Cymdeithas Llywodraeth Leol Cymru
Welsh Local Government Association

CLlLC • WLGA

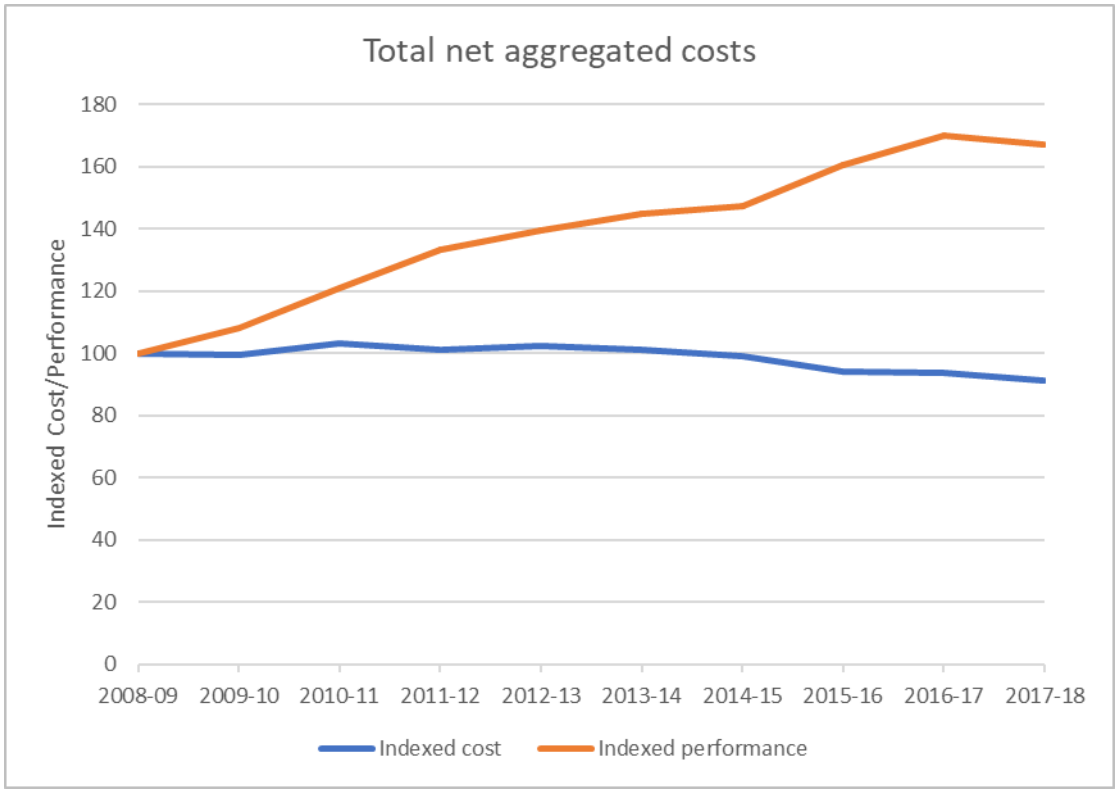
Waste Finance Data Report 2017-18

June 2019

Executive Summary

1. Continuing the work begun in 2008/09, the WLGA Waste Improvement Programme has, with the support of all 22[1] Welsh local authorities, undertaken an analysis of the waste finance data for financial year 2017-18.

2. The 2017-18 finance data shows that the recycling rate for Wales decreased for the first time. Dropping from 63.8% in 2016/17 to 62.7%. During this time Net and Gross costs both decreased slightly, dropping by less than 1%. The graph below plots the indexed net cost of MSW waste services from 2008/9 to 2017/18 with indexed performance over the same time period.



3. The data supplied by authorities via WastedataFlow has undergone a quality assurance process by the Waste Improvement Programme. Data was subsequently analysed using the WLGA's 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.

[1] Partial data received from Denbighshire (Residual, Dry Recycling & Food waste). Remainder has been estimated using 2016/17 expenditure

4. Whilst a high level analysis is provided in some places the report does not analyse national or local differences. 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 WG Collaborative Change Programme.

Key Findings

5. Between 2016/17 and 2017/18 recycling performance has decreased by 1.1 percentage points. Expenditure in real terms (adjusted for inflation) reduced over the same time period.

6. In 2017/18, gross expenditure decreased slightly from £281.6m to £280.6m, a decrease of 0.5%. CPI for the 12 months to April 2018 was 2.83% so this represents a greater reduction in expenditure in real terms.

7. Net expenditure on waste services was £242.5m increasing by just 30k compared to 2016/17.

8. The difference in gross and net expenditure was smaller in 2017/18 due to slightly less income being received from trade waste services.

9. Overall net expenditure on household waste services[2] (Dry Recycling, Organic, Residual, CA and Bring) decreased by 0.6% in 2017/18 to £231.2m. This represents a decrease in expenditure of just £1.3m compared to the 2016/17 figure of £232.5m.

10. Investment in organic waste services has decresed very slightly in 2017/18. Expenditure decreased by 1.1% to £48m. During this period an additional 11,744 (10%) tonnes of food waste was collected compared to 2016/17.

11. Expenditure on residual waste services decreased slightly from £85m to £84m demonstrating the benefits of increased recycling, composting and reducing frequency of collection.

12. Kerbside dry recycling costs increased slightly by £1m overall to £55.8m in 2017/18. During the same period, the mass of dry recyclate collected also increased slightly by 517t.

13. HWRC expenditure decreased from £43 to £42m in 2017/18. At the same time the proportion of Household waste received at HWRCs remained the same at 31%.

[2] 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

14. Between 2016/17 and 2017/18 bring site expenditure decreased by £83,000, a reduction of nearly 6%. During the same period mass collected via the bring site network reduced by 2,933 tonnes (15%) continuing a longer term trend.

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

	16-17	**17-18**	**% change**	**Performance change[3]**
Dry recycling	£54,728,683	£55,816,228	+2.0%	+0.2%
Residual waste	£84,753,568	£83,799,039	-1.1%	-3.4%
Organic waste	£48,462,082	£47,940,387	-1.1%	-0.6%
CA/HWRC	£43,226,539	£42,364,126	-2.0%	-2.2%
Bring	£1,419,204	£1,335,542	-5.9%	-15.5%
Total	**232,590,076**	**£231,255,322**	**-0.6%**	**-2.3%**

16. Overall re-use, recycling and composting rates have decreased for the first time from 63.8% in 2016/17 to 62.7% in 2017/8. Changes to how the end destination of wood is reported and a reduction in Incinerator Bottom Ash (IBA) due to the closure of a facility, led to a 1.5 percentage point decrease in overall recycling rate.

17. However, the the amount of material recycled at the kerbside (i.e from household recycling collections) actually increased slightly. These changes are summarised below.

	Tonnes Recycled & recycling % points contributed to recycling performance 16-17	**Tonnes Recycled & % points contributed to recycling performance 17-18**	**Change**
Kerbside Dry recycling & Composting	504,326 31.7%	504,955 32.6%	+0.9%
IBA & Metals from IBA	97,144.32 6.1%	84,092 5.4%	-0.7%

[3] % difference in tonnage collected between 2016/17 and 2017/18

Contents

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

All costs are based around the waste management Revenue Outturn (R/O) of each authority, giving a control figure to cross reference to.

Local Authority waste expenditure data has always been collected consistently (in line with the Best Value Accounting Code of Practice). 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.

As in previous years, data extracted from WasteDataFlow required a cleansing to remove nomalies. This process took place between September 2018 and April 2019. It is envisaged a similar period of data validation will be required in future years. Work is undertaken by the Waste Improvement team in conjunction with individual local authorities.

In some cases Local Authority figures in isolation may appear anomalous and may not present the whole picture; this can be due to apportionment. Apportionment may take place between shared services and between the collection, transfer and treatment process.

During summer 2019 WLGA will convene a working group of finance and waste officers from a range of authorities to review the guidance and methodology to help ensure consistency of reporting.

Detailed Findings

Total Service Data

1. From the data it can be seen that overall gross expenditure on waste services during 2017/18 was £280,596,845 (£242,506,879 net of income). This represents a decrease of £1,034,452 when compared to the 2016/17 figure of £281,631,297 a drop of 0.5%.

2. Total expenditure continues to fall following a period of significant investment, supported by the SWMG (Sustainable Waste Management Grant)[4]. The amount of direct support has been reducing over recent years and local authorities have also reduced expenditure as a result of severe budget cuts.

3. Between 2016/17 and 2017/18 the income local authorities received from selling dry recyclables increased by 4% from £6,812,851 to £7,068,417 in 2107/18

4. Figure 1 shows how net expenditure on all waste services has changed in the nine years since the finance project began. Costs have been adjusted for inflation and are indexed using the 2008/09 data as a baseline. It can be seen that expenditure in real terms has remained stable over the last nine years, but has fallen for the last three. During the same period recycling rates have increased significantly, from 35.6% in 2008/09 to 62.7% in 2017/18. However, this is lower than the 63.8% achieved in 2016/17.

5. This decrease was due to two main factors. First, changes to the the reporting of wood recycling to better account for rejected material has led to a decrease of 0.8 percentage points overall. Secondly, the amount of Incinerator Bottom Ash has declined by 0.7 percentage points due to the closure of a facility and and associated increase in waste sent to landfill for a small number of authorities. However, the amount of waste recycled and composted from the kerbside actually increased slightly, increasing by 0.9 percentage points.

[4] Between 2015/16 and 2017/18 this was the Single Revenue Grant (SRG)

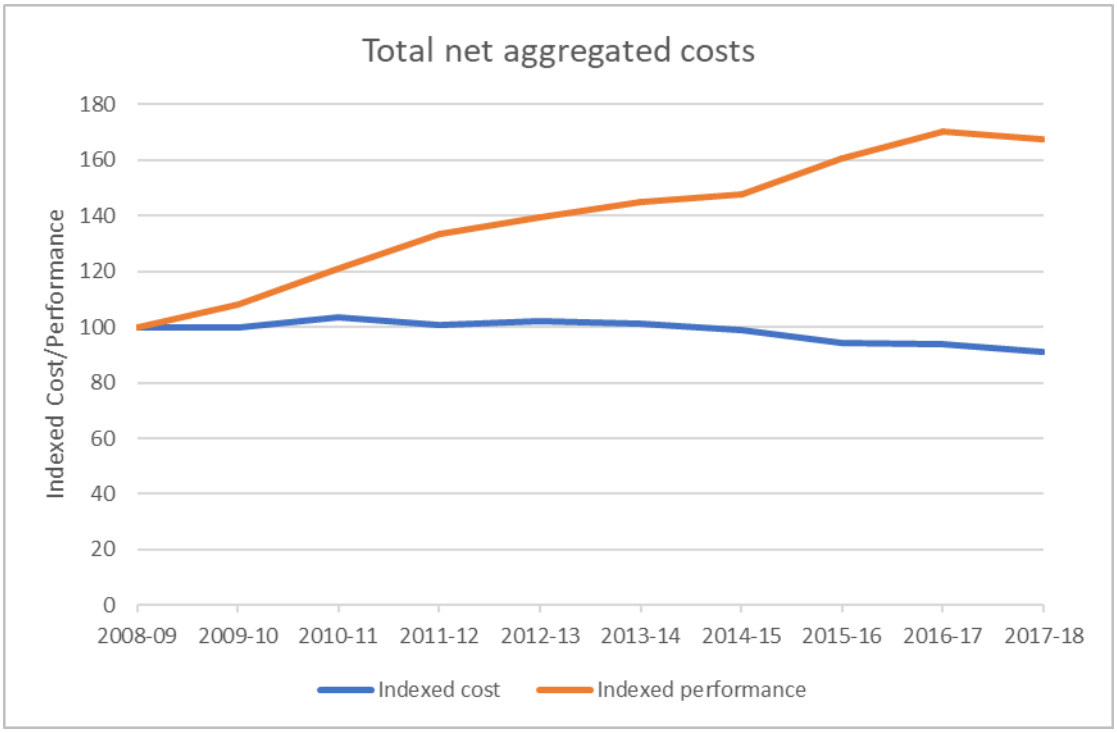


Figure 1 – Total net costs

6. The total amount of SRG allocated to local authorities in 2017/18 totalled £61.8m of this £58m was allocated against waste services.

7. 10 out of 22 local authorities have demonstrated a reduction in expenditure compared to 2016/17. 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[5]

8. The graph in Figure 2 below shows total net expenditure on waste services for each local authority during financial year 2017/18. Contribution made by grant allocation is represented as 'hatched' area. Expenditure is shown on a cost per household basis.

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

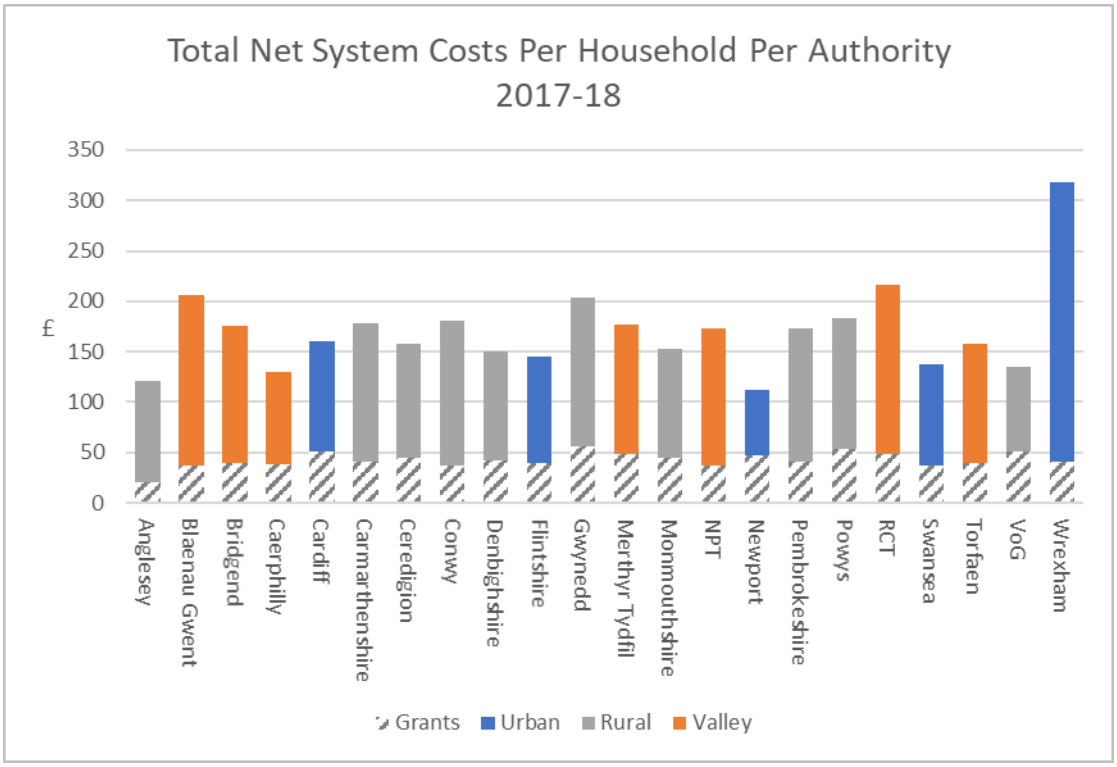


Figure 2 – Total System Costs per household 2017/18

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 (96%) of total net 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 show the proportion of wastes managed for each of the services provided by mass. This provides context against which the costs can be assessed.

12. Kerbside residual waste and waste collected from HWRC (Residual and Recycling) are the largest sources, each accounting for 31% of household waste.

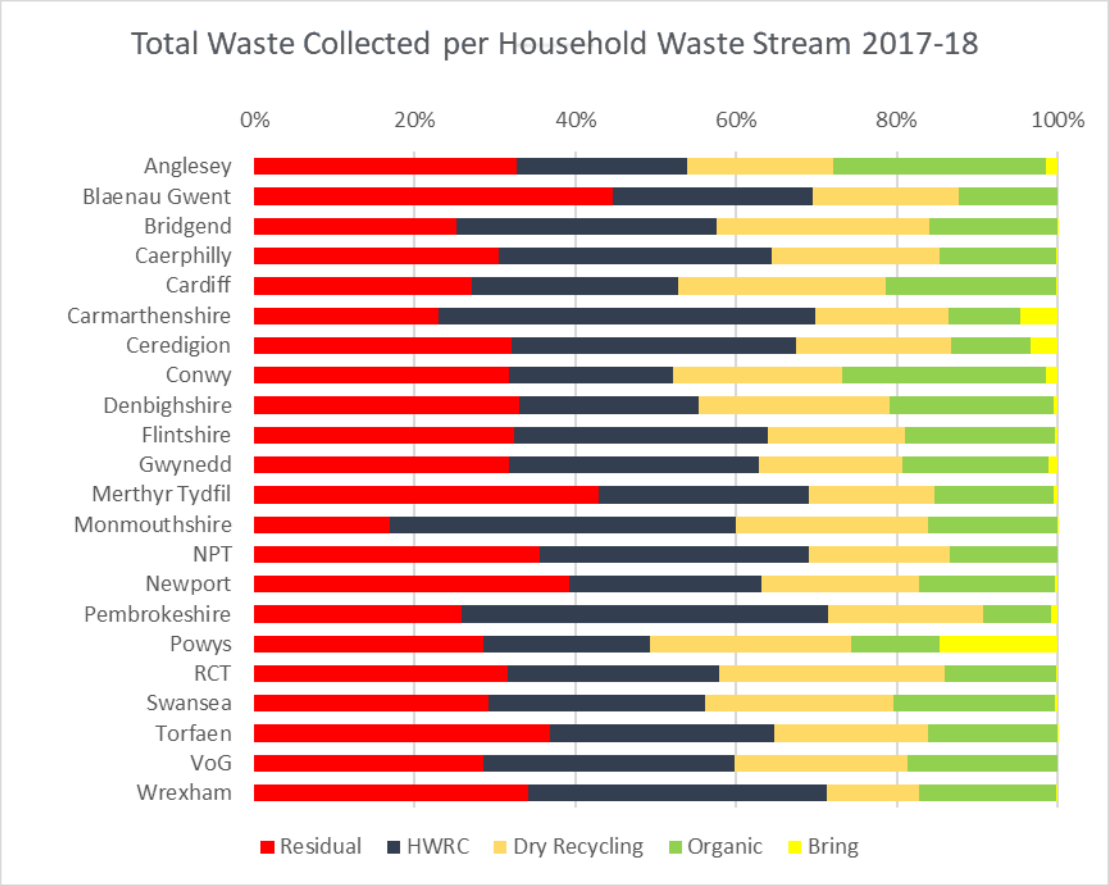


Figure 3 - Source of waste collected[6]

13. Figure 4 below shows the proportion of overall expenditure taken up by each of the household waste service areas. Residual waste remains the biggest area of expenditure accounting for between 21% and 47%. This is a wide variation seemingly influenced by the tonnage of residual waste collected and the availability of treatment options post collection. For example Monmouthshire collected the least residual waste per household in this year and was able to send all residual waste to EfW as part of Prosiect Gwyrdd. HWRC accounts for 19% of total expenditure whilst handling a significant proportion (31%) of all household waste collected. This suggests that HWRC is proportionally a cheaper way of collecting material.

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

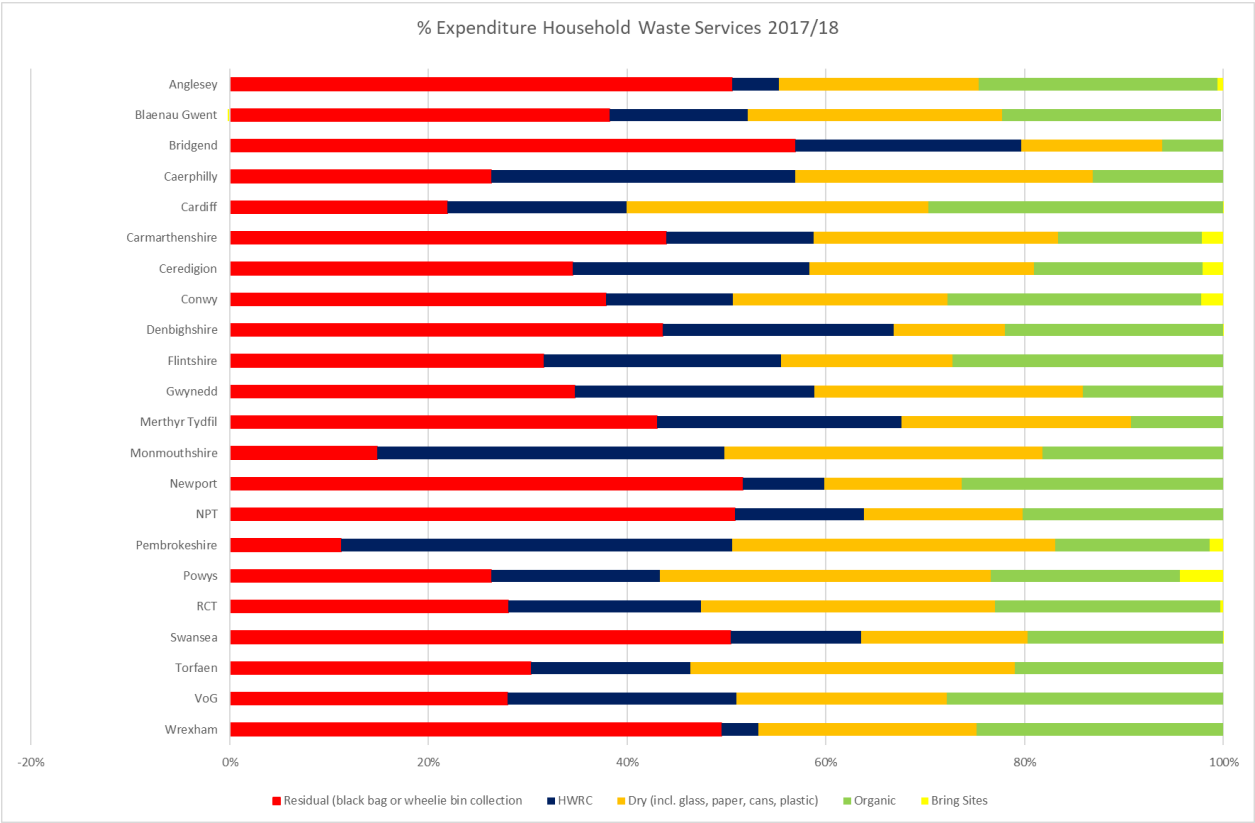


Figure 4 – Expenditure by waste service

14. 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.

15. 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 dashes on the chart.

