

Greater consistency in household recycling: summary of local authority business cases

A summary of pilot projects with seven local authority waste partnerships looking at the local business case for adopting common service profiles consistent with the Framework for greater consistency in household recycling in England.



Introduction

WRAP published the [Framework for Greater Consistency in Household Recycling in England](#) and supporting [Evidence and Analysis](#) in September 2016. The Framework sets out a vision for greater consistency in household recycling whereby:

“..by 2025 packaging is designed to be recyclable, where practical and environmentally beneficial, and is labelled clearly to indicate whether it can be recycled or not; and every household in England can recycle a common set of dry recyclable materials and food waste, collected in one of three different ways. “

The modelling which supports the national business case for greater consistency identified financial and environmental benefits of adopting a more consistent approach to household recycling. It also indicated that some authorities were likely to benefit financially from the implementation of services in line with the Framework whilst for others it would be an additional cost, with the existing service profile being an influential factor.

As part of the published 5-point Action Plan, WRAP committed to support six groups of local authorities to evaluate the local business case for adopting the consistency Framework, testing the findings of the national modelling. Seven (rather than six) groups of local authorities were recruited, which included a number of two tier partnerships and a cluster of London (primarily unitary) authorities. The current service arrangements within these seven partnerships (covering a total of 49 authorities) varied in terms of materials collected and collection systems adopted. This meant the business case could be evaluated across a range of local situations.

The majority of authorities participating in the pilots, for which collection models were built, had already introduced fortnightly residual waste collections (>80%) and were targeting most of the core dry recyclables through their kerbside collections. Where dry recyclables were missing from the baseline, it tended to be cartons and plastic pots, tubs and trays. In one project, glass was not collected at the kerbside however the pilot authorities were providing a comprehensive bring bank service and were achieving good yields through this approach. At the same time, only a small number (<15%) had introduced separate weekly food waste collections. Hence, the group was starting from a baseline position where it was recognised that filling the gaps in recycling provision, and in particular introducing separate weekly food waste collections, at no additional cost was likely to be challenging.

This document summarises the findings of a review of the seven pilot projects. The outputs of this review have helped inform an ongoing programme of support for local authorities considering changes to their service provision.

Evaluating the Framework systems

The three systems defined within the Framework¹ all include a weekly collection of food waste, (either via a dedicated fleet of vehicles or on the same vehicle with multi-stream dry recyclables) as well as the collection of a common set of dry recyclables. For each pilot, a set of options appropriate to the local circumstances was modelled, which in most cases included the three framework systems plus some local variations relating to garden waste and residual waste². The results were compared with a locally calibrated baseline, reflecting current collection and treatment arrangements. This was achieved by developing cost and (recycling) performance models in close collaboration with each of the pilot authorities.

The pilot project methodologies and results were collated and analysed. The review sought to determine through modelling whether the Framework systems are capable of delivering cost and performance benefits locally that are consistent with those identified at a national level.

Results

The pilot project results demonstrate that a number of partnership areas have potential to deliver services in line with the Framework and maintain or improve recycling rates at no additional cost. However, for others, introducing a separate food waste collection service where one is not already operating can represent an additional cost.

Figure 1 presents a subset of outputs from the pilot project models, demonstrating how the different framework systems compare with the baseline (current) arrangements in the pilot areas, and how the framework systems compare with each other at an individual local authority level.

¹ MS = multi-stream with separate food; TS = two-stream dry recyclables (fibres separate) with separate food; CM = co-mingled dry recyclables with separate food.

² In the modelling of the national business case 240 litres collected fortnightly was assumed for all kerbside properties; equivalent to a maximum of 120 litres per week.

Figure 1: Cost and recycling performance³ ranking of core modelled systems

Percentage of results falling in each ranking		Cost Ranking				Recycling performance deviation from baseline (percentage points)
		least cost 1	2	3	highest cost 4	
System	Baseline	52%	16%	16%	16%	-
	Co-mingled + Food	0%	12%	24%	64%	-3.6 to +18.0
	Two-stream + Food	20%	36%	32%	12%	-2.5 to +18.0
	Multi-stream + Food	28%	40%	24%	8%	-1.0 to +18.0

Financial analysis

The model results for the framework systems show that multi-stream and two-stream (with fibre separate) consistently outperform co-mingled systems on cost grounds, based on the gate fees and material prices assumed for each pilot⁴. This is consistent with the national analysis.

The baseline arrangements were seen to represent the least cost option in just over half of the results primarily because the majority do not include a separate food waste collection service. Where the introduction of weekly food waste collections was modelled for authorities that already have fortnightly residual waste collections, this was a common reason for the cost of the framework systems being higher than the baseline. The national business case analysis identified that this was a likely outcome for authorities in this position. Where the addition of separate food waste collections caused costs to increase, the results showed that the extent of this increase could be minimised (most often) if food waste was collected as part of a multi-stream system.

In these cases, additional service options were modelled to establish if food waste collections could be introduced at no net additional cost. This identified that a further reduction in the residual waste collection frequency and charging for garden waste collections could offset the additional cost of collecting food waste.

