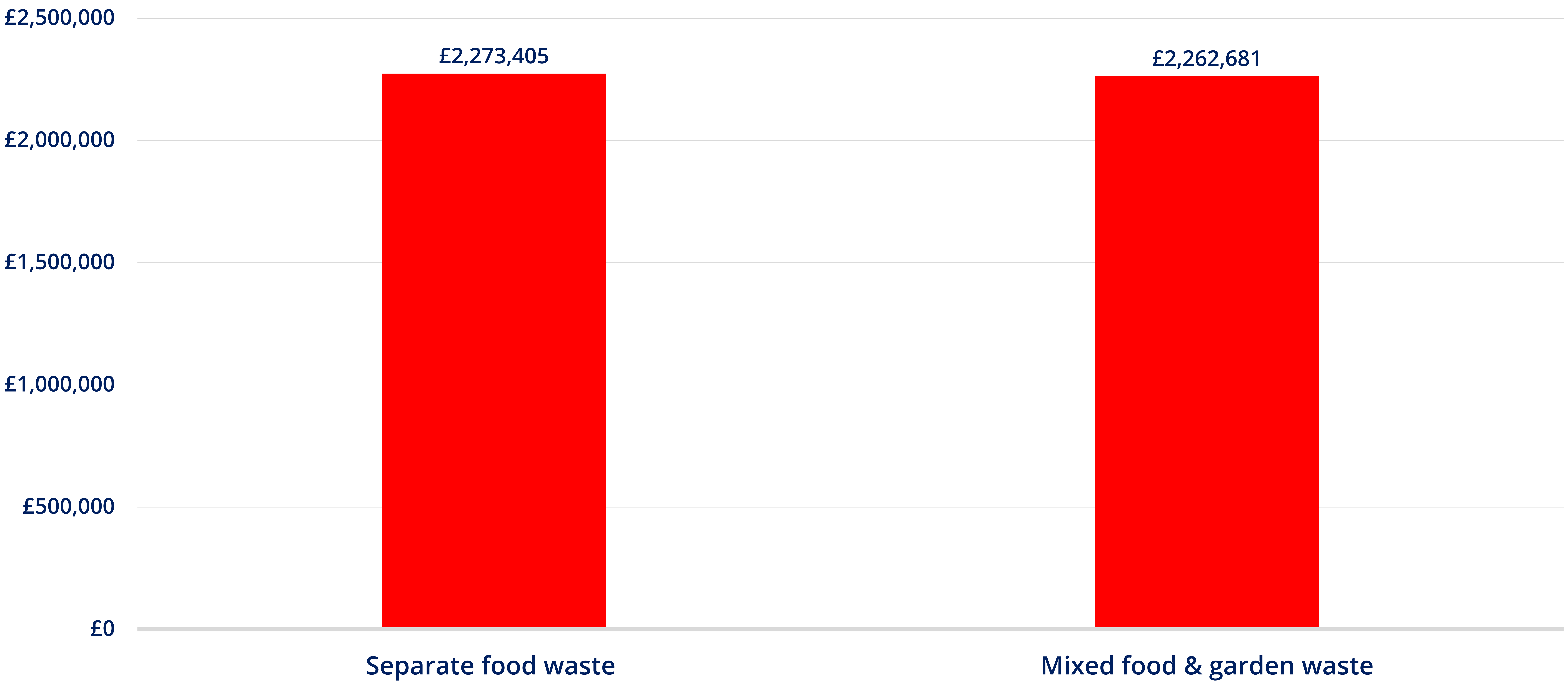
Projected kerbside waste recycling rate



Projected collection costs of the scenarios



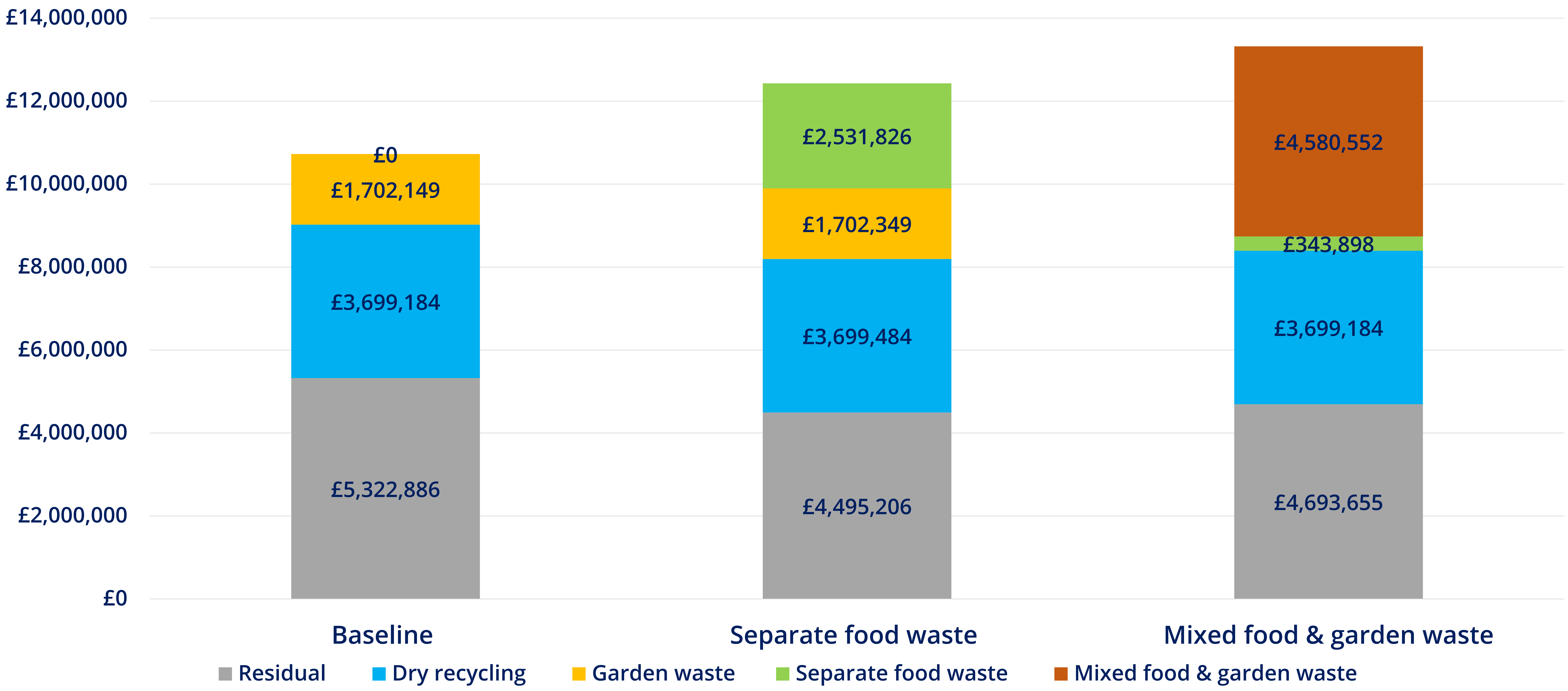
Projected collection costs of the scenarios relative to the current baseline