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

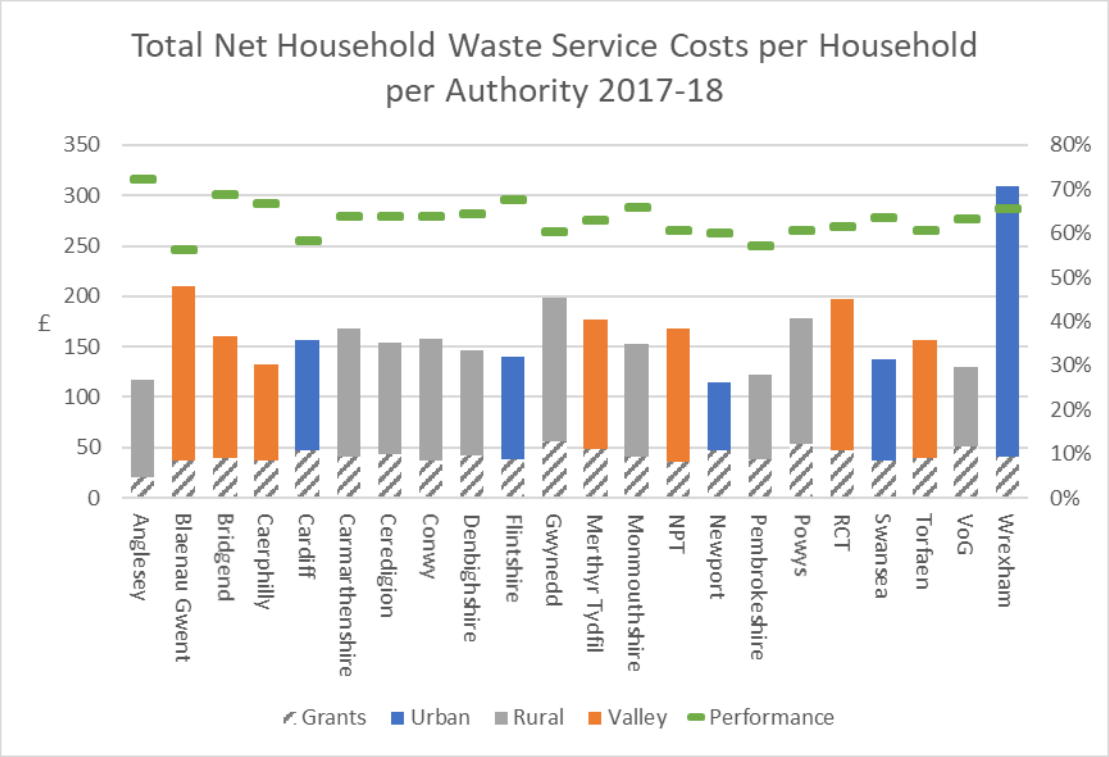


Figure 5 - Total household waste service cost per household

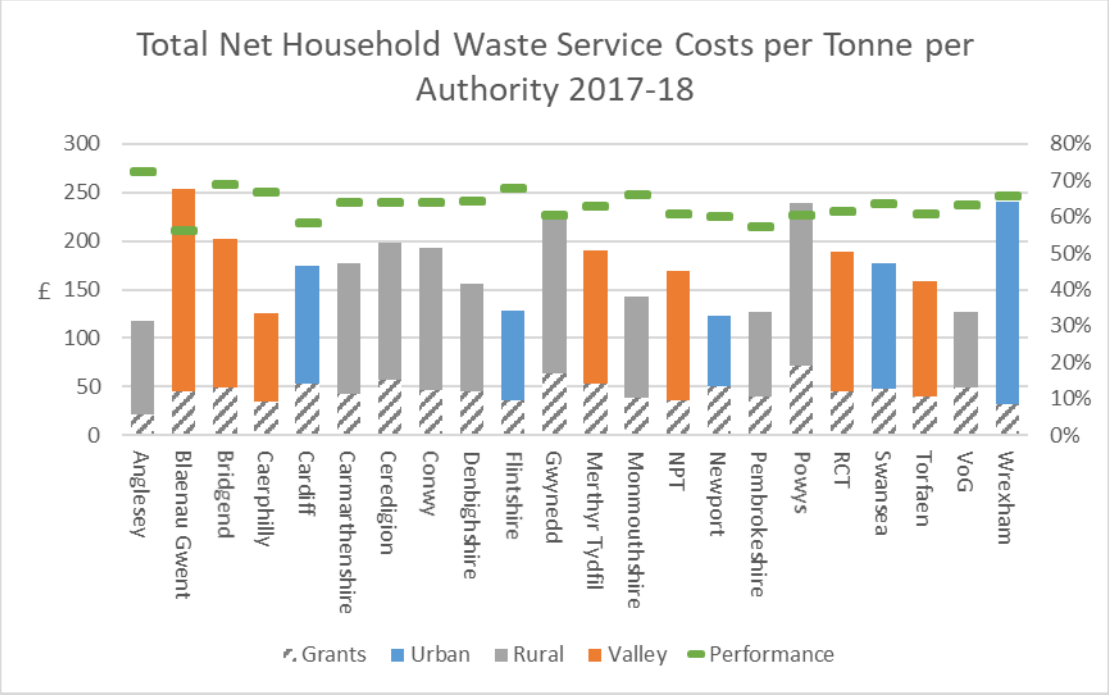


Figure 6 – Total household waste service cost per tonne

17. Overall net expenditure on household waste services during 2017/18 was £231,255,322. This represents a decrease in costs of £1,334,755 compared to 2016/17, a decrease of 0.5%. During the same period, the overall recycling rate for Wales decreased from 63.8% to 62.7%.

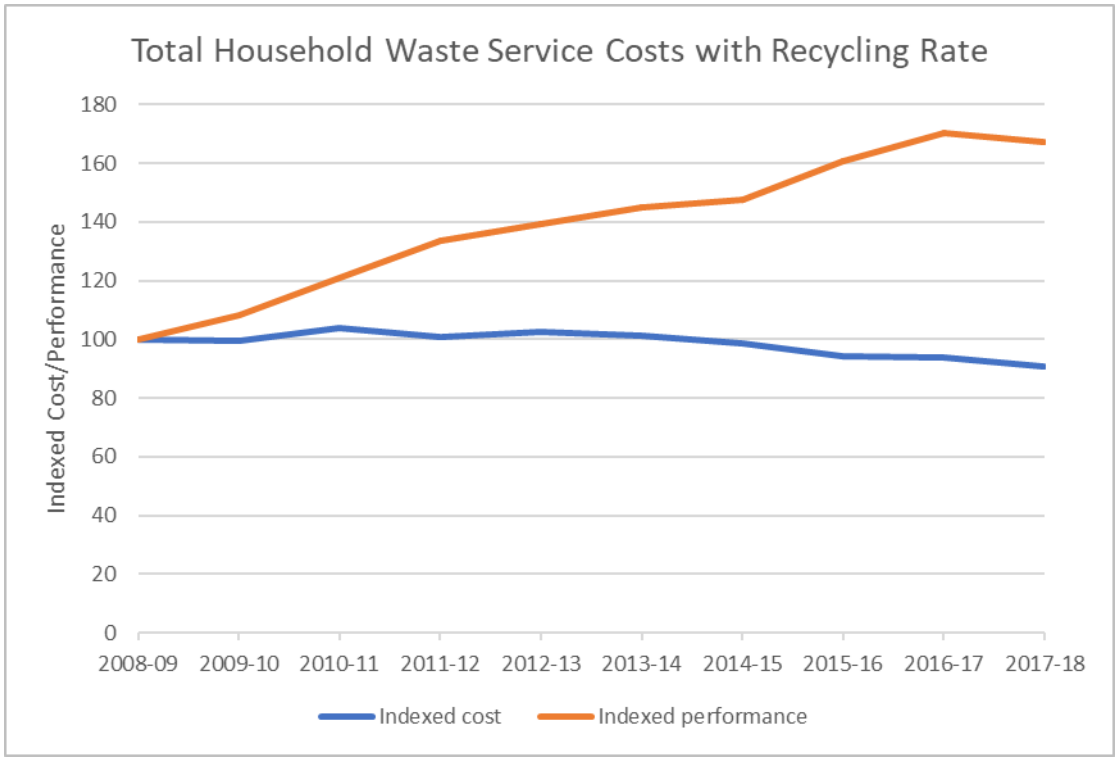


Figure 7 – Household waste service cost since 2008/09

18. The longer term trend in household waste service costs is shown in Figure 7. It can be seen that costs, adjusted for inflation, have remained farily stable since 2008/09 but in 2017/18 have reduced for the third consecutive year. Recycling rates have increased significantly over the same period but dropped by 1.1 percentage points in 2017/18.

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 orange lines on the chart, plotted using the axis on right hand side of graph.

Total dry recycling service cost

20. Figure 8 & Figure 9 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 to grant expenditure being targeted towards recycling services and prohibited from residual waste services.

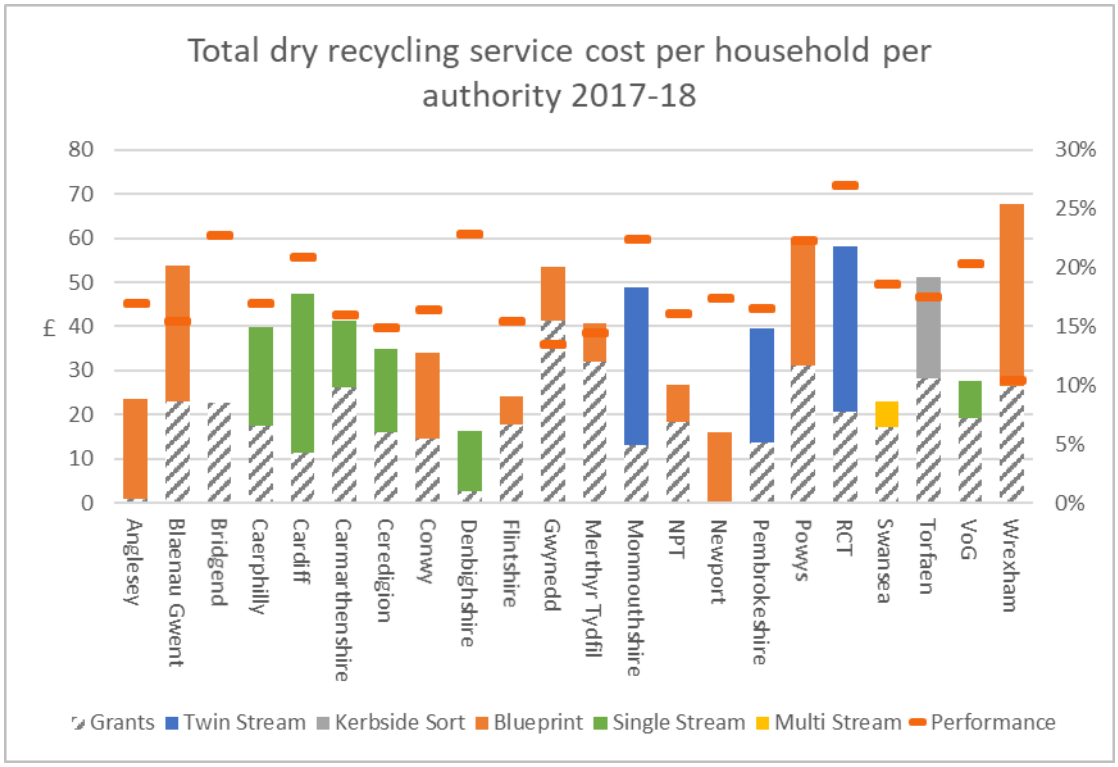


Figure 8 – Dry recycling service cost per household

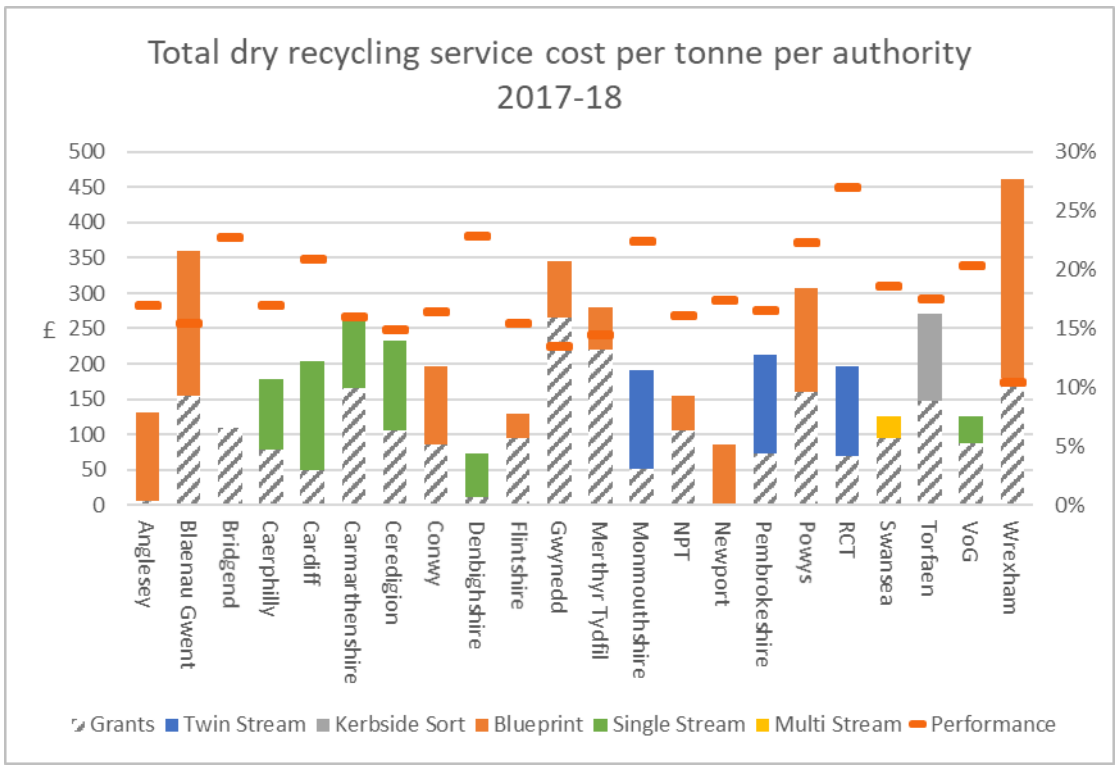


Figure 9 – Dry recycling service cost per tonne

What are the graphs telling us?

21. Both cost and performance vary significantly. Ideally, services should deliver high performance, in terms of mass recycled, whilst exhibiting the lowest cost possible. For example, Bridgend's dry recycling service makes a significant contribution to their overall recycling rate, with 23% of total MSW being collected via their kerbside collection scheme, whilst service cost is one of the the lowest seen across the group at £22.70 per household. What we want to see is a high value recorded against performance (orange 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 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 smaller than in 2016/17. However, the median cost per household has increased from £36.60 to £39.60 per household. The median cost per unit mass also increased from to £195.90 to £196.90 per tonne.

24. From the core data it is also possible to compare 2017/18 overall dry recycling service expenditure with that of 2016/17, in addition it is also possible to compare the grant contribution to dry recycling services over the same period:

	16/17	**17/18**	**% change**
Dry recycling	£54,728,683	£55,816,228	+2%
Grant (SRG)[7]	£26,259,994	£26,670,226	+1.6%

25. Expenditure on dry recyclate services increased by 2% during 2017/18. Whilst expenditure did increase the mass of material collected also increased over the same period. Mass collected increased by 517 tonnes, an increase of 0.2%. It can be seen that almost 50% of expenditure on dry recyclate services is supported by grant funding.

[7] This shows the proportion of overall grant that local authorities choose to allocate to individual services. The overall grant received by local authorities in 2017/18 has decreased.

26. The longer term trend in kerbside dry recycling costs is shown in Figure 10 can be seen that expenditure in 2017/18, whilst still above the 2008/09 baseline, has decreased in the last year.

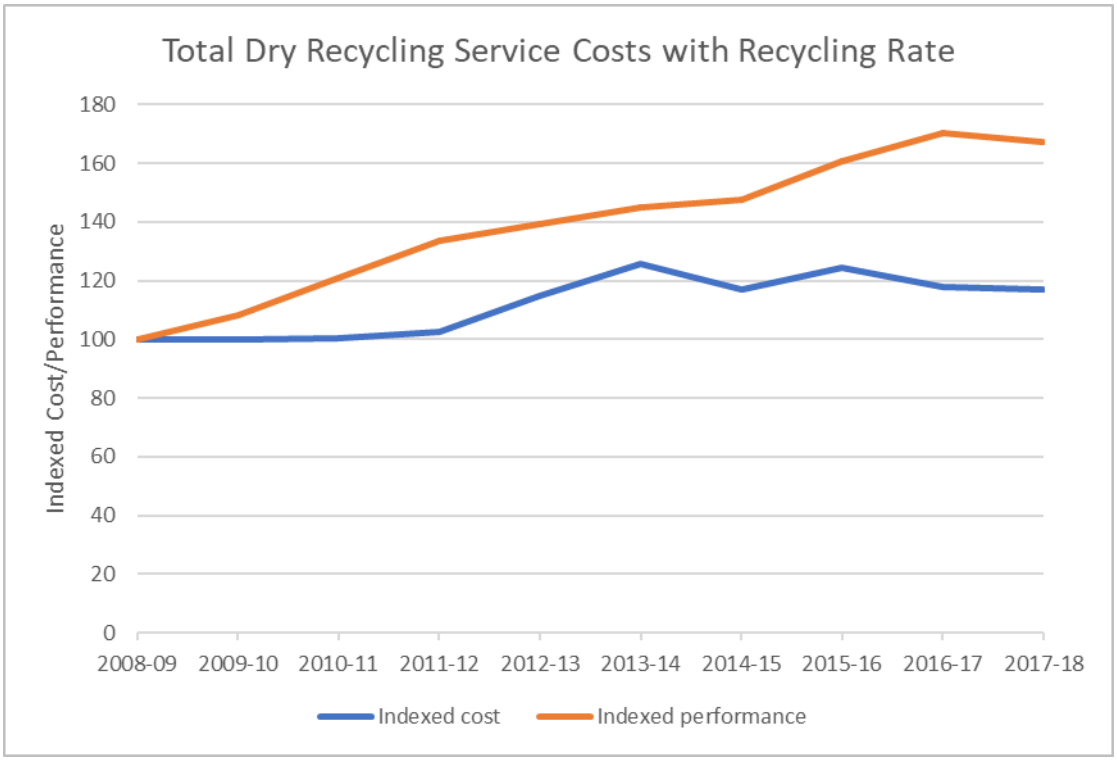


Figure 10 – Kerbside dry recycling cost since 2008/09

Collection

27. From the data it is possible to plot the individual component costs of the service. Graphs in 11 & 12 show the dry recycling collection cost on both a per household and per tonne basis net of any income. Collection systems vary across the group, colour coding shows what type of collection system was in place during 2017/18.

28. Costs arising from the collection of the dry recyclate itself makes up the majority of overall service cost; accounting for 80% of the service cost in 2017/18.

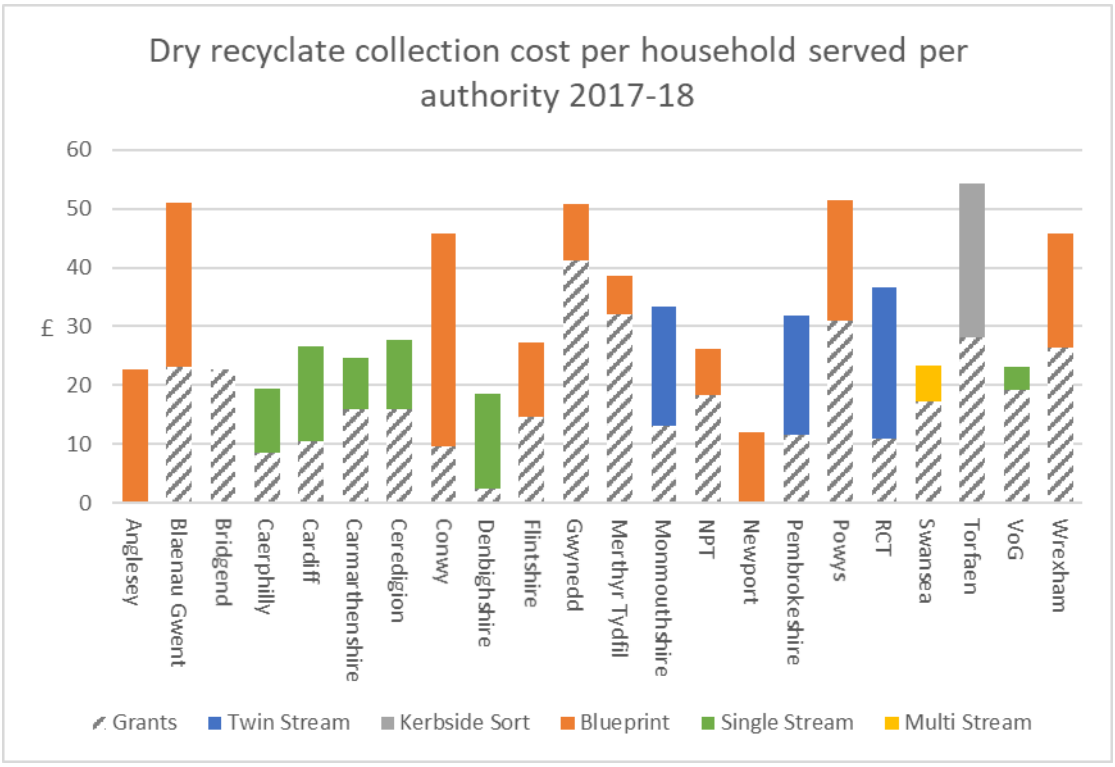


Figure 11 – Dry recyclate collection cost per household served

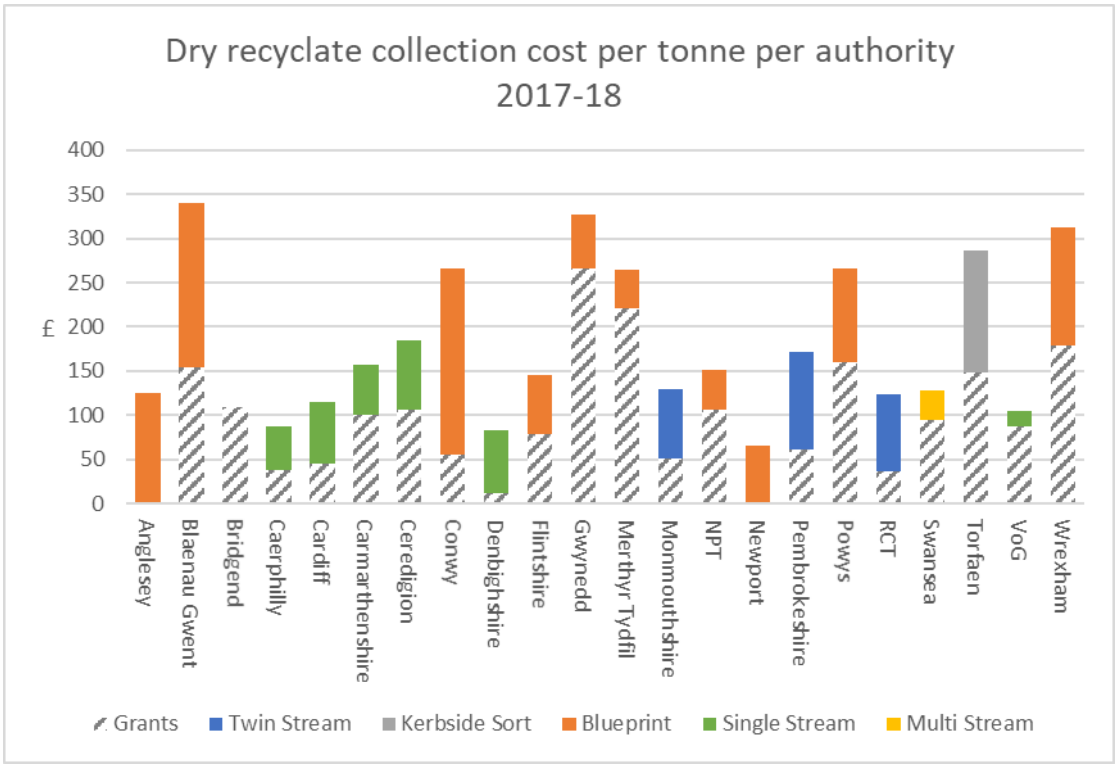


Figure 12 – Dry recyclate collection cost per tonne collected.

