Waste Finance Data Report 2015-16

January 2017

WLGA • CLlLC

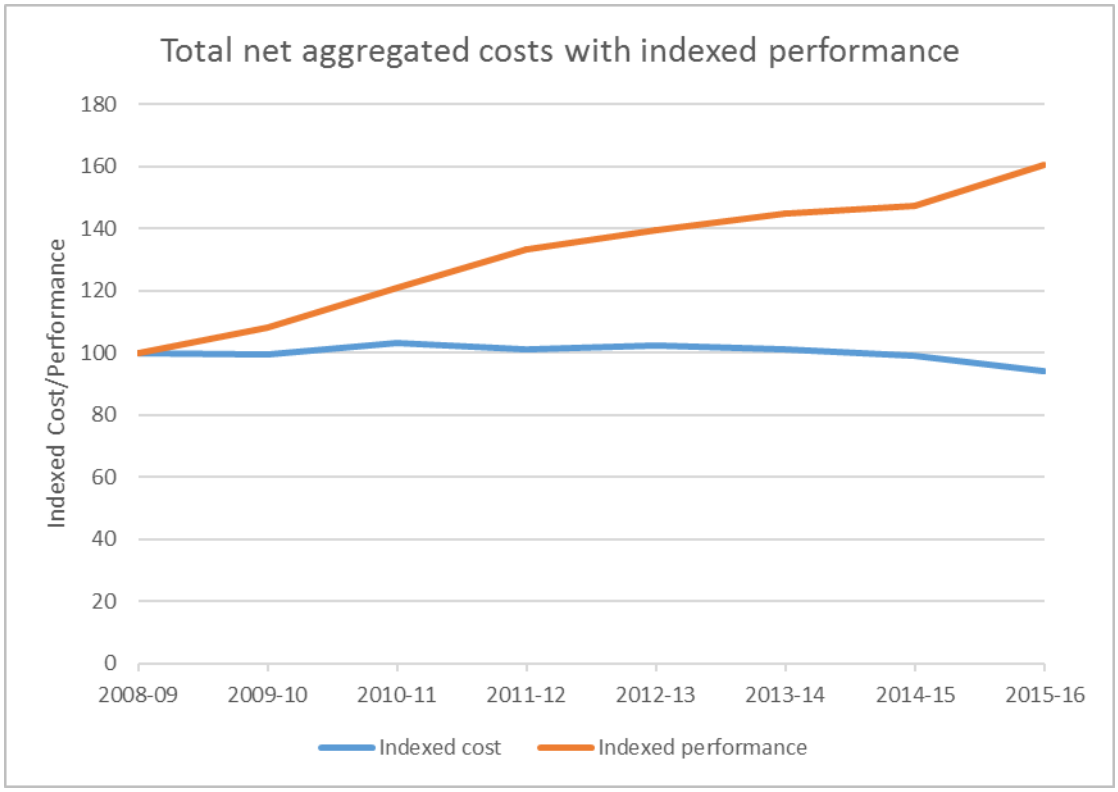
First edition – January 2017

Executive Summary

1. Building upon the work previously carried out from 2008/09 to 2014/15 financial data reporting, WLGA Waste Improvement Programme has, with the support of all 22 Welsh local authorities, undertaken an analysis of the waste finance data for financial year 2015/16.

2. Analysis of 2015-16 finance data shows that Welsh local authorities continued to make steady progress during the year, with the recycling rate for Wales increasing by four percentage points. At the same time a reduction in both gross and net expenditure was seen. The continued reduction in residual waste costs has enabled authorities to re-direct resources and increase investment in recycling services, with more households benefitting from more comprehensive collection services, for example by beginning of 2016 almost 100% of Welsh householders were receiving a kerbside food waste collection services at the same time getting their residual waste collected at a minimum of once a fortnight with some once every three weeks.

3. The graph below plots the indexed net cost MSW waste services from 2008/9 to 2015/16 with indexed performance over the same time period.



4. Data supplied has undergone quality assurance process by the Waste Improvement Programme. Data was subsequently analysed using the WLGA's new financial modelling tool. The results of the modelling work

are included in the body of this report. Where possible, comparisons have been drawn with data from previous years.

5. Whilst a high level analysis is provided in some places the report does not analyse national or local differences, changes or variations. Analysis and explaining *why* changes have occurred is a role for the benchmarking process and is presented to Local Authority officers during the annual waste finance seminars, a role for the wider Waste Improvement Programme run by the WLGA in partnership with the Wales Audit Office (WAO and the WG Collaborative Change Programme.

Key Findings

6. Between 2014/15 and 2015/16 there has been a significant improvement in performance whilst reducing expenditure over the same time period, showing a clear improvement in efficiency of waste services. Expenditure on waste services continued to reduce; net costs have reduced when compared to 2014/15.

7. In 2015/16, gross expenditure fell by 1.2% from £283m to £280m. This represents a reduction of £3.3m since 2014/15. RPI for the 12 months to April 2016 was 0.8%.

8. Net expenditure on waste services reduced by 4.4% to £238m which represents a reduction of £11m over the 2014/15 figure of £249m. The difference in gross and net costs reduction is due the income received from providing trade waste collections and income from the sale of dry recyclables.

9. Overall net expenditure on household waste services[1] (Dry Recycling, Organic, Residual, CA and Bring) during 2015/16 reduced by 3.4% to £229m. This represents a reduction in expenditure of £8m compared to 2014/15 figure of £237m.

10. Investment in organic waste services has reduced for the second time during 2015/16. Expenditure reduced by 1.4% to £48m. At the same time a further increase of 4,883 tonnes of food waste was collected during 2015/16 (an uplift of 5.7%). A result of improved service efficiency.

11. Despite an £8 per tonne increase in landfill tax, expenditure on residual waste services continued to decrease, a reduction of 8.4%. Expenditure in 2015-16 reduced to £83m a reduction of £7.5m. This demonstrates the benefits of increased recycling, composting and LAs realising the benefit of reducing frequency of collection. At the same time, a move away from

[1] figure excludes: trade waste, clinical waste, procurement of waste treatment, Consultants fees, awareness raising costs and costs associated with other MSW which are recorded elsewhere

landfill as form of waste disposal to recovery through energy from waste by some authorities, meant that a significant reduction in overall service cost was seen.

12. Kerbside dry recycling costs increased by 6.8%, and increase of £3.6m, up to £56.4m. During the same period, the mass of dry recyclate collected increased. An additional 13,710 tonnes collected compared to the previous year, an uplift of 4.8%. A much higher increase in mass collected in comparison to previous year of 3%.

13. HWRC expenditure reduced significantly by 8.1% to £40m. At the same time contribution made by HWRCs towards overall MSW recycling rate increased from 29% to 31%.

14. Overall re-use, recycling and composting rates have increased from 56.2% in 2014/15 to 60.02% in 2015/16.

15. The table below demonstrates the differences in net expenditure on the household service elements:

	14-15	**15-16**	**% change**	**Performance change[2]**
Dry recycling	£52,848,944	£56,462,639	6.8%	4.8%
Residual waste	£90,551,774	£82,983,217	-8.4%	3.4%
Organic waste	£48,507,955	£47,839,391	-1.4%	-2.5%
CA/HWRC	£43,150,839	£39,669,964	-8.1%	4.6%
Bring	£1,520,726	£1,553,752	2.2%	-15.1%
Total	**£236,580,238**	**£228,508,963**	**-3.4%**	**2.9%**

[2] % difference in tonnage collected between 2014/15 and 2015/16

Content

Introduction

The Waste Improvement Programme is funded by the Welsh Government and has been in existence since 2007. This followed on from a programme where all authorities underwent a 'peer review' of waste management services. Initially focusing on assessing services in Welsh local authorities and sharing good practice.

Work is currently targeted at supporting authorities in increasing efficiency of waste management activities. This includes the collection of financial data on delivering MSW waste services and the benchmarking of cost variations to identify how services can be delivered at lower cost whilst improving performance.

Process

Local Authority waste expenditure data has always been collected consistently (in line with the Best Value Accounting Code of Practice). The WLGA organise a working group of finance and waste officers from a range of authorities and host the current format of reporting. Wastedataflow (a database for collecting tonnage data from waste activities) has been adapted in Wales to accept tonnage data and waste financial data creating a single point of data entry. Once tonnage data and finance data is entered into the system a series of reports can be generated.

This process enables the WIP to provide this report directly to the Cabinet Secretary for Environment and Rural Affairs. Since 2009, the quantitative data is presented in the form of this report to the Cabinet Secretary annually, by the end of March. The data within the reports is then used as a basis for more in-depth qualitative analysis; the Benchmarking of waste services in Wales, assessing in more detail the causes of differences in cost between authorities.

Detailed Findings

Total Service Data

1. From the data it can be seen that overall gross expenditure on waste services during 2015/16 was £280,017,077 (£238,471,274 net of income). This represents a fall of £3,358,344 when compared to the 2014/15 figure of £283,375,421 a drop of 1.2%.

2. It appears as though total expenditure is reducing following a period of significant investment, supported by the Sustainable Waste Management Grant (SWMG) recently superseded by the Environment and Sustainable Development Directorate's Single Revenue Grant (SRG), although amount of direct support has been reducing over recent years. Local authorities have also reduced expenditure as a result of severe budget cuts. However, a stabilised commodities market during 2015/16 alongside increased income from charging for waste services (mainly garden waste collections), means the sale of dry recyclate, has contributed to net costs also reducing to £238,471,274 from £249,338,257. This represents a reduction in expenditure of 4.4%.

3. Between 2014/15 and 2015/16 the income local authorities received from selling dry recyclables increased by 6.9% to £5,479,661 from £5100,100.

4. The chart in Figure 1 (below) shows how net expenditure on all waste services has changed in the seven years since the finance project began. Costs have been adjusted for inflation (RPI) and are indexed using the 2008/09 data as a baseline. It can be seen that costs in real terms have remained stable over the last seven years, exhibiting a small reduction compared to 2008/09 levels. However, during the same period recycling rates have increased significantly, from 35.6% in 2008/09 to 60.2% in 2015-16.

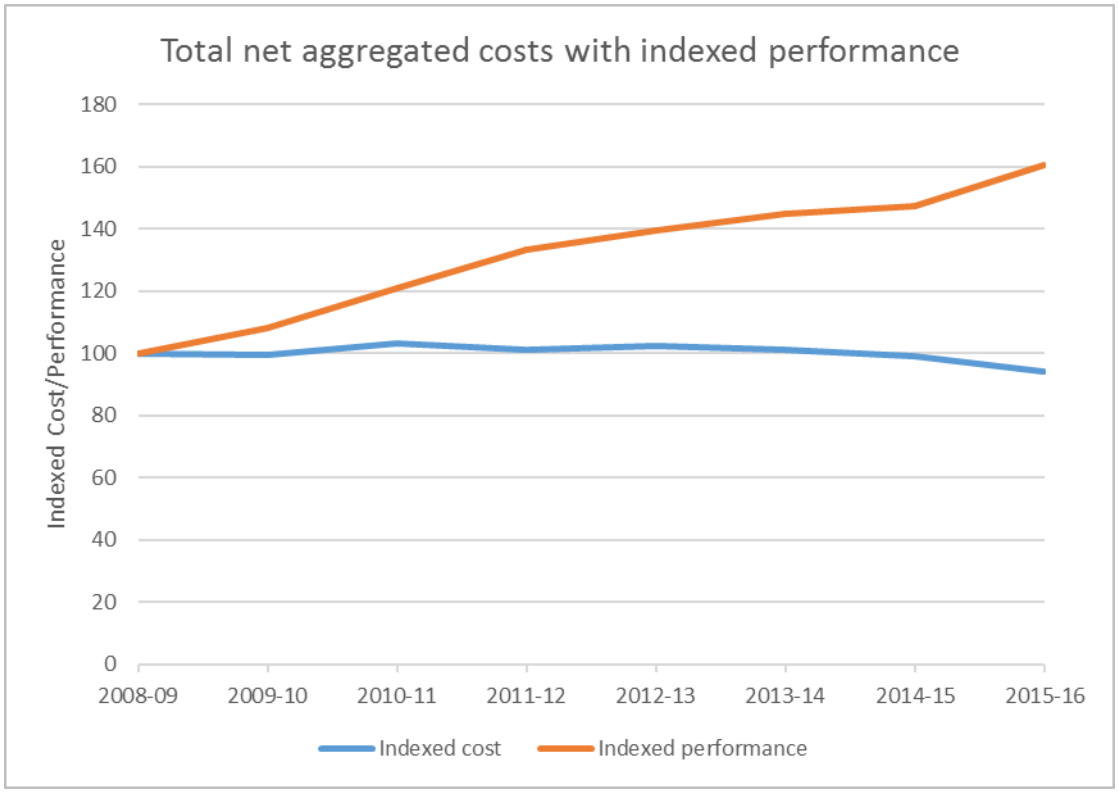


Figure 1 – Total net costs

5. The total amount of SRG allocated to local authorities in 2015/16 totalled £67m of this £64m was allocated against waste services.

6. Graph in Figure 2 below shows total expenditure on Waste services by each local authority in Wales for financial year 2015/16.

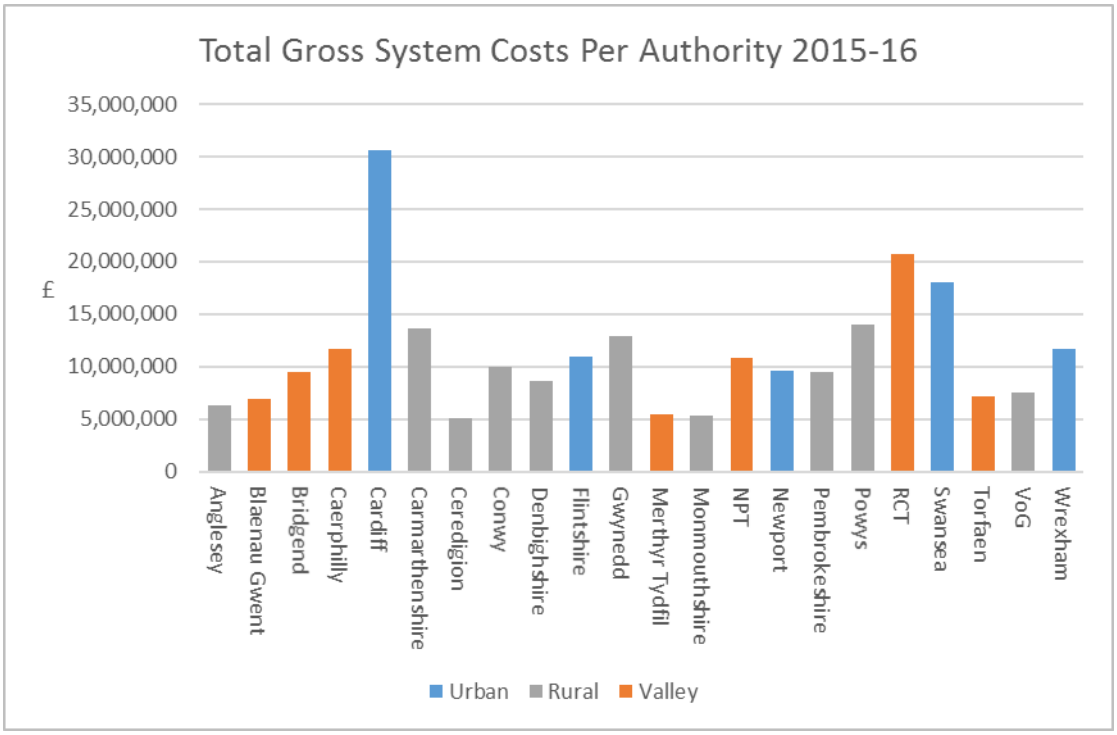


Figure 2 – Total System Costs

7. 12 out of 22 local authorities have demonstrated a reduction in expenditure compared to 2014/15. The data collection exercise does not determine "why" these changes have been made, but it is intended, via the CSS facilitated benchmarking process to further investigate the factors affecting service costs.

Use of Grants[3]

8. The graph in Figure 3 below shows total net expenditure on waste services for each local authority during financial year 2015/16. Contribution made by grant is represented as 'hatched' portion of bar. Expenditure is shown on a cost per household basis.

[3] Grants = Sustainable Waste Management / Single Revenue Grant plus other grants received e.g. procurement support, SCIF, RCAF, WAW funding

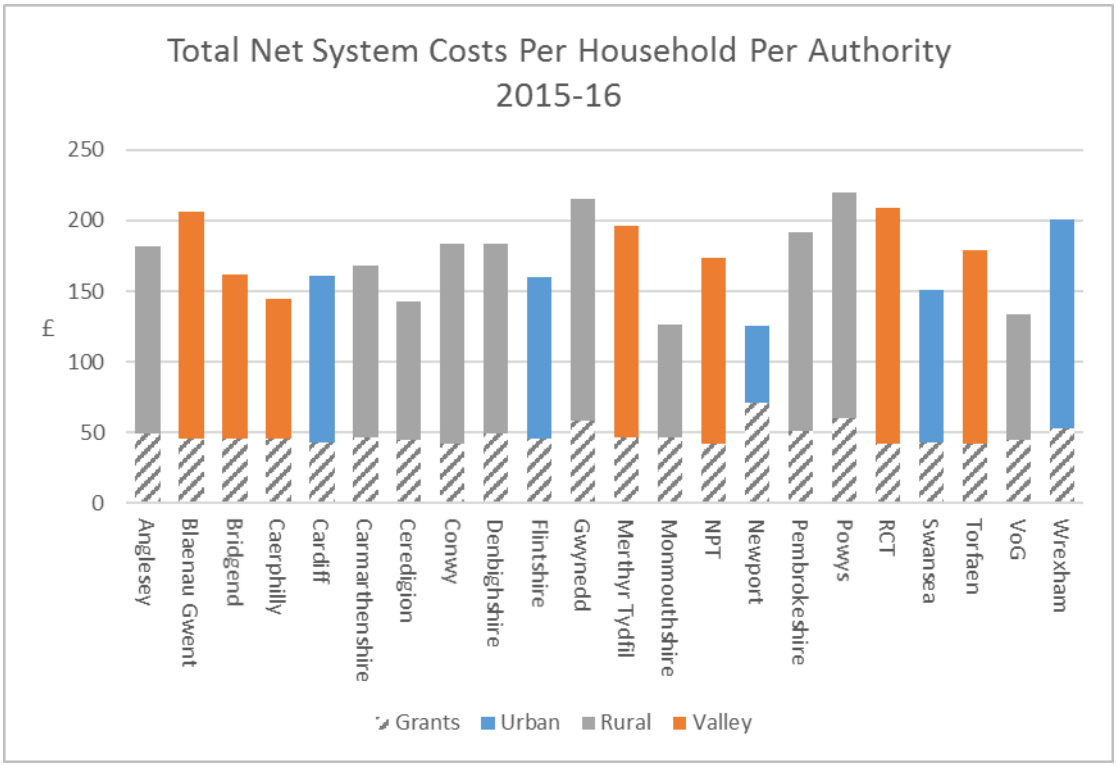


Figure 3 – Total System Costs 2014/15

9. This graph demonstrates that on a per household basis, grants are distributed fairly evenly across the group. As the graph shows only revenue grants, (capital grants are not shown) authorities that attribute a greater proportion of Single Revenue Grant (SRG) to capital projects will exhibit a lower value for revenue grant per household relative to the group as a whole, whilst authorities in receipt of additional grants, such as RCAF, SCIF and PFI payments, may exhibit higher relative levels of grant.

10. The majority, though not all, of total expenditure results from the provision of services directly to the householder: Dry Recycling, Organic Waste, Residual Waste, CA and Bring sites.

Waste Collected by LAs

11. The following graphs shows the proportion of wastes managed for each of the services provided by mass. This provides context against which the costs can be assessed.

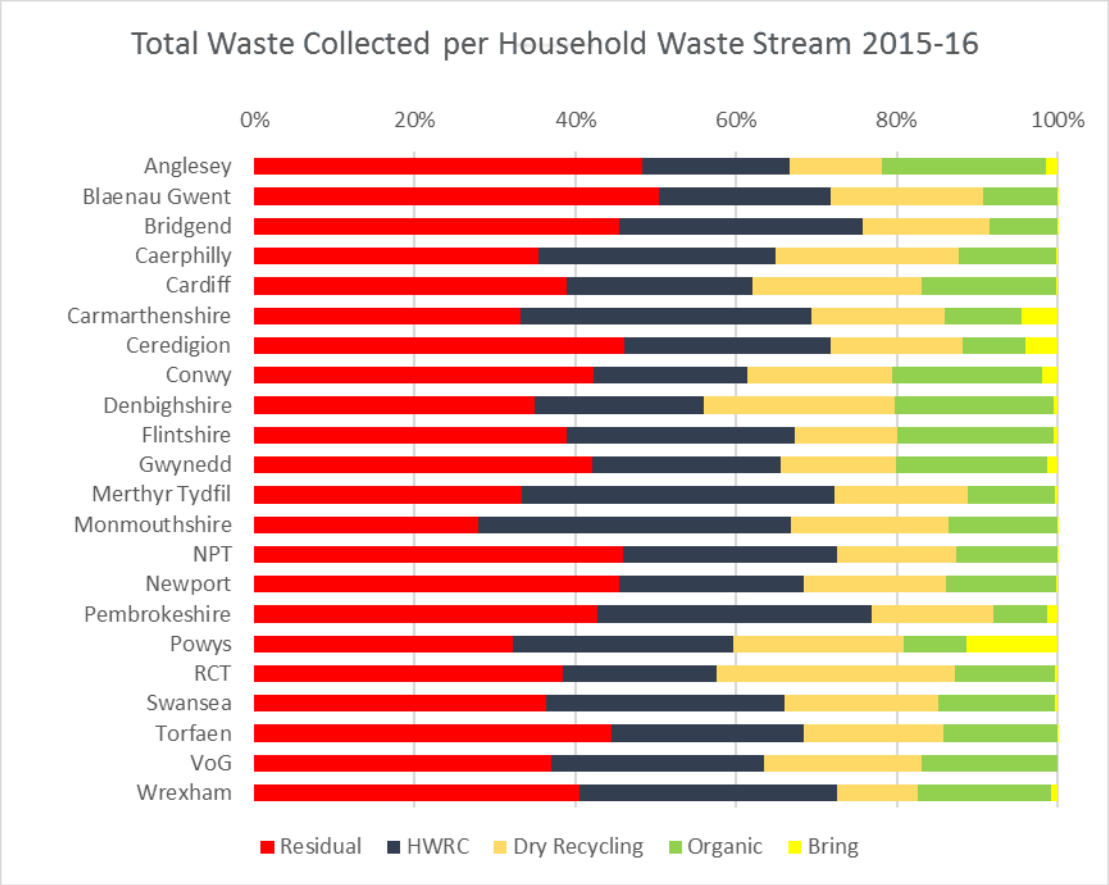


Figure 4 - Source of waste collected[4]

12. Figure 5 below shows the expenditure by proportion for each of the household waste service areas. Residual waste remains to be the biggest area of expenditure accounting for between 18% and 50%. At the same time the highest mass of material collected. However, a number of authorities have reduced their expenditure on residual waste significantly in recent years, in particular Pembrokeshire.

[4] Does not include trade, clinical, bulky or other MSW.

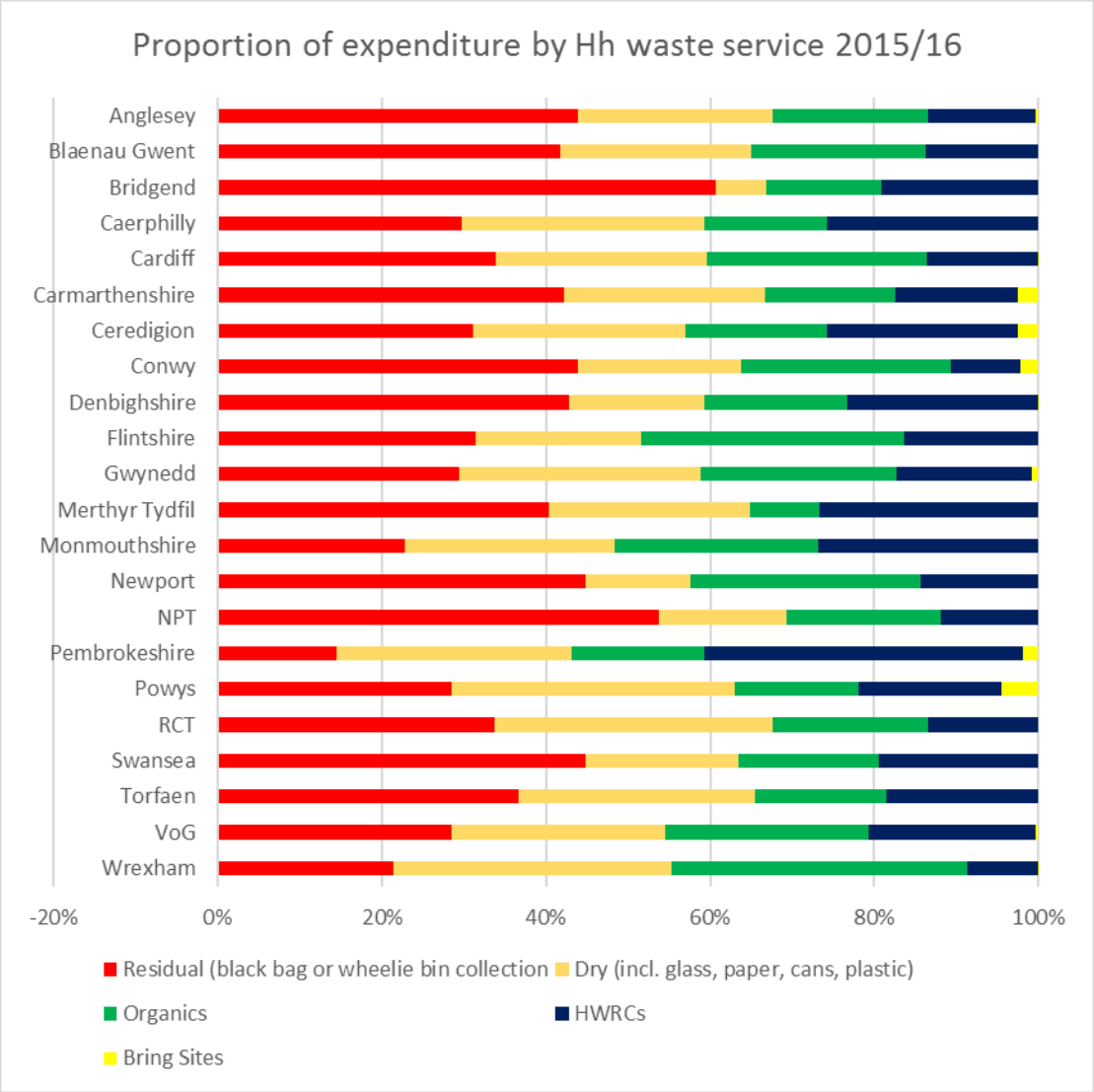


Figure 5 Expenditure by waste service

Household Waste Service Costs

13. The following data compares expenditure on household waste services across Welsh local authorities. *The Household Waste Service cost is defined as the aggregated total of cost associated with Kerbside dry recycling, Kerbside food waste, kerbside green waste, HWRCs, bring sites and residual waste.* Each element includes costs of collection, transfer, treatment and disposal of waste. Costs associated with trade waste, trade recycling, clinical waste, bulky waste, procurement of waste treatment, other MSW and awareness raising costs are not included.