Recycling performance

Overall, there is very little difference between the three systems in terms of the average recycling rates achieved; again this is consistent with the national level analysis.

Where the three framework systems were modelled, collection of the common set of dry recyclable materials and separate weekly food waste was seen to add (on average) approximately

³ The reduction in recycling rate is due in the main to the residual waste arrangements in the baseline being equivalent to 90l per week compared to 120l per week in the modelled scenarios. The highest recycling rate increase was 18% modelled for a partnership as a whole.

⁴ Acknowledging commodity market conditions at the time of the pilot studies and that supporting infrastructure investment costs (e.g. associated with upgrading depots so they have separate bays and potentially sorting equipment required to handle separate streams) are not commonly included in the modelled costs.

four percentage points to the modelled recycling performance. For the pilots this resulted in an increase in the average recycling performance from 42 to 46 percent.

Depending on the other system changes assessed in the modelling, e.g. including reductions in the baseline residual waste collection frequency, adoption of a variant of one of the framework systems was seen to increase recycling rates by as much as 18 percentage points compared to the baseline.

Strength of the local business case

The pilot project review sought to incorporate the modelling results, as described above, within a wider assessment of the business case for adopting the Framework. This assessment acknowledged the starting point of the authorities and the fact that many have already taken steps to minimise costs, e.g. through the adoption of fortnightly residual waste collections.

Figure 2, including the ranking criteria (Figure 2a), presents a mixed picture across the pilot projects with respect to the overall strength of the business case to make major changes to services in line with the Framework. Supporting commentary within the dashboard for each partnership project refers to the level of existing joint working and service standardisation that exists, along with other factors (e.g. contractual) that affect the strength of the business case for change.

Figure 2: Business case dashboard

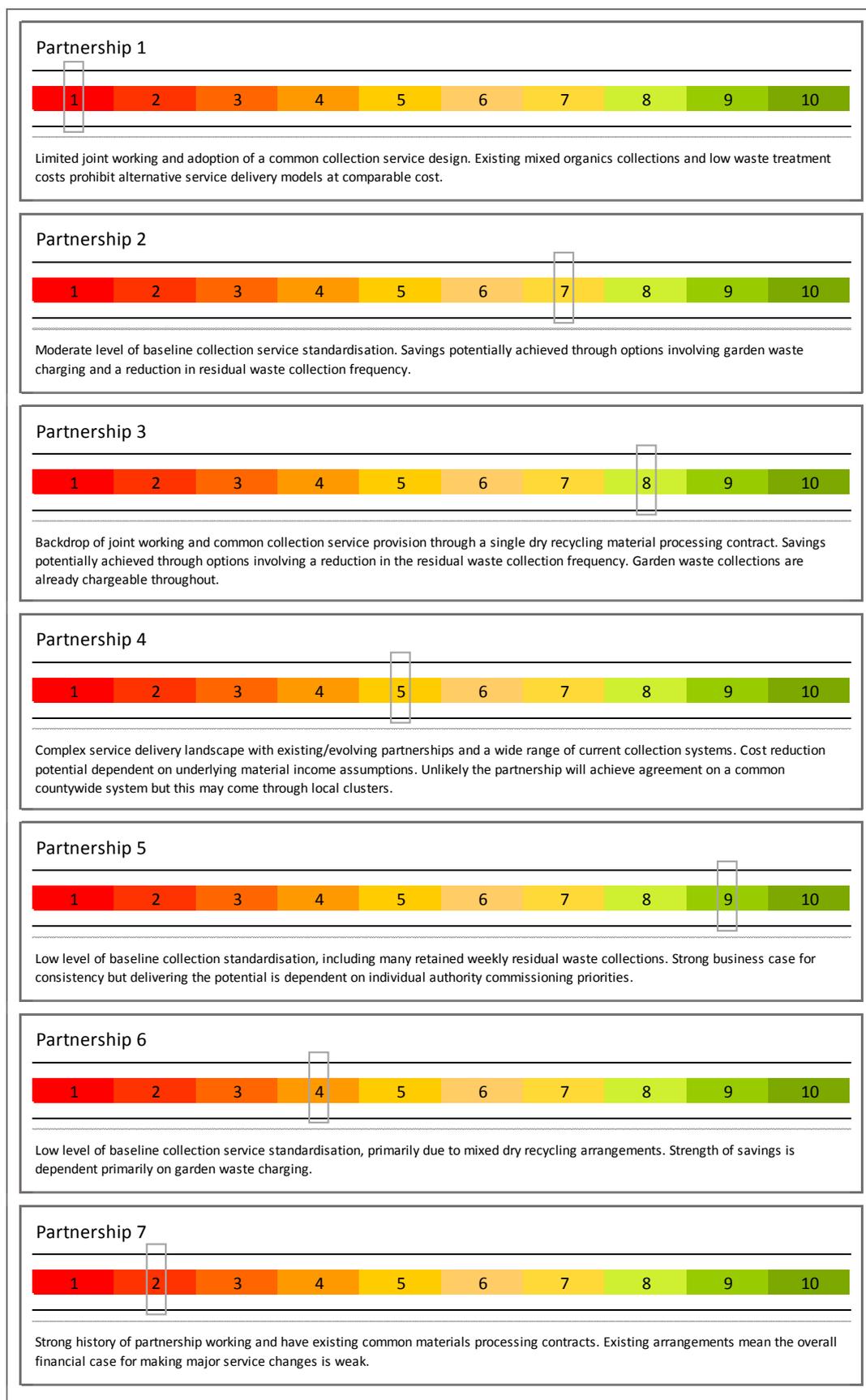


Figure 2a: 2016 consistency pilot review – ranking criteria for strength of business case⁵