Transfer costs

29. According to data provided, few authorities incur costs from transfer of recyclate following its collection. In some cases contractual arrangements mean that these costs are included with treatment costs. 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, but are available on request.

Treatment costs

30. Figure 13 & 14 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.

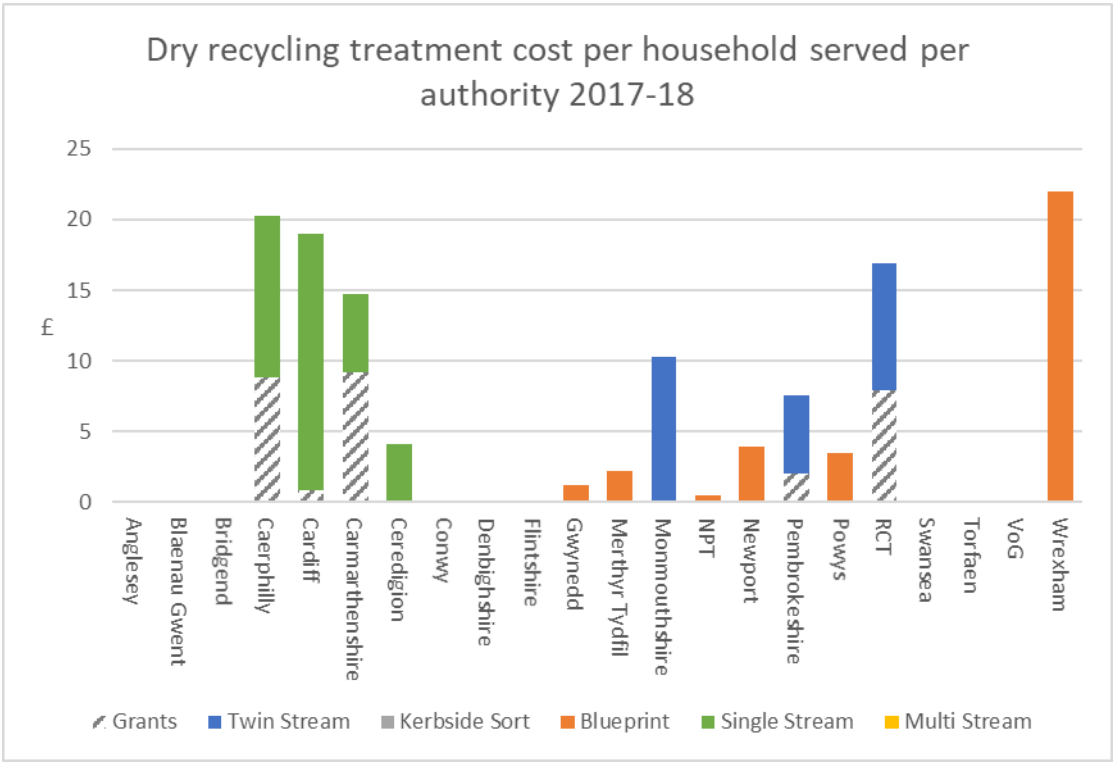


Figure 13 – Dry recycling treatment cost per household served

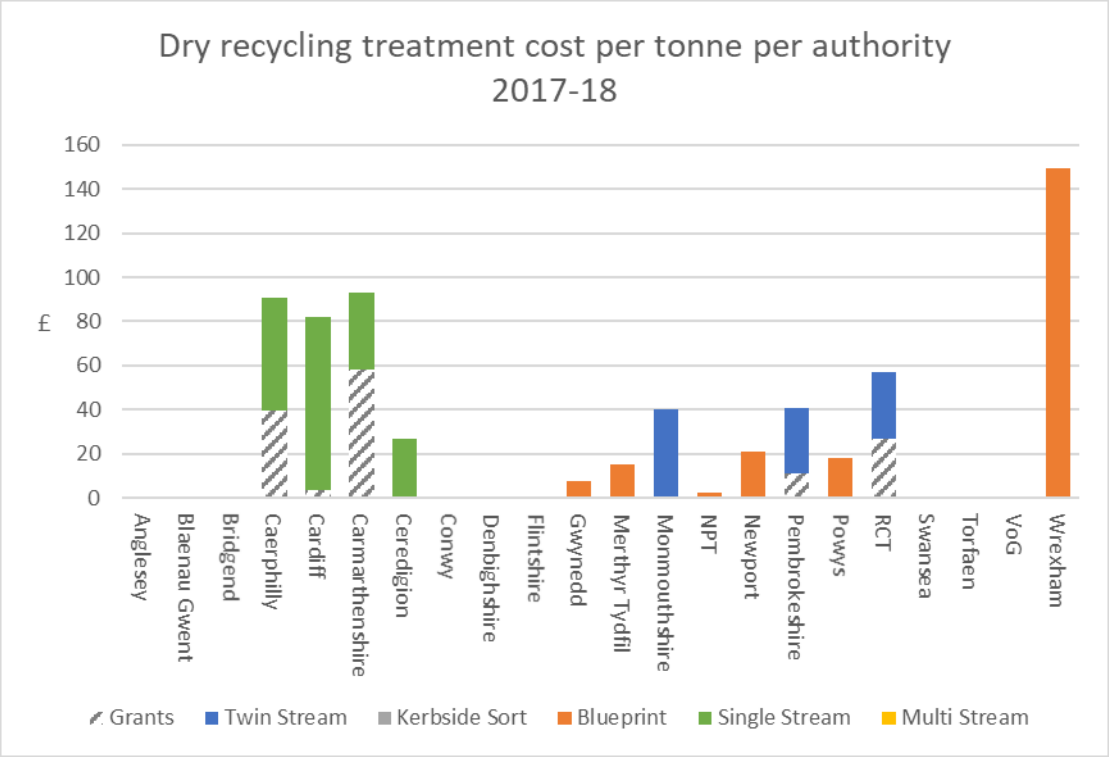


Figure 14 – Dry recycling treatment cost per tonne

31. It can be seen that there is a wide variation in treatment costs across the group. This likely reflects the differing recycling systems and contractural arrangements in place across Wales, with authorities employing differing treatment, methodologies depending on the collection system used. (e.g. MRF, Sorting/Bailing only etc).

32. A number of authorities exhibit a negative cost for treatment activities and therefore no bar is present (these are Blaenau Gwent, Conwy, Denbighshire, Flintshire, Swansea Torfaen and Vale of Glamorgan). 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 15 & 16 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 increased by 4% in comparison to the previous year.

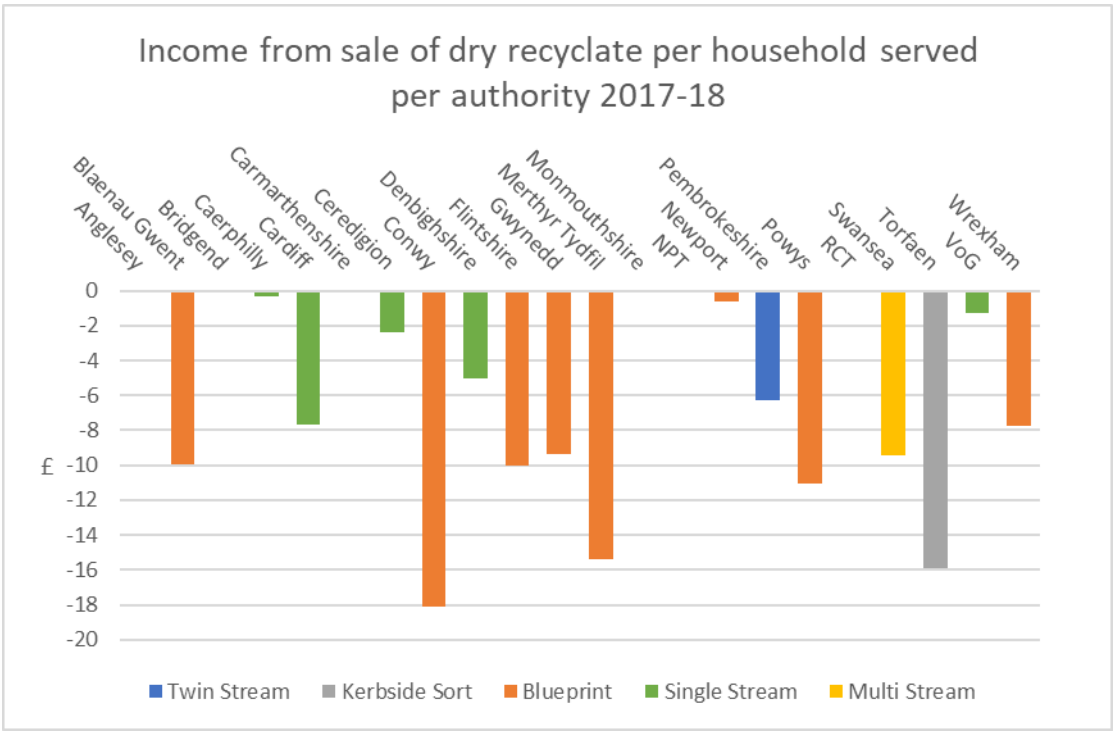


Figure 15 – Income from sale of dry recyclate per household served

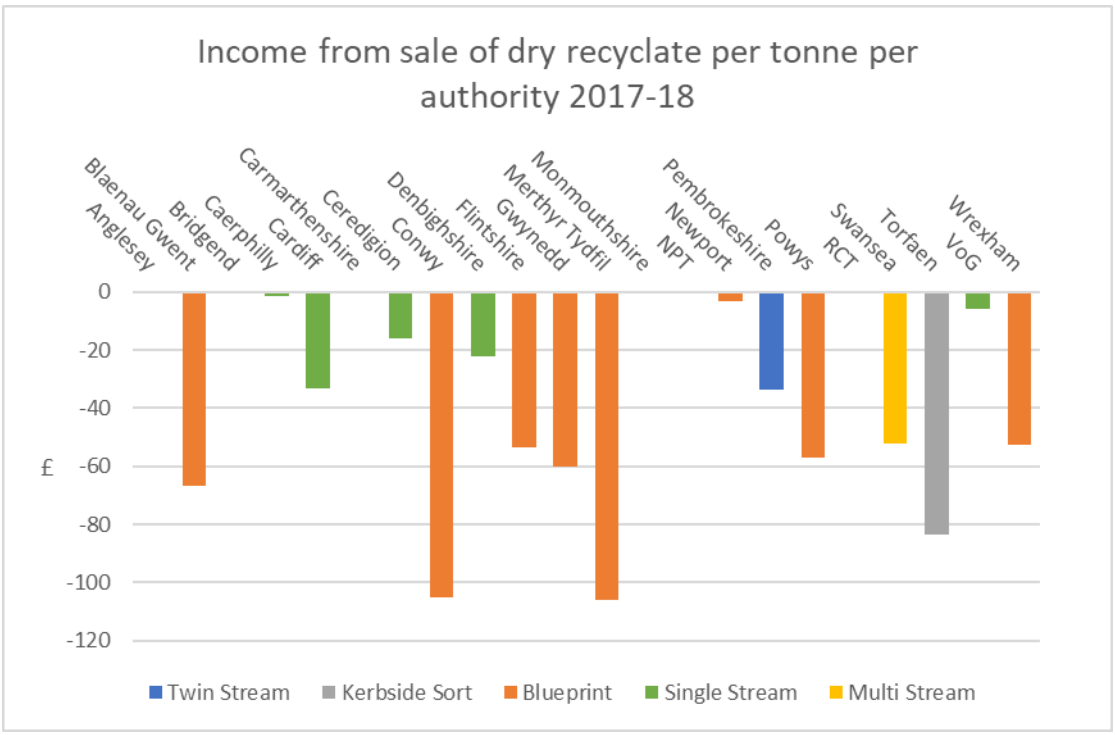


Figure 16 – Income per tonne from sale of dry recyclate

Organic Waste Services

34. Data is split across three headings covering food-only collections, green-only collections, and co-mingled green and food collections. In 2017/18 2 authorities, Monmouthshire and Wrexham collected food and green waste co-mingled, although in Wrexham the 2 streams are kept separate for treatment. Caerphilly also collected a small amount of co-mingled food and green waste.

Food waste only

35. The total cost of providing food waste collection are shown in Figure 17 (cost per household served) and Figure 18 (cost per tonne collected). The performance of the service (i.e. the contribution of recycled food to overall recycling performance) is shown on the right-hand axis and can be seen as the orange lines on the chart. It should be remembered that in practice food waste is often collected with other waste streams- usually Dry Recycling for kerbside sort authorities. In these cases the figures are calculated using apportionment.

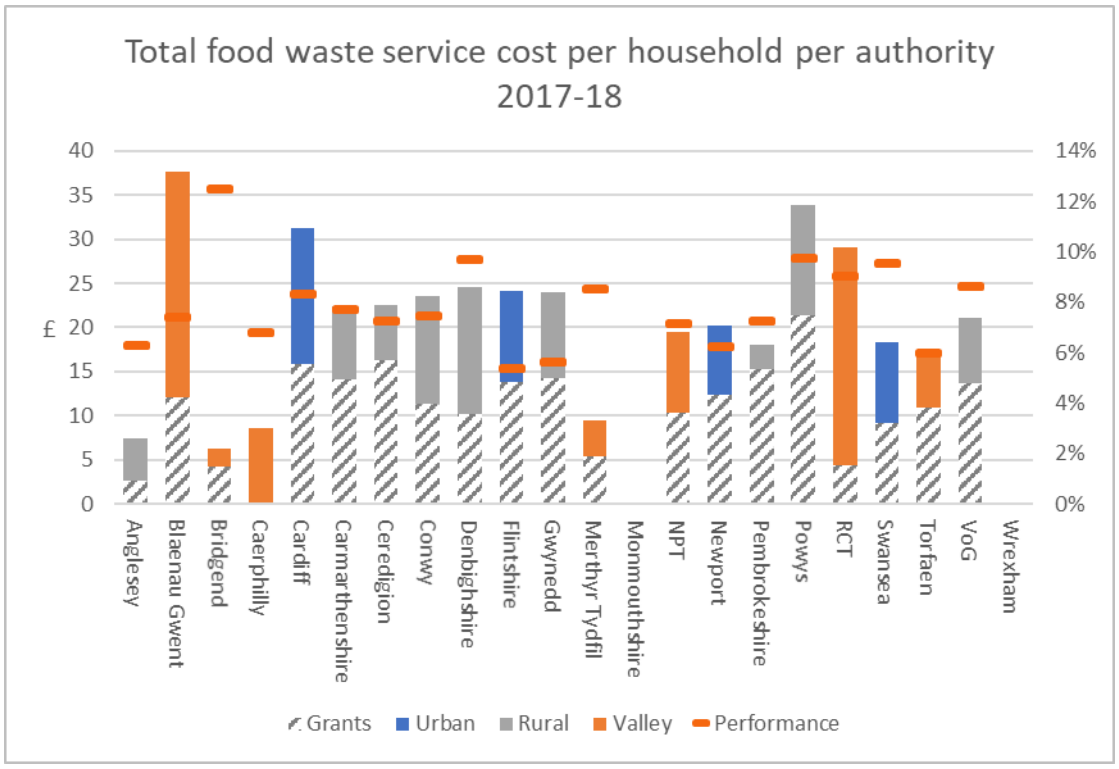


Figure 17 – Food waste service cost per household served.[8]

[8] In some charts Wrexham shows a cost per tonne but no cost per HH due to Wrexham collecting food waste together with green waste but treating them separately.

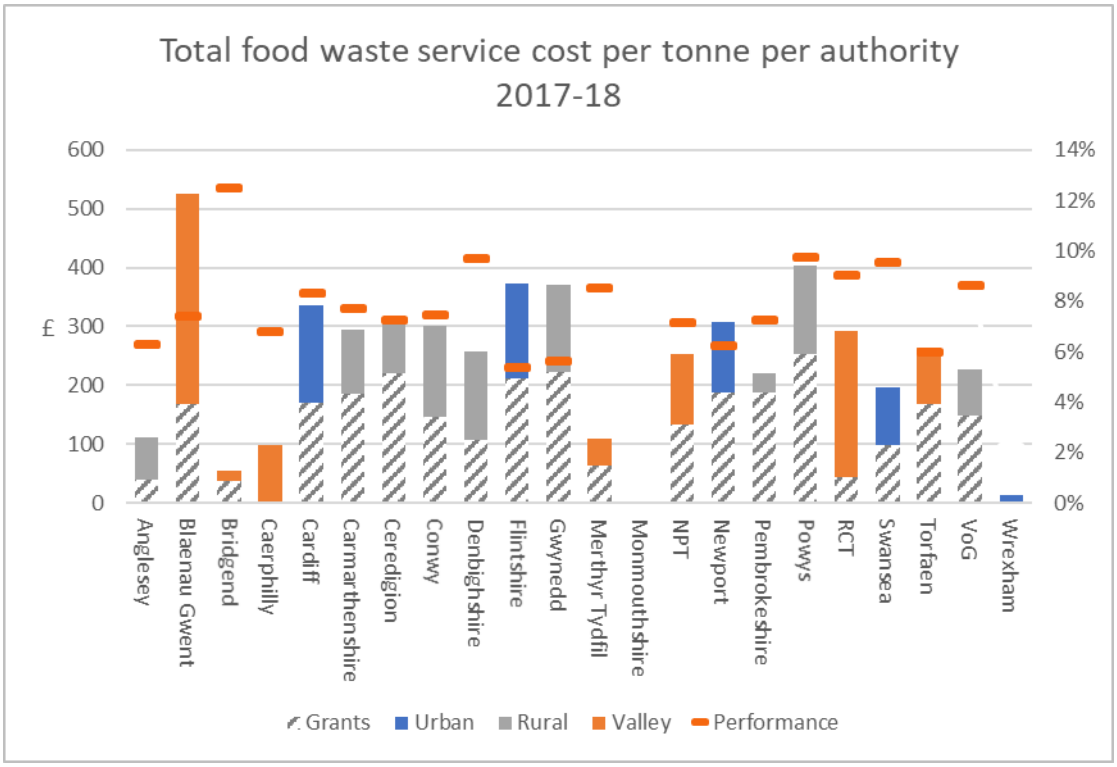


Figure 18 – Food waste service cost per tonne

36. Both cost and performance vary across the group. There is wide variation in yield as % of total MSW, from 5.4% to 12.4%, little difference to 2016/17. However, food waste recycled as % of MSW has increased overall. Greater divergence between cost bar and performance bar is likely to signify a higher performing service. For example, the service operated by Bridgend, exhibits both a low cost and high yield. Food waste increased its contribution to overall recycling from 6.4% in 2016/17 to 7.3% in 2017/18. Tonnage increased by 11,500t and similarly median costs also increased suggesting a rise in the cost of food waste services when compared to 2016/17. Caerphilly and Carmarthenshire now collect food waste separately and not co-mingled with green as previously the case in 2016/17.

Green waste only

37. The total net cost of providing separate green waste collection are shown in Figure19 (cost per household served) and 20 (cost per tonne collected). It is important to note that the cost is divided by the total number of households not the number of users or subscribers. The performance, in terms of the contribution of recycled food to overall recycling performance is shown on the right-hand axis and can be seen as the orange line on the chart.

38. During 2017/18 Bridgend, Carmarthenshire, Denbighshire, Gwynedd, Monmouthshire and Pembrokeshire were charging residents for the kerbside collection of garden waste. Powys did not collect garden waste at the kerbside.

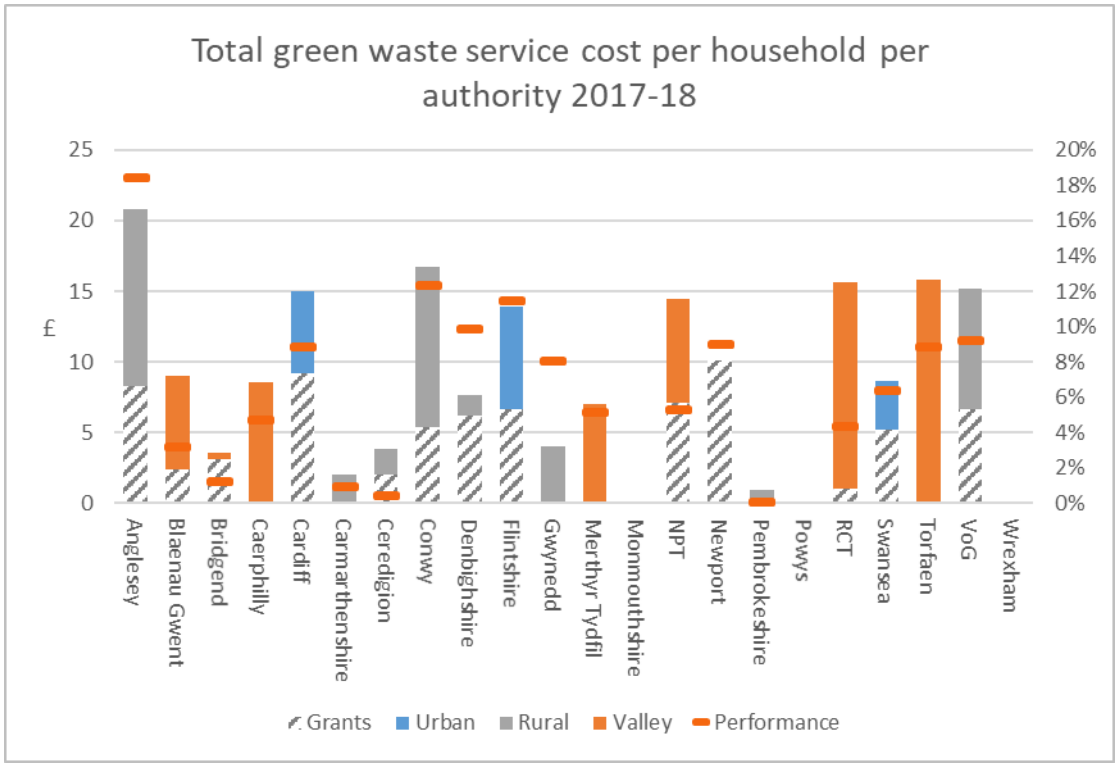


Figure 19 – Green waste service cost per household served.