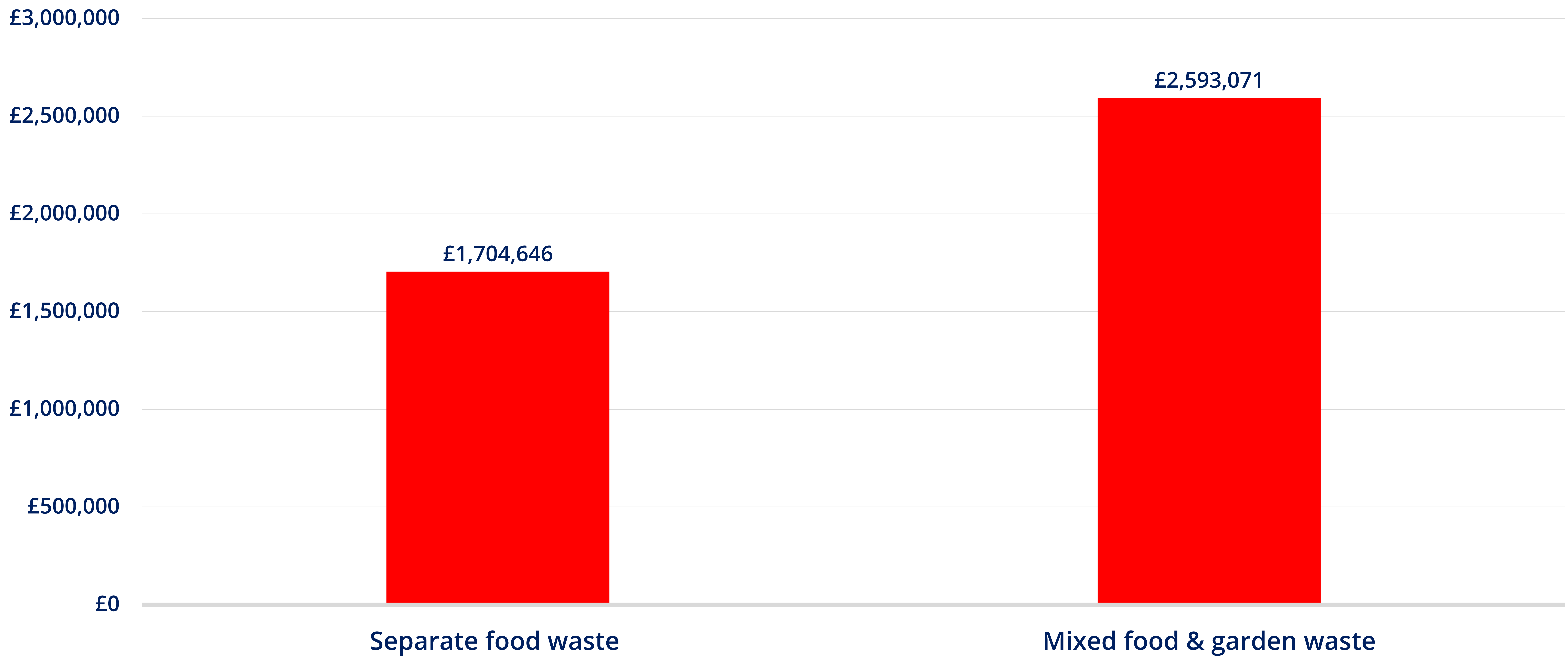
Projected disposal costs of the scenarios

Projected disposal costs of the scenarios relative to the baseline

Projected 'whole system' costs of the scenarios



Projected ‘whole-system’ costs of the scenarios relative to the current baseline



Capital costs

Thank you

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