14. Graphs show costs on both a per household and per tonne basis. In addition, colour coding of graph indicates whether authority is classified as Urban, Rural or Valleys, further colour coding for dry recycling services indicates the collection service profile of the authority. Level of grant allocated to each service area by local authorities is shown as the

'hatched' area of the chart. As incomes generated by services will tend to differ according to type of services in place, expenditure net of income received is shown in the graphs. In addition to cost data, performance, in terms of % MSW re-used, recycled and composted is shown, denoted by the green bars on the chart.

15. It is not possible to differentiate between SRG and other types of grant when allocated against service area in WDF. Therefore grant contribution shown in the following graphs includes other grants in addition to SRG.

16. Total SRG allocation in 2015-16 was £67m (not all allocated for waste). Local Authorities spent £64m of this to support the delivery of reuse, recycling and composting waste services.

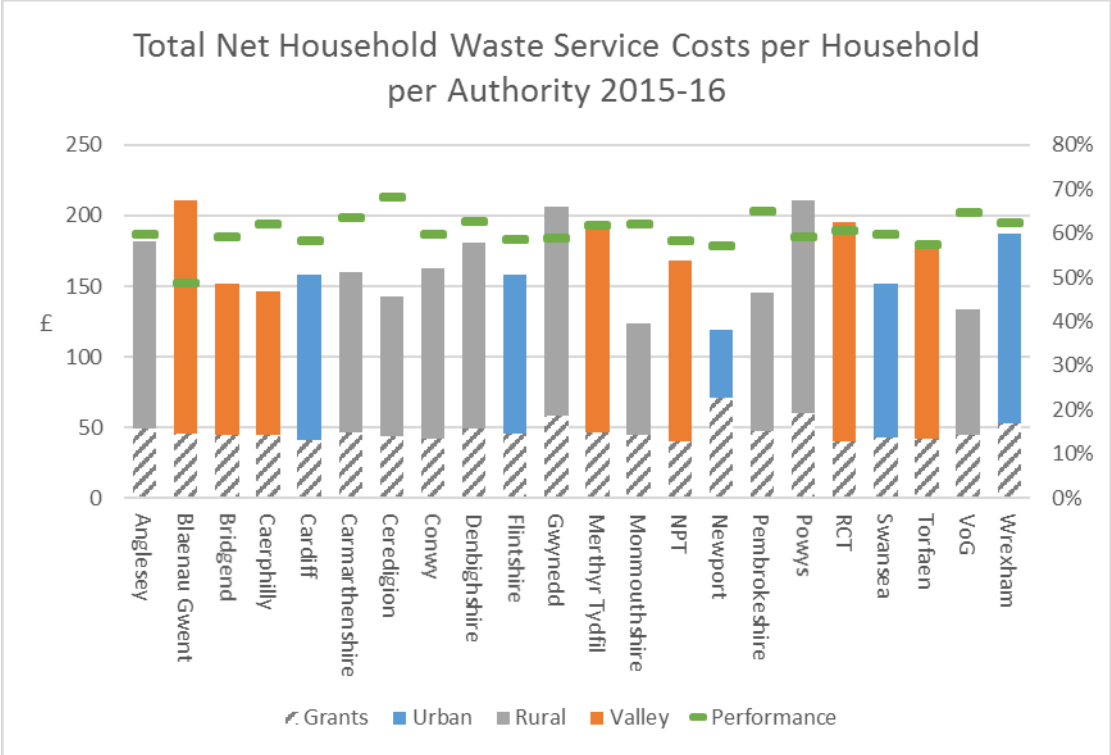


Figure 6 - Total household waste service cost per household

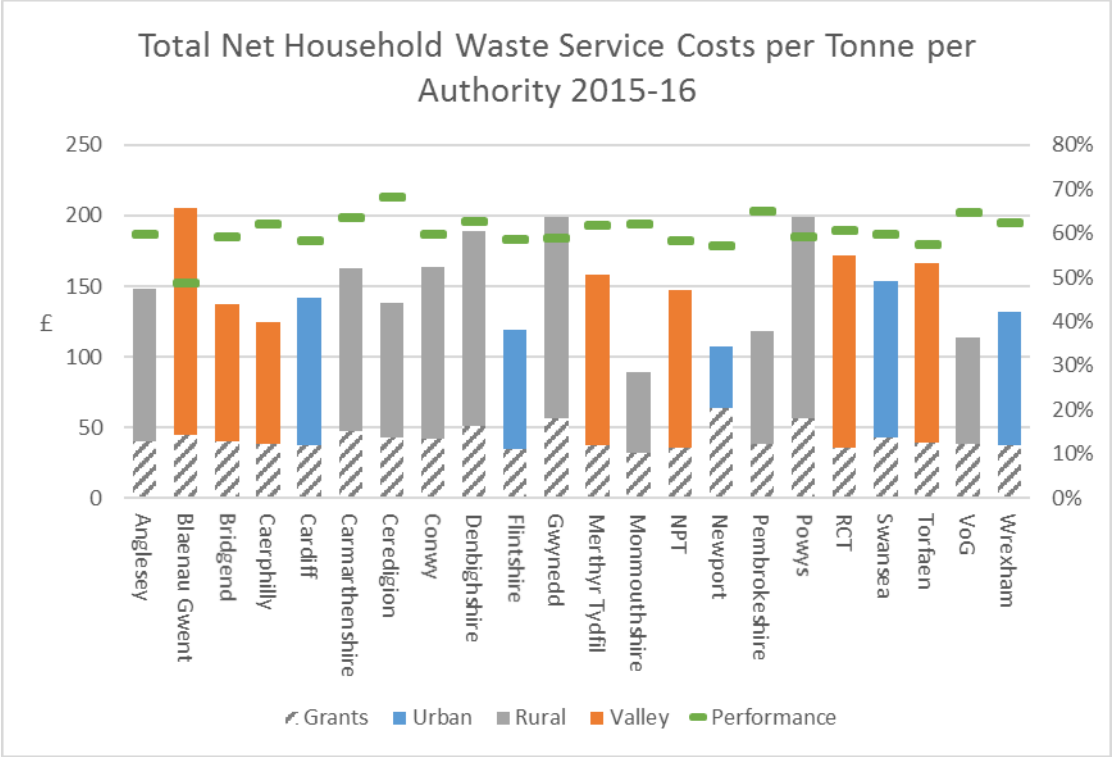


Figure 7 – Total household waste service cost per tonne

17. Overall net expenditure on household waste services during 2015/16 was £228,508,963. This represents a reduction in costs of £8,071,276 compared to 2014/15, a reduction of 3.4%. During the same period, the overall recycling rate for Wales increased from 56.2% to 60.2%. A significant improvement in performance whilst reducing expenditure over the same time period, shows a clear improvement in efficiency of services.

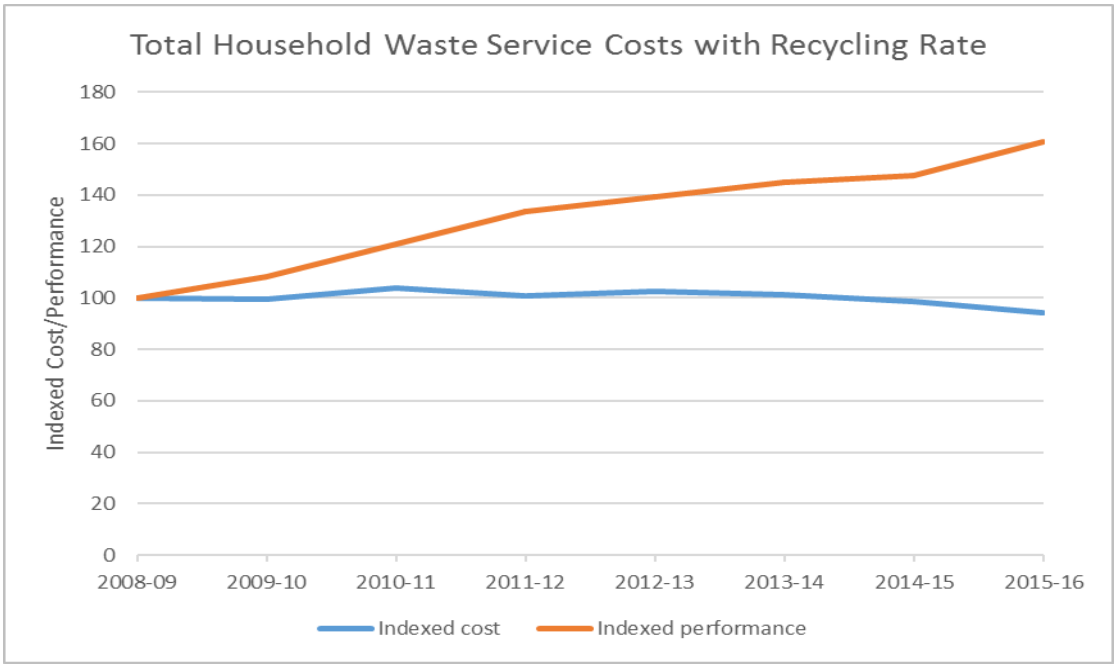


Figure 8 – Household waste service cost since 2008/09

18. The longer term trend in household waste service costs is shown in Figure 8. It can be seen that costs, adjusted for inflation, have remained fairly stable, currently slightly lower than the 2008/09 baseline. However, recycling rates have increased significantly over the same period.

Dry Recycling

19. The following graphs show costs associated with dry recycling services provided by authorities on both a cost per household and cost per tonne basis. Service performance, in terms of mass of dry recyclate collected as a proportion of total MSW, is also shown as red lines on the chart, plotted using axis on right hand side of graph.

Total dry recycling service cost

20. Figure 9 & Figure 10 show the total cost of providing a kerbside recycling service. Costs shown are net of any income received. Data includes costs of collection, transfer, treatment and disposal of recyclate. Colour coding denoting type of collection system in place by authority and contribution made by grant is retained, the contribution is higher compared to overall expenditure due grant expenditure being targeted towards recycling services and prohibited from residual waste services.

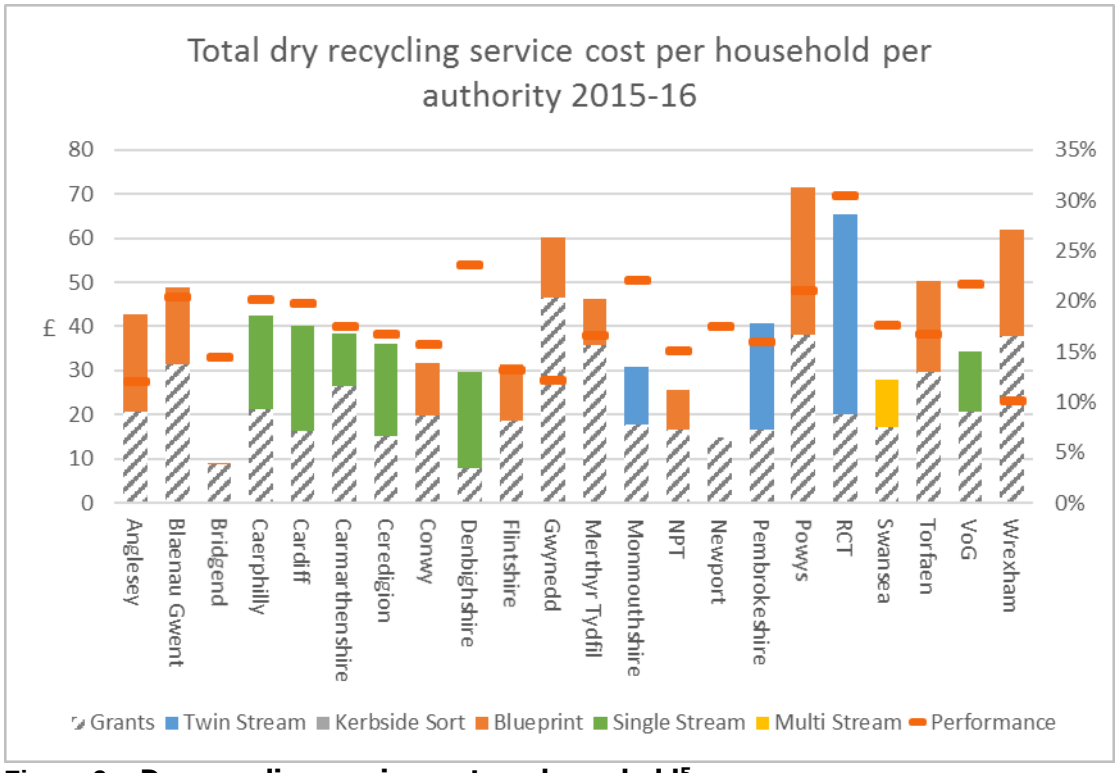


Figure 9 – Dry recycling service cost per household[5]

[5] Bridgend and Newport are both Blueprint

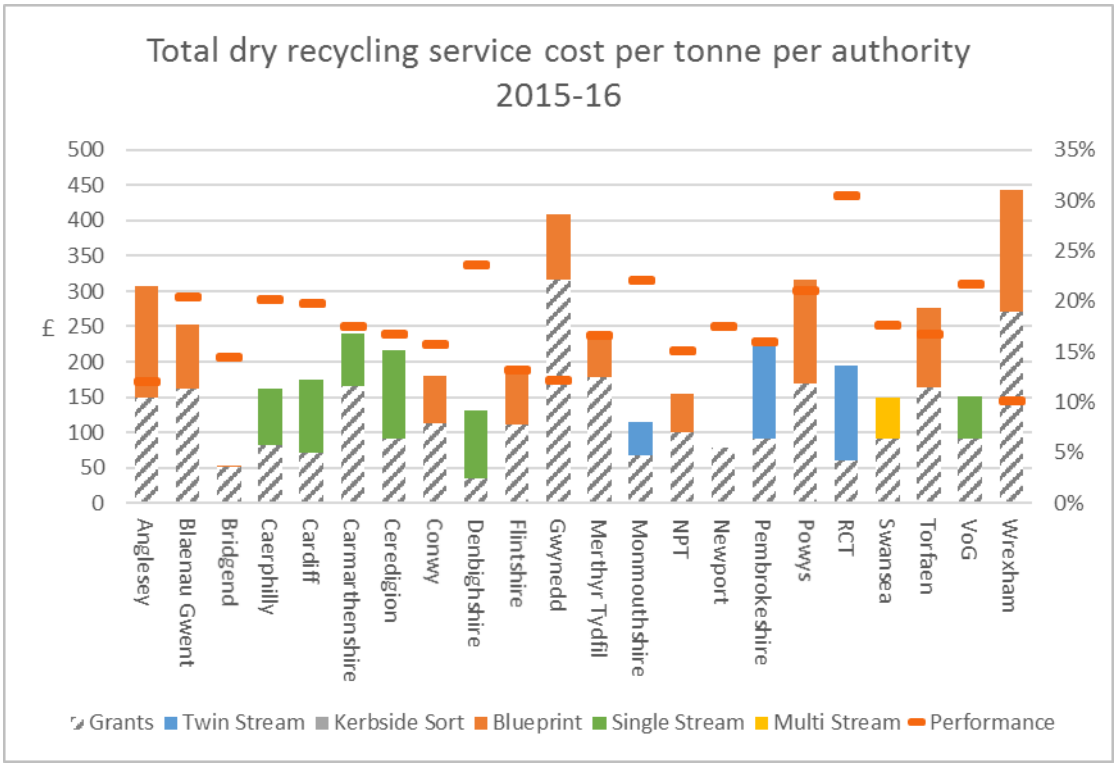


Figure 10 – Dry recycling service cost per tonne[6]

What are the graphs telling us?

21. Both cost and performance vary significantly. Ideally, services should deliver high performance, in terms of mass collected, whilst exhibiting lowest cost possible. For example, Denbighshire's service collected 9,953 tonnes of dry recyclate, which equates to 24% of their total MSW arisings, placing their performance within the top quartile. The cost of the service is around the average value for the group at £29.60 per household. Therefore a high level of performance is being achieved at a reasonable cost. Likewise, Newport's dry recycling service makes a significant contribution to their overall recycling rate, with 18% of total MSW being collected via their kerbside collection scheme, whilst service cost is one of the lowest seen across the group at £14.80 per household. What we want to see is a high value recorded against performance (green line) and a low value recorded for service cost (solid bars) – the wider the gap the more effective and efficient the service.

22. On occasion, the grant figure allocated against a particular service area is greater than the actual net cost of the service itself. This normally occurs when an additional source of income is allocated against a service. E.g. sale of dry recyclate collected via kerbside dry service. To avoid anomalous results being displayed within the charts, the data shown will always be the net service cost excluding the grant portion. When the grant

[6] Bridgend and Newport are both Blueprint

allocated for a particular service is greater than the net service cost, the lower figure is used and the grant contribution assumed to be 100% of the net figure.

23. The range of values seen in the data is similar to that seen for 2014/15. However, the range of values seen is not a good indicator of the performance of the group as a whole. The median cost per household has increased from £35.90 to £39.20 per household, as has the median cost per unit mass, increasing slightly from £190 to £191 per tonne.

24. From the core data it is also possible to compare 2015/16 overall dry recycling service expenditure with that of 2014/15, in addition it is also possible to compare the grant contribution to dry recycling services over the same period:

	14/15	**15/16**	**% change**
Dry recycling	£52,848,944	£56,462,639	6.8%
Grant (SRG)	£30,243,251	£32,046,227	6.0%

25. Expenditure on dry recyclate services increased by 6.8% during 2015/16. Whilst expenditure did increase, the mass of material collected also increased significantly over the same period. Mass collected increased by 13,710 tonnes an uplift of 5%. It can be seen that almost 60% of expenditure on dry recyclate services is supported by grant funding.

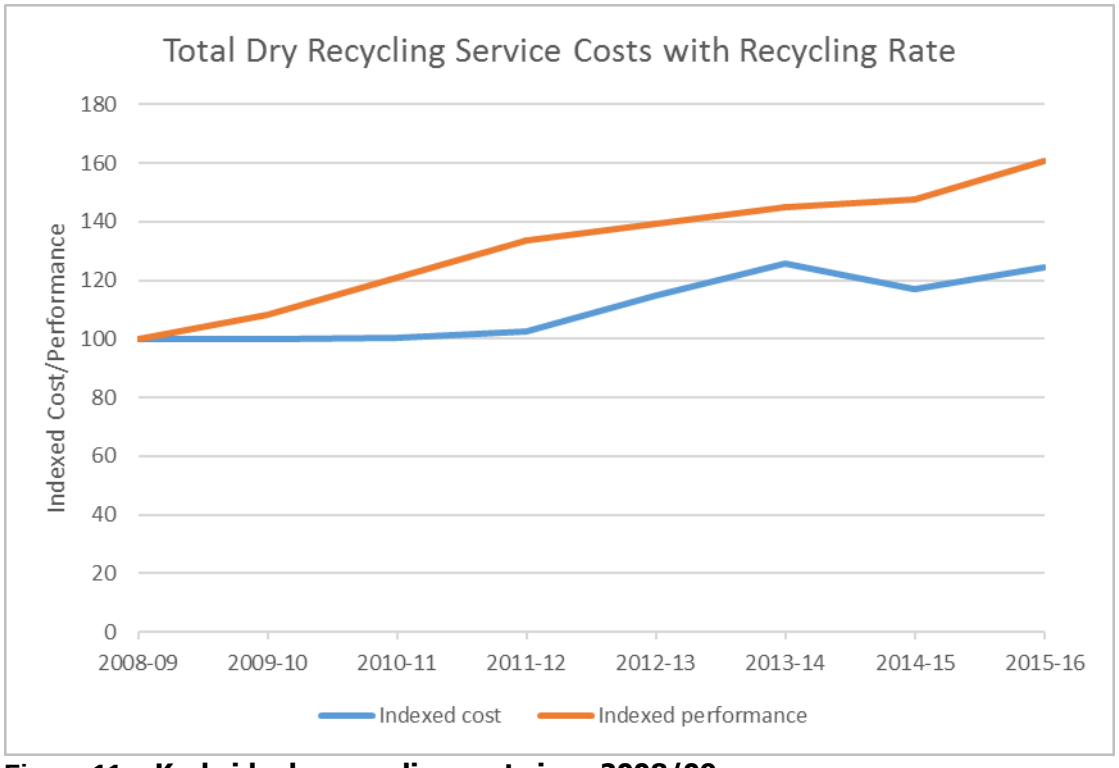


Figure 11 – Kerbside dry recycling cost since 2008/09

26. The longer term trend in kerbside dry recycling costs is shown in Figure 11. It can be seen that expenditure in 2015/16 has crept above the 2008/09 baseline as in previous years, but performance, in terms of mass of dry recyclate collected as proportion of total MSW has continued to increase steadily, with a significant increasing between 2014/15 and 2015/16, in comparison to previous two years.

Collection

27. From the data it is possible to plot the individual component costs of the service. Graphs in Figure 12 & Figure 13 show the dry recycling collection cost on both a per household and per tonne basis. Collection systems vary across the group, colour coding shows what type of collection system was in place during 2015/16. Figures used are a yearly average derived from data entered in WDF by the local authorities themselves. Costs are net of any income.

28. It can be seen that costs arising from the collection of the dry recyclate itself makes up the majority of overall service cost.

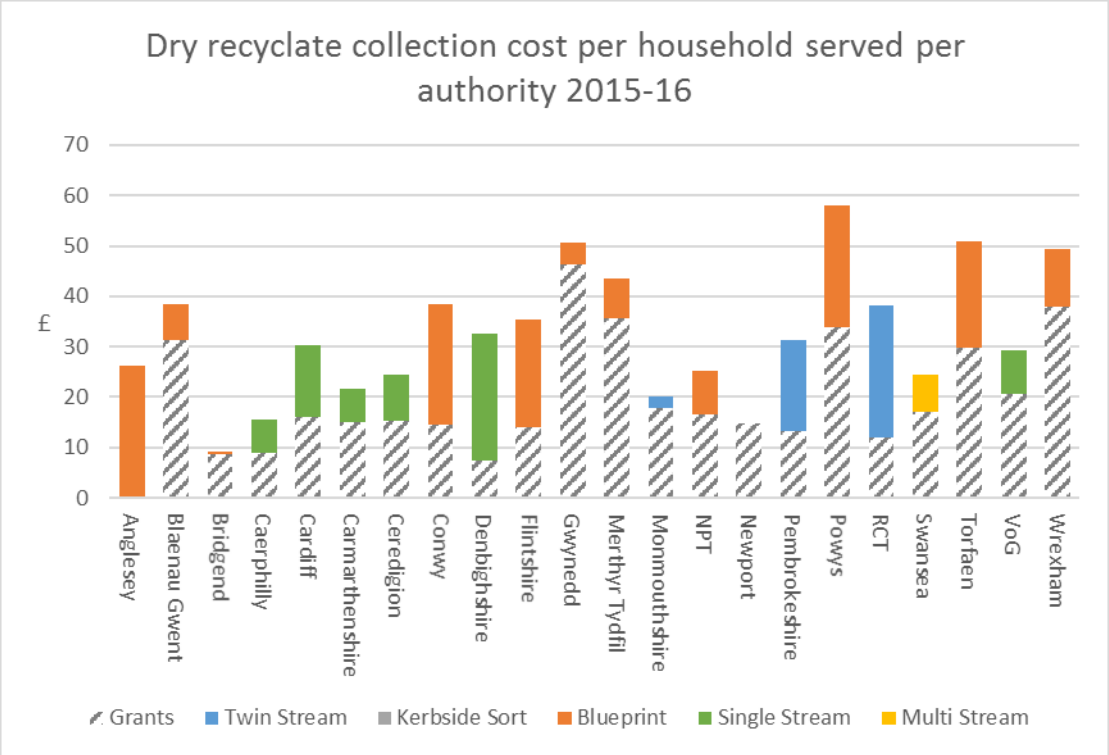


Figure 12 – Dry recyclate collection cost per household served

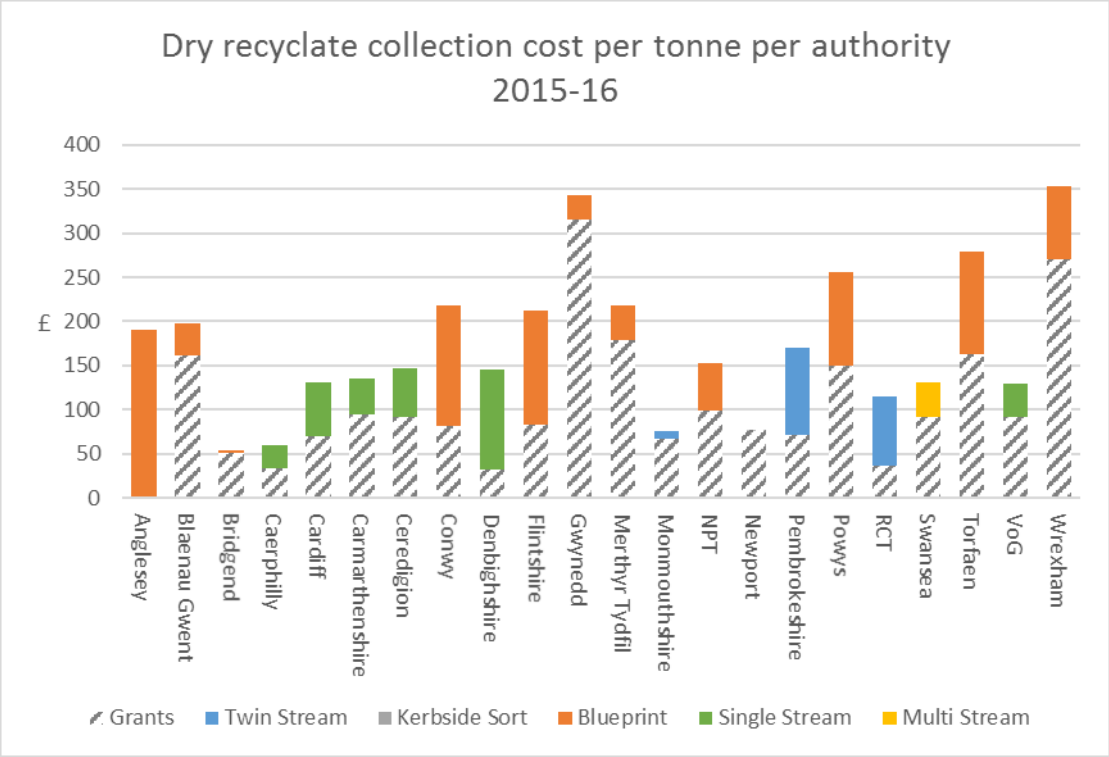


Figure 13 – Dry recyclate collection cost per tonne collected.