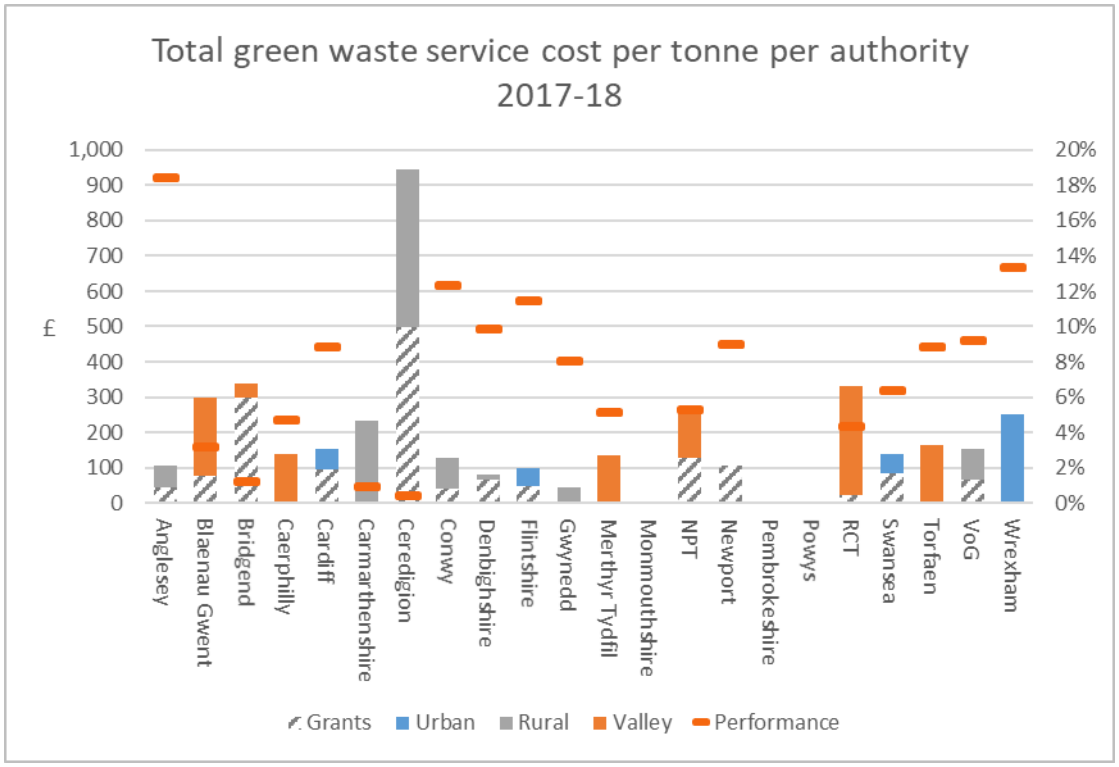


Figure 20 – Green waste service cost per tonne

39. Again, a wide variation in both costs and performance can be seen across the group. The divergence between cost and performance data seen for authorities like Conwy, Anglesey and Flintshire would suggest that they are relatively efficient services. There is a clear link between authorities collecting the most incurring highest costs. Gwynedd and Carmarthenshire both introduced charges this year; Gwynedd's net costs dropped significantly but contribution to recycling also dropped in line with this. It is not possible to compare Carmarthenshire's drop in costs as they didn't previously provide a separate garden waste service. Ceredigion's costs appear to be high in comparison to other LAs on a per tonne basis, mainly because of the relatively low tonnage of garden waste that is collected at the kerbside.

40. Variations seen in yield and therefore cost per tonne/household are likely influenced by a number of factors such as rurality, property type and whether charging is in place.

Co-mingled food and green waste

41. 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 21 (cost per household served) and figure 22 (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 orange line on the chart.

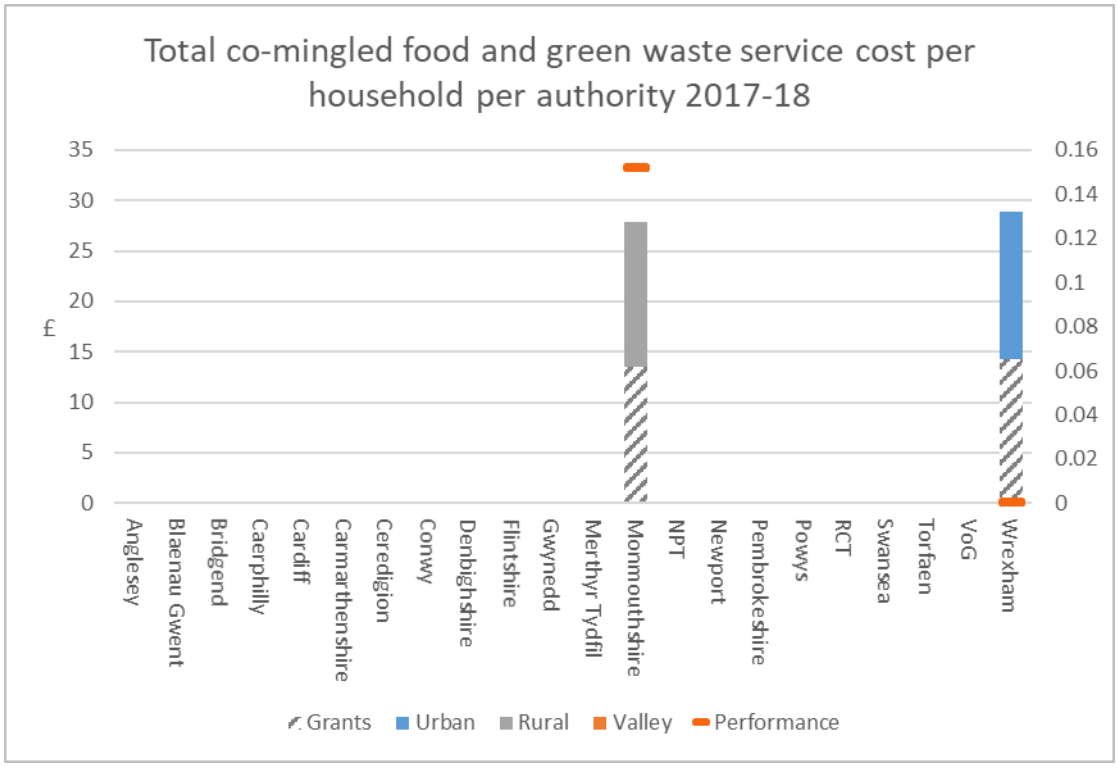


Figure 21 – Co-mingled organic service cost per household served.

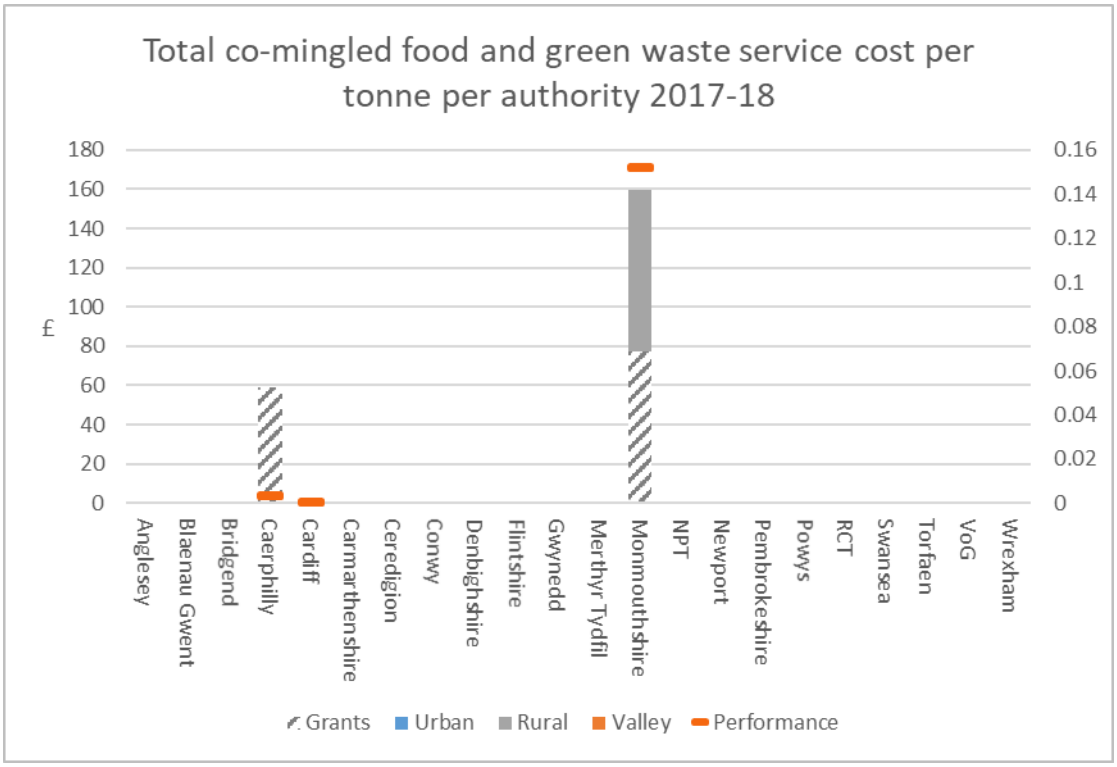


Figure 22 – Co-mingled organic service cost per tonne

42. For all organics collections it can be seen that there are wide variations in costs across the group. 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 results in some authorities exhibiting higher service costs.

43. If all costs associated with various organic collection services are aggregated, it is possible to compare total expenditure in 2016/17 with that of 2017/18:

	16/17	**17/18**	**% change**
Organic	£48,462,082	£47,940,387	-1.1%
Grant (SRG)	£24,222,438	£22,509,146	-7.07%

44. Food waste services are now well established by local authorities, fewer changes are being made to services therefore costs are becoming more stabilised. Performance in terms of total organic waste mass collected from the kerbside decreased by 1,272 tonnes following an increase of 4,227 in 16/17.

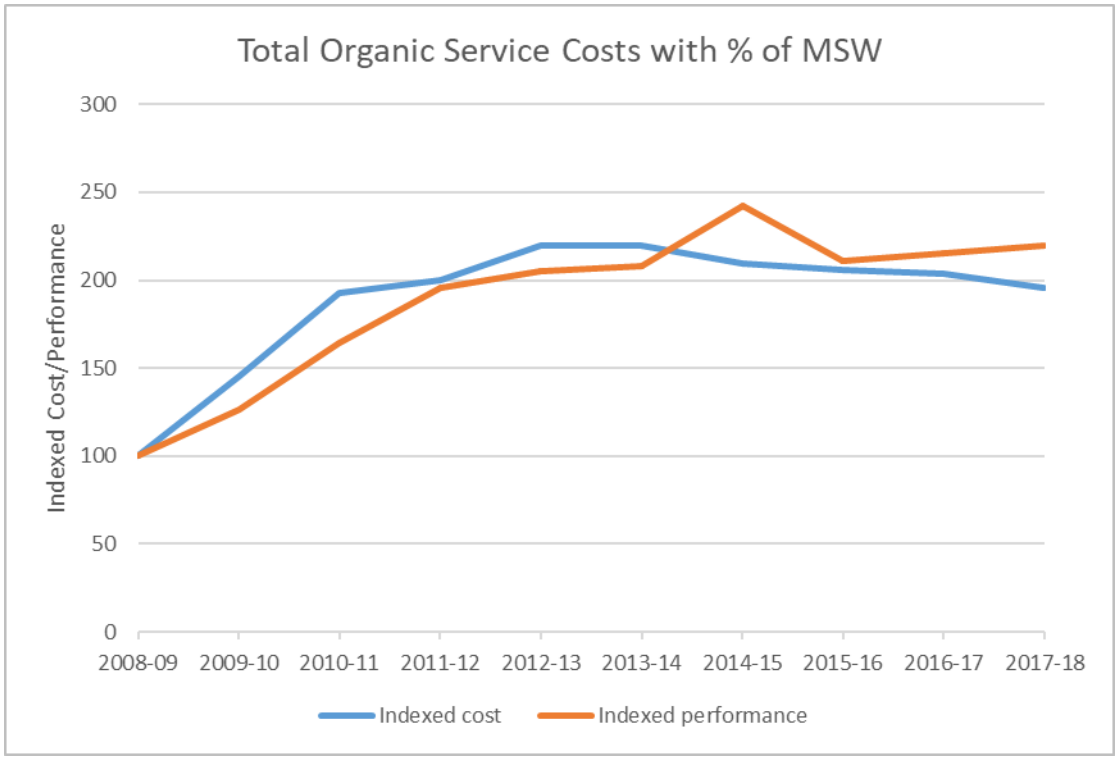


Figure 23 – Organic waste costs since 2008/09

45. The longer term trend can be seen in Figure 23. The nine 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 as shown by the orange line in figure 23. However the mass organic waste collected at the kerbside decreased in 2017/18 by 0.6% despite an increase of nearly 15,000t of garden waste and 11,744t of food waste from separate collections. The drop in organics collected could be due to initial service changes i.e authorities moving from co-mingled to separate collections. More authorities introducing charging and restricting the frequency and capacity of garden waste collections is also likely to effect tonnages.

    Cost of organic waste service decreased by 1.1% but due to inflation of 2.83% this represents a greater reduction in expenditure in real terms.

Collection costs

46. 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

47. The food waste collection cost is shown in Figure 24 (cost per household served) and Figure 25 (cost per tonne collected). Caerphilly and Carmarthenshire now collect food waste separately and not co-mingled with green as previously the case in 2016/17.

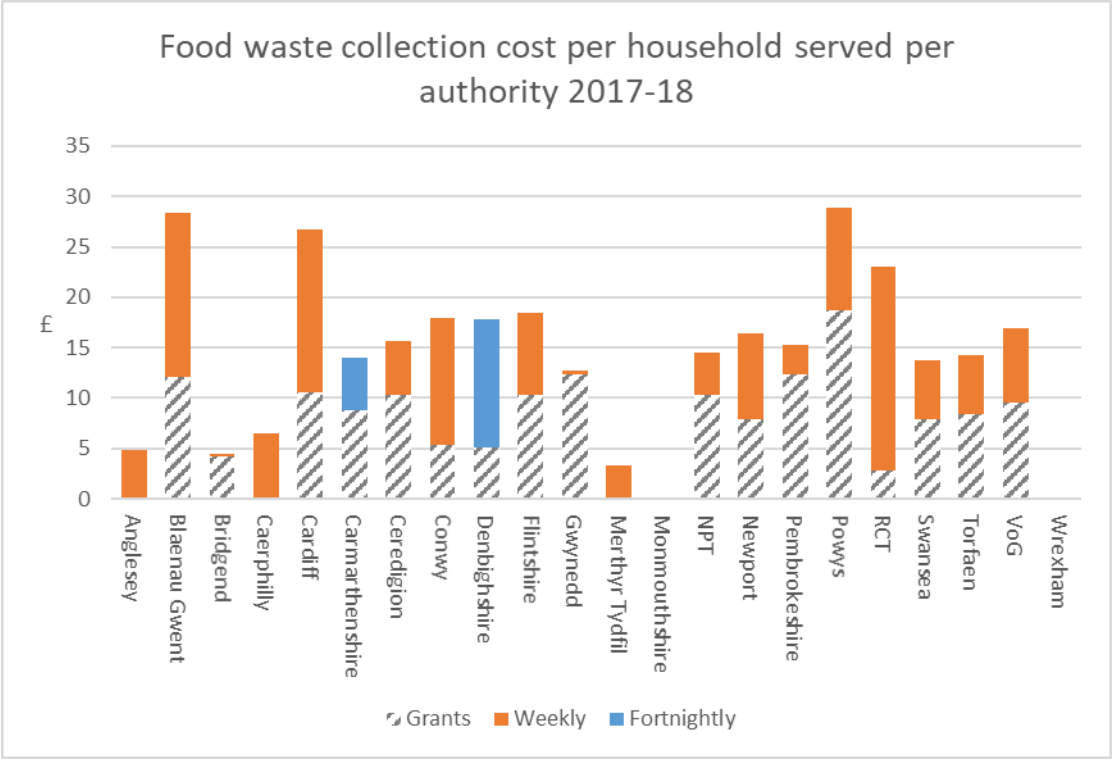


Figure 24 – Food waste collection cost per household served.

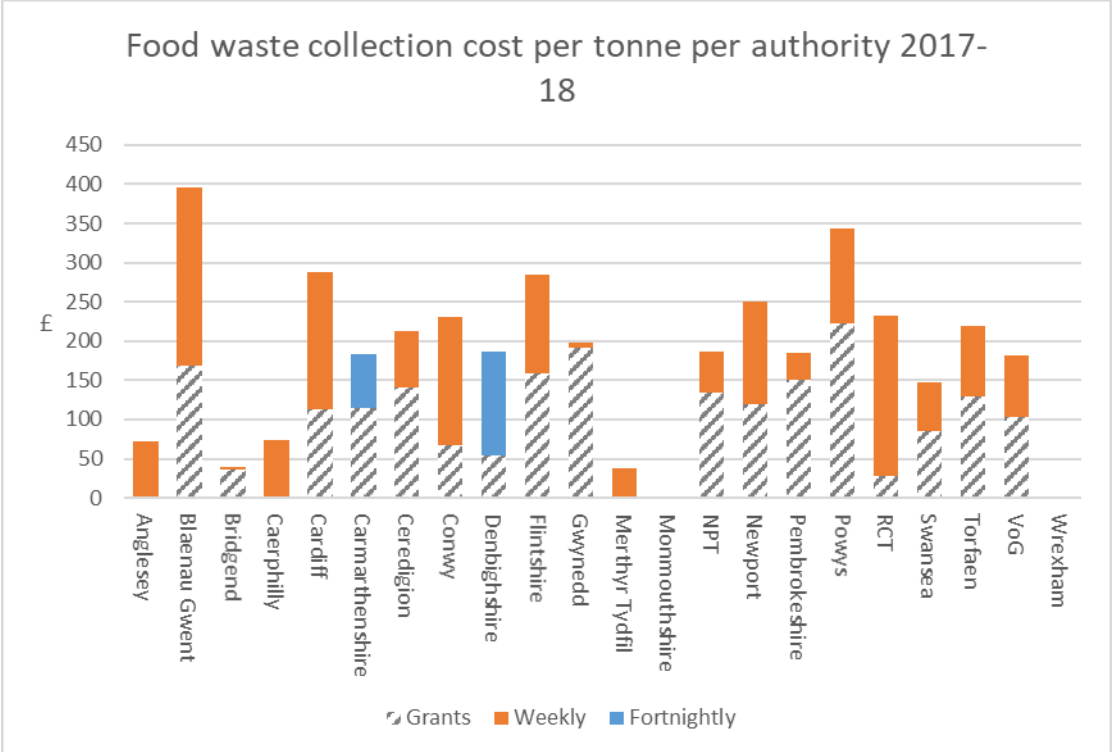


Figure 25 – Food waste c ollection cost per tonne

Separate green waste collection

48. The green waste collection cost is shown in Figure 26 (cost per household served) and Figure 27 (cost per tonne collected).

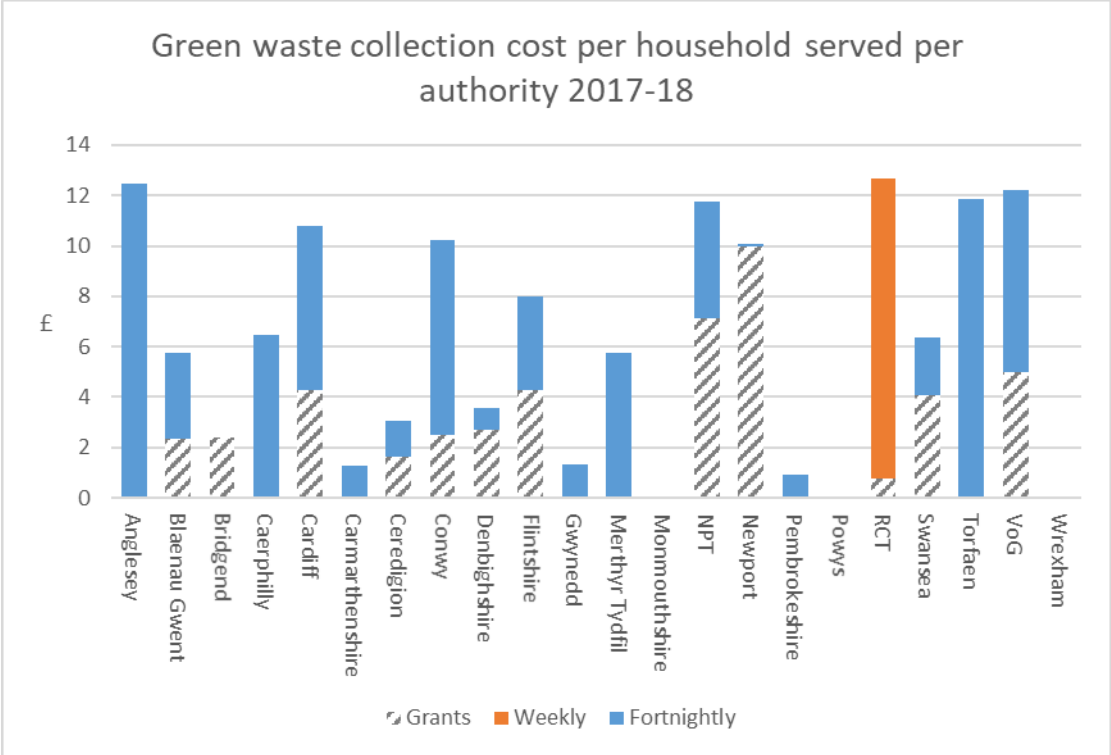


Figure 26 – Green waste collection cost per household served.