Primary Ranking Criteria (A - E)		Score	Secondary Ranking Criteria (1 - 10)
A	Weak business case. Consistency provides no, or very limited, opportunities to improve recycling rates at similar or lower cost	1	Modelled recycling rate of least cost option is 5+ percentage points down versus the baseline
		2	Modelled recycling rate of least cost option is within 5 percentage points of the baseline or above the baseline
B	Limited business case. Opportunities exist to deliver cost savings but with a reduced recycling rate, e.g. as a result of the introduction of chargeable garden waste	3	Modelled recycling rate of least cost option is 5+ percentage points down versus the baseline
		4	Modelled recycling rate of least cost option is within 5 percentage points of the baseline or above the baseline
C	Uncertain business case. Consistency provides an opportunity to maintain or improve recycling performance and deliver a significant cost saving (≤ £250k pa per affected partner) across <25% of partners, acknowledging this will incorporate a reduction in the residual waste collection frequency and a move to chargeable garden waste in most cases	5	Whole partnership savings potential lies in the range £0 - £1M per annum
		6	Whole partnership savings potential is in excess of £1M per annum
D	Potential business case. Consistency provides an opportunity to maintain or improve recycling performance and deliver a significant cost saving (≤ £250k pa per affected partner) across 25 - 50% of partners, acknowledging this will incorporate a reduction in the residual waste collection frequency and a move to chargeable garden waste in most cases	7	Whole partnership savings potential lies in the range £0 - £1M per annum
		8	Whole partnership savings potential is in excess of £1M per annum
E	Strong business case. Consistency provides an opportunity to maintain or improve recycling performance and deliver a significant cost saving (≤ £250k pa per affected partner) across > 50% of partners, acknowledging this will incorporate a reduction in the residual waste collection frequency and a move to chargeable garden waste in most cases	9	Whole partnership savings potential lies in the range £0 - £1M per annum
		10	Whole partnership savings potential is in excess of £1M per annum

Observations

Ultimately, the following factors appear to influence whether a 'consistent service' as specified in the Framework (i.e. weekly food waste plus a common set of dry recyclables) can or cannot be delivered at no additional cost under current administrative arrangements:

Where a food waste collection service has already been introduced then the modelling showed that the transition to one of the three optimised framework systems delivered a saving in 80 percent of cases;

In most cases, where food waste is not currently collected separately, its addition through adoption of any one of the framework systems leads to an overall cost increase (taking into account any existing two-tier payment arrangements, e.g. recycling credits). This cost increase could in some cases be mitigated through a reduction in the residual waste collection frequency. Adding a dedicated food waste collection and reducing the residual waste collection frequency impact positively on recycling performance; and

A key financial enabling factor is the introduction of charging for garden waste collections. The downside is the impact on local recycling rates, which in some cases have the potential to fall

⁵ Within the ranking criteria maintenance of the recycling rate is defined as a rate within 0.5% of the baseline

below baseline levels as a result of a drop in households subscribing to the garden waste service, and hence tonnage of garden waste collected for recycling⁶.

Where the business case appears to be good, it will be down to the local partners to work together to address any outstanding issues or local preferences in order that service changes can be implemented and savings realised.

Conclusions & next steps

For local authorities, greater consistency should help inform future strategies for joint-working, result in the collection of higher quality material through clearer communication messages, and deliver improved environmental outcomes.

The overwhelming response from the participating local authorities was that the pilots, and linked support provided by WRAP, was welcome. For many, the projects had come at an opportune time as partnerships are reviewing their joint service models - under increasing cost pressures. A number of authorities also cited the benefits of having evidence provided by an external source that is independent of the partnership. The Framework can help inform future strategies for joint working and encourage more standard provision across partnership areas.

Various work streams are progressing under the Framework Action Plan, informed by the pilot project findings. This includes the publication of [guidance on the collection and recycling of food and drink cartons](#), the development of contract clauses to support the procurement of services in line with the Framework and a funded programme of local authority support. Authorities from three of the seven pilot projects took the findings from the initial business case through to a second stage and undertook work to refine the modelling or address specific barriers to implementation.

Further information

www.wrap.org.uk/consistentrecycling

⁶ In most cases, where modelled alongside charging for garden waste, reducing the residual waste collection frequency, as part of a service change in line with the Framework, showed an overall increase in recycling performance against the baseline.