Transfer costs

29. According to data provided, few authorities incur costs from transfer of recyclate following its collection. Transfer costs that are incurred are low relative to overall service cost. For brevity, charts detailing transfer costs are not contained within the body of the report, rather they are available on request.

Treatment costs

30. Figure 14 & 15 show the costs incurred from treatment of collected dry recyclate. Costs are shown both as a cost per household served and a cost per tonne. Treatment cost can be defined as the cost of handling and/or segregating materials collected, such as treatment of materials at a MRF.

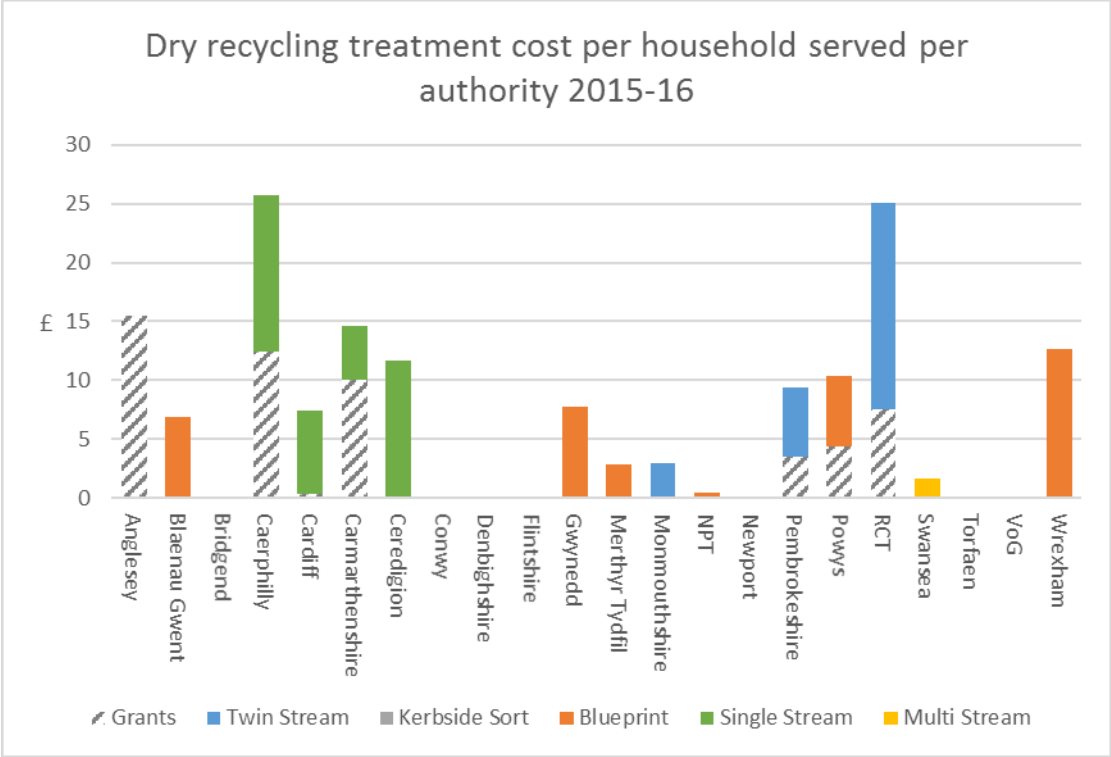


Figure 14 – Dry recycling treatment cost per household served

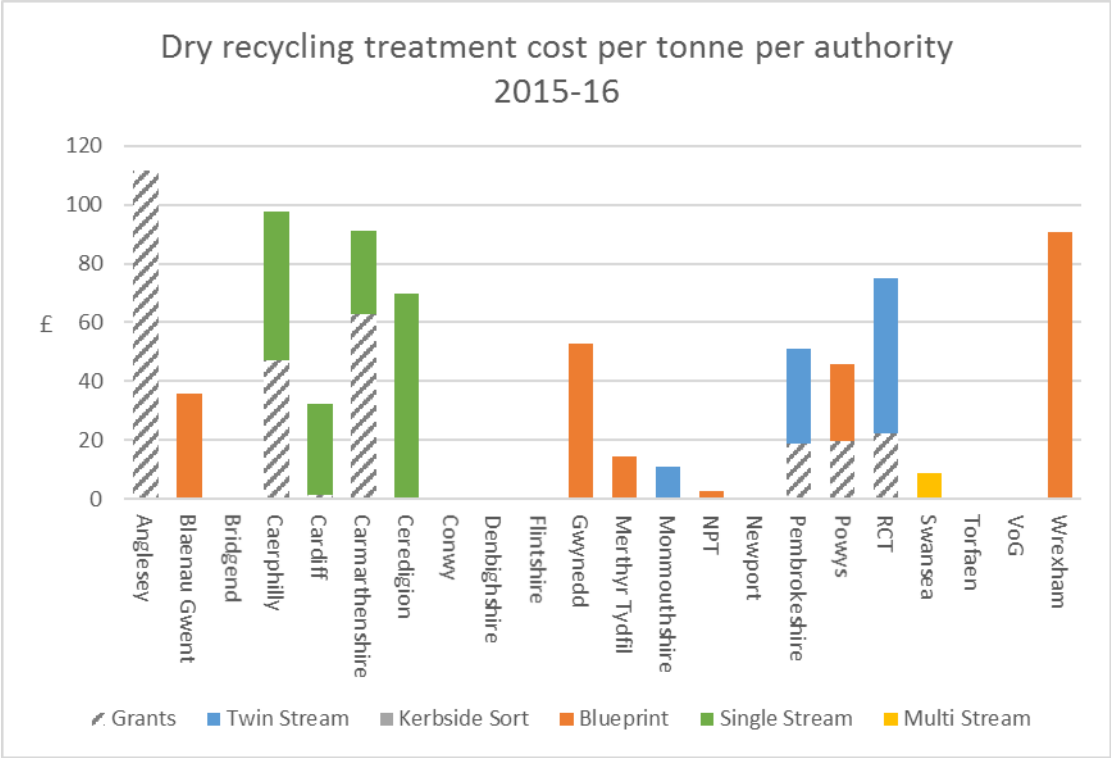


Figure 15 – Dry recycling treatment cost per tonne

31. It can be seen that there is a wide variation in treatment costs across the group. This may reflect the differing recycling systems in place across Wales, with authorities employing differing treatment methodologies

depending on the collection system used. (e.g. MRF, Sorting/Baling only etc)

32. A number of authorities exhibit a negative cost for treatment activities. This occurs when the income received from the sale of the recyclate treated is greater than the cost of treatment activities themselves.

Income

33. Charts in Figure 16 & Figure 17 Show the amount of income received from the sale of collected materials on a per household served and per tonne basis. Incomes vary significantly across the group and reflect the differing service configurations and the differing contractual arrangements in place for the treatment of the material collected. As stated previously, income overall from the sale of dry Recyclate remained steady in comparison to the previous year.

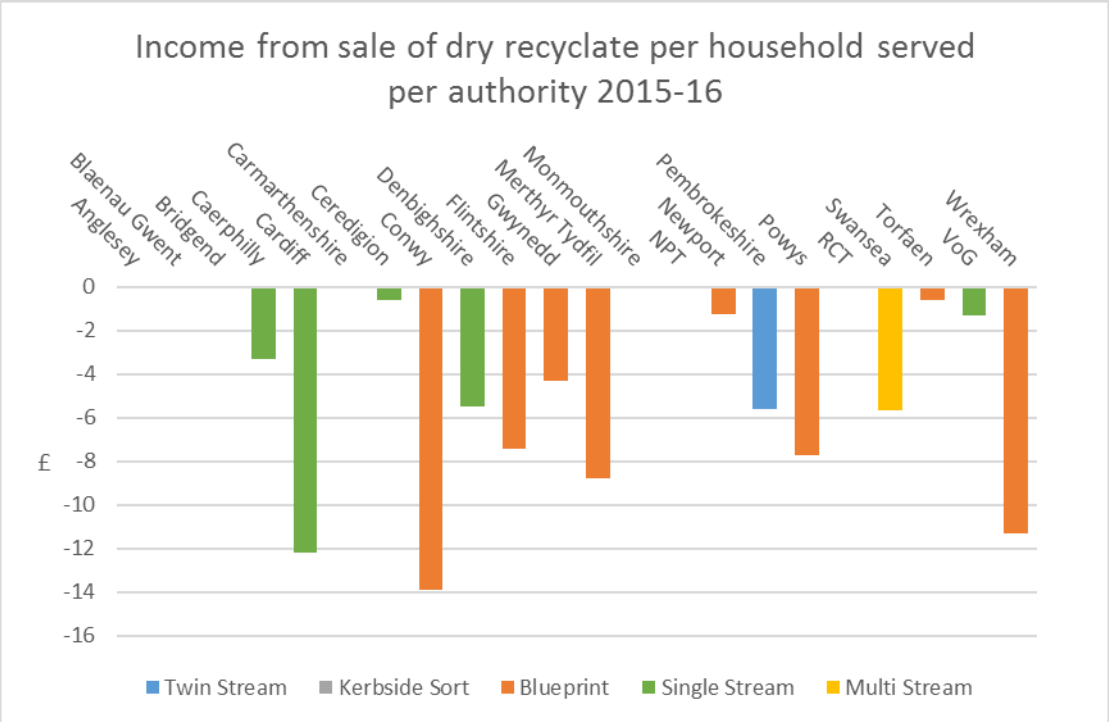


Figure 16 – Income from sale of dry recyclate per household served

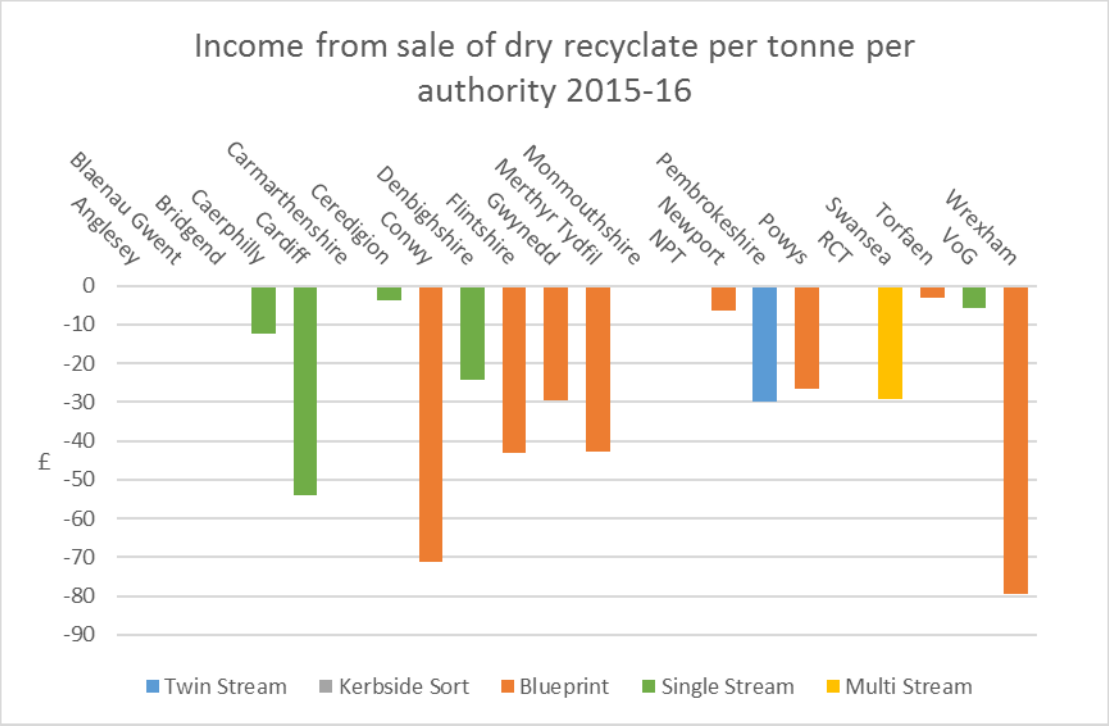


Figure 17 – Income per tonne from sale of dry recyclate

Organic Waste Services

34. As with recycling, performance is cross referenced against cost in the following graphs. Performance data shows the mass of organic waste waste collected by the service as a percentage of total MSW.

35. Data is split across three headings covering food-only collections, green-only collections, and co-mingled green and food collections.

Food waste only

36. The total cost of providing food waste collection are shown in Figure 18 (cost per household served) and Figure 19 (cost per tonne collected). The performance of the service (i.e. the percentage of MSW diverted) is shown on the right-hand axis and can be seen as the red line on the chart.

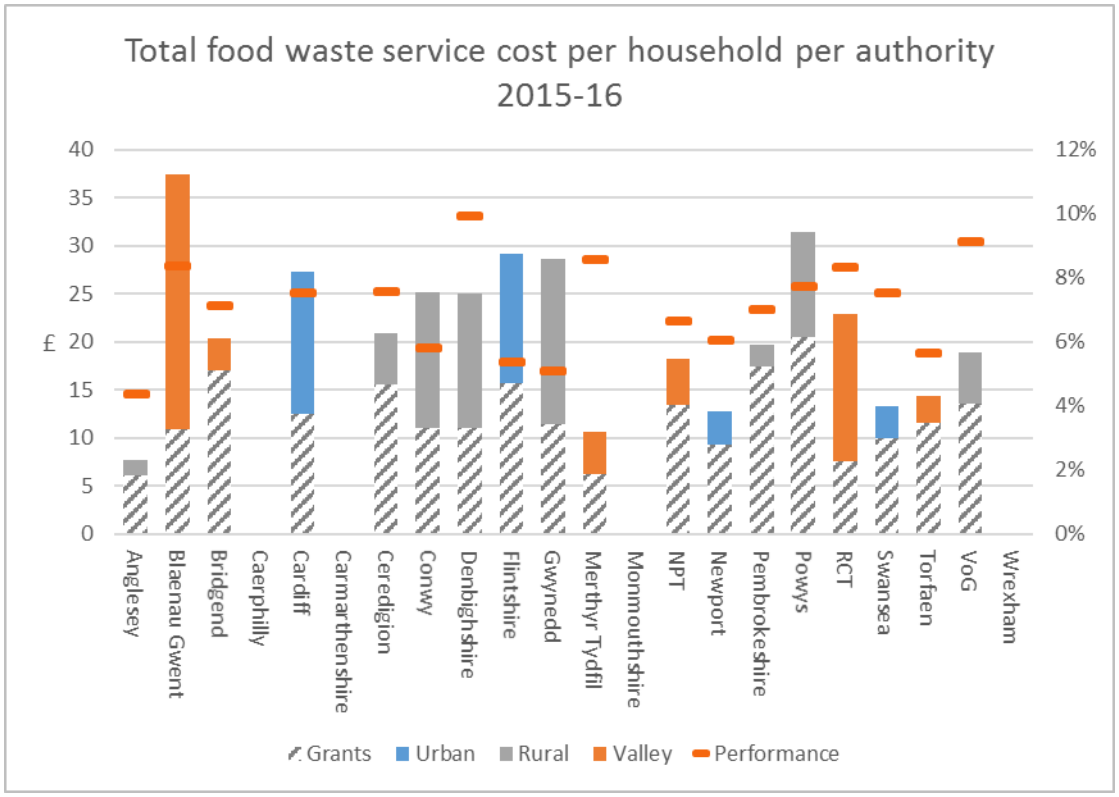


Figure 18 – Food waste service cost per household served.

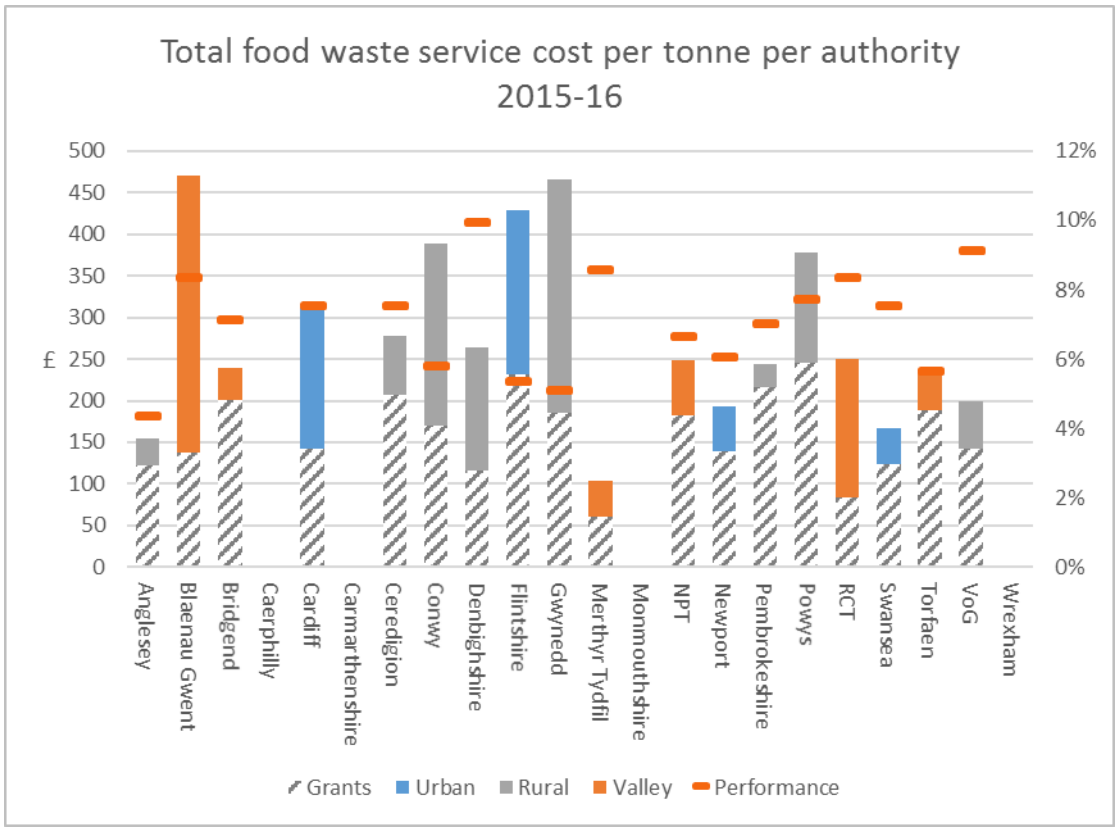


Figure 19 – Food waste service cost per tonne

37. Both cost and performance vary across the group. A wide variation can be seen in yield as % of total MSW, from around 4% to 10%, little difference since 2014/15. Greater divergence between cost bar and performance bar is likely to signify a higher performing service. For example, the service operated by Merthyr Tydfil, Vale of Glamorgan and Swansea exhibits both a low cost and high yield across the group.

Green waste only

38. The total net cost of providing green waste collection are shown in Figure 20(cost per household served) and Figure 21 (cost per tonne collected). The performance, in terms of mass of green waste collected as proportion of total MSW is shown on the right-hand axis and can be seen as the red line on the chart.
39. Pembrokeshire are running a well-established charging regime (£38 per hh per annum) for their kerbside collection of garden waste service. Powys do not collect garden waste at the kerbside. During 2015/16 Bridgend, Denbighshire, Monmouthshire and Pembrokeshire were charging residents for the kerbside collection of garden waste.

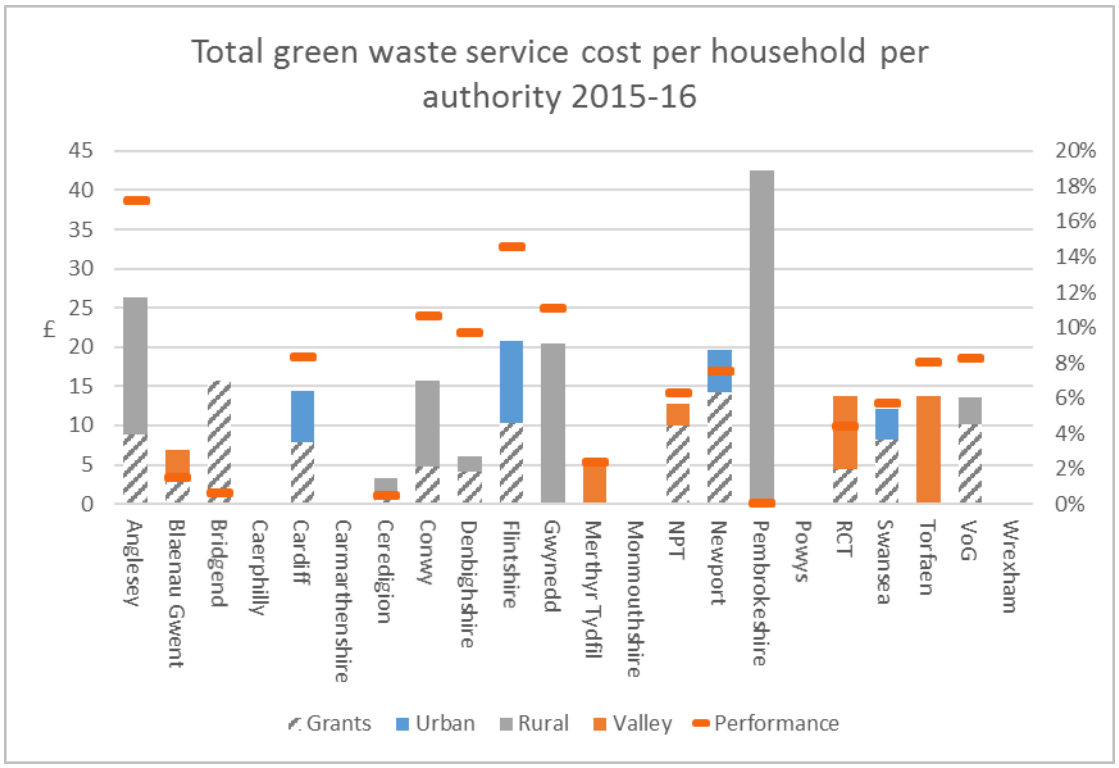


Figure 20 – Green waste service cost per household served.

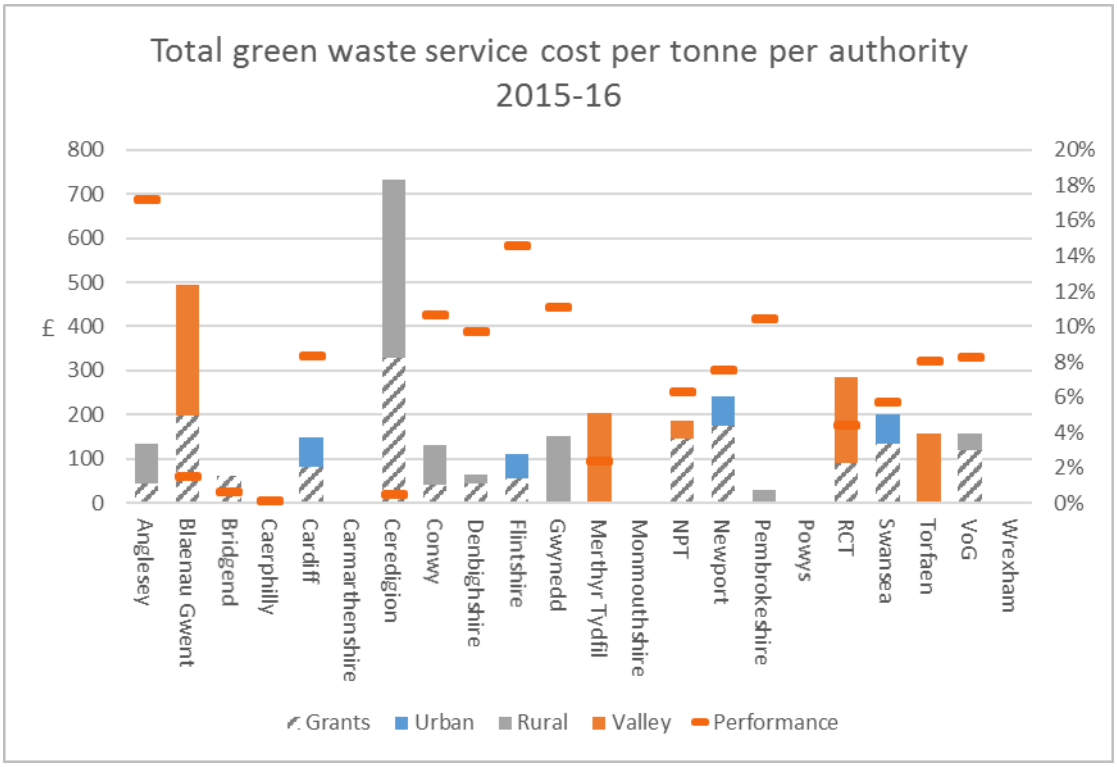


Figure 21 – Green waste service cost per tonne

40. Again, a wide variation in both costs and performance can be seen across the group. The divergence between cost and performance data seen for Anglesey would suggest that it is a relatively efficient service. The high yield seen, approx. 18% of total MSW, may also account for the difference in relative unit costs for Anglesey when considered on a per household and per unit mass basis. On a per household basis, Anglesey's cost are one of the group highest cost, however, due to the large yield, unit cost per tonne is the lowest of the group. On the other hand, Cereidigion's cost appear to be high in comparison to other LAs, mainly because relatively low tonnage of garden waste is collected at the kerbside.