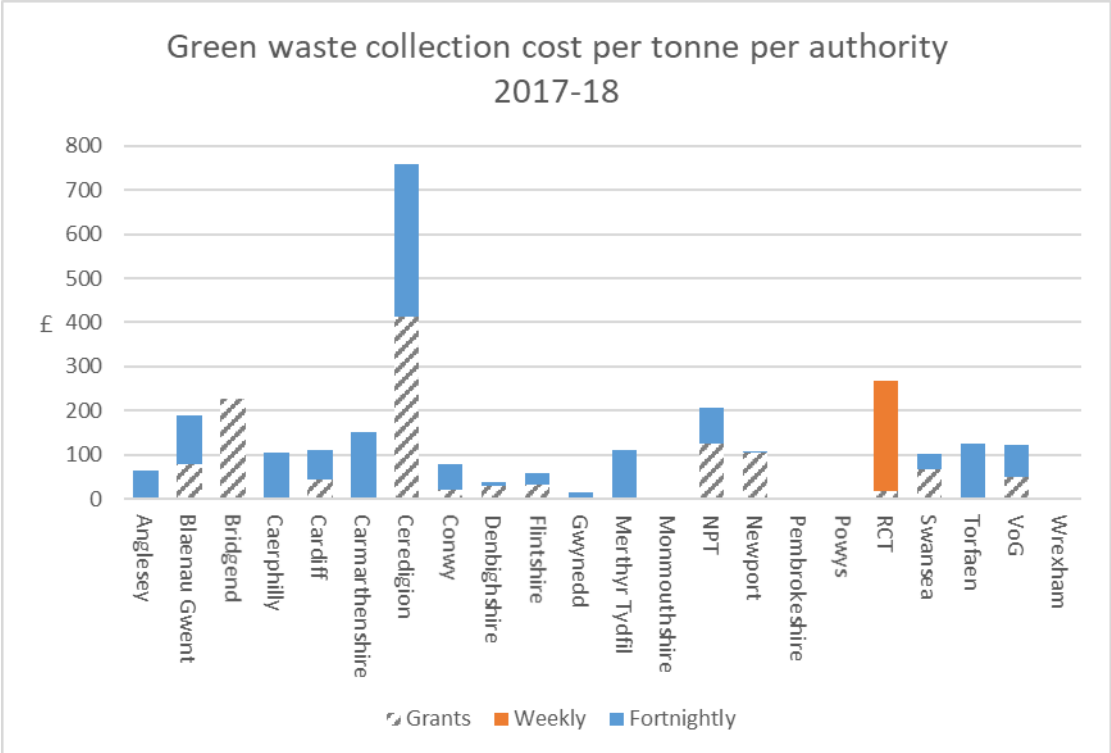


Figure 27 – Green waste collection cost per tonne

Combined food and green waste

49. Costs for authorities collecting food and green waste fractions together are shown in Figure 28 (cost per household served) and Figure 29 (cost per tonne collected). Colour coding denotes frequency of collection.

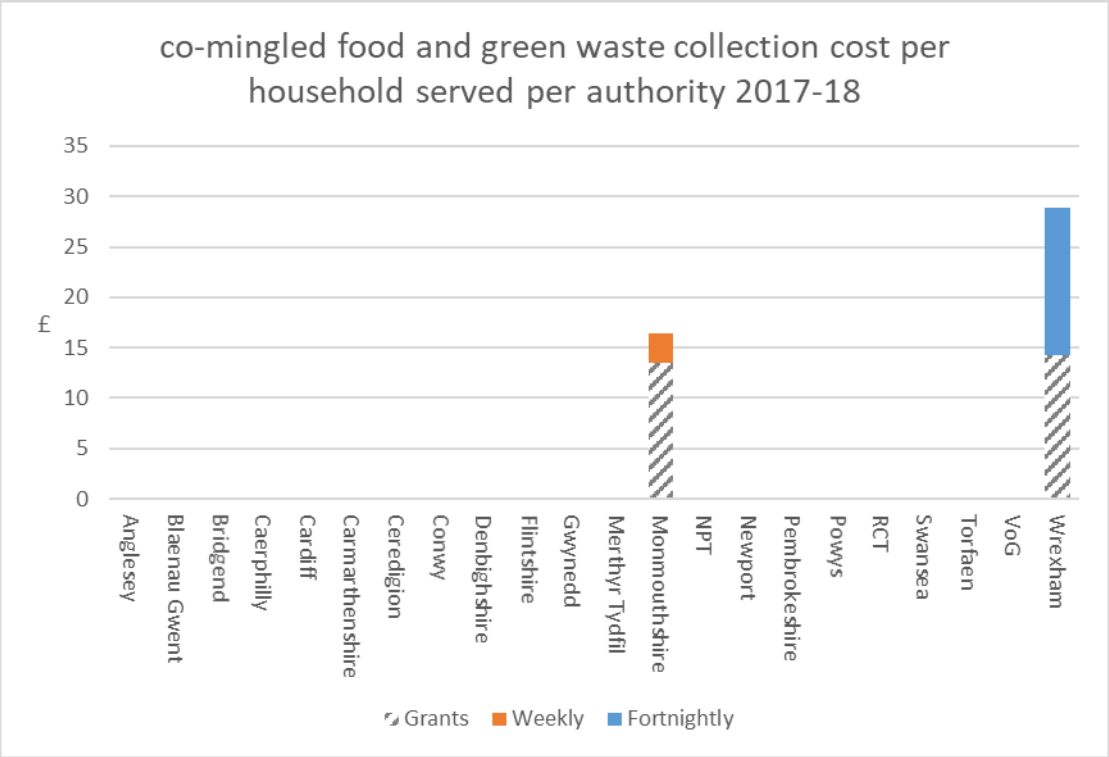


Figure 28 – Combined food and green waste collection cost per household served.

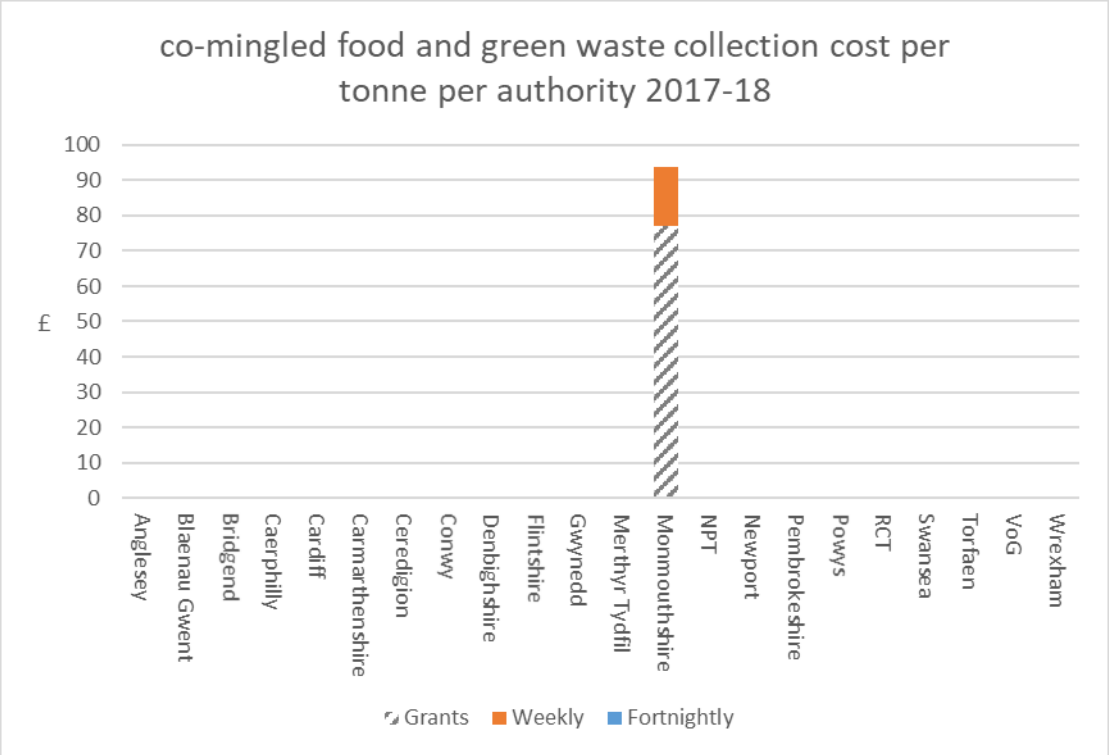


Figure 29 – Combined food and green waste collection cost per tonne

50. It can be seen that for all organic waste services, collection costs are by far the greatest contributor to overall service cost, contributing to 71% of the total service cost. It is also important to note that Monmouthshire and Wrexham collect food and green waste co-mingled although in Wrexham the 2 streams are kept separate for treatment.

Treatment Costs

51. 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

52. The food waste treatment cost is shown in Figure 30 (cost per household served) and Figure 31 (cost per tonne collected).

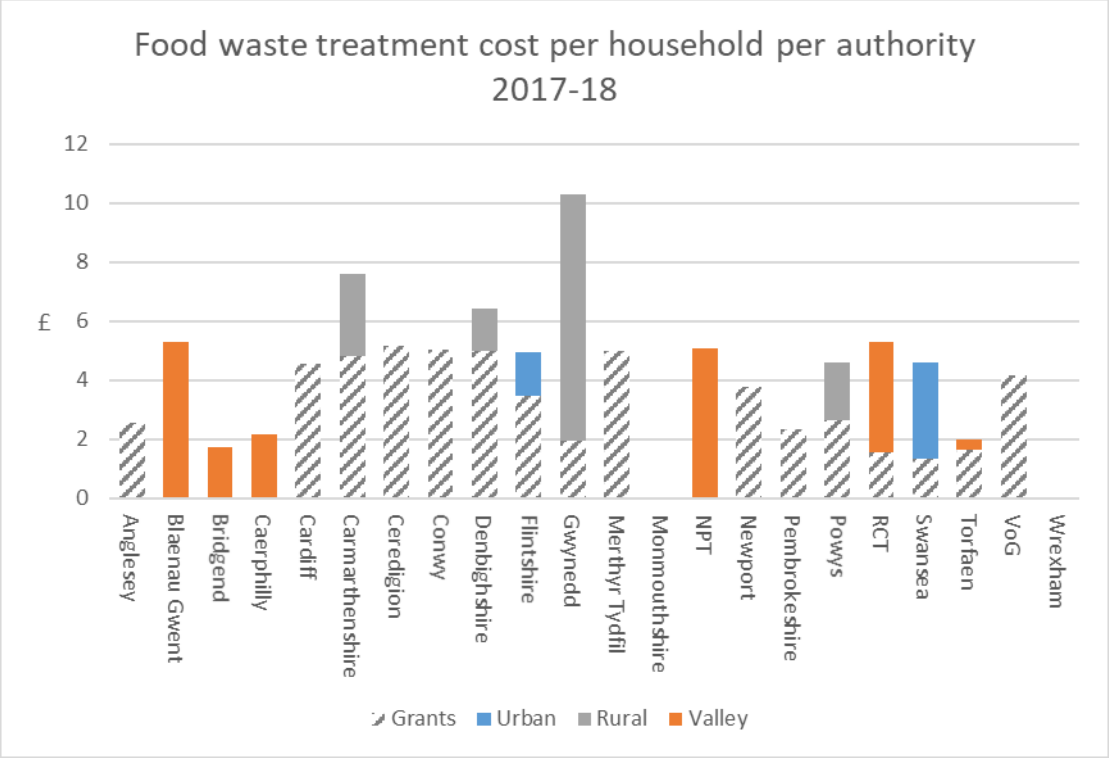


Figure 30 – Food waste treatment cost per household served.

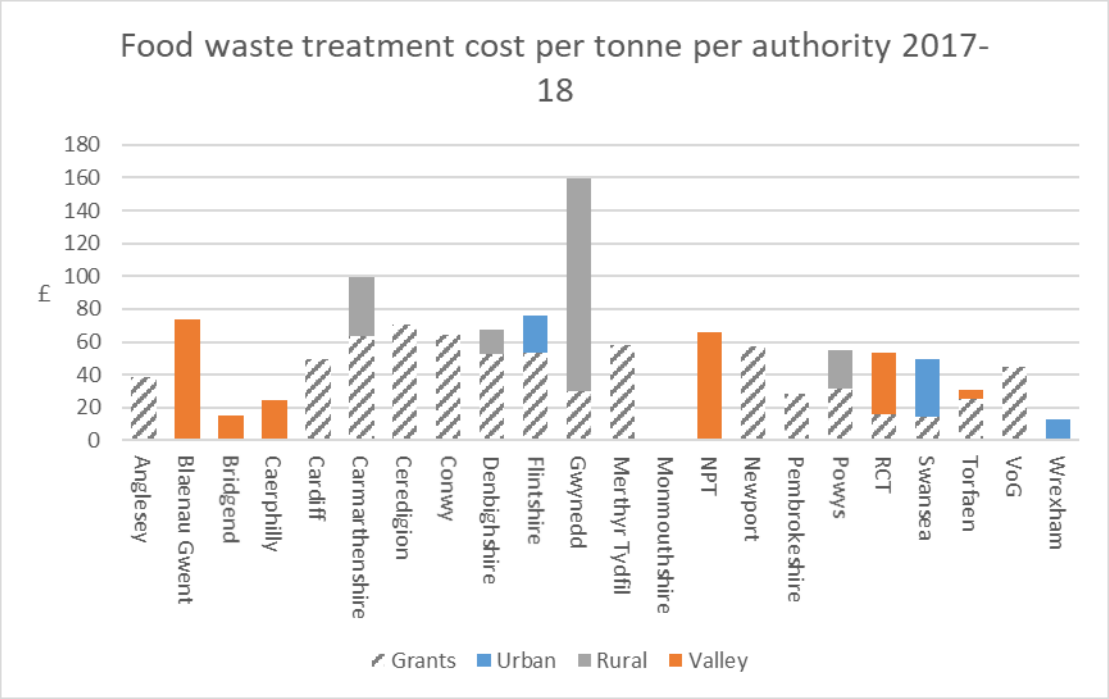


Figure 31 – Food waste treatment cost per tonne

Separate green waste

53. The green waste treatment cost is shown in Figure 32 (cost per household served) and Figure 33 (cost per tonne collected).

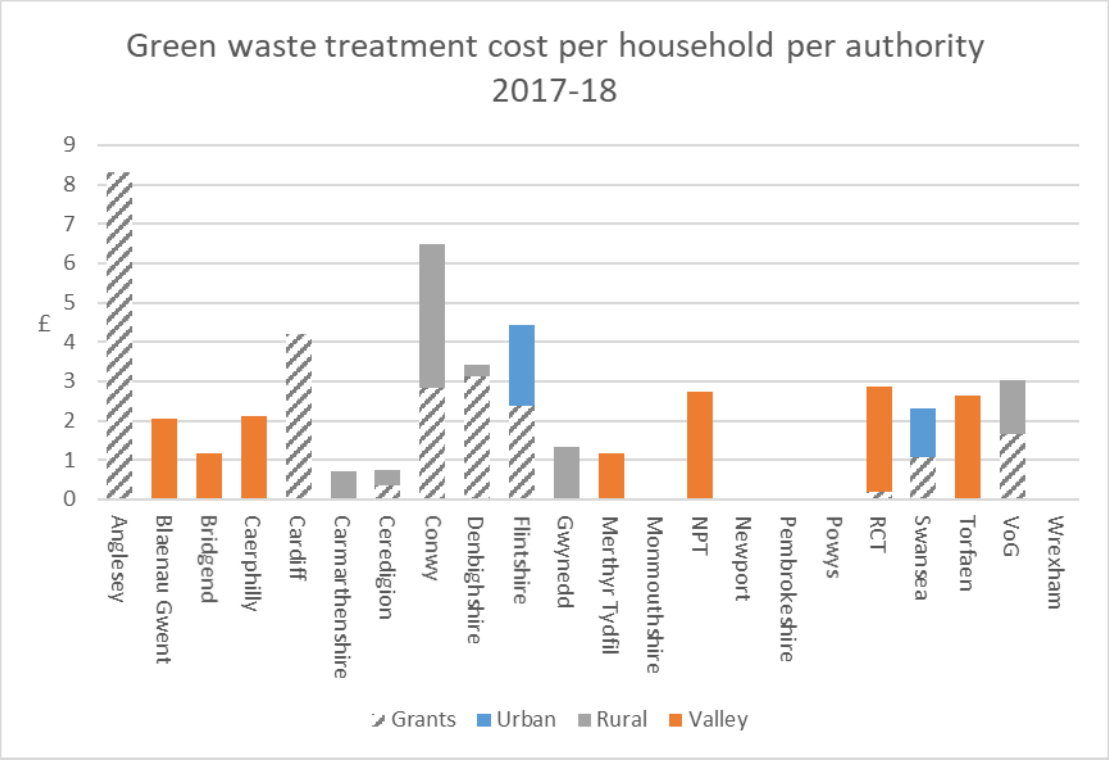


Figure 32 – Green waste treatment cost per household served.

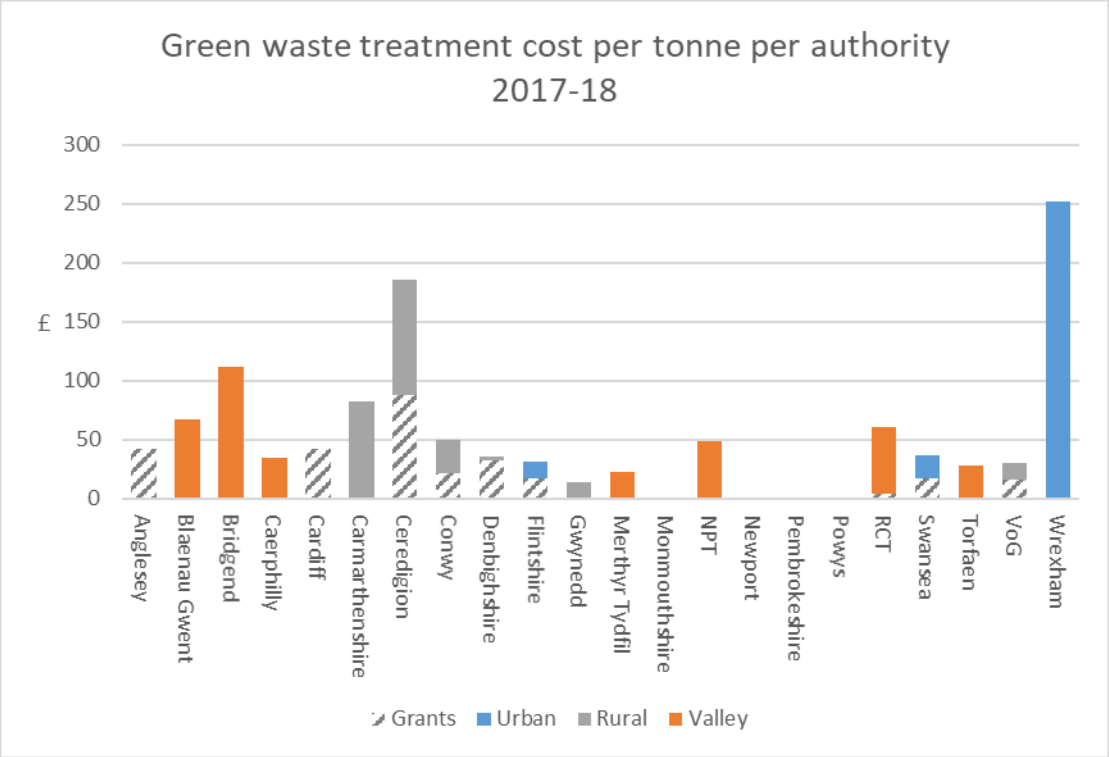


Figure 33 – Green waste treatment cost per tonne

54. Wide variation exists across the group for green waste treatment costs, mainly due to the variation in tonnage collected between LAs. The group average is £50 per tonne.

Combined food and green waste

55. Treatment Costs for authorities collecting food and green waste fractions together are shown in Figure 34 (cost per household served) and Figure 35 (cost per tonne collected).

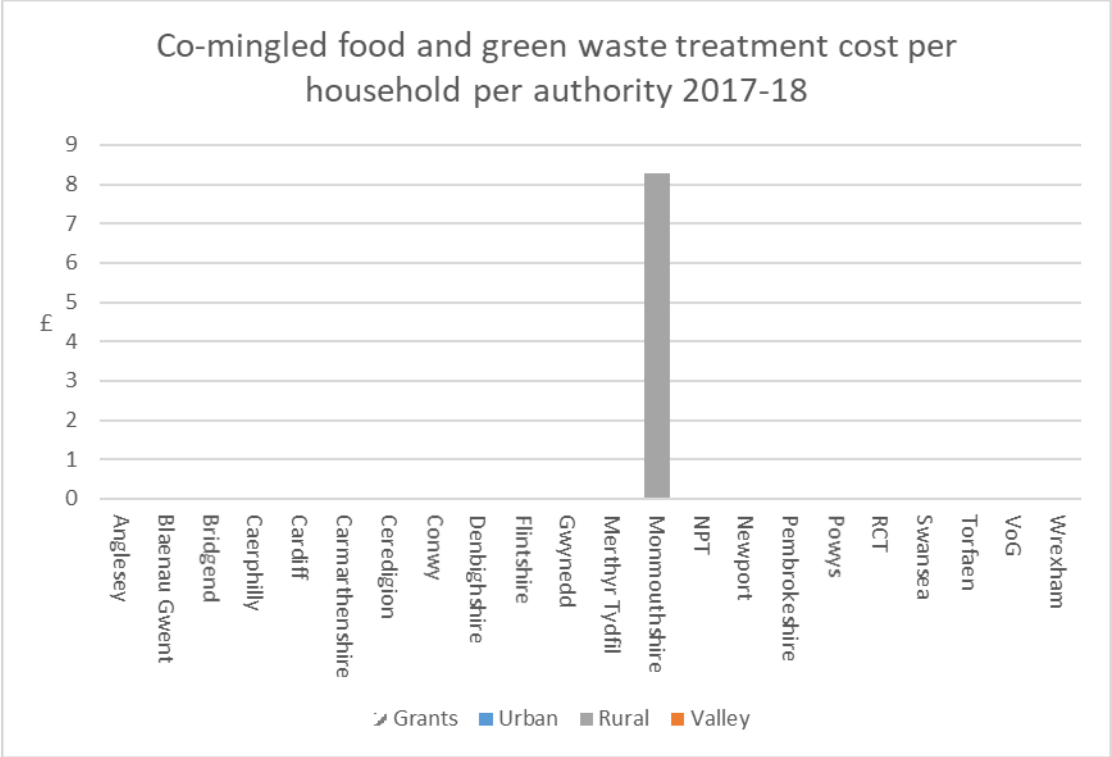


Figure 34 – Combined food and green waste treatment cost per household served.

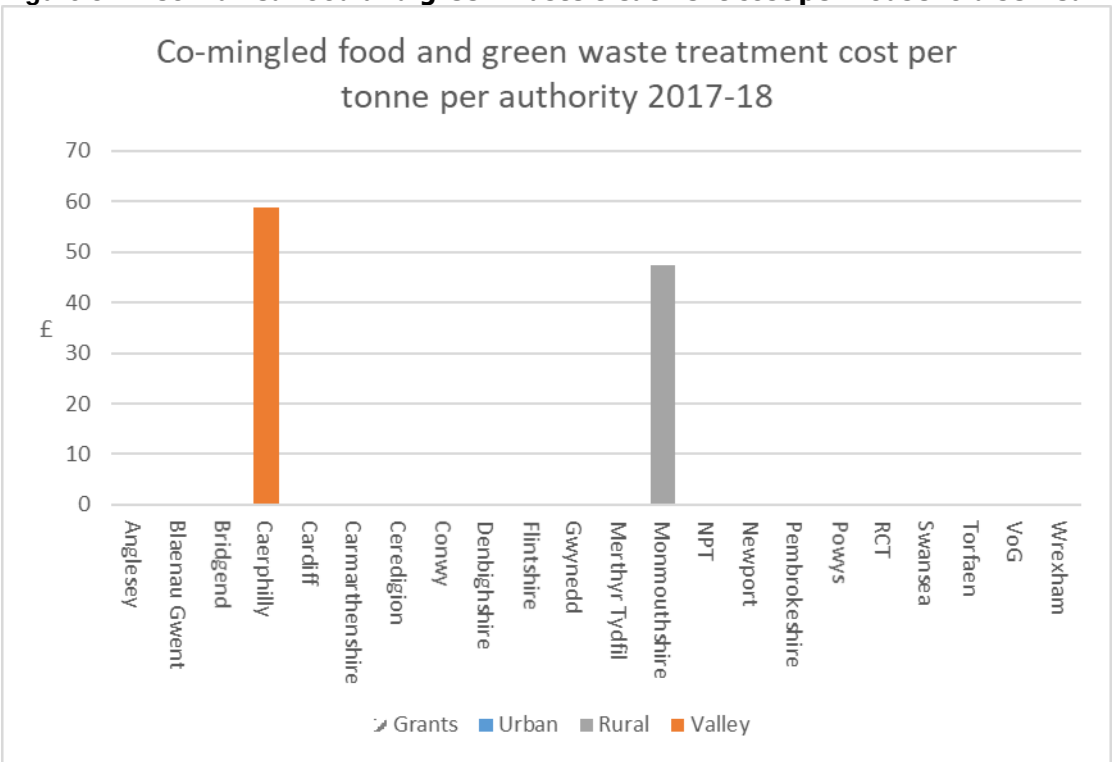


Figure 35 – Combined food and green waste treatment cost per tonne

Transfer, disposal and Income

56. 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.