41. When considering the variations seen in yield and cost, it should be noted that some services are provided free of charge to the householder, whilst others operate chargeable schemes. Charging is likely to significantly affect levels of participation which in turn will affect yields seen and overall service costs.

Co-mingled food and green waste

42. Some authorities co-collect the food and green waste fractions. The total cost of providing this combined food and green waste service are shown in Figure 22 (cost per household served) and Figure 23 (cost per tonne collected). The performance of the service, as mass collected as % of total MSW, is shown on the right-hand axis and can be seen as the red line on the chart.

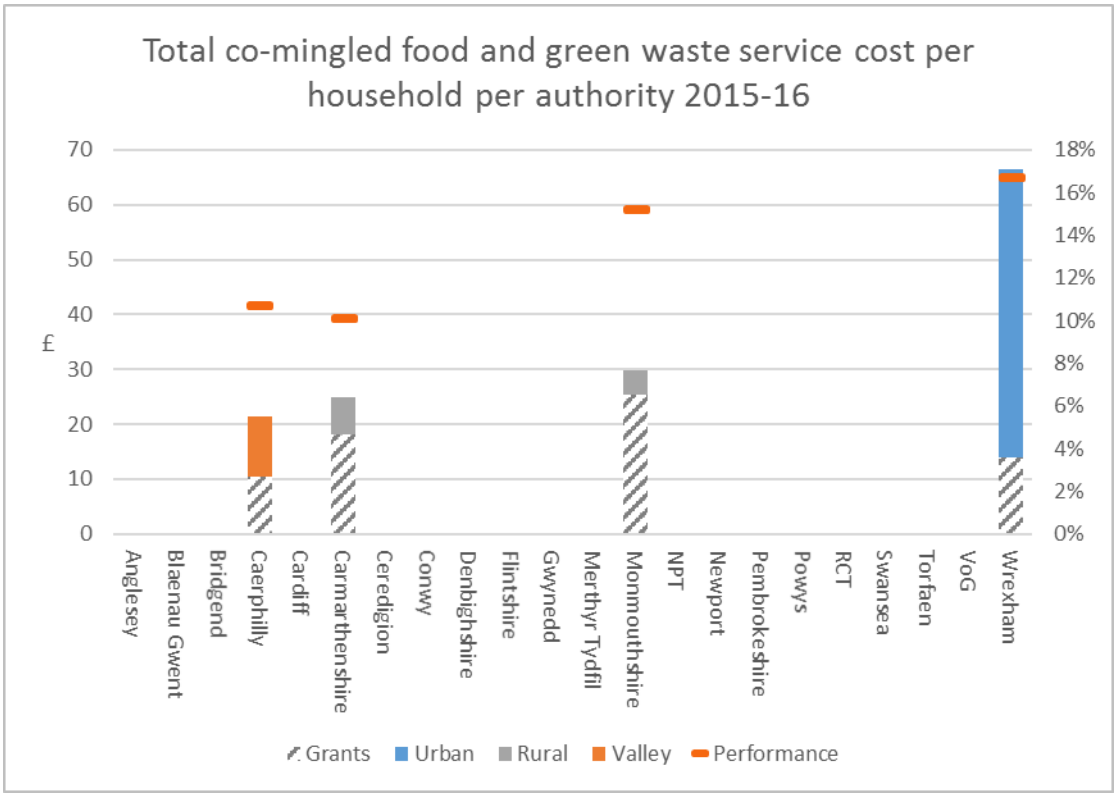


Figure 22 – Co-mingled organic service cost per household served.

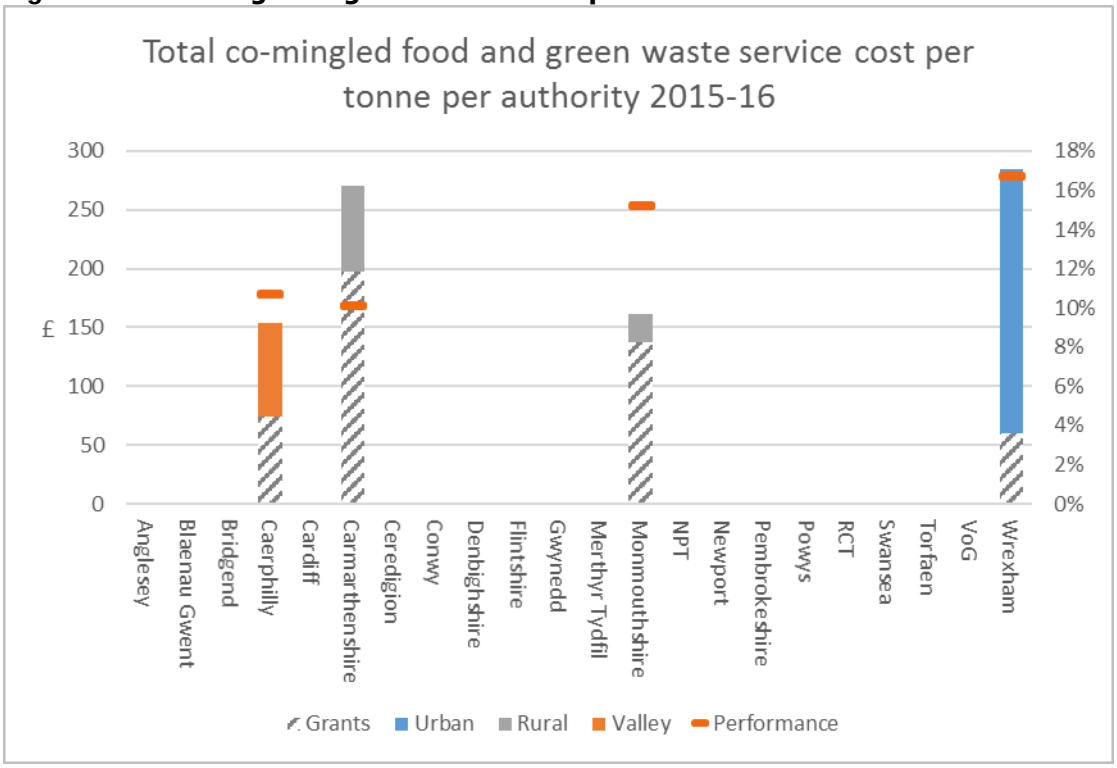


Figure 23 – Co-mingled organic service cost per tonne

43. For all organics collections it can be seen that there are wide variations in costs across the group. However the variation has reduced over the last period. This is likely to result from the fact that a number of services were previously in the process of being introduced or were undergoing expansions and further roll out. One off costs arising from the start-up of

new services, or the expansion of existing schemes may have a distorting effect on the costs seen. During 2015/16 organic waste services have matured, yields have improved and unit costs have decreased. The variation in costs is most pronounced when comparing on a per tonne basis. Low yields from new services especially from chargeable green waste services, coupled with elevated start-up costs result in some authorities exhibiting higher service costs.

44. If all costs associated with various organic collection services are aggregated, it is possible to compare total expenditure in 2014/15 with that of 2015/16:

	14/15	15/16	% change
Organic	£ 48,507,955	£ 47,839,391	-1.4%
Grant (SRG)	£ 25,460,391	£ 24,694,028	-3.0%

45. 2015/16 saw a decrease in expenditure on organic waste services, for the second year running since 2008/9 down by 1.4% when compared to 2014/15. Food waste services are now well embedded by local authorities, fewer changes are being made to services therefore costs are becoming more stabilised. Whilst expenditure did reduce, performance in terms of mass of material collected also reduced, with a reduction of 5,355 tonnes of organic waste collected compared to the previous year. However this is mainly due to less garden waste being collected, separately collected food waste increased by 4,883 tonnes.

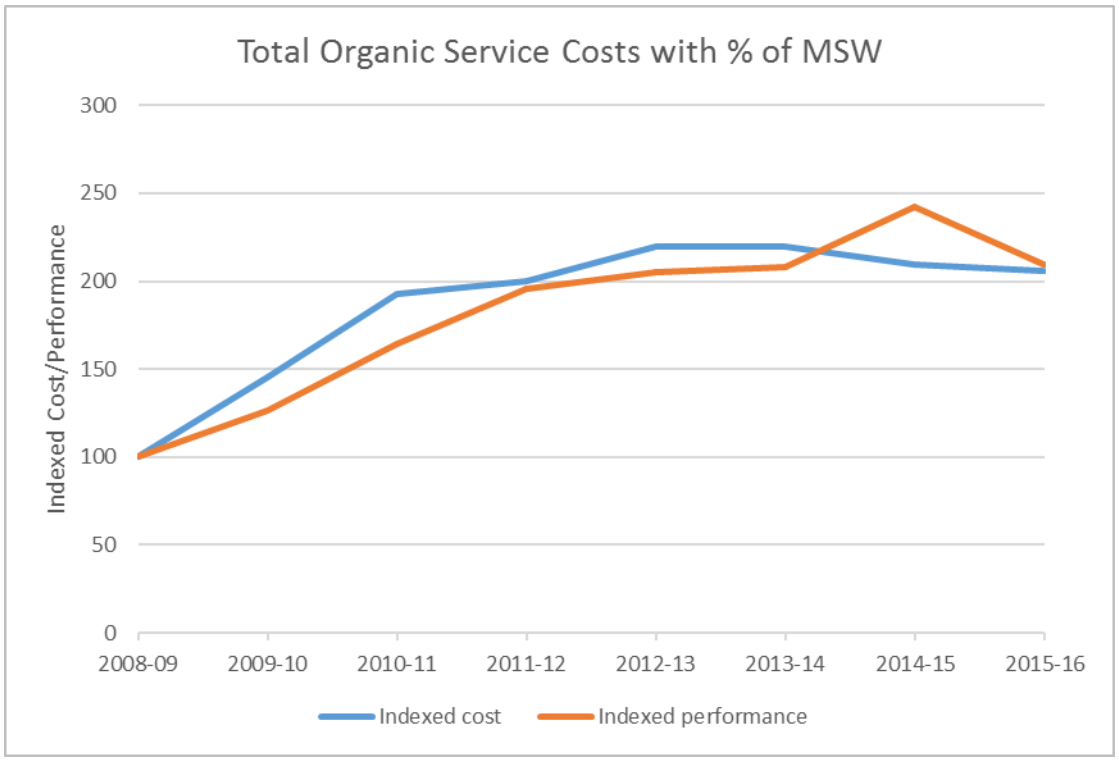


Figure 24 – Organic waste costs since 2008/09

46. The longer term trend can be seen in Figure 24. The seven years since 2008/09 have seen significant investment in organic waste services. A rapid expansion of food waste services took place with virtually all Welsh households now served by a collection scheme. This expansion of services has seen the total mass of organic waste, as a proportion of total MSW rise greatly over the same period. However, during 2015/16 total mass of organic waste reduced, mainly due to less garden waste being collected, as more authorities are charging for the collection of garden waste and reducing the frequency of collection. Total cost of organic services reduced in 2014/15 and further again in 2015/16, the first time since 2010/11, whilst tonnage collected increased.

Collection costs

47. From the core data, it is possible to further break down the whole system costs and examine the various constituent costs such as collection, transfer and treatment.

Separate food waste collection

48. The food waste collection cost is shown in Figure 25 (cost per household served) and Figure 26 (cost per tonne collected).

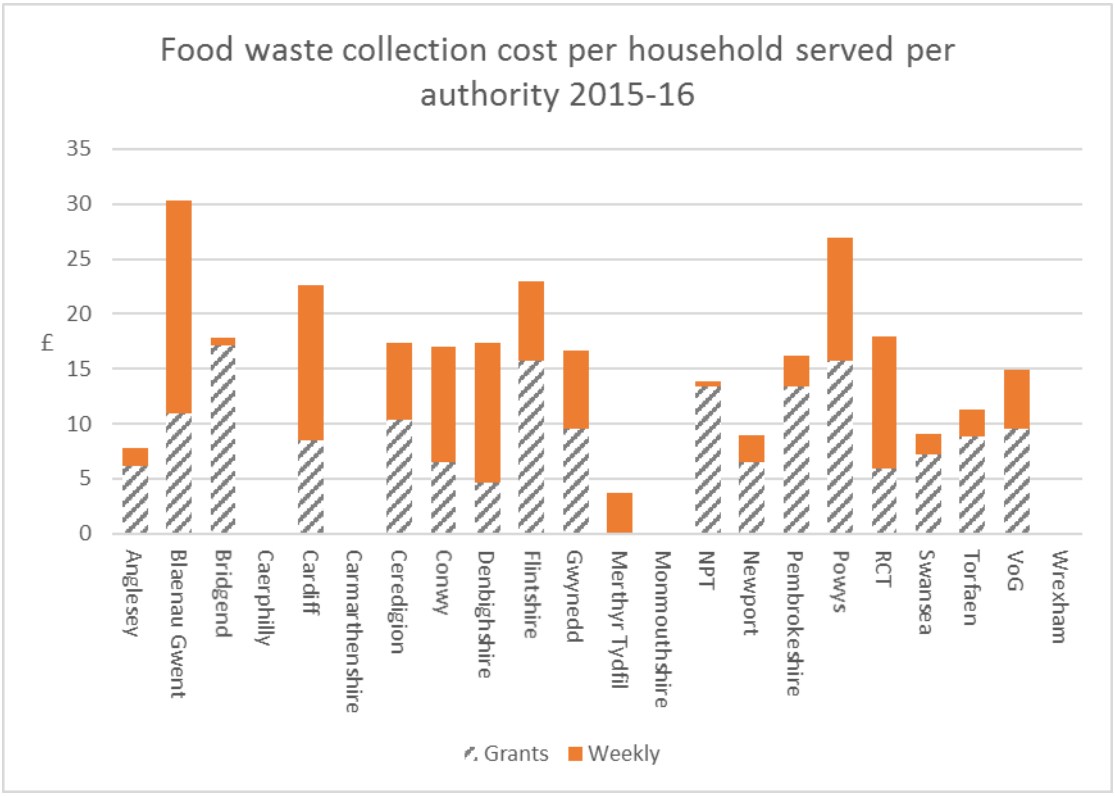


Figure 25 – Food waste collection cost per household served.

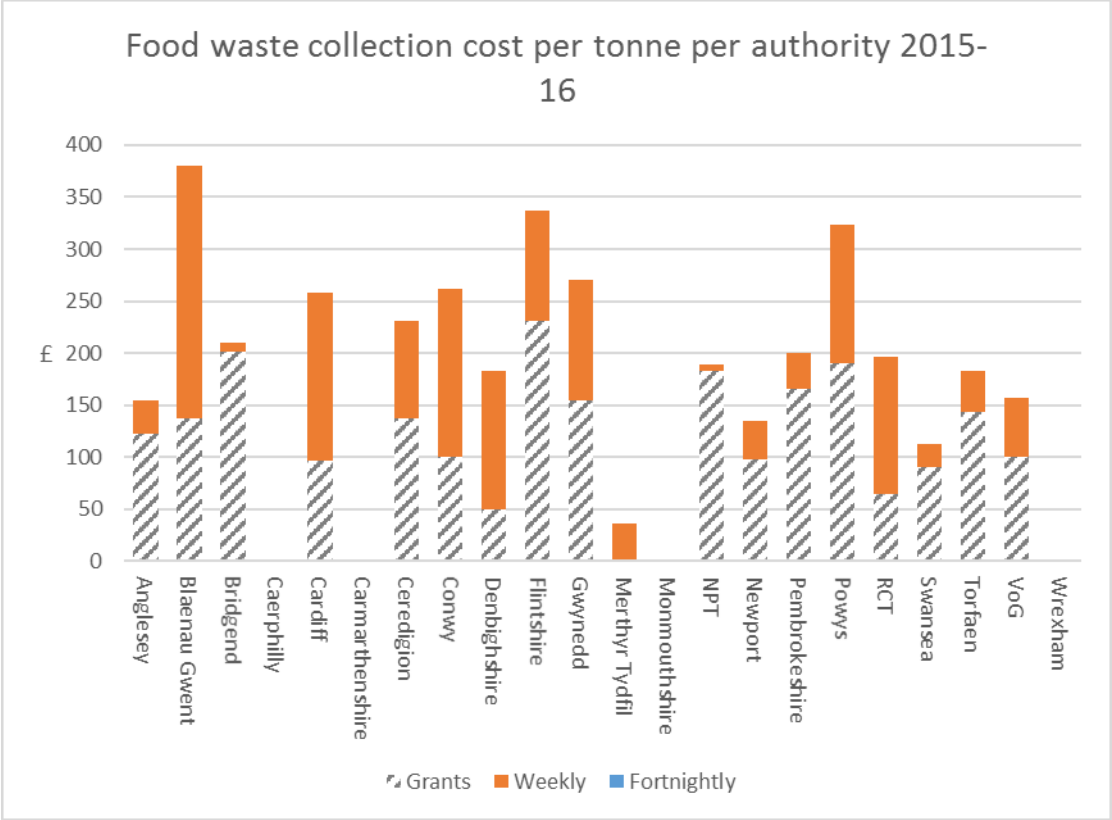


Figure 26 – Food waste collection cost per tonne

Separate green waste collection

49. The green waste collection cost is shown in Figure 27 (cost per household served) and Figure 28 (cost per tonne collected).

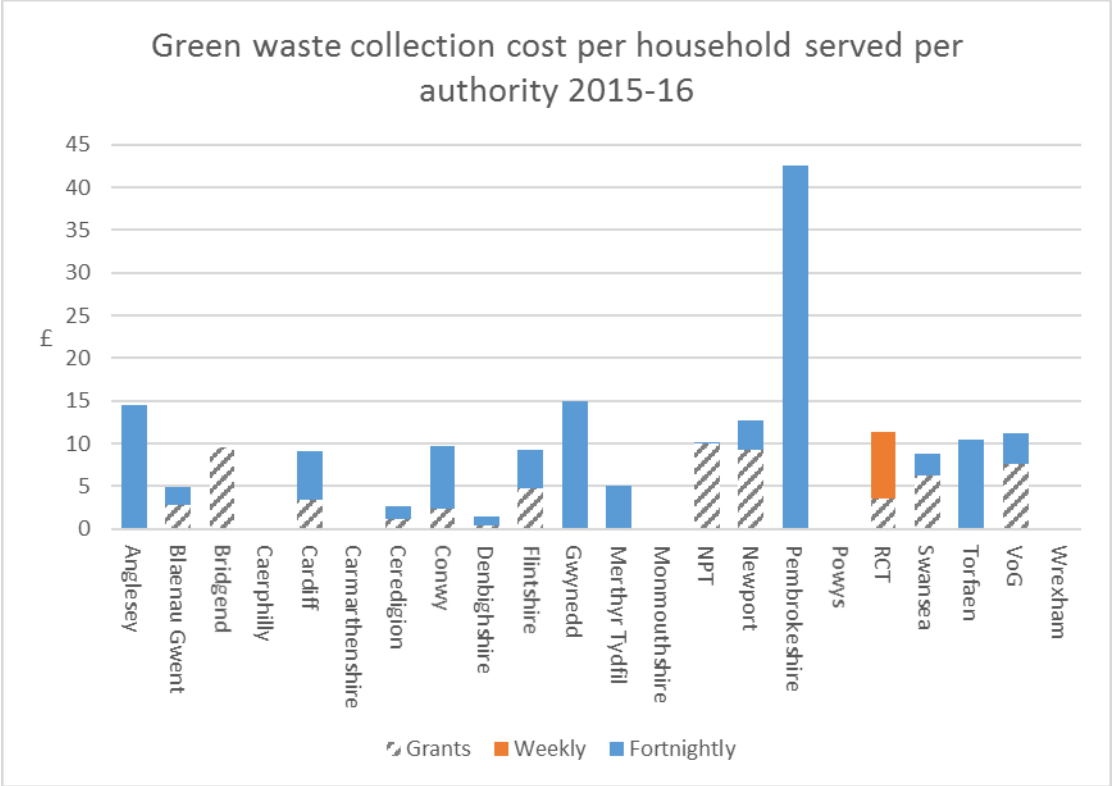


Figure 27 – Green waste collection cost per household served.

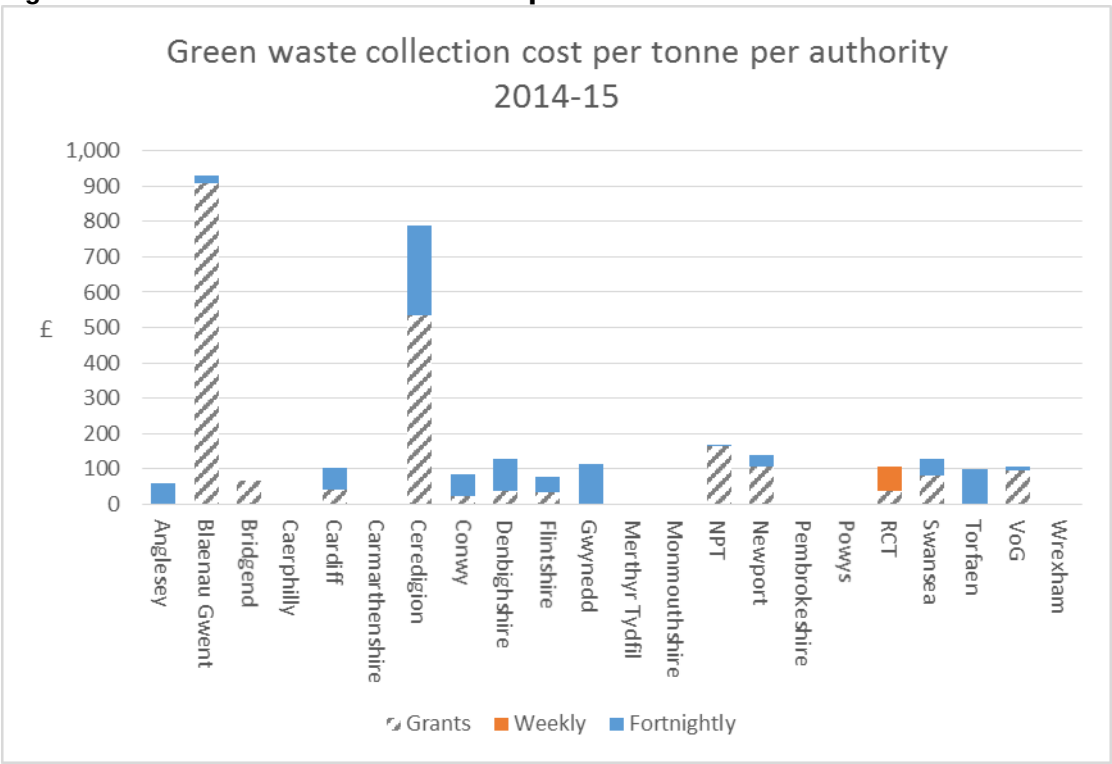


Figure 28 – Green waste collection cost per tonne

50. RCT are the only authority collecting separate garden waste on a weekly basis, however they collect garden waste combined with dry recyclables therefore experience a much lower cost.

Combined food and green waste

51. Costs for authorities collecting food and green waste fractions together are shown in Figure 29 (cost per household served) and Figure 30 (cost per tonne collected). Colour coding denotes frequency of collection.

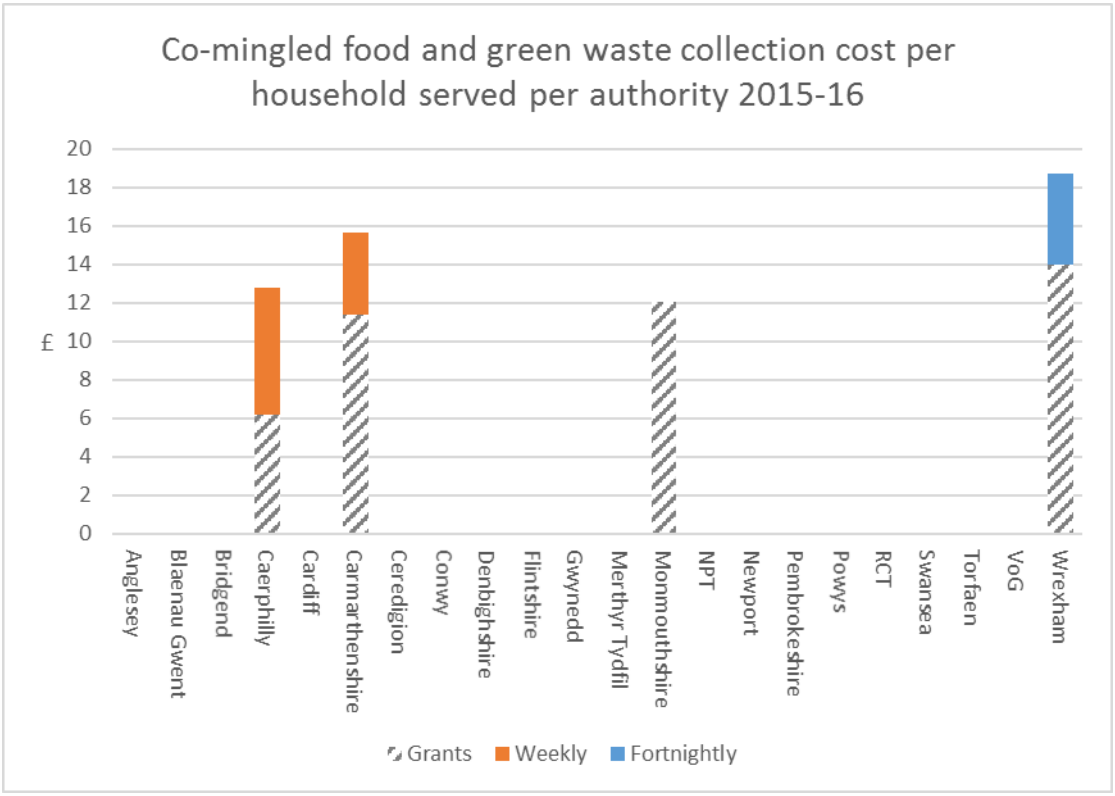


Figure 29 – Combined food and green waste collection cost per household served.

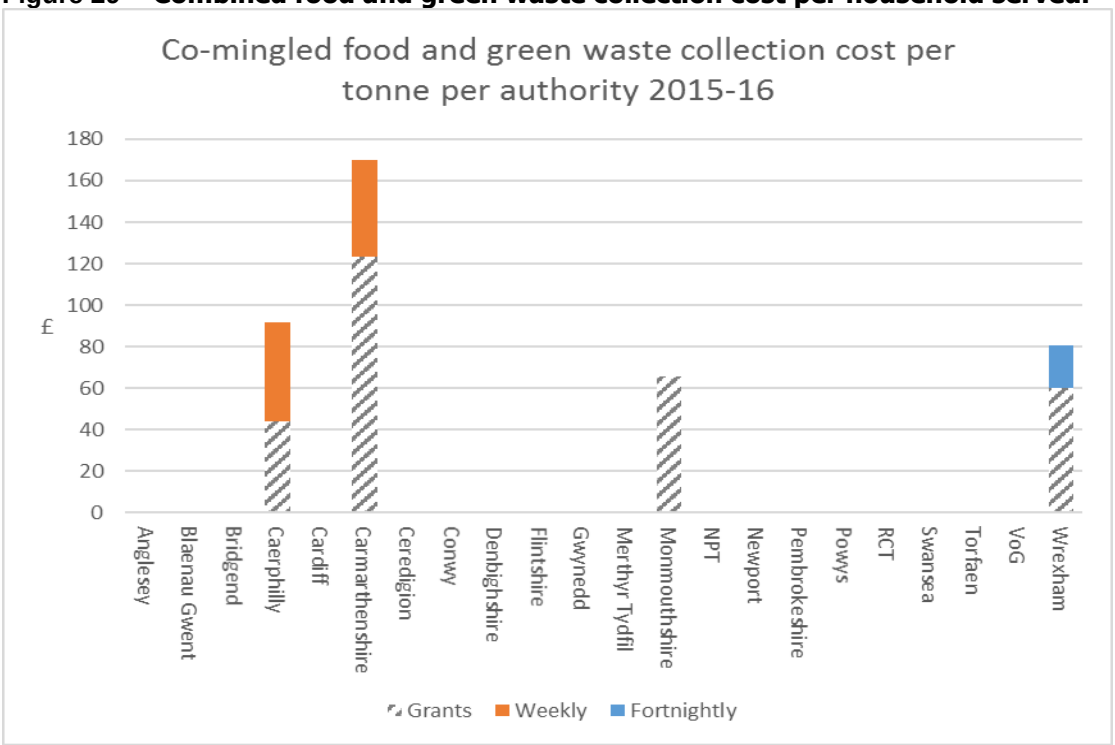


Figure 30 – Combined food and green waste collection cost per tonne

52. It can be seen that for all organic waste services, collection costs are by far the greatest contributor to overall service cost. It is also important to note that Wrexham moved to a separately collected food and garden waste services in September 2016. All other three LAs are considering to move to a separately collected service.

Treatment Costs

53. Organic material collected at the kerbside will require some form of treatment. Costs incurred will be dependent on several factors including overall mass sent for treatment and treatment methodology employed. Additional regulation applies to food waste requiring in-vessel treatment to be undertaken. This additional requirement is likely to result in higher unit treatment costs for both food waste and combined food and green waste services compared with those for segregated green waste.

Separate food waste

54. The food waste treatment cost is shown in Figure 31 (cost per household served) and Figure 32 (cost per tonne collected).

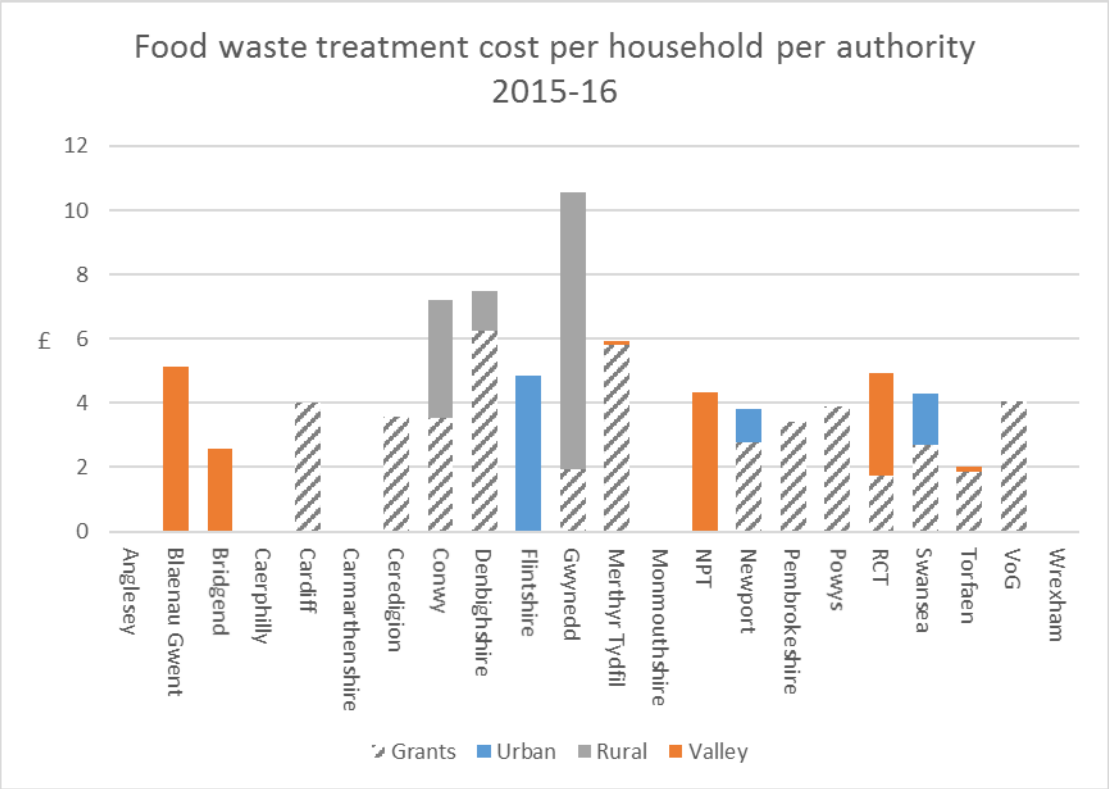


Figure 31 – Food waste treatment cost per household served.

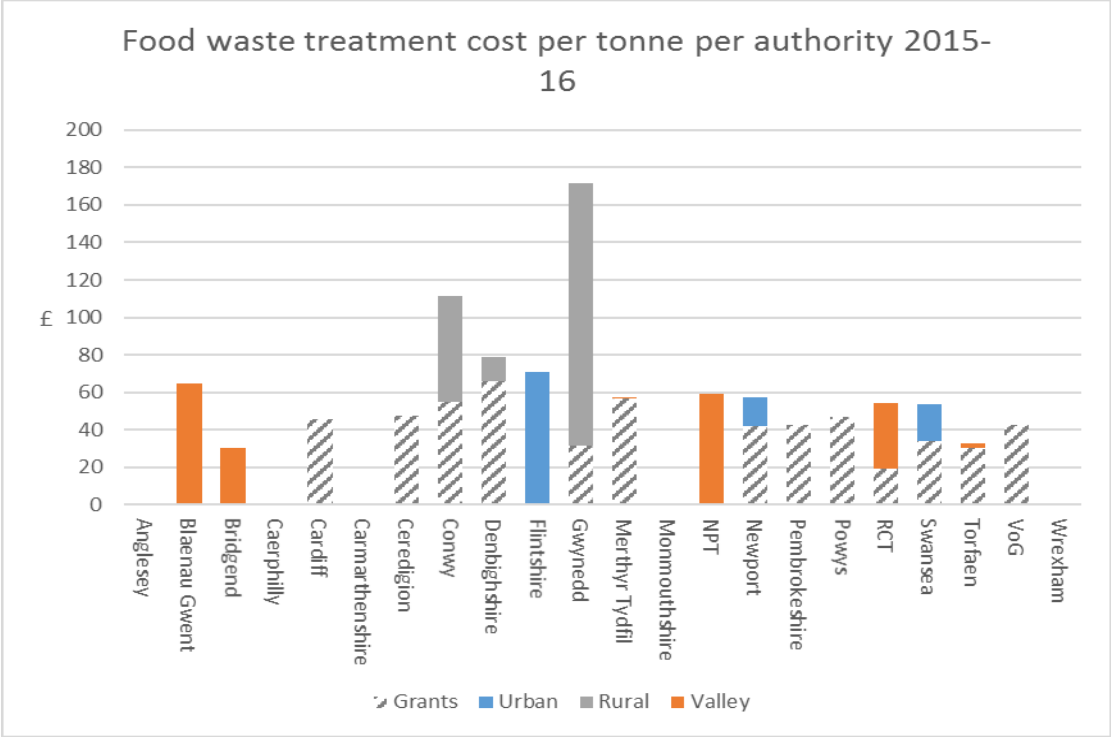


Figure 32 – Food waste treatment cost per tonne

Separate green waste

55. The green waste treatment cost is shown in Figure 33 (cost per household served) and Figure 34 (cost per tonne collected).

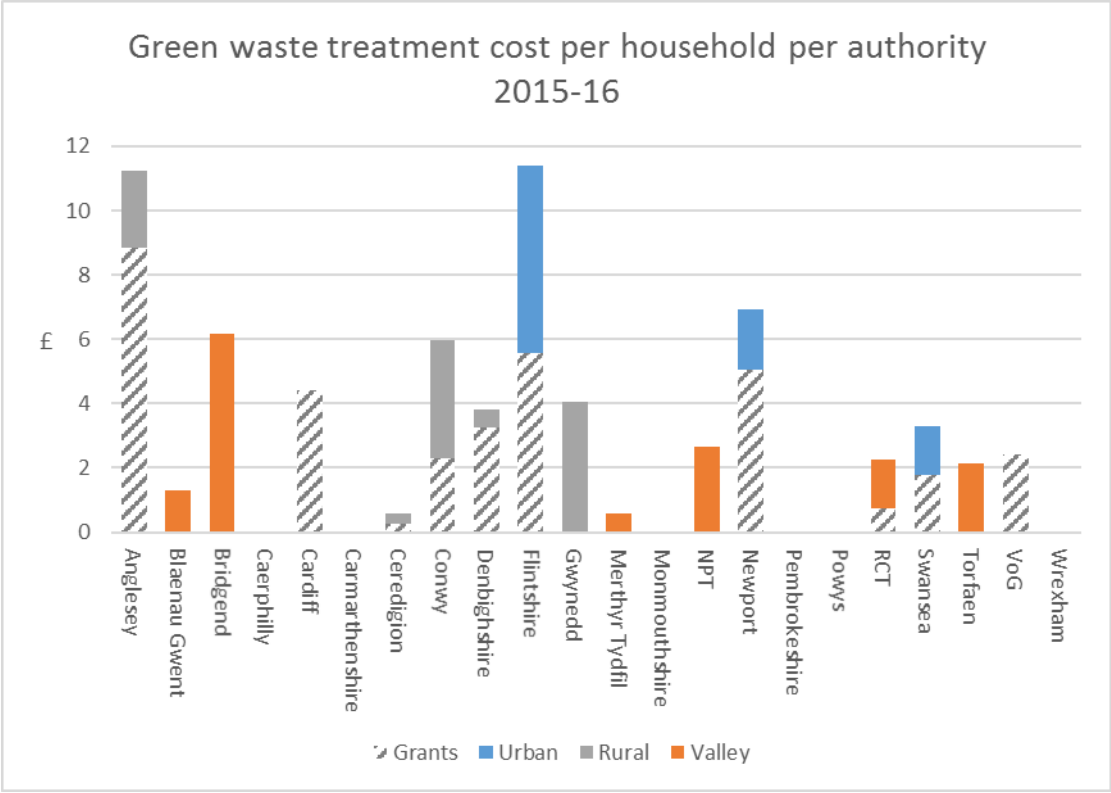


Figure 33 – Green waste treatment cost per household served.

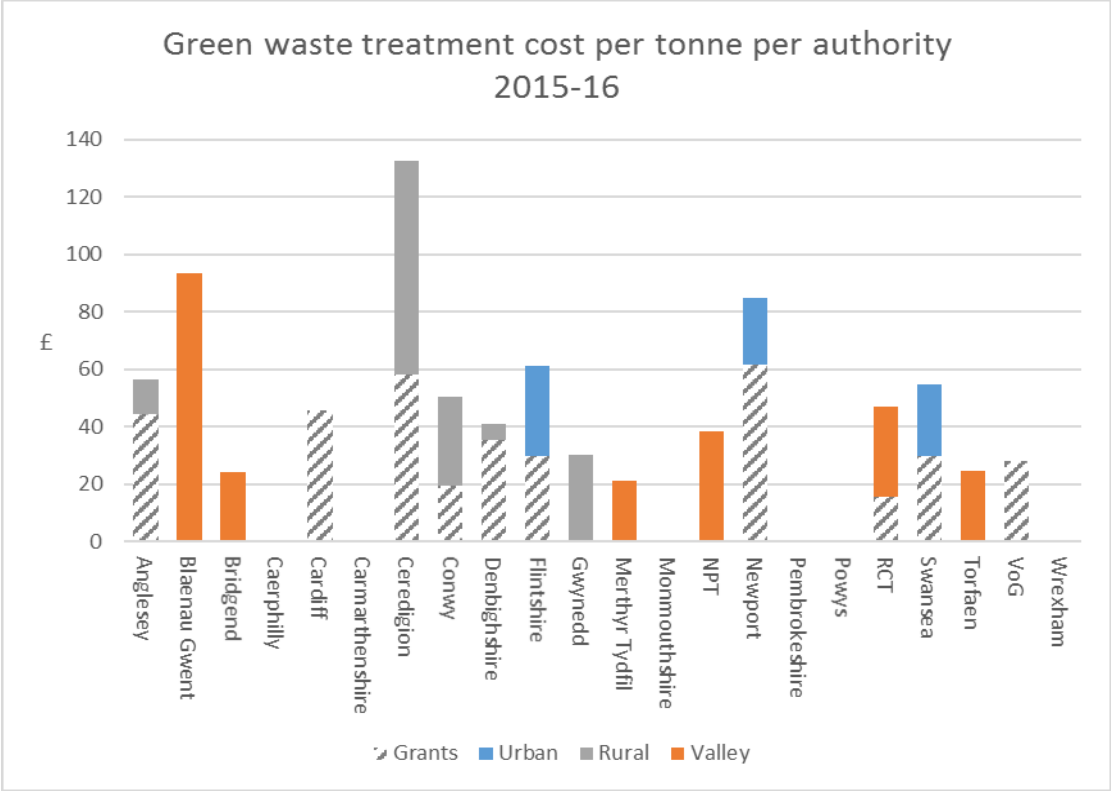


Figure 34 – Green waste treatment cost per tonne

56. Wide variation exists across the group for green waste treatment costs, mainly due to the variation in tonnage collected between LAs the group average at £52.10 per tonne.

Combined food and green waste

57. Treatment Costs for authorities collecting food and green waste fractions together are shown in Figure 35 (cost per household served) and Figure 36 (cost per tonne collected).

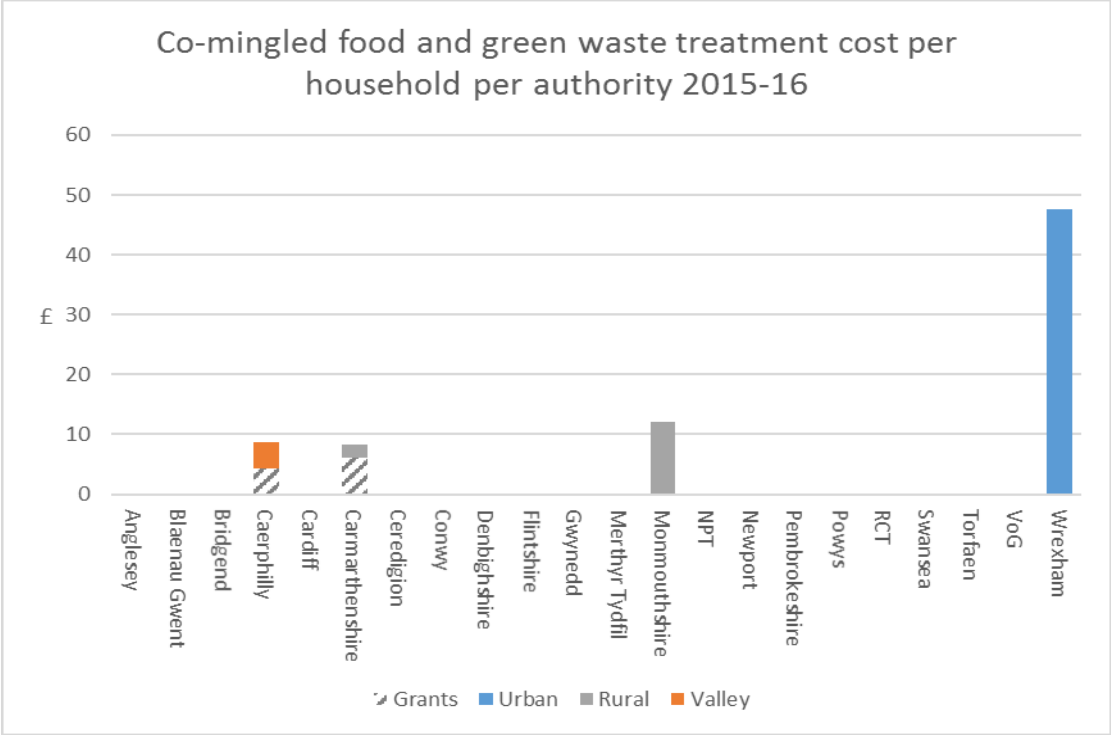


Figure 35 – Combined food and green waste treatment cost per household served.

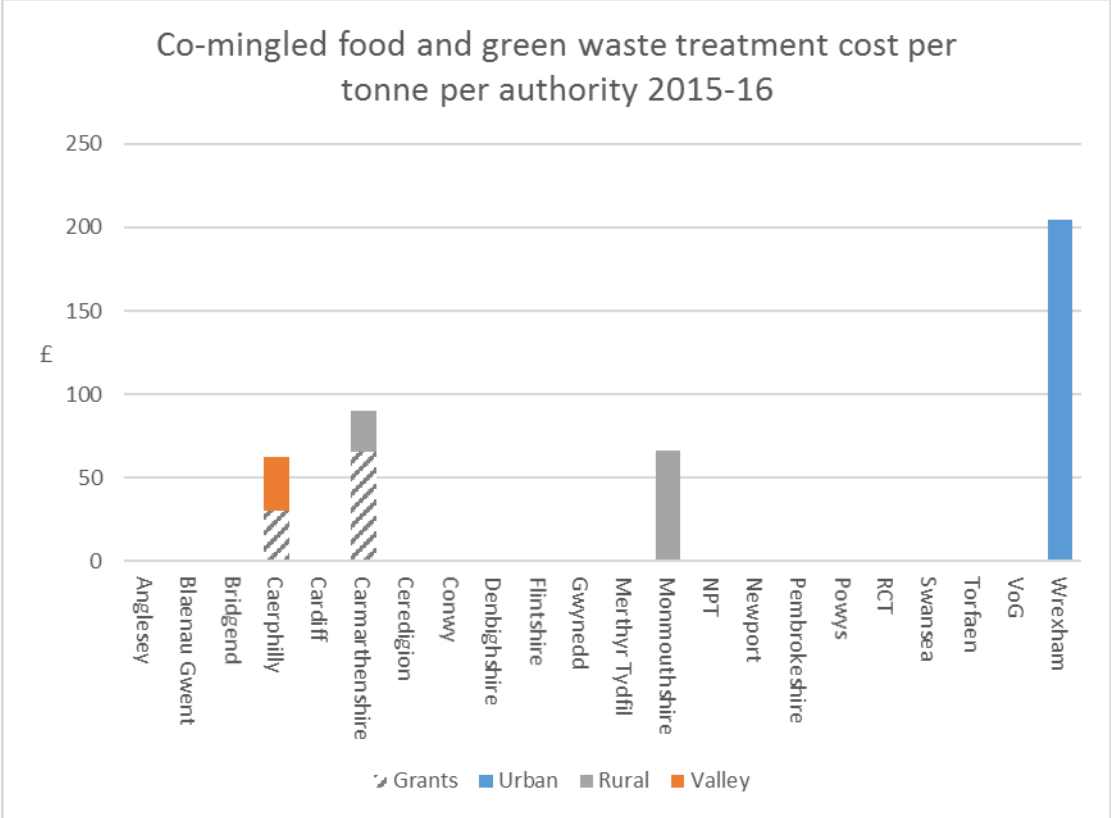


Figure 36 – Combined food and green waste treatment cost per tonne

Transfer, disposal and Income

58. A number of authorities are required to transfer collected material to treatment facilities. Costs incurred are relatively low in comparison with overall service cost, so for brevity are not included in main report. Similarly, costs incurred from disposal of non-compostable material (contamination) and incomes generated by organic waste services are low, data is therefore not included in main report.

59. It is worth noting that the high costs shown against Wrexham's treatment activity is due to the PFI contract in place.

Combined kerbside recycling & composting services

60. In order to provide efficient services many authorities offer collections of more than one waste stream using the same vehicles and crew. For example, many authorities routinely collect food waste and dry recyclate together, albeit in separate compartments, on the same vehicle. As costs for more than one service area are shared as a result, local authorities are required to make a reasonable apportionment of costs between services to enable them to complete their annual financial returns. Whilst the apportionments made are reasonable, there is a potential for error to occur. It is therefore useful to consider the combined costs of all services delivered at the kerbside in order to mitigate any potential error from apportionment.
61. Figure 37 and 38 below show the aggregated costs for all kerbside recycling services offered by Local authorities. i.e. the aggregated total cost of dry recycling, food waste, green waste and combined food & green waste services. Not included are residual waste services and other smaller scale activities such as bulky waste, trade waste and clinical waste collections.

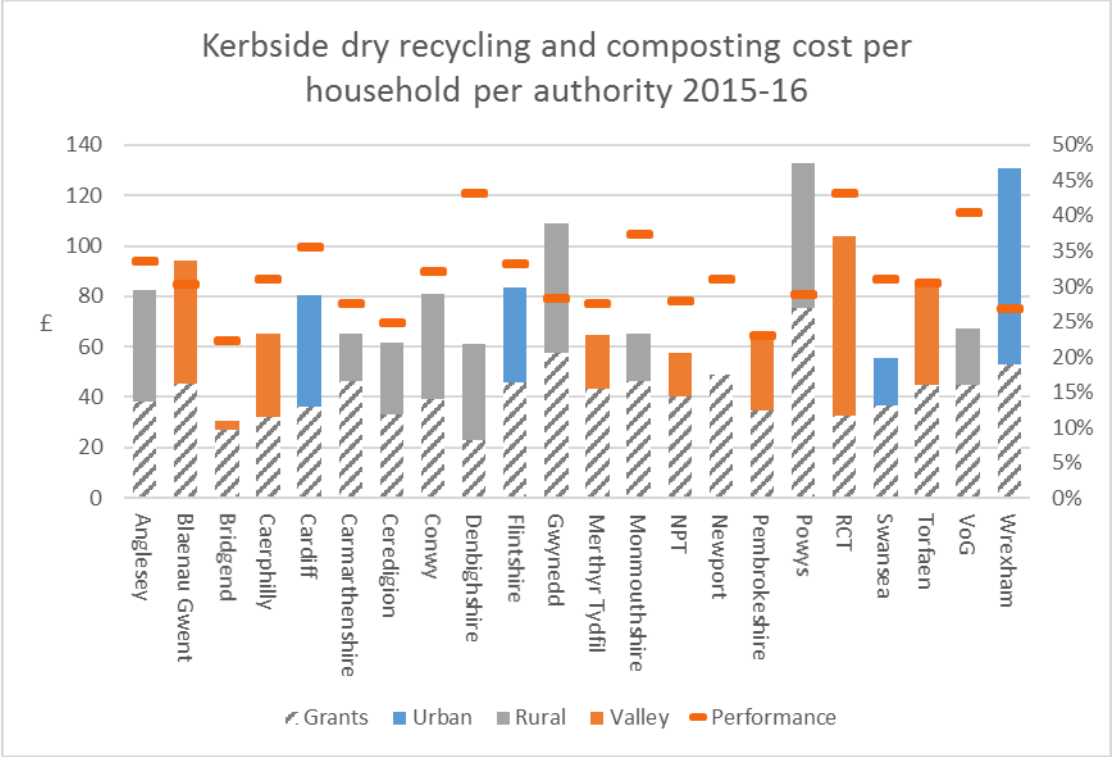


Figure 37 – Kerbside recycling and composting services – per household

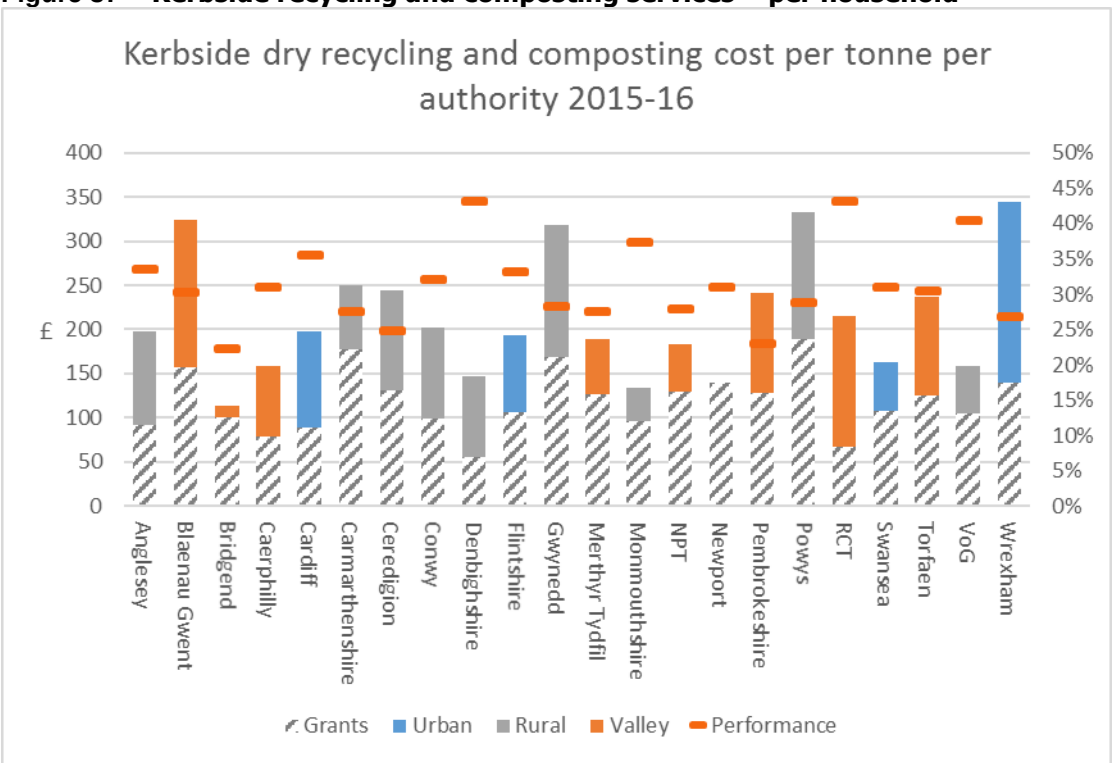


Figure 38 – Kerbside recycling and composting services – per tonne

62. Some variations in costs can be seen across the group, though most authorities are exhibiting combined service costs of less than £70 per household with the group median at £66.40. Performance also varies across the group with between 28% and 47% of total MSW diverted via

kerbside collection of material. Median costs for 2015/16 are marginally lower than 2014/15, reducing to £66.40 per household (from £69.30).