Combined kerbside recycling & composting services

57. 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.

58. Figure 36 and 37 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.

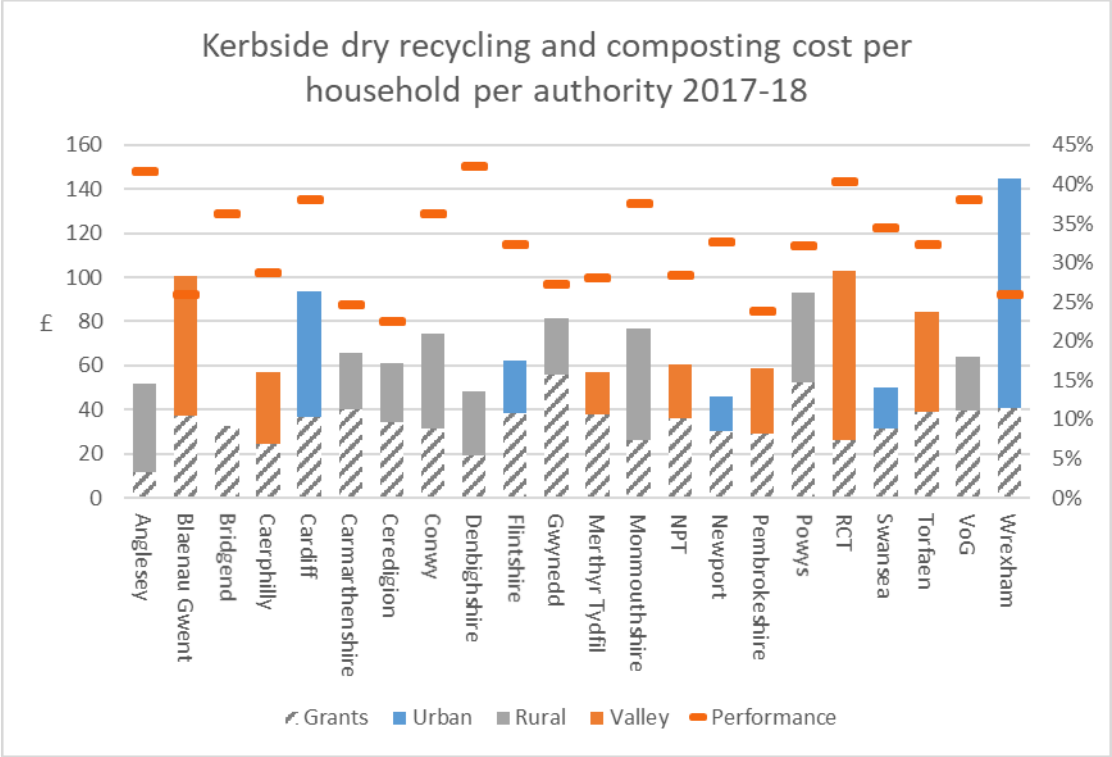


Figure 36 – Kerbside recycling and composting services – per household

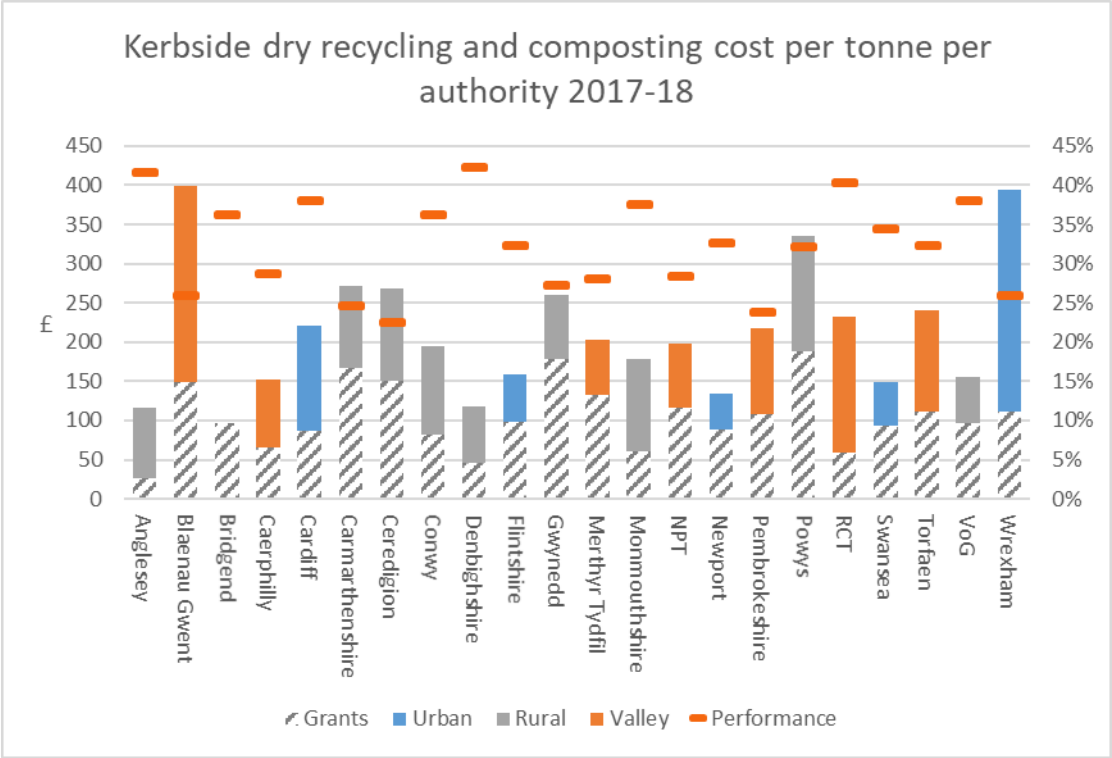


Figure 37 – Kerbside recycling and composting services – per tonne

59. 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 a group median of £63.08, a drop of £4.46 per hh from 2016/17. Performance also varies across the group with between 22% and 42% of total MSW diverted via kerbside collection of material. Most local authorities range between £51.70per HH - £102.80per HH.

Residual Waste

60. The charts below show the aggregate cost of providing collection, transfer, treatment and disposal of residual waste. They show service costs net of any income (where applicable).

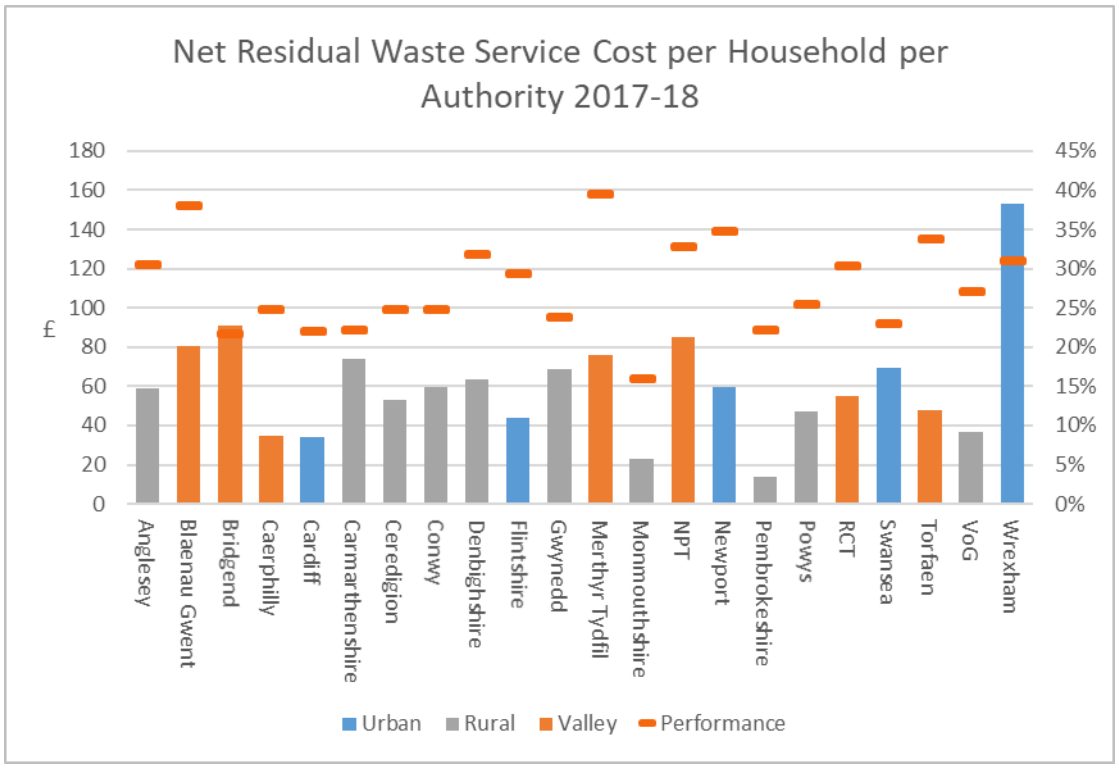


Figure 38 – Residual waste service cost per household

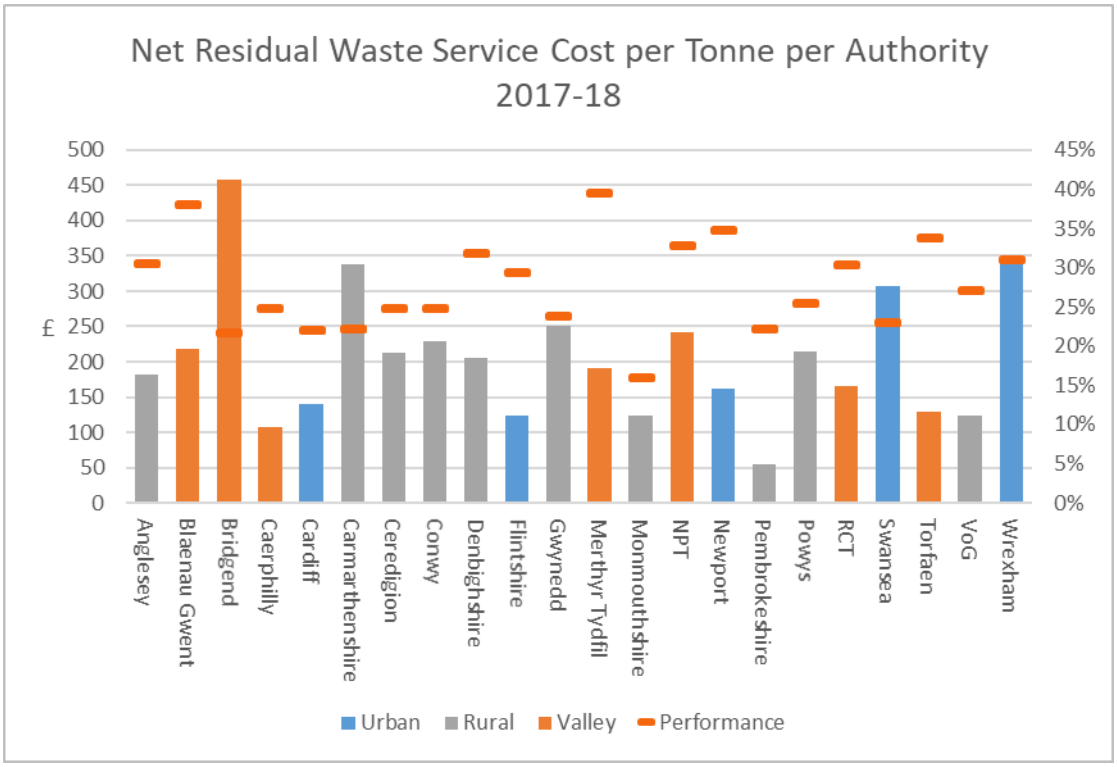


Figure 39 – Residual waste service cost per tonne

61. Performance data shows the proportion of MSW collected from the kerbside that is residual waste. 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 that is residual is one of the lowest across the group.

62. From the core data it is also possible to compare 2017/18 overall residual waste service expenditure with that of 2016/17:

	16/17	**17/18**	**% change**
Residual waste	£84,753,568	£83,799,039	-1.1%

63. 2017/18 saw a decrease in residual waste service costs, with net expenditure decreasing by almost £1m when compared to the previous year. In 2017/18 residual waste collected decreased by 14,230t. In 2017/18 all 22 Welsh authorities collected residual waste on at least a fortnightly basis, with Conwy trialling 4 weekly collections.

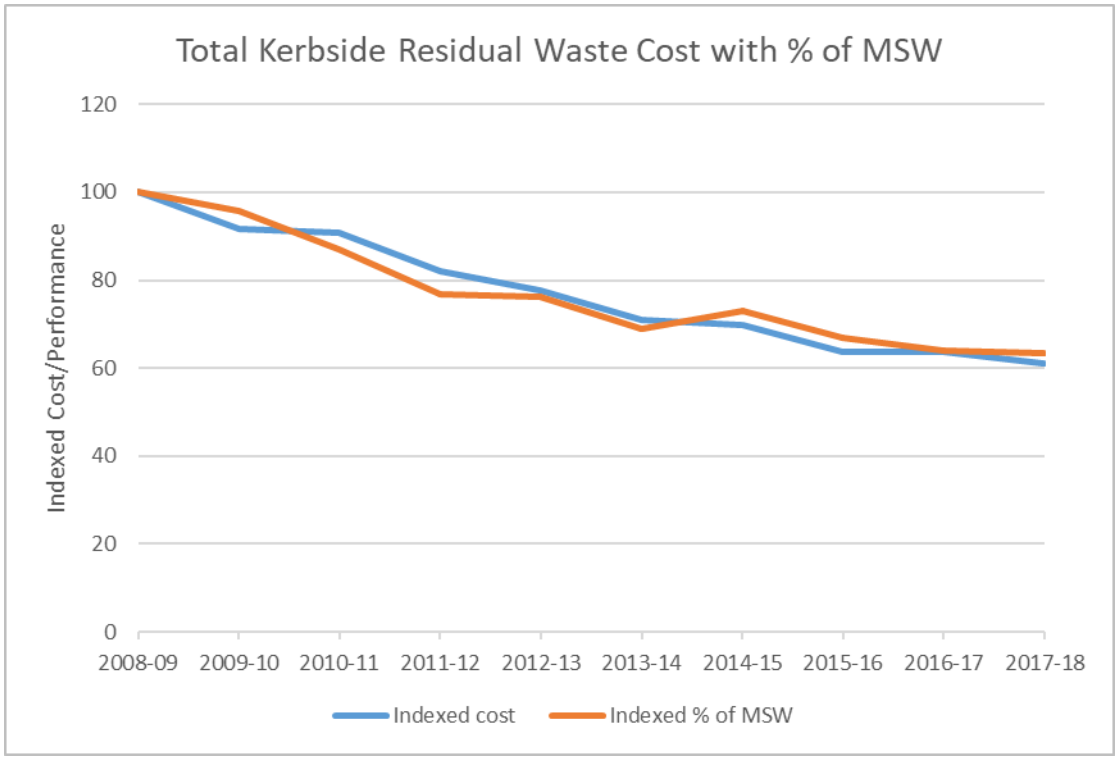


Figure 40 – Kerbside residual waste cost since 2008/09

64. The trend over the last nine years is shown in Figure 40. It can be seen that residual waste collection costs have dropped significantly since 2008/09 and continues to fall. However since 2015/16 the rate of fall is decreasing. This is likely to be linked to the plateauing of recycling performance.

Collection costs

65. The following graphs show residual waste collection costs.

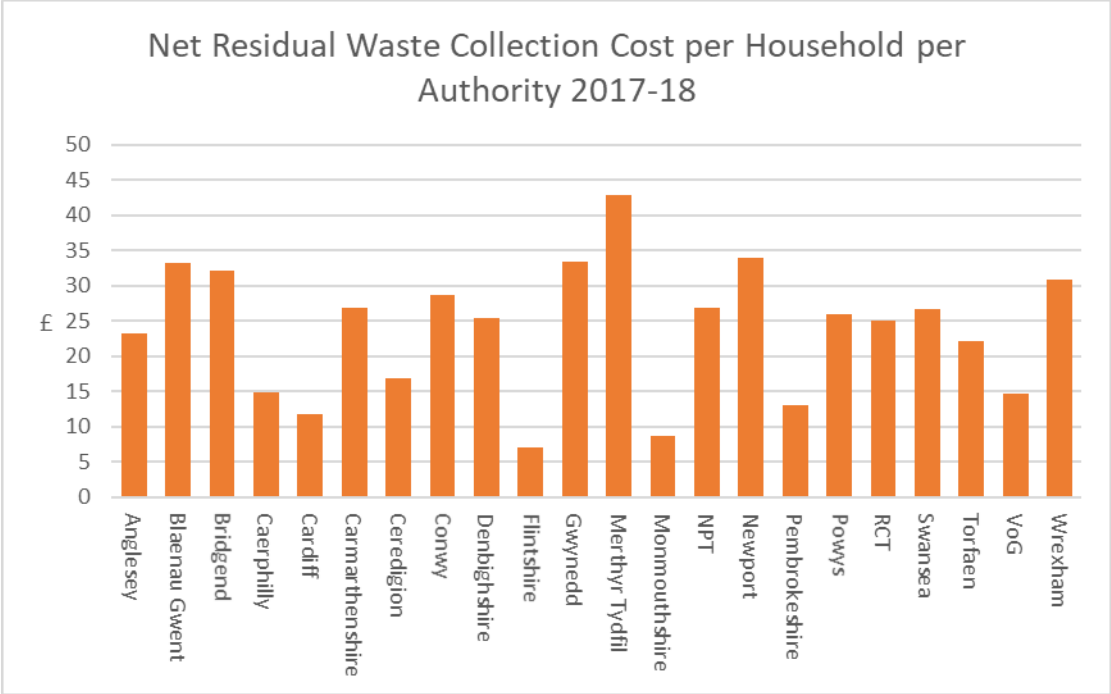


Figure 41 – Residual waste collection cost per household

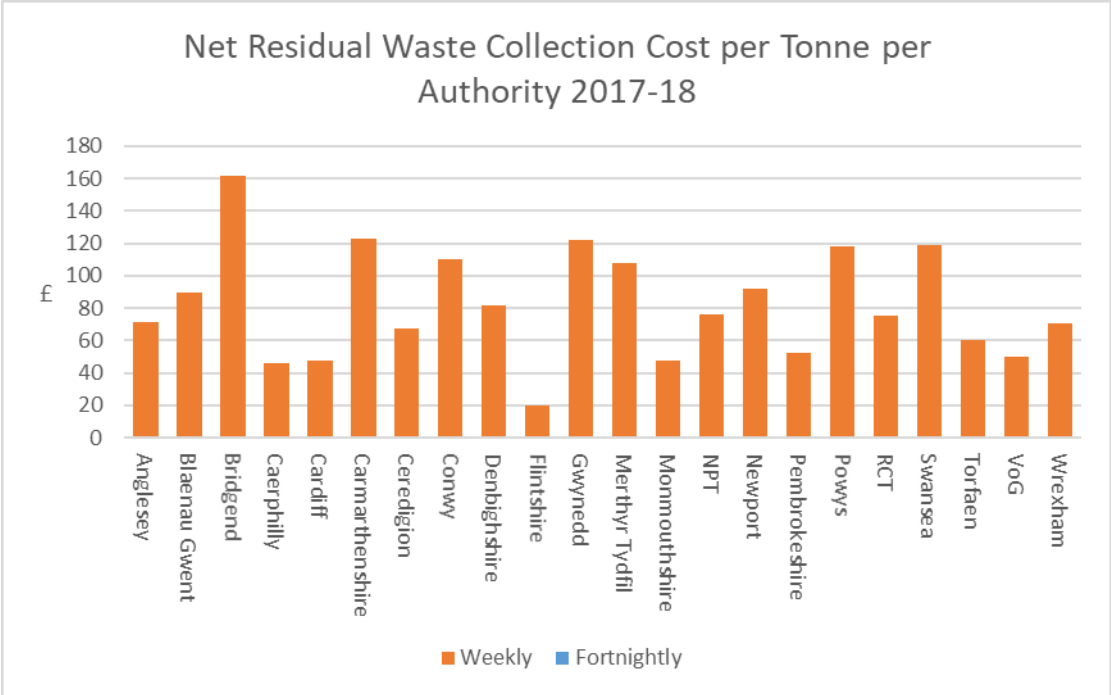


Figure 42 – Residual waste collection cost per tonne

Transfer costs

66. A significant number of authorities are required to transfer residual waste collected prior to onward treatment or disposal. Costs incurred are shown in Figure 43 and 44.