Residual Waste

63. Graphs show the aggregate cost of providing collection, transfer, treatment and disposal of residual waste. The following graphs show service costs net of any income (where applicable).

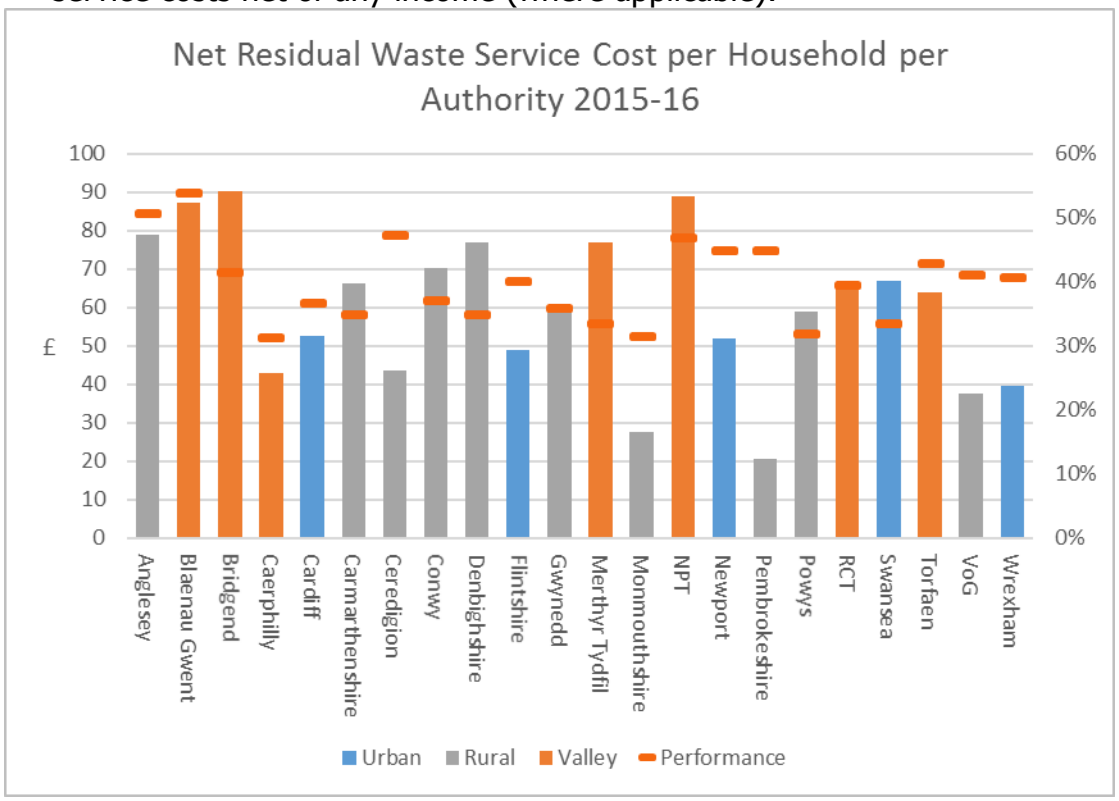


Figure 39 – Residual waste service cost per household

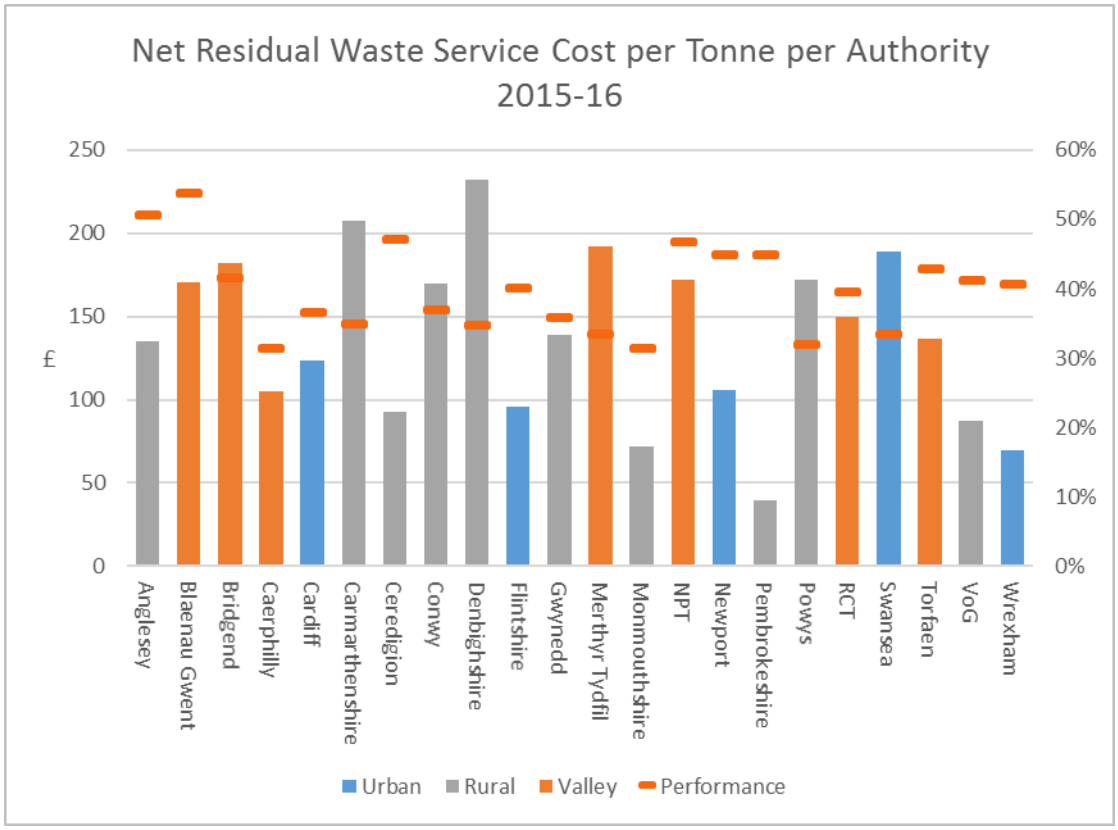


Figure 40 – Residual waste service cost per tonne

64. Performance data shows the proportion of overall MSW sent for disposal. Therefore, lower figures indicate a better performing service overall i.e. greater proportion of the total waste arisings is recycled. For example, Monmouthshire operated a low cost residual waste collection service relative to the group. Performance data indicates that the proportion of total MSW sent to landfill is one of the lowest across the group.

65. From the core data it is also possible to compare 2015/16 overall residual waste service expenditure with that of 2014/15:

	14/15	**15/16**	**% change**
Residual waste	£90,551,774	£82,983,217	-8.4%

66. 2015/16 saw another reduction in residual waste service costs, with net expenditure falling by more than £7.5 m when compared to the previous year. However in 2015/16 saw the mass of residual waste collected increase by 15,258 tonnes compared to 2014/15, and the first time since 2008/9. At the same time, despite a continued increase in landfill tax, a combination of service efficiency improvement, avoided disposal and landfill tax costs and a move away from landfill as form of waste disposal to recovery through energy from waste by some authorities, in particular Pembrokeshire and Ceredigion in 2015/16 meant that a significant reduction in overall service cost was seen. By 2015/16 all 22 Welsh

authorities are collecting residual waste on at least a fortnightly basis, with Gwynedd, Blaenau Gwent, Powys, Anglesey and Conwy introducing a three-weekly collection county wide since 2015-16.

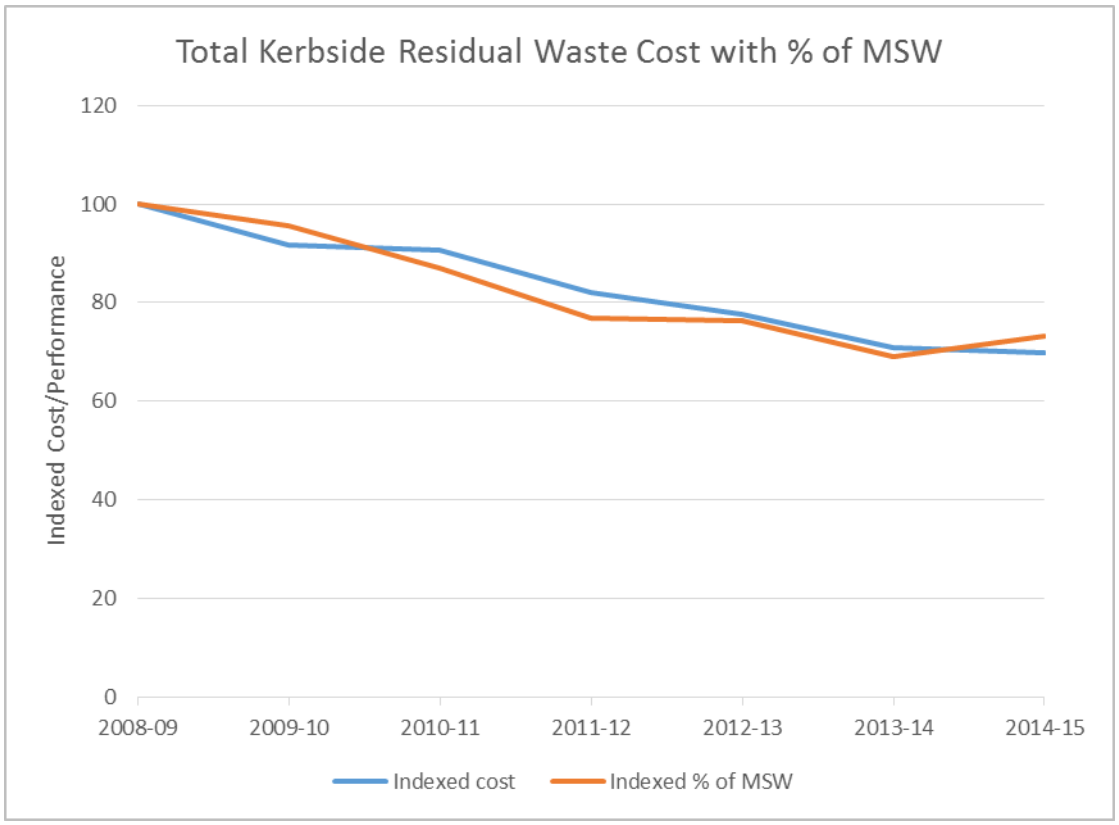


Figure 41 – Kerbside residual waste cost since 2008/09

67. The trend over the last six years is shown in Figure 41. It can be seen that cost residual waste collection has dropped significantly since 2008/09. The additional investment in recycling and composting services, helped in no small part by the resources diverted away from residual waste collections, has seen recycling rates increase greatly over the same period. However residual waste as % of total MSW increased slightly in 2015/16, potentially due to economic stability.

Collection costs

68. The following graphs show residual waste collection costs.

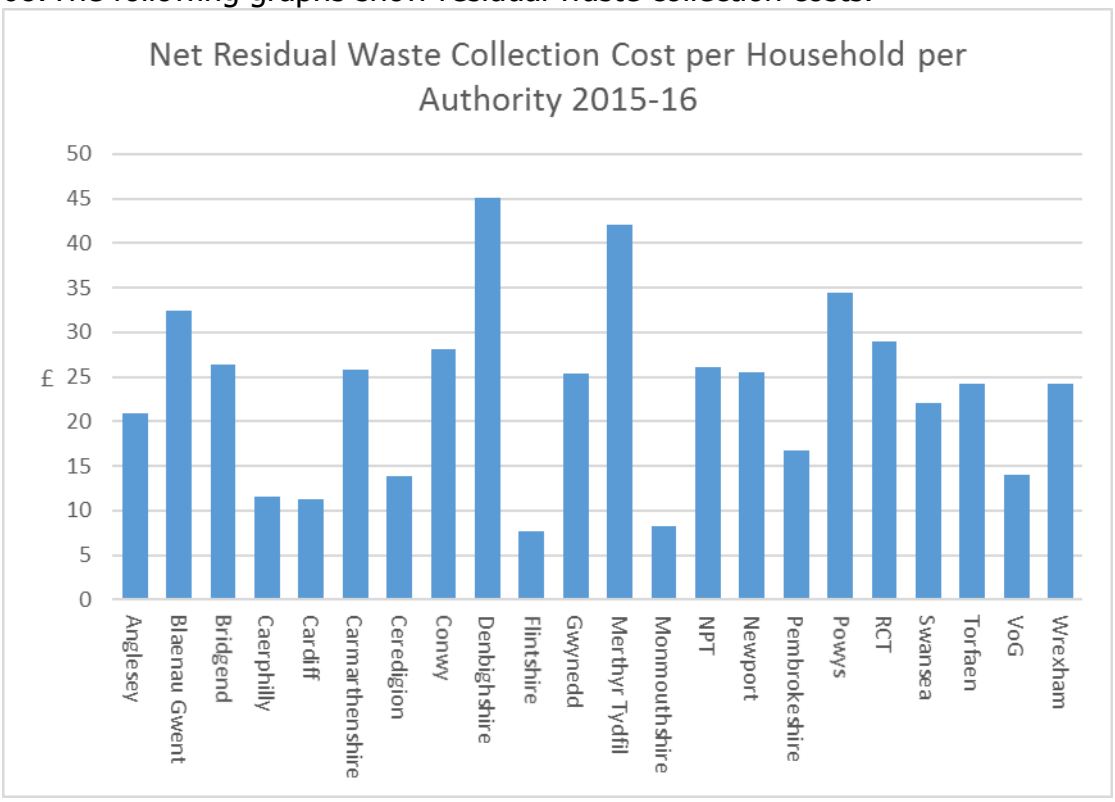


Figure 42 – Residual waste collection cost per household

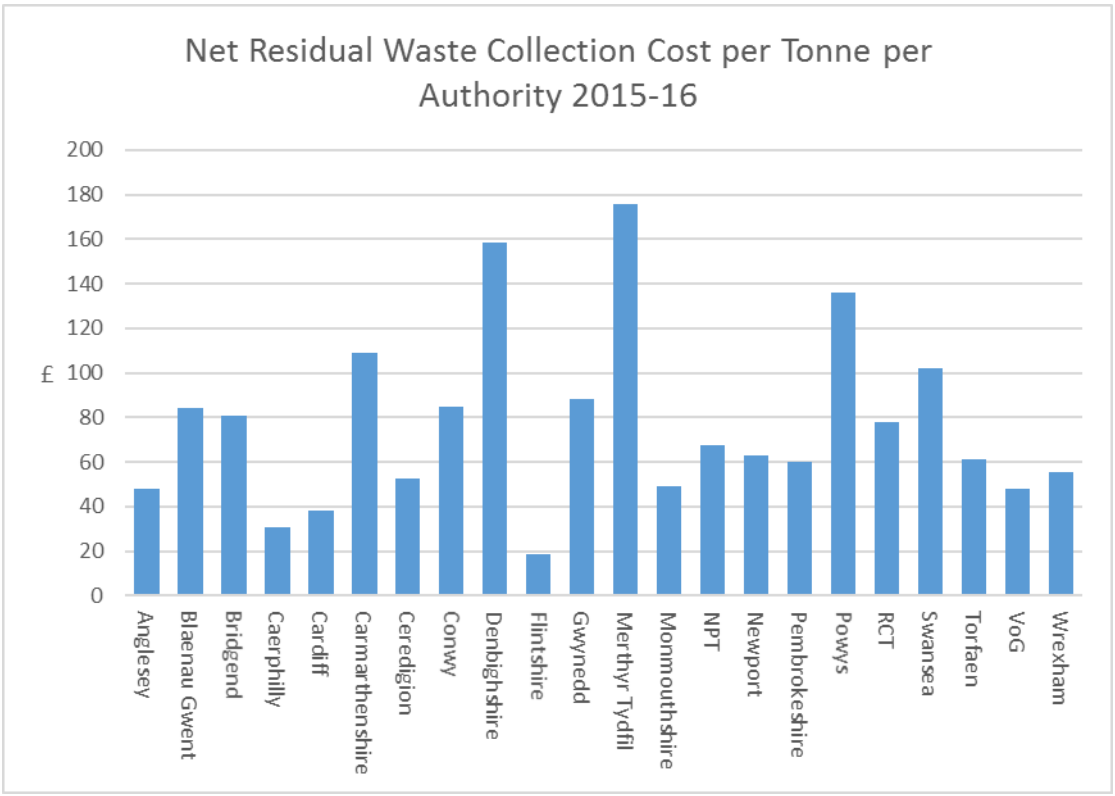


Figure 43 – Residual waste collection cost per tonne

Transfer costs

69. A significant number of authorities are required to transfer residual waste collected prior to onward treatment or disposal. Costs incurred are shown in Figure 44 and 45.

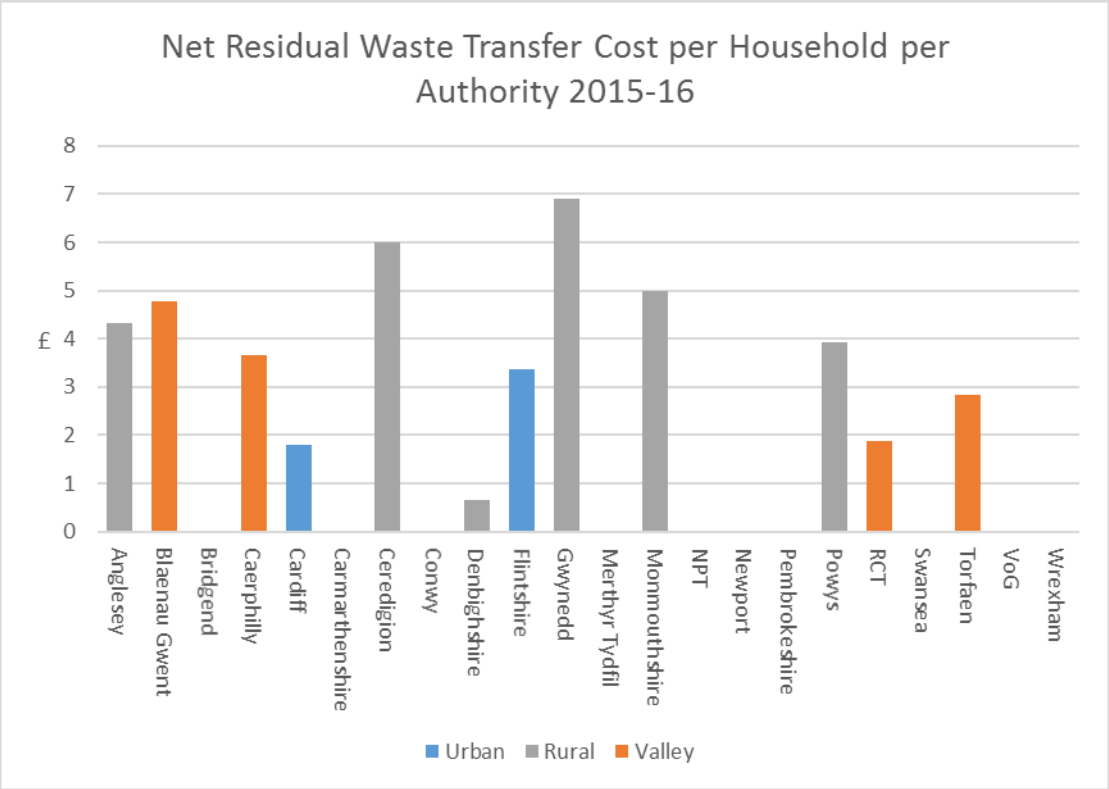


Figure 44 – Residual waste transfer costs per household

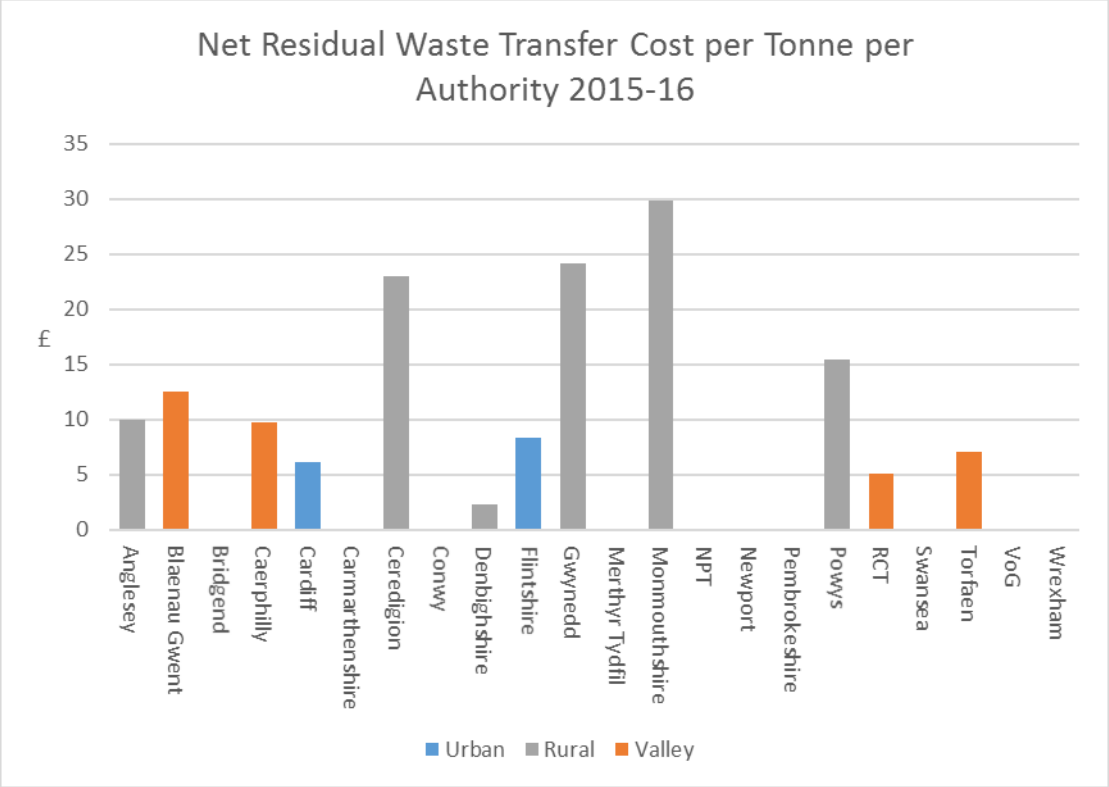


Figure 45 – Residual waste transfer cost per tonne

Treatment / processing costs

70. A growing number of authorities are adopting treatment technologies for managing their residual waste. Those authorities which exhibit treatment costs are shown in graphs Figure 46 and Figure 47.
71. The cost of treatment or processing waste prior to disposal is shown. At present 11 authorities occur costs for treatment of residual waste prior to disposal and in some cases not all residual wastes are treated. The constraints of landfill allowances and the ongoing procurement of treatment facilities will mean that a continuing growing number of authorities are likely to incur waste treatment costs in the future.

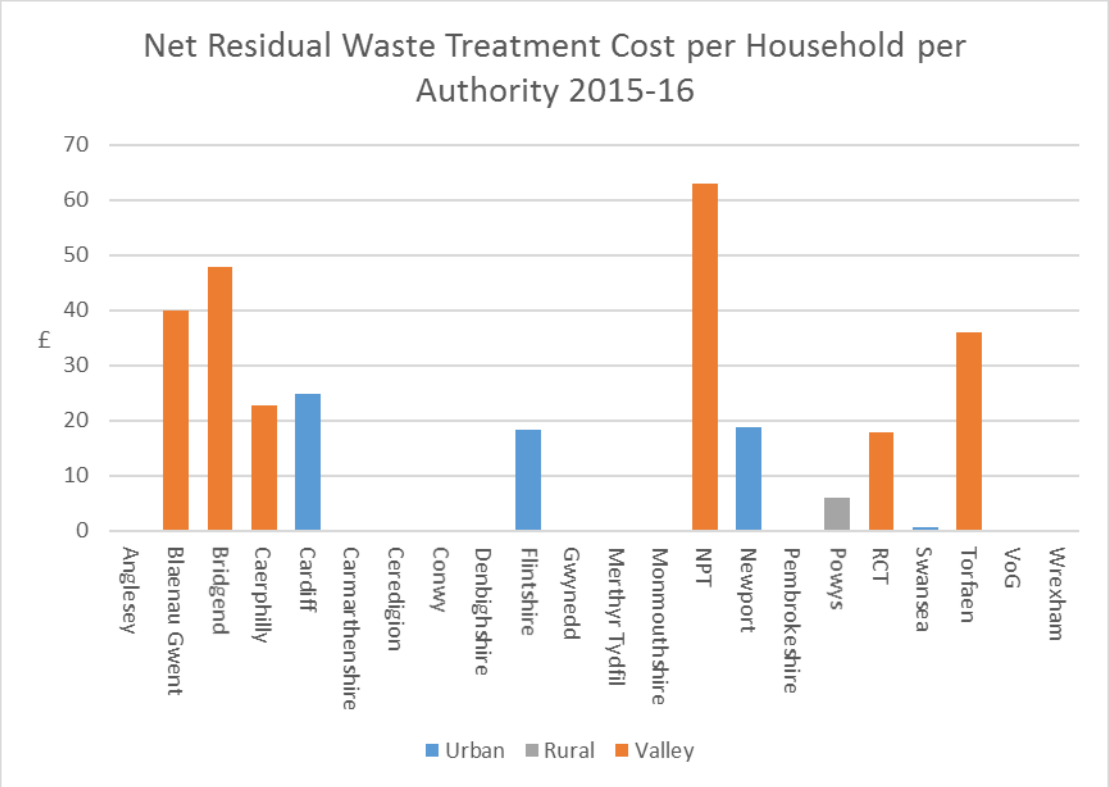


Figure 46 – Residual waste treatment cost per household

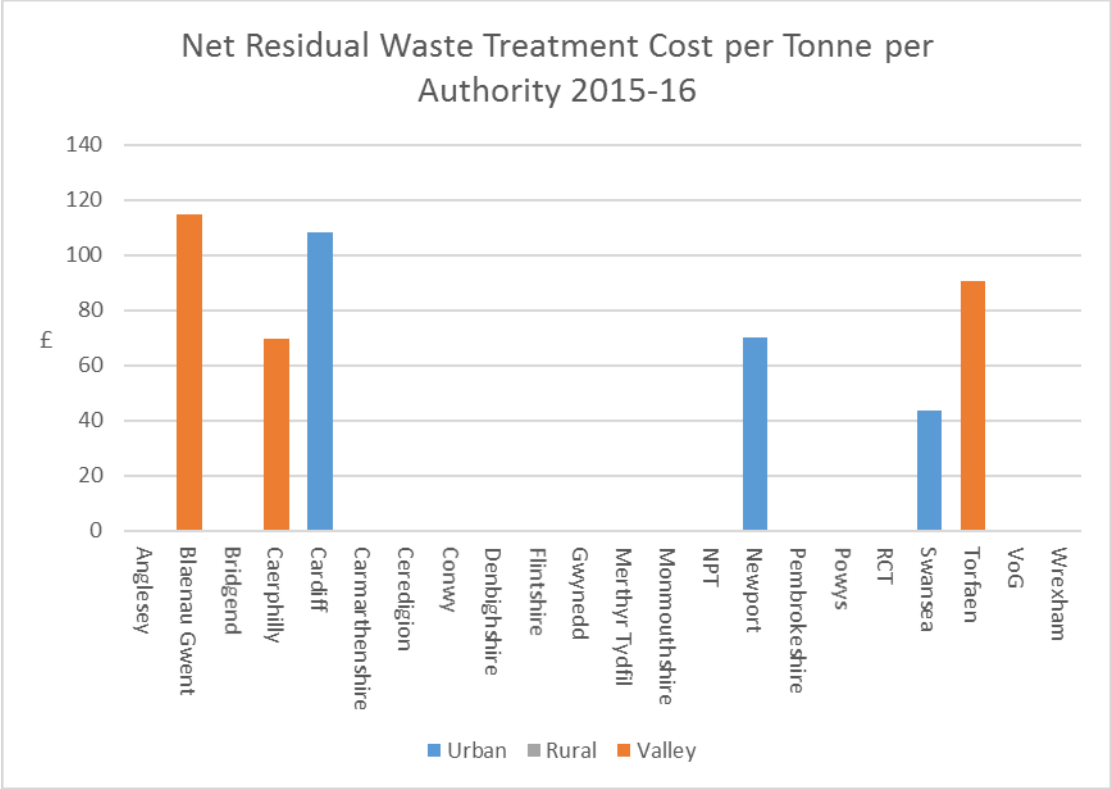
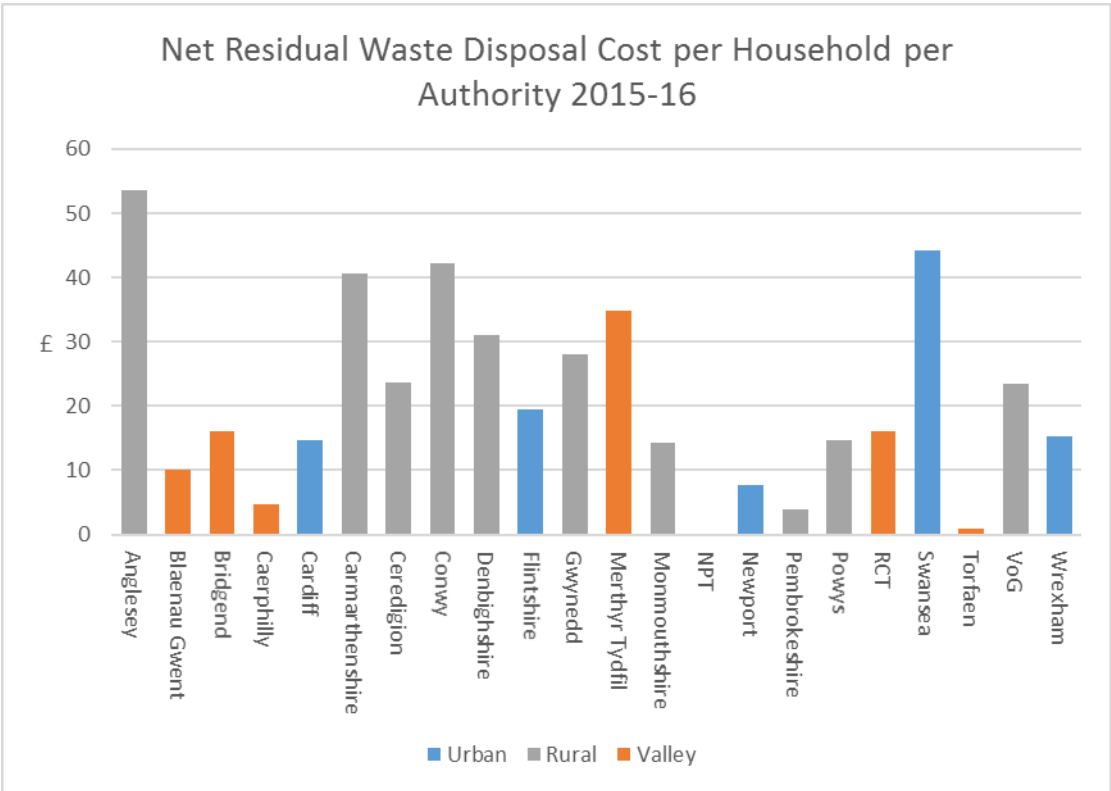


Figure 47 – Residual waste treatment cost per tonne

Disposal costs



69. Figure 48 and Figure 49 shows the cost of disposing of the residual waste collected. These are generally based on fixed price contracts and costs will vary based upon local circumstances (such as availability of landfill options nearby), length of contract and date of contract commencement. Data is shown on a cost per household basis and as a cost per tonne

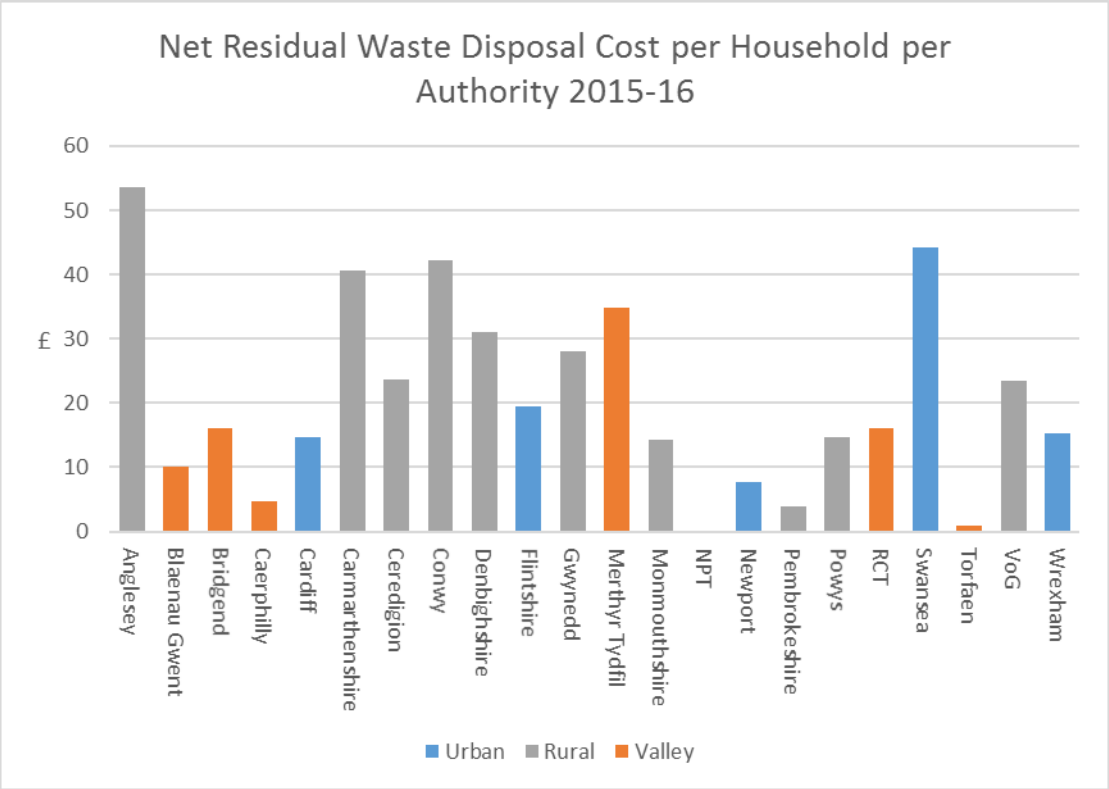


Figure 48 Disposal cost per household of Residual waste

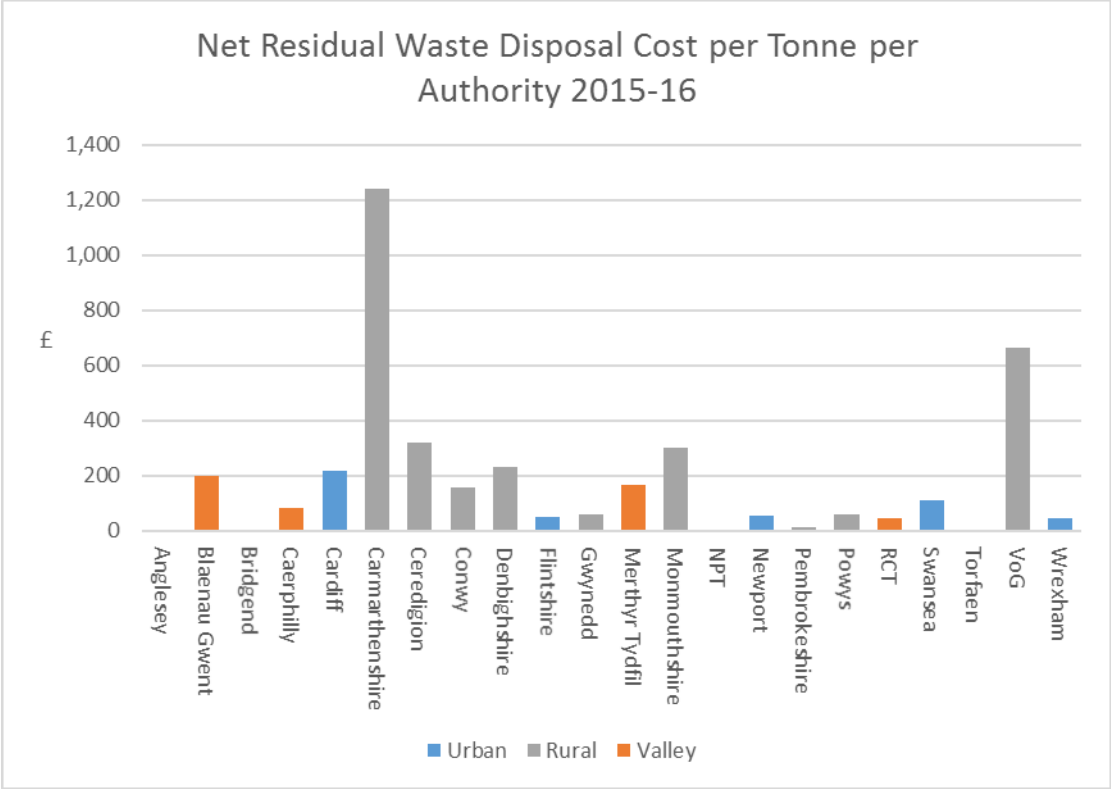


Figure 49 Disposal cost per tonne of Residual waste

Household Waste Recycling Centres

70. As before, cost is shown on the left-hand axis whilst performance, in terms of mass recycled via HWRC network as a proportion of total MSW, is shown on the right. Costs shown include both recycling and residual fractions dealt with at HWRCs.

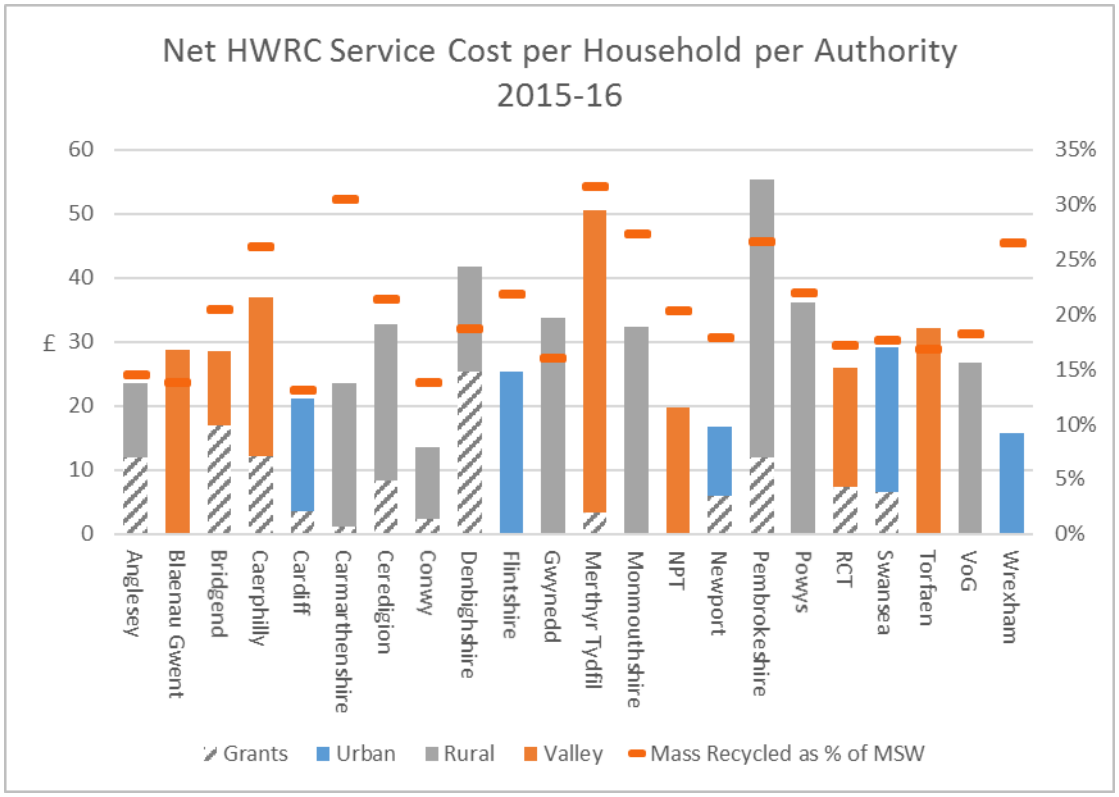


Figure 50 – HWRC site service cost per household

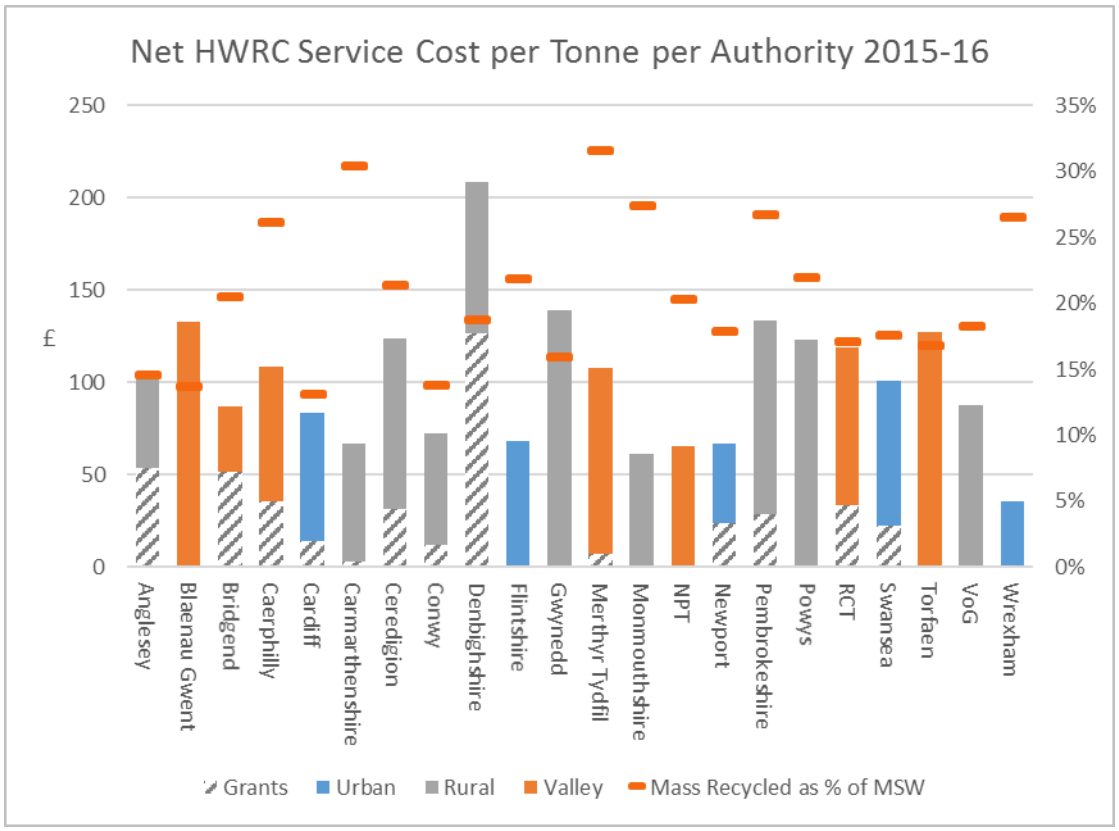


Figure 51 – HWRC service cost per tonne

71. Performance data indicates that contribution made by HWRCs to overall recycling rates can be considerable. In the case of Carmarthenshire,

Merthyr Tydfil, Pembrokeshire and Monmouthshire around 30 - 35% of total MSW is recycled via HWRCs. Once again, divergence between cost and performance bars is likely to indicate a more efficient service. This can be seen in the case of Carmarthenshire, where cost per household and cost per tonne indicators are around the group average, yet with almost 35% of total MSW recycled through HWRC site network, they are amongst the highest performing authorities.

72. From the core data it is possible to compare 2015/16 overall HWRC service expenditure with that of 2014/15:

	14/15	15/16	% change
HWRC	£43,150,839	£ 39,669,963	-8.1%
Grant (SRG)	£7,117,765	£ 7,332,102	+3.0%

73. It can be seen that expenditure on HWRCs reduced in 2015/16. Mainly as a result of some LAs consolidating their HWRCs. But also introducing efficiencies to the performance of sites, including accepting less residual waste and increasing mass sent for recycling.

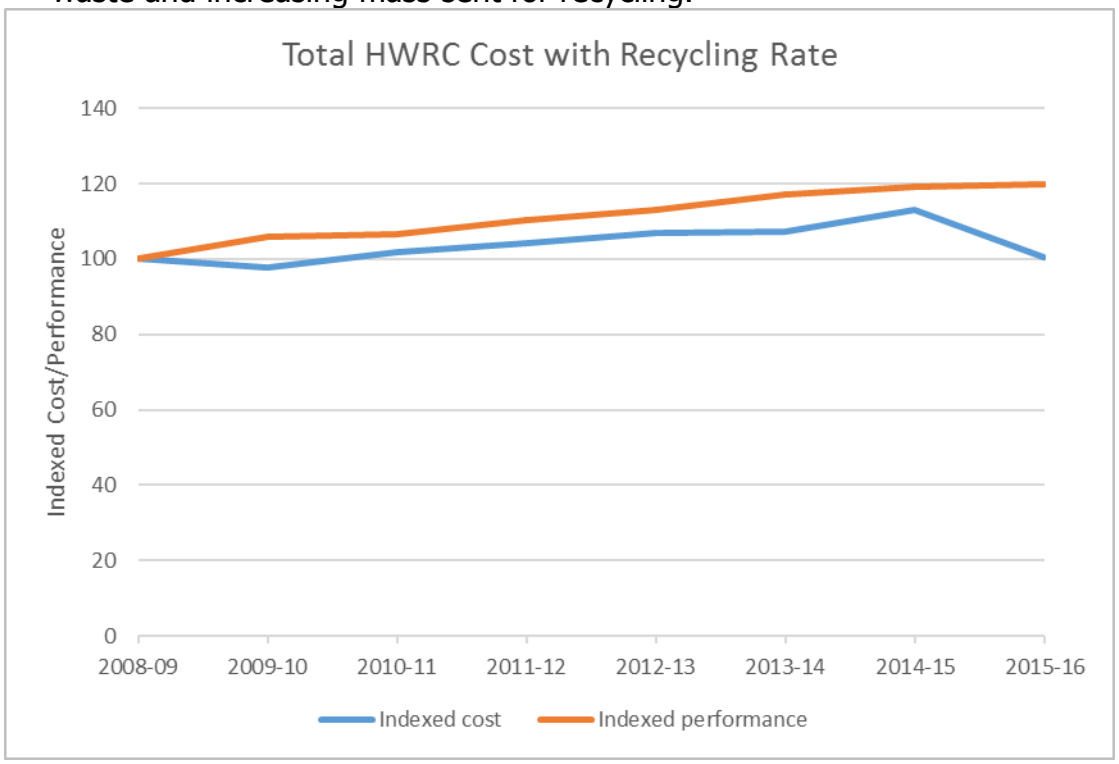


Figure 52 – HWRC site expenditure since 2008/09

74. Over the longer term, it can be seen that expenditure in 2015/16 is similar of that in 2008/09 baseline. Both diversion rate and mass of material re-used, recycled or composted via the HWRC site network as a proportion of total MSW has improved over the same period.

Bring Sites

75. The figures shown reflect the service cost divided by number of households (Figure 53) and by mass collected (Figure 54).

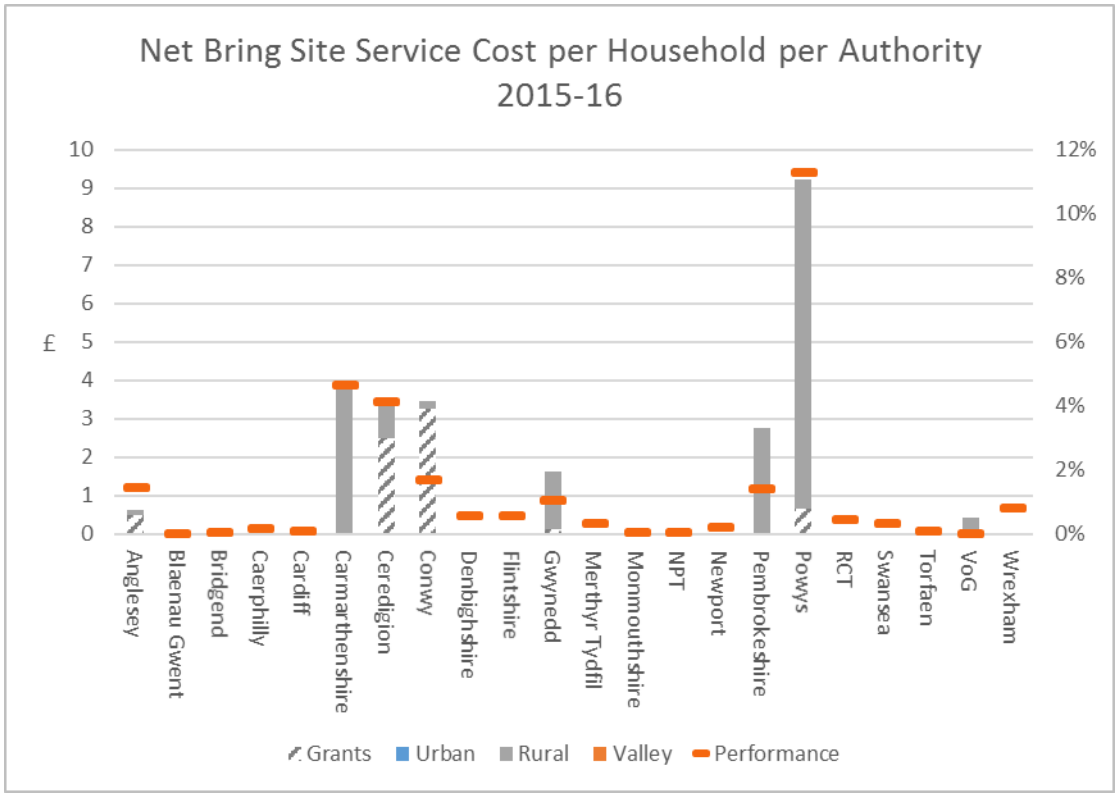


Figure 53 – Bring site costs per household

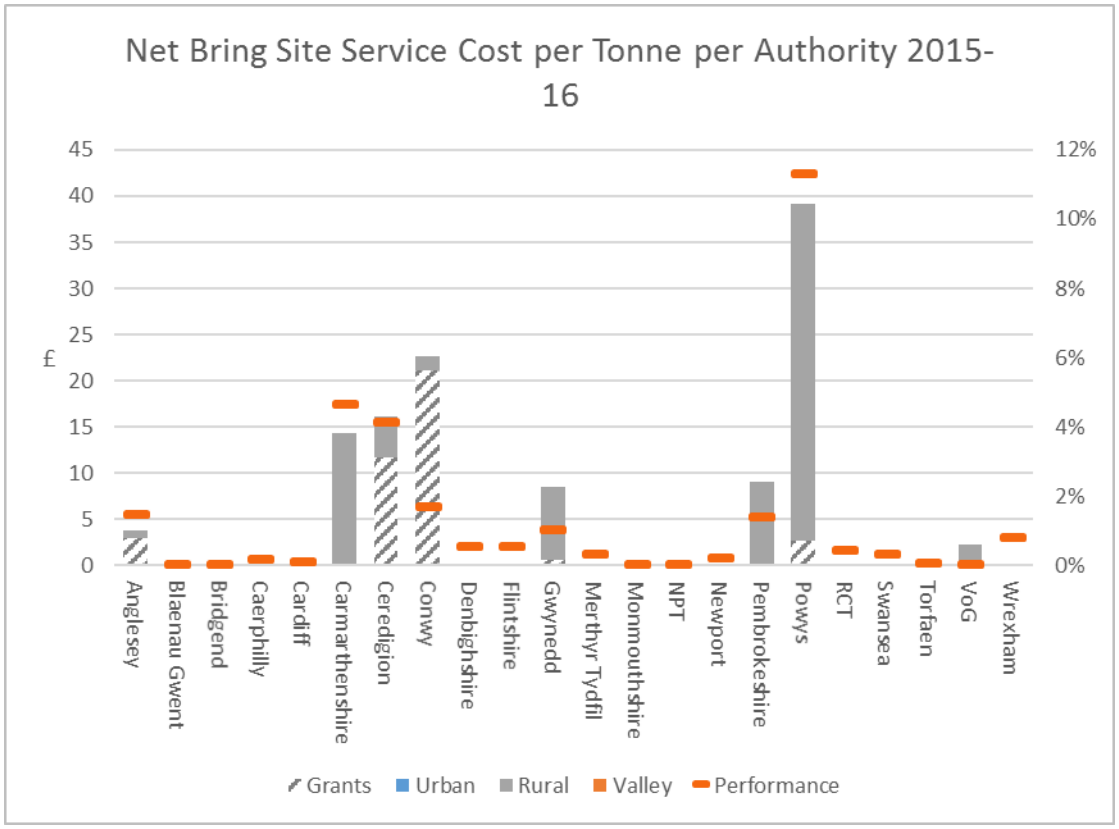


Figure 54 – Bring site costs per tonne

76. It can be seen that both cost and performance vary widely across group. This reflects the different services provided by each authority. A number of authorities also reported difficulties in disaggregating bring site costs from HWRC site costs as the two services were, in some cases, provided using common resources or one contractor. Particularly true in the case of NPT, where both costs for HWRCs and Bring are included in HWRC charts.