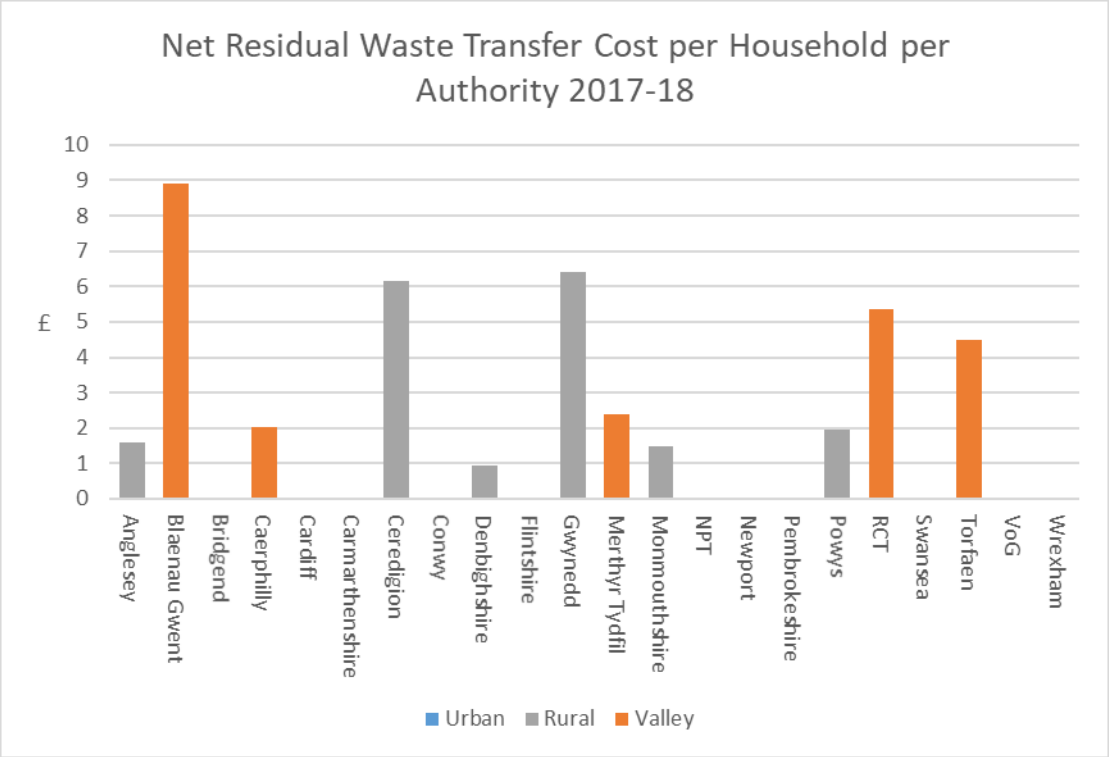


Figure 43 – Residual waste transfer costs per household

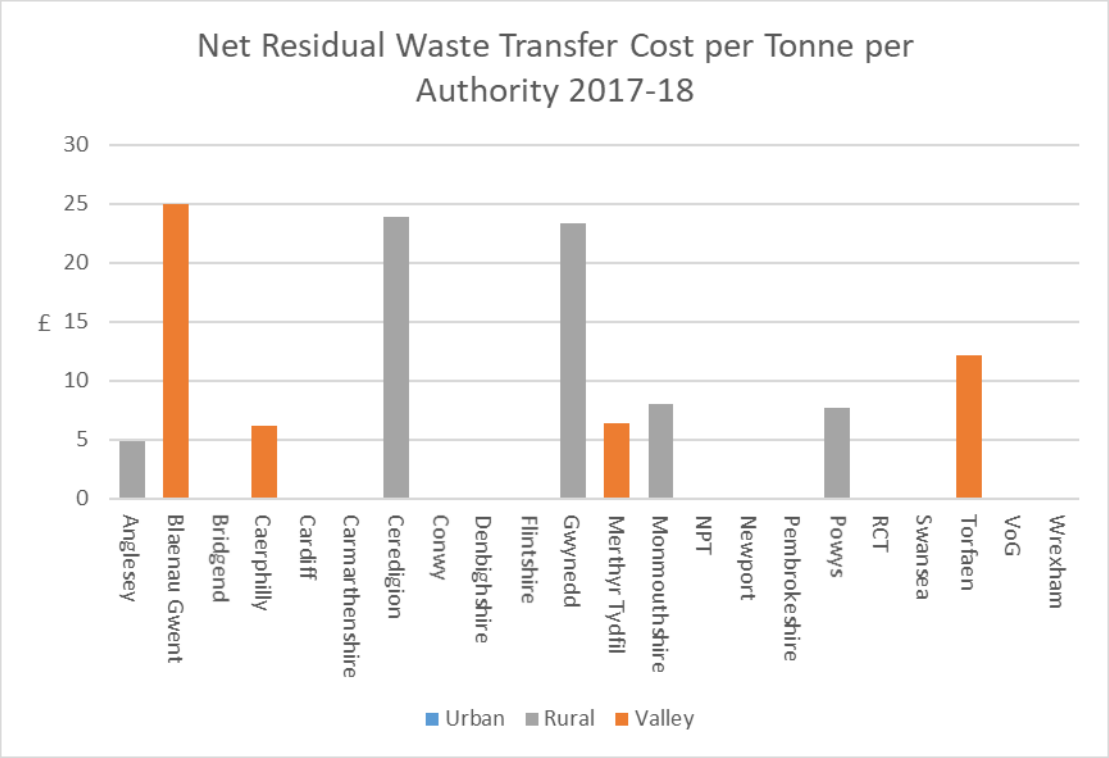


Figure 44 – Residual waste transfer cost per tonne

Treatment / processing costs

67. A growing number of authorities are adopting treatment technologies for managing their residual waste. Those authorities which exhibit treatment costs are shown in Figure 45 &46.

68. The cost of treatment or processing waste is shown. At present 17 authorities incur costs for treatment of residual waste at a combined net cost of £34.9m. Treatment costs have increased by £1.2m from £33.7m in 2016/17 to £34.9m in 2017/18. In some cases not all residual wastes are treated. 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.

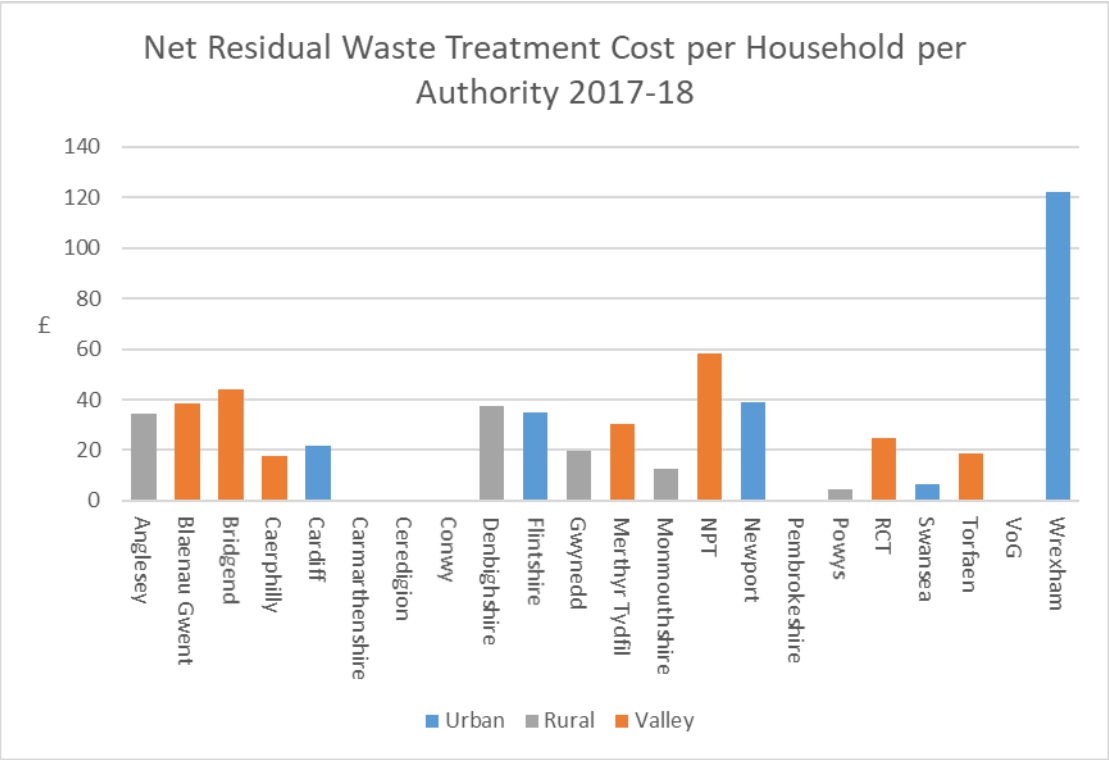


Figure 45 – Residual waste treatment cost per household

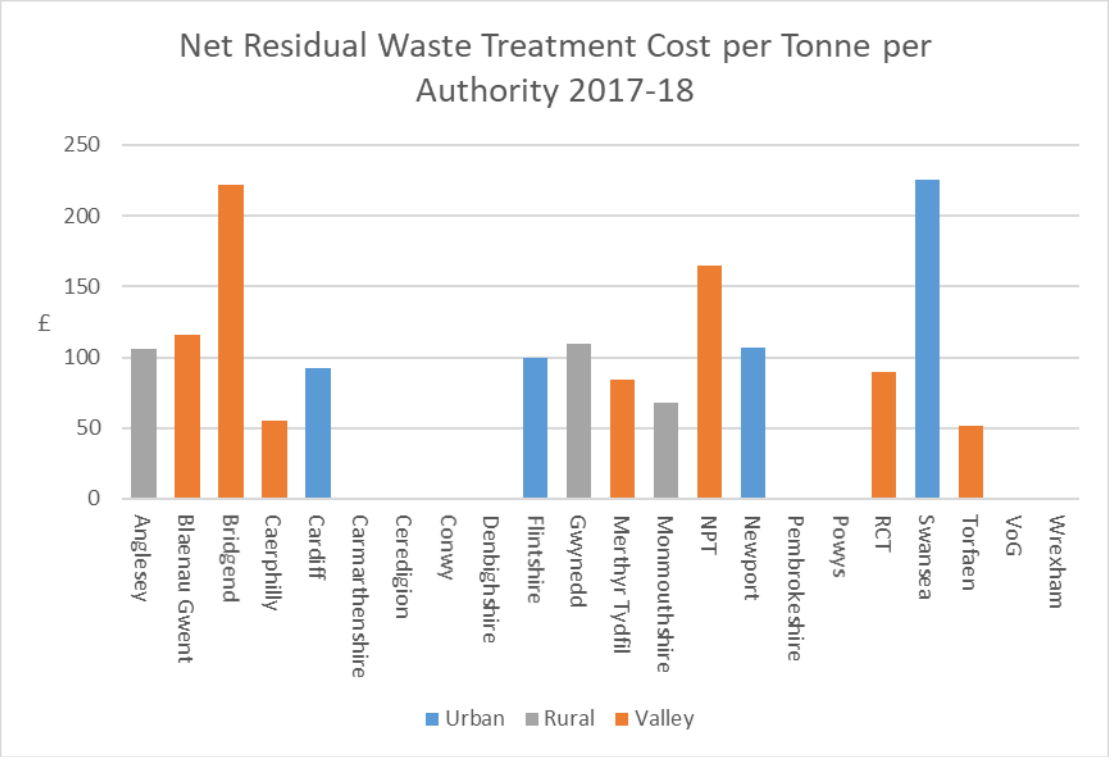


Figure 46– Residual waste treatment cost per tonne

Disposal

69. Figure 47 & 48 show 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.

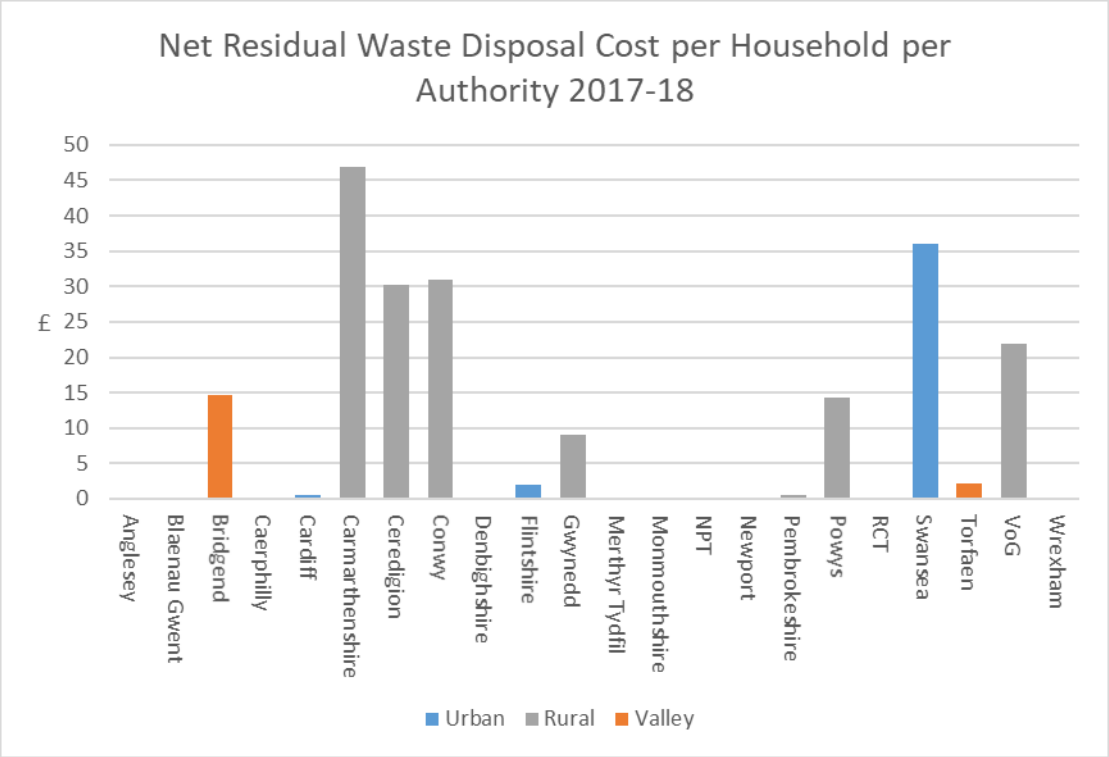


Figure 47 Disposal cost per tonne of Residual waste

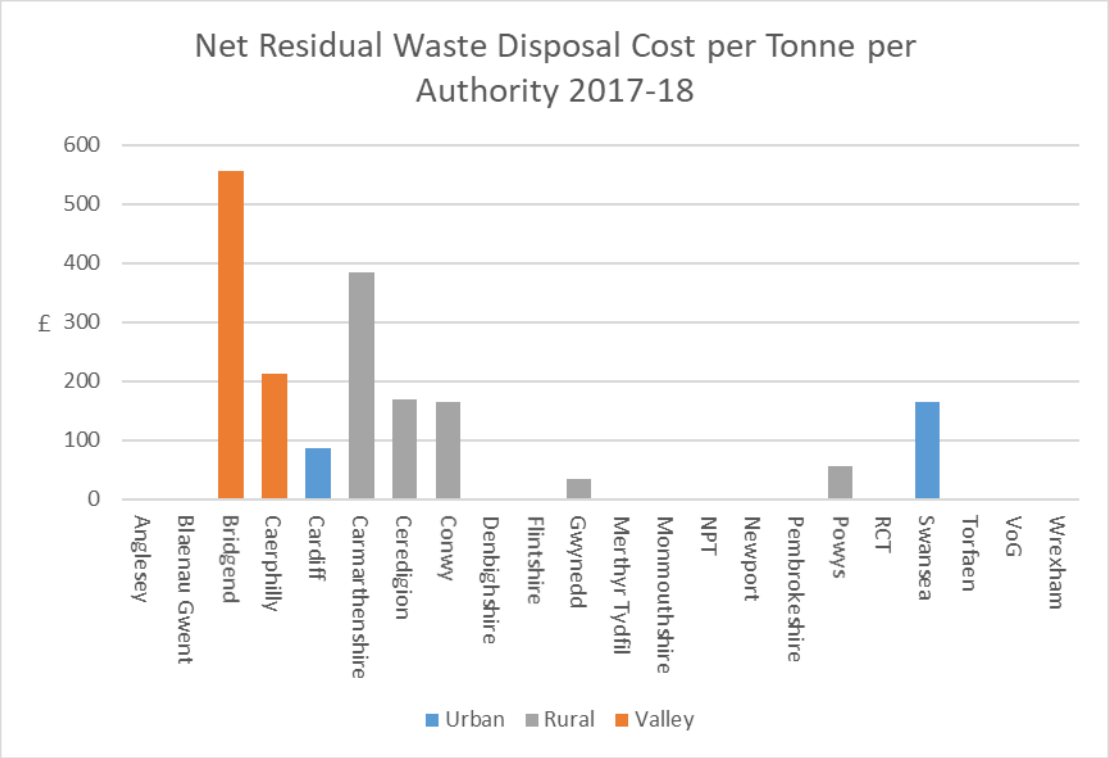


Figure 48 Disposal cost per tonne of Residual waste

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.

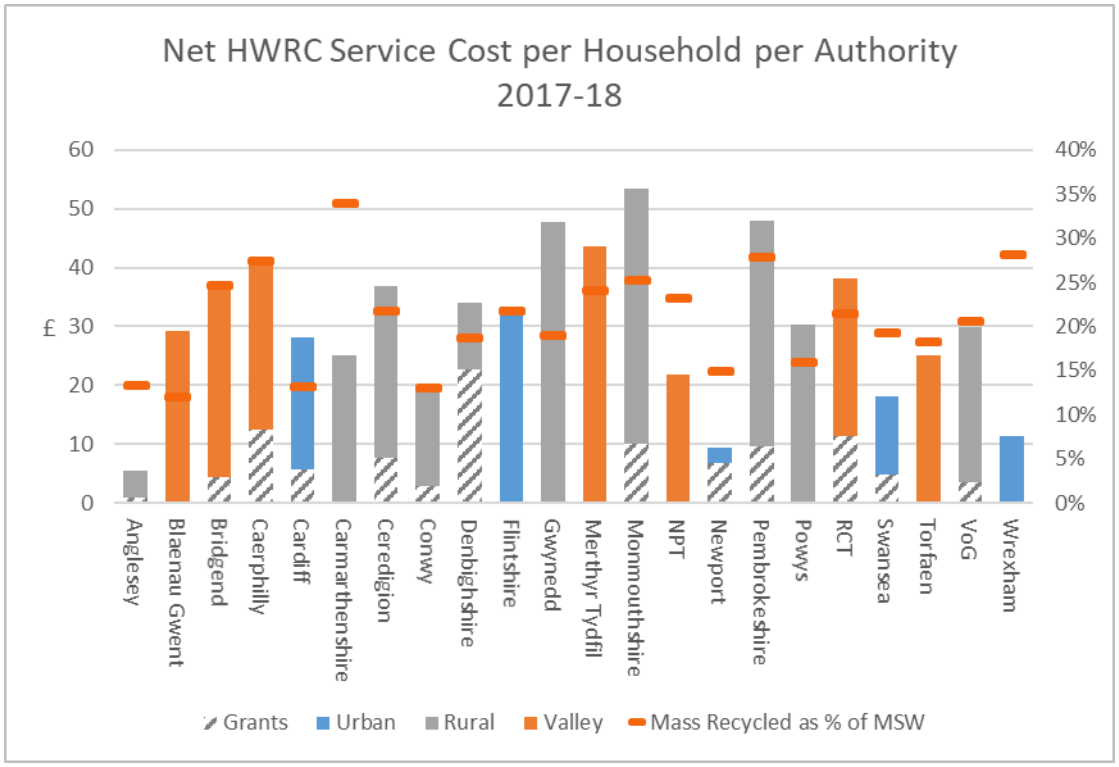


Figure 49 – HWRC site service cost per household

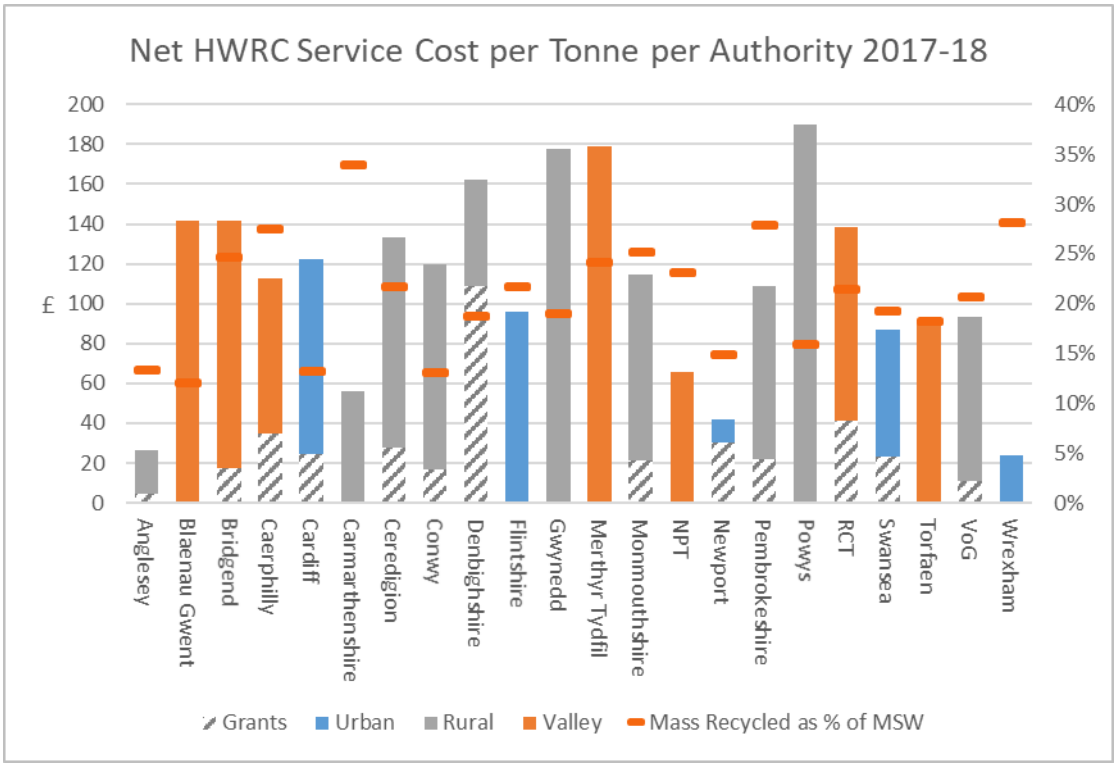


Figure 50 – HWRC service cost per tonne

71. Performance data indicates that contribution made by HWRCs to overall recycling rates can be considerable. In the case of Carmarthenshire, Pembrokeshire, Wrexham and Monmouthshire 25% or more of total MSW is recycled via HWRCs. Once again, divergence between cost and performance bars is likely to indicate a more efficient service. Wrexham, where cost per household and cost per tonne indicators are around the lowest of authorities, yet with 28% of total MSW recycled through HWRC site network, they are amongst the highest performing authorities. 2017/18 shows an increased variation in the contribution to recycling performance with authorities ranging from 12% to 34%.

72. From the core data it is possible to compare 2016/17 overall HWRC service expenditure with that of 2016/17:

	16/17	17/18	% change
HWRC	£43,226,539	£42,364,126	-2.0%
Grant (SRG)	£7,395,356	£7,064,027	-4.5%

73. It can be seen that expenditure on HWRCs decreased in 2017/18 which was likely due to closure of 3 sites and a 3% reduction in throughput of both recycling and residual waste. However during this time the proportion of MSW received at HWRC has remained unchanged at 31% since 16/17.

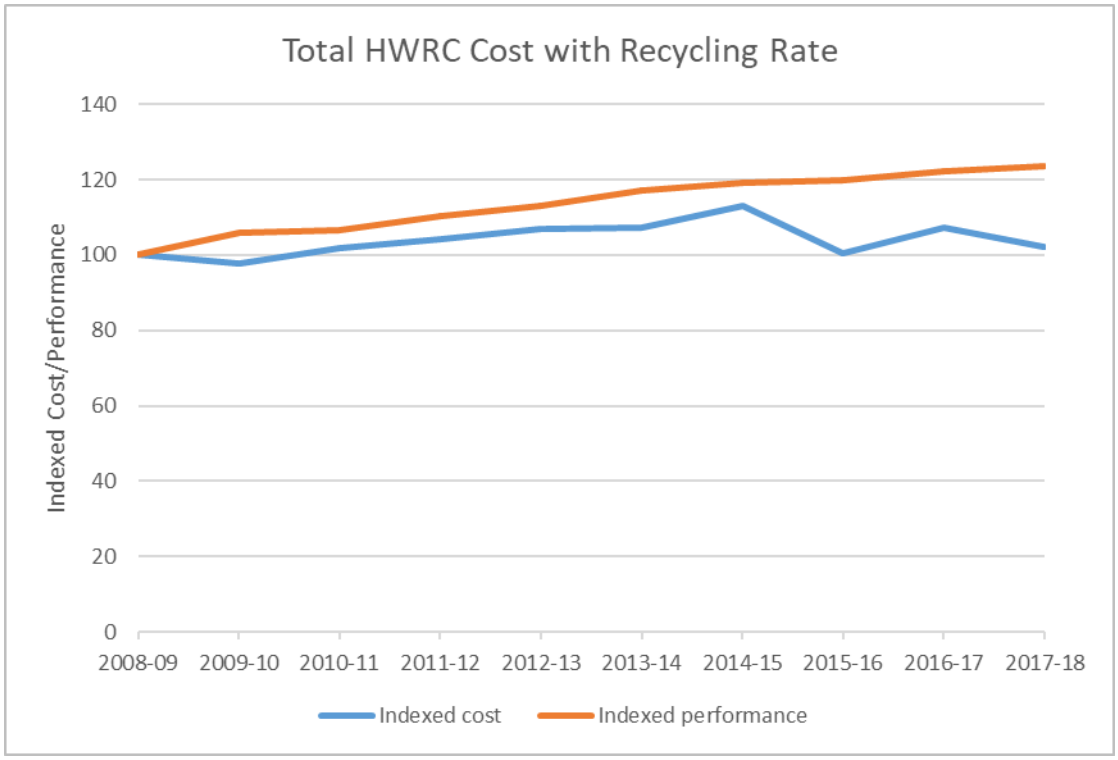


Figure 51 – HWRC site expenditure since 2008/09

74. Over the longer term, it can be seen that expenditure in 2017/18 is very close to the 2008/09 baseline. The 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 52) and by mass collected (Figure 53).

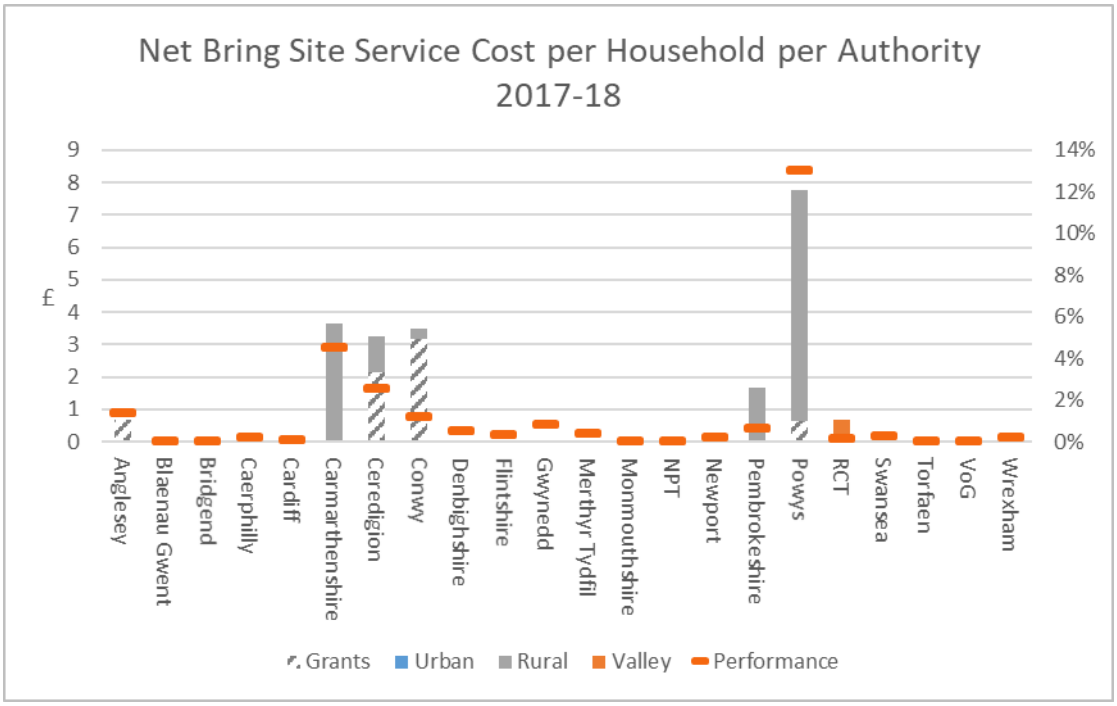


Figure 52 – Bring site costs per household

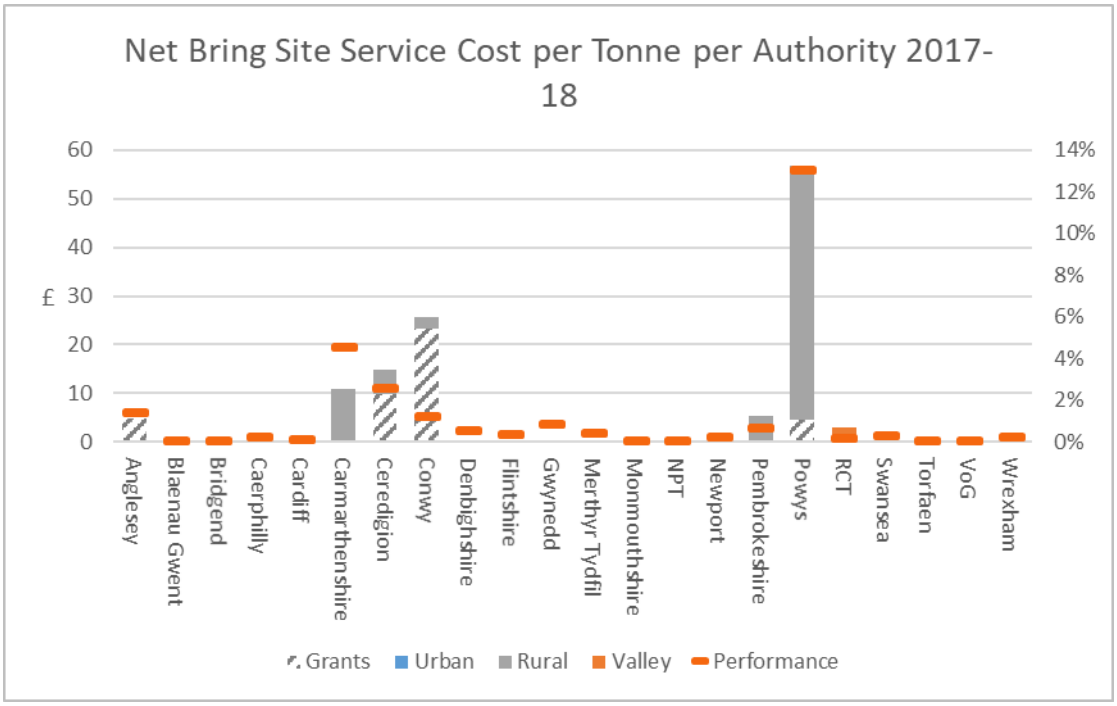


Figure 53 – Bring site costs per tonne

76. It can be seen that both cost and performance vary widely across group. This largely reflects the differening levels of provision across authorities. However in some cases the costs of collecting these waste are included by other services such as HWRC.

77. From the core data it is possible to compare 2017/18 overall Bring site service expenditure with that of 2016/17:

	16/17	**17/18**	**% change**
Bring	£1,419,204	£1,335,542	-5.9%
Grant	£451,427	£329,624	-27%

78. It can be seen that bring site expenditure decreased by nearly 6%. In 2017/18 authorities allocated less grant to bring site services, a decrease of 27%. During the same period, mass collected via the bring site network reduced by 2,933 tonnes (15%) continuing a longer term trend.

79. It is likely that mass of material collected via bring site network is reducing due to comprehensive kerbside collection systems and it is likely the number of sites will decrease due to high levels of contamination in recycling from bring sites. However Bring sites do continue to make a significant contribution to recycling rates for some authorities. Powys and Carmarthenshire collected 5% and 15% of MSW respectively from Bring sites.

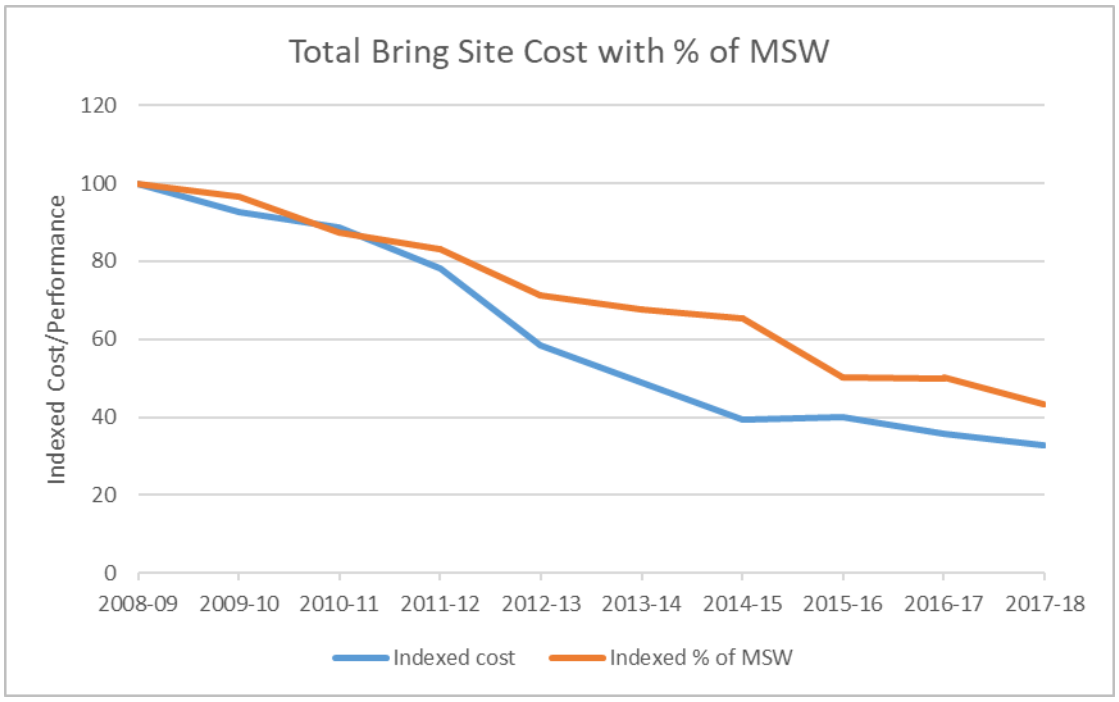


Figure 54 – Bring site expenditure since 2008/09

80. 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 55 shows the total trade waste service cost (net of income).

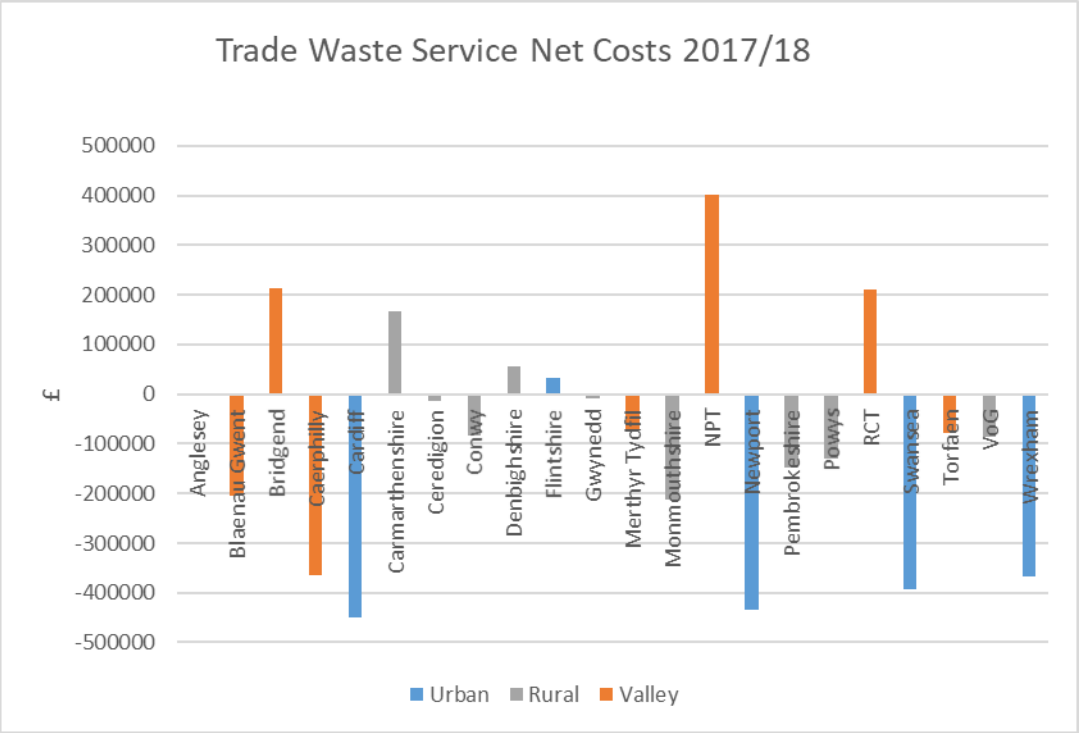


Figure 55 – Trade waste service cost[9]

81. Some 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. All but 6 authorities operate a surplus where income received exceeds expenditure.

Nappy and other AHP Collections

82. Currently eight authorities provide a collection service for nappies and other AHP that is separate from residual waste and other hygiene/clinical collections; six of these authorities send the waste to be treated. Costs per tonne associated with such services are shown in Figure 56. Cost per tonne remains high and varies significantly from £21.97per tonne -

[9] More detailed information on Trade Waste services can be obtained from the Trade Waste Benchmarking Group which is facilitated by Waste Improvement Programme.

£1,158per tonne. Variation in costs could be due to a number of factors including; staff and vehicles dedicated to the service, haulage costs, tonnages collected, in house versus contractor service costs etc.

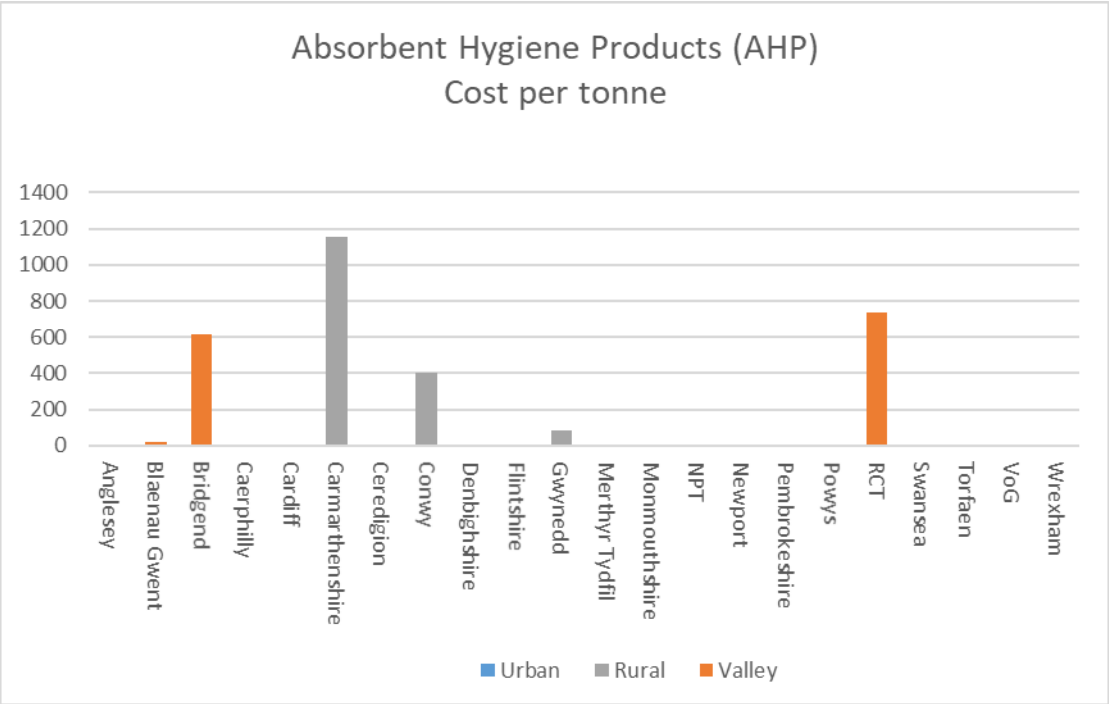


Figure 56 – Nappy/Absorbent Hygeine Products (AHP) Cost per tonne

Clinical Waste

83. Nine authorities provided clinical waste collection and these costs are included in Figure 57. These costs include clinical waste collections on behalf of Local Health boards as well as other separate hygiene collections.

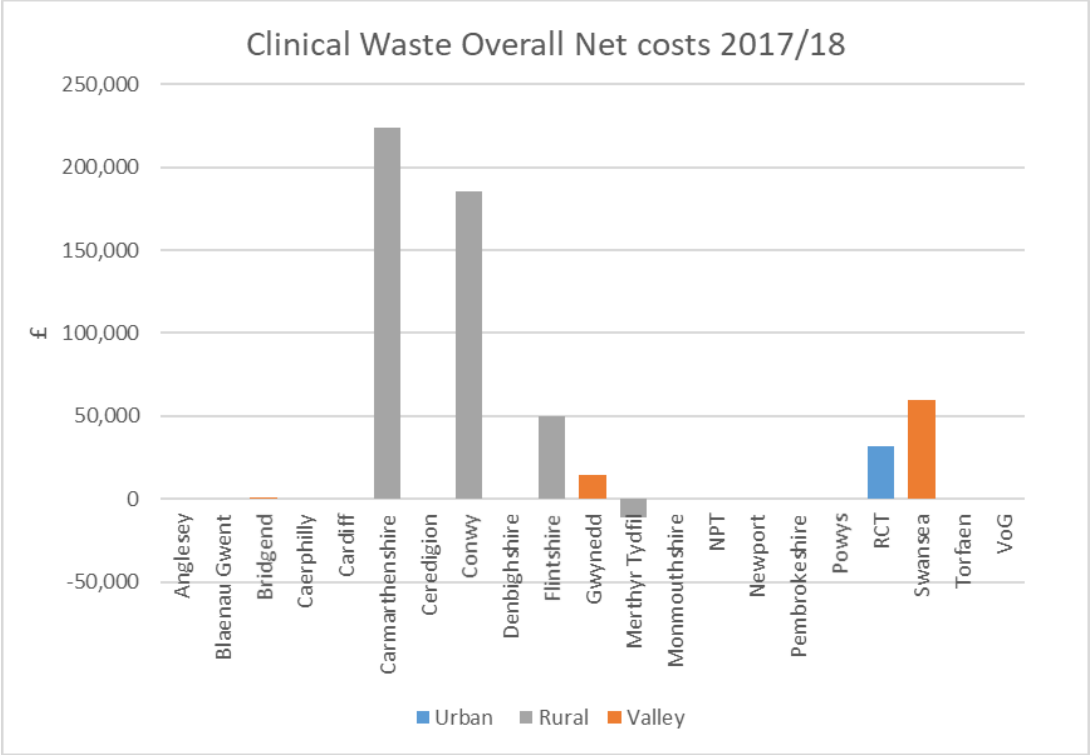


Figure 57- Clinical waste Costs

The Next Stage – Improvement Groups

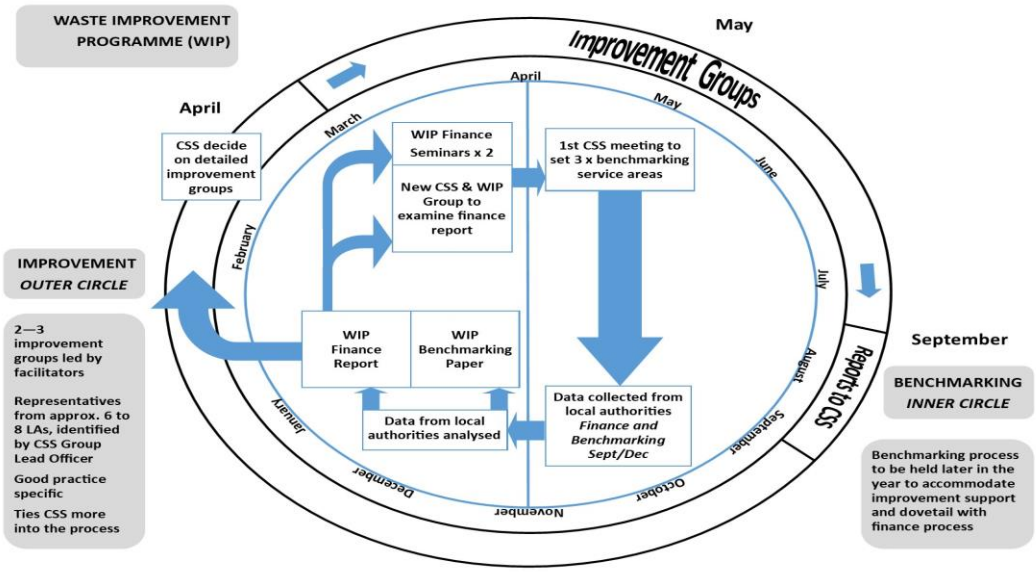
1. The Annual Waste Finance Report is a quantitative report to track expenditure over time. Authorities also receive an individual financial summary report detailing their own authority's Waste Expenditure and their position relative to the other Welsh authorities.

2. These are intended to form the basis for further analysis in the benchmarking work. Shortly after three benchmarking papers will be available to authorities with more detailed analysis of collection costs in the three main waste collection services Residual, Dry Recycling and Food Waste.

3. Following the completion of these reports the improvement phase begins which seeks to use the findings from the data to contribute to service improvement. WIP will facilitate Improvement groups consisting of local authority officers which will meet to consider findings and make recommendations or identify next steps.

4. The aim of this is to utilise the knowledge and experience of LA officers to make recommendations for service improvements. This replaced the previous process whereby the data was used to devise recommendations which were then monitored annually by the Wales Audit Office.

5. This process is illustrated in the diagram below:



6. CSS Heads of Waste met in May 2019 to agree two topics for further analysis by officer groups

    1. Issues with fly tipping data and development of Fly-tipping Enforcement Performance indicator
    2. Consistency and methodology of Finance and benchmarking data

The groups will meet summer 2019 and report back to CSS Heads of Waste in September.