77. From the core data it is possible to compare 2015/16 overall Bring site service expenditure with that of 2014/15:

	14/15	**15/16**	**% change**
Bring	£ 1,520,726	£ 1,553,752	2.1%
Grant	£363,294	£ 336,252	-7.4%

78. It can be seen that there was a slight increase in bring site expenditure during 2015/16. During the same period, mass collected via the bring site network reduced by 2,880 tonnes, a reduction of 13%. It is likely that mass of material collected via bring site network is reducing due to expansion of kerbside collection systems. Bring sites do continue to make a valuable contribution to recycling rates for some authorities, though overall, the contribution from bring sites across Wales is low with just 2%

of total MSW being recycled via bring sites at the same time number of bring sites in place have reduced.

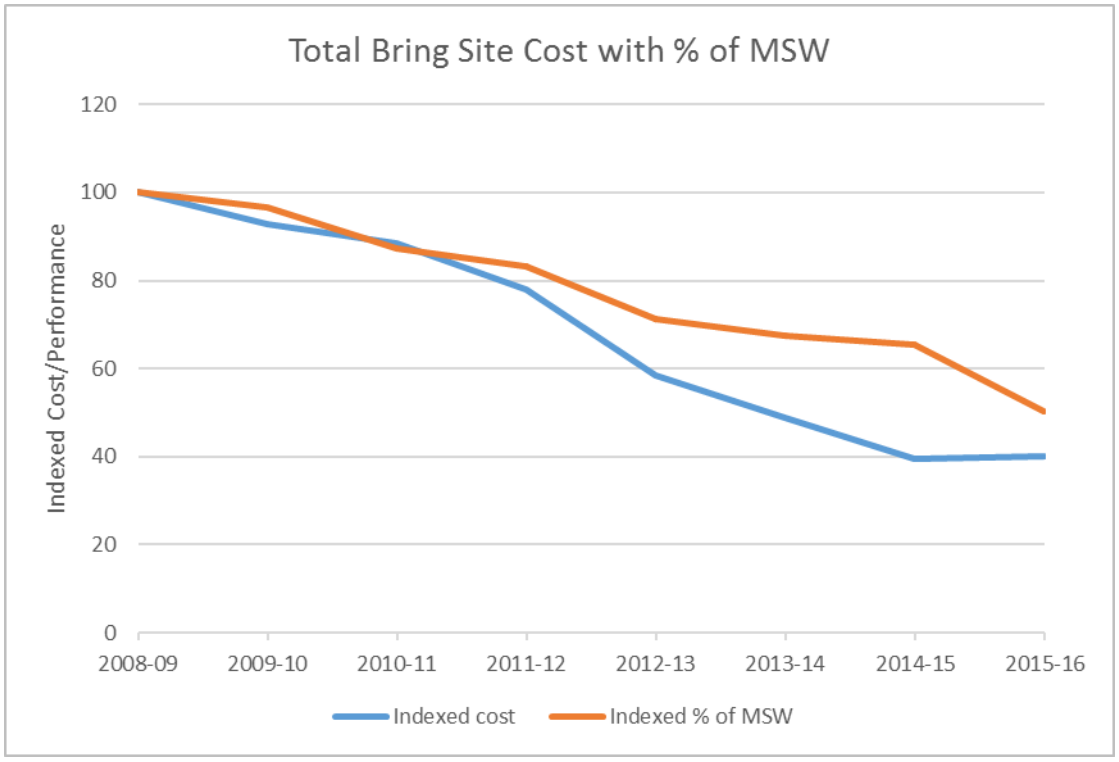


Figure 55 – Bring site expenditure since 2008/09

79. Once again the trend over the longer term can be examined. Both expenditure and mass recycled via the bring site network have fallen steadily since 2008/09.

Trade Waste Service

Figure 56 shows the total trade waste service cost (net of income).

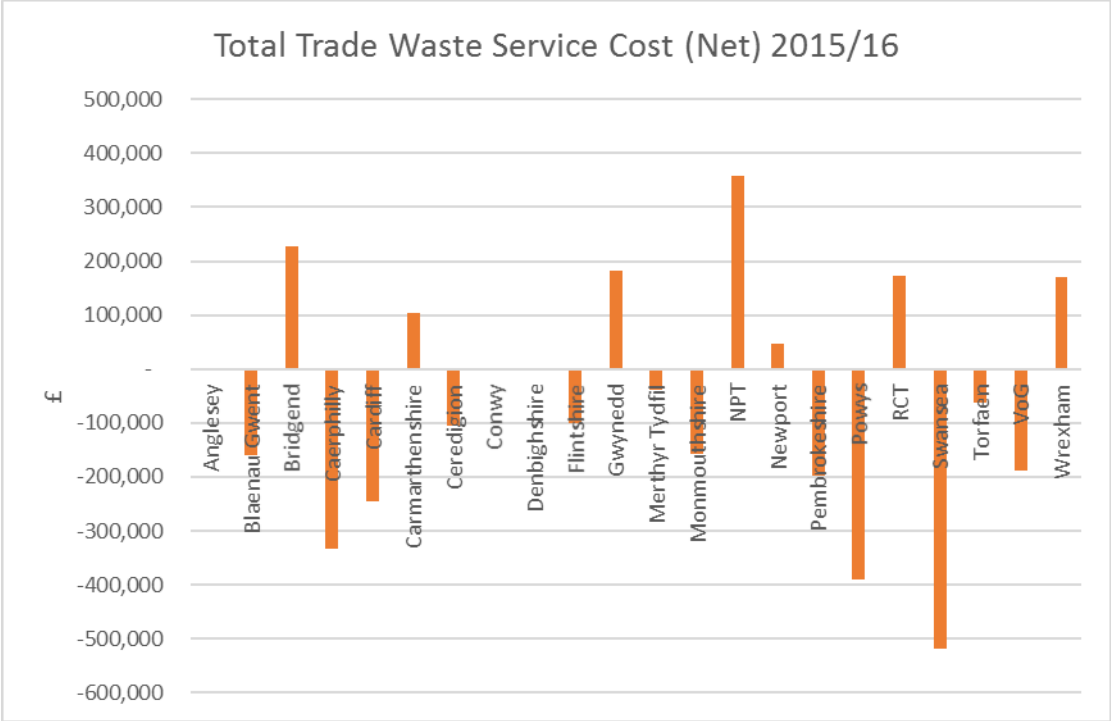


Figure 56 – Trade waste service cost[7]

80. Many trade waste services are operated by collecting trade waste co-mingled with household waste: tonnages and associated costs are often apportioned from average bin weights therefore costs shown above may not be wholly representative of true service cost. In addition, some authorities may include incomes raised from the collection of Schedule 2 household wastes in with their trade waste incomes, whilst others attribute this income to their residual household waste service.

Clinical Waste

81. Eight out of 10 authorities provide clinical waste collection services. Costs associated with such services are shown in Figure 57.

[7] More information on Trade Waste services can be obtained from the Wales Audit Office Trade Waste Benchmarking Programme,

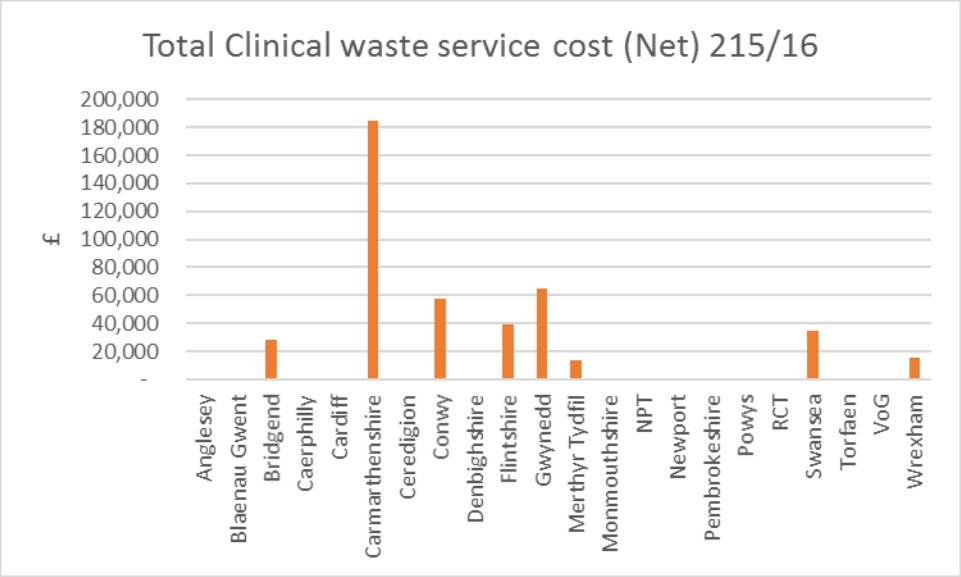


Figure 57 – Clinical waste service cost

Project Development: the future of the national project

1. The data presented is in a purely quantitative form and is yet to undergo further qualitative analysis.

2. Additional qualitative analysis has been completed for 2008/09, 2009/10, 2010/11, 2011/12, 2012/13 and 2013/14 data. Recommendations applicable to all local authorities have been made based on findings of further analysis, and have been incorporated in annual WAO benchmarking reports (For summary of benchmarking recommendations see text boxes on pages 54 to 60).

3. Progress made by local authorities in addressing recommendations will be monitored by WAO and will be included in future annual reports to Welsh Government.

4. As in previous years, data extracted from WasteDataFlow required a considerable amount of cleansing to remove anomalies. This process took place between September 2016 and December 2016. It is envisaged a similar period of data validation will be required in future years. Work is undertaken by Waste Improvement team in conjunction with individual local authorities.

5. WLGA in conjunction with its partners will strive to further improve the data gathering process, with the aim of gathering all the required data in the simplest way possible. Guidance provided by WLGA for local authorities on how to complete data return will be reviewed and improved. In addition where anomalies are identified the WLGA will work with authorities to ensure the 2015-16 data reporting process is as free of data issues as possible. Work is continuing to improve service configuration questions in WasteDataFlow to better record collection frequencies and household numbers which underpin this report.

6. All authorities will receive an individual financial summary report detailing their own authority's financial data and their position relative to the other Welsh local authorities.

Appendix 1

Summary of Benchmarking Recommendations – 2008/09

Listed below is a summary of recommendation made to local authorities as a result of the waste benchmarking undertaken in calendar year 2010:

Residual Waste

1. Each local authority should review the efficiency of all residual waste collection routes. This review should focus on maximising the mass collected by each collection crew and reducing the overall labour and transport requirement of the service.

2. Each local authority should explore if it is able to reduce the number of collection rounds by undertaking an objective and comprehensive route optimisation exercise. Local authorities should routinely re-evaluate this exercise to take into account changes to their residual waste stream, for example, following introduction of more comprehensive recycling services.

Civic amenity Sites

1. Establish an accurate baseline by reviewing the performance of all civic amenity/household waste recycling centres to determine the overall waste diversion rate and material throughput. Use this information, together with future quarterly reassessments, to plot performance trends.

2. Identify sites that are not operating at optimum usage or are diverting less than 65 per cent of the waste accepted into waste reuse, recycling or composting activities. For each of these sites, investigate the causes and put in place an action plan to increase diversion to at least this level within a specified timescale. Alternately, say why the authority has decided not to increase usage or diversion.

3. Review the local strategy for civic amenity/household waste recycling centres so that long-term plans (for at least 5 years) are in place for the future development of these facilities.

4. By June 2011, to work with colleagues within the CSS waste sub-group and to have established a system to share good practice with a view to improving the performance of civic amenity/household waste recycling centres.

5. Work with neighbouring local authorities to provide a more practical, efficient and cost effective network of civic amenity/household waste recycling centres that allow for a reasonable cross-border movement of wastes.

As part of longer term planning, all local authorities should:

1. Assess the suitability of civic amenity/household waste recycling centres to divert more than 70 per cent of wastes into waste reuse, recycling or composting activities.

2. Review contractual arrangements/agreements with the operators of civic amenity/household waste recycling centres to ensure optimum usage and promotion of waste diversion, including through the application of appropriate incentives.

3. Review the location of sites and investigate whether rationalisation of sites is possible without adversely affecting overall diversion of material from landfill. Following this review, to put in place plans to close unsuitable or underperforming sites and replace as required. These plans need to be realistic, particularly in terms of resources, site availability and timescale.

Summary of Benchmarking Recommendations – 2009/10

Listed below is a summary of recommendation made to local authorities as a result of the waste benchmarking undertaken in calendar year 2011:

Dry Recycling

1 Facilitate sharing of information relating to incomes from sale of recyclate and reprocessor/MRF costs. Utilise Information gathered to ensure value for money for authority in arrangements made with contractors and material re-processors.

2 Explore potential for collaboration between authorities and economies of scale in marketing recyclate.

3 Review performance of dry recyclate collection rounds, both in terms of cost and yield, to ensure maximum efficiency whilst retaining sufficient capacity to accommodate future increases in yield.

4 Where it can be seen that that relative staffing levels are significantly greater than average, review collection routes and staffing levels/working practices to facilitate reduction in costs from more efficient service

Food Waste

1 Assess performance of service in terms of average yield achieved per household. Determine proportion of available material captured by service

2 Composition analysis to be undertaken by authorities operating combined food & green waste services in order to more accurately calculate mass of food waste collected. Consideration should be given as to how this analysis is funded, whether by individual local authority or collectively.

3 Periodically monitor householder participation in food waste services.

4 Using available information (including yields, capture rates and participation rates), and taking account of previous benchmarking recommendations where applicable (Dry recycling & residual waste), assess efficiency of food waste services provided.

5 Where applicable, and in conjunction with co-dependant services, optimise collection routes to ensure greatest possible efficiency whilst retaining sufficient capacity to meet future recycling targets.

Summary of Benchmarking Recommendations – 2010/11

Listed below is a summary of recommendation made to local authorities as a result of the waste benchmarking undertaken in calendar year 2012:

Benchmarking Process

1 Restrict scope of each benchmarking exercise to a single service area or topic only.

2 Extend sample size by undertaking benchmarking across all 22 local authorities at a time

3 Reduce number of benchmarking cycles from three to two each year. Reducing overall burden on individual local authorities and enabling benchmarking work to be undertaken outside key busy periods during year. (E.g. Financial year end)

Dry Recycling

1 Review performance of dry recyclate collection rounds, both in terms of cost and yield, to ensure maximum efficiency whilst retaining sufficient capacity to accommodate future increases in yield.

2 Facilitate sharing of information relating to incomes from sale of recyclate and reprocessor/MRF costs. Utilise Information gathered to ensure value for money for authority in arrangements made with contractors and material re-processors.

3 Where it can be seen that that relative staffing levels are significantly greater than average, review collection routes and staffing levels/working practices to facilitate reduction in costs from more efficient service

Organic Waste Services

4 Review performance of Organic waste collection rounds, both in terms of cost and yield, to ensure maximum efficiency whilst retaining sufficient capacity to accommodate future increases in yield. Due consideration should be given to effects on any co-dependant services.

5 Investigate average yields to determine extent of capture of available material.

6 Monitor householder participation in food waste collection schemes.

CA/HWRC

Many of findings from previous CA site benchmarking are equally pertinent in this instance. However, subsequent research commissioned by WLGA into CA sites network in Wales would suggest that significant progress has been made in terms of diversion rate, and that a number of authorities are achieving diversion rates in excess of 80% at their facilities. Recommendations have been revised to take the latest guidance into account.

7 Establish an accurate baseline by reviewing the performance of all civic amenity/household waste recycling centres to determine the overall waste diversion rate and material throughput. Use this information, together with future quarterly reassessments, to plot performance trends.

8 Identify sites that are not operating at optimum usage or are diverting less than 70 per cent of the waste accepted into waste reuse, recycling or composting activities. For each of these sites, investigate the causes and put in place an action plan to increase diversion to at least this level within a specified timescale. Alternately, say why the authority has decided not to increase usage or diversion.

9 Review the local strategy for civic amenity/household waste recycling centres so that long-term plans (for at least 5 years) are in place for the future development of these facilities.

As part of longer term planning, all local authorities should:

10 Making use of available guidance, assess the suitability of civic amenity/household waste recycling centres to divert more than 80 per cent of wastes into waste reuse, recycling or composting activities.

11 Review the location of sites and investigate whether rationalisation of sites is possible without adversely affecting overall diversion of material from landfill. Following this review, to put in place plans to close unsuitable or underperforming sites and replace as required. These plans need to be realistic, particularly in terms of resources, site availability and timescale.

Bring

12 Where appropriate, review contractual arrangements in place to determine whether services offer value for money

13 Where possible, share data relating to incomes from sale of recyclate and reprocessor/contractor costs with other Welsh local authorities. Utilise information gathered to evaluate efficiency of current bring site arrangements.

Kerbside Residual

14 Each local authority should review the efficiency of all residual waste collection routes. This review should focus on reducing the resource required to collect a given quantum of waste.

15 Each local authority should explore if it is able to reduce the number of collection rounds by undertaking an objective and comprehensive route optimisation exercise. Local authorities should routinely re-evaluate this exercise to take into account ongoing reductions in household residual waste.

Awareness Raising

1 WDF guidance document for question 154 should be amended so that all authorities are asked to include staff costs as part of awareness expenditure. A number of authorities' awareness activities are solely coordinated by specific staff members. Therefore staff costs should be included to allow a more holistic picture of costs and make comparison fairer.

2 In order to better understand the impact that awareness activities have on recycling and composting rates, and to enable resources to be effectively targeted and prioritised, local authorities should be encouraged to conduct a greater degree of monitoring and evaluation of their awareness activities.

3 Monitoring and evaluation should be delivered in a two strand approach:
   a. To measure the success of the activity itself i.e. number of audience targeted / reached; and
   b. To measure the impact on recycling and composting rates.

Summary of Benchmarking Recommendations – 2011/12

Listed below is a summary of recommendation made to local authorities as a result of the waste benchmarking undertaken in calendar year 2013:

Food Waste

Local authorities should:

1 Using available information and taking account of previous benchmarking recommendations where applicable, assess efficiency of food waste services provided.

2 In order to better understand food waste capture rates, consider undertaking compositional analysis of collected food waste and food waste remaining in residual waste stream. It is recognised that compositional analysis can be expensive so authorities may wish to consider collaborating with others to share costs. Alternatively the analysis of a representative sample of authorities across Wales could be undertaken. Options to be discussed by local authorities at CSS Waste group.

3 Where applicable, and in conjunction with co-dependant services, optimise collection routes to ensure greatest possible efficiency whilst retaining sufficient capacity to meet future targets.

4 Review current prices paid to suppliers for compostable liners and other consumable items.

WLGA to work with local authorities and the WPC to establish a procurement framework for compostable food waste caddy liners.

Dry recycling

1. Facilitate sharing information and best practice relating to incomes from sale of recyclate and re-processor / MRF costs. Utilise information gathered to ensure value for money for authority in arrangements made with contractors and material re-processors.

2. Investigate any potential for partnership working between authorities to achieve economies of scale in marketing recyclate.

3. Review performance of dry recyclate collection rounds, both in terms of costs and yield, to ensure maximum efficiency whilst retaining capacity to accommodate future increases in yield.

4. Where relative staffing levels are significantly greater than average, review collection routes and staffing levels / working practices to facilitate reduction in costs from more efficient service.
5. Facilitate a discussion group around route optimisation, including any routing software packages used. Enable authorities to share experiences and learn from each other to provide support in going through the process of optimising collection routes.

Summary of Benchmarking Recommendations – 2012/13

Listed below is a summary of recommendation made to local authorities as a result of the waste benchmarking undertaken in calendar year 2014:

HWRC

Local authorities should:

1. Establish an accurate baseline by reviewing the performance of all HWRCs to determine the overall waste diversion rate and material throughput. Use this information, together with future quarterly reassessments, to plot performance trends.

2. Identify sites that are not operating at optimum usage or are diverting less than 65 per cent of the waste accepted into waste reuse, recycling or composting activities. For each of these sites, investigate the causes and put in place an action plan to increase diversion to at least this level within a specified timescale. WLGA published a CA site guidance document and toolkit to help authorities plan, develop and improve performance of HWRCs.

3. Review the local strategy for HWRCs so that long-term plans (for at least 5 years) are in place for the future development of these facilities.

4. Investigate opportunities to introduce secondary sort of residual waste and pre-sort of black bag materials arriving on site, work with colleagues within the CSS waste sub-group to share good practice in these areas. This should help authorities to improve the performance of civic amenity/household waste recycling centres and overall MSW performance.

Dry recycling

1. Each local authority should review the efficiency of all residual waste collection routes. This review should focus on maximising the mass collected by each collection crew and reducing the overall labour and transport requirement of the service.

2. Authorities that reduce capacity of residual waste collection receptacles achieve significant savings. Authorities should consider reducing the capacity of residual waste collection receptacles.

3. Significant savings have been achieved through moving frequency of residual waste collection towards alternate week collection. Authorities may wish to consider further changes to frequency of collection, for example Gwynedd has recently (October 2014) introduced three weekly collections.

4. Each local authority should explore if it is able to reduce the number of collection rounds by undertaking an objective and comprehensive route optimisation exercise. Local authorities should routinely re-evaluate this exercise to take into account changes to their residual waste stream, for example, following introduction of more comprehensive recycling services.

Summary of Benchmarking Recommendations – 2013/14

Listed below is a summary of recommendation made to local authorities as a result of the waste benchmarking undertaken in calendar year 2015:

Food waste

1 Each authority should assess the performance of its food waste/ food & green waste service to determine the average yield achieved per household, and the proportion of available material captured by this service.

2 Each authority should periodically monitor the householder participation in food waste collection services.

3 Using available information (including yields, capture rates and participation rates), and taking account of previous benchmarking recommendations where applicable (Dry recycling & residual waste), each authority should assess the

efficiency of the food waste services it provides. This could be done by measuring capture rates of food waste collected i.e. percentage collected from available food waste.

4 Where applicable, and in conjunction with co-dependant services, each authority should optimise its collection routes to ensure the greatest possible efficiency whilst retaining sufficient capacity to meet future targets.

5 Each authority should review the current prices paid to suppliers for compostable liners and other consumable items, and consider taking advantage of the National Procurement Service Joint Procurement framework[8] for the purchase of plastic sacks and biodegradable liners.

[8] NPS framework should be in place from June 2016.

Appendix 2

Background to the Annual Waste Finance Report

The Waste Improvement Programme began in 2008 with the aim of supporting Local Authorities in gathering and reporting their waste management financial data in line with individual practices. Whilst these practices have followed CIPFA's Best Value Accounting Code of Practice (BVACOP – now SerCOP), the apportionment of costs was not consistent across authorities; i.e. what one authority defined as recycling collection; another might define as recycling transfer. As such effective comparison between services was not possible. Additionally, some authorities included both revenue and capital depreciation in their data reporting, further compounding inaccuracy. Due to these issues, and despite considerable efforts by the Wales Audit Office to 'cleanse' provided data, the All Wales Waste Management Benchmarking Group (AWWMBG) historically has had limited impact in identifying transferable efficiencies.

However the WLGA engaged in the process of publishing an annual waste finance report for three main reasons:

- To provide annual finance reports on waste management undertaken by local authorities. A significant proportion of recycling activities were funded through Sustainable Waste Management Grant (SWMG), having recently been superseded by the Single Revenue Grant and WG rightly wants to identify whether this is being used to its greatest efficiency.
- Cost modelling for the review of the national waste strategy. This was needed to provide a baseline for financial planning for the delivery of Towards Zero Waste and the planned refresh during 2016/17.
- To allow for greater comparisons between authorities; allowing the sharing of best practice, bringing service improvement and efficiencies.

In February 2008 the WLGA brought together a working group of officers; finance and waste management officers of various levels from within local authorities, the Wales Audit Office and WG officials to develop the financial reporting methodology. All costs are based around the waste management Revenue Outturn (R/O) of each authority, giving a control figure to cross reference to; discrepancies (such as capital depreciation) must be identified in a separate section of the datasheet. The form differentiates between grant income (Sustainable Waste Management Grant and others) and funds provided directly by the authority, which allows analysis of gross service costs. A separate line is also included to capture capital depreciation which makes reporting of costs more equitable (those authorities which made capital investment previously appeared to have lower costs when only revenue budgets were assessed). When sent out to authorities, the datasheet was supported by a guidance

document setting out precisely what costs were to be included in the datasheet and where they must be entered; this ensured consistency in data entry within each authority.

Building upon the work carried out previously, further refinements were made to data gathering process resulting in an overall improvement in the quality of data included in the report. Additional questions relating to mass of material collected by local authorities further improved the accuracy of cost per tonne comparisons. Household numbers and collection frequency data was updated to reflect the changing complexion of collection services offered by local authorities in Wales.