

## **Waste Compositional Analysis, October 2017**

Report of the Chief Officer for Highways, Infrastructure Development and Waste

***Please note that the following recommendations are subject to consideration and determination by the Committee before taking effect.***

### **Recommendation: It is recommended that:**

- (a) this Committee notes the results of the Waste Compositional Analysis;**
- (b) this data is used to inform future behavioural change work and service changes;**
- (c) a waste compositional analysis is carried out every 5 years subject to funding being available.**

### **1. Summary**

This report details the results of the Waste Compositional Analysis carried out on residual waste in October 2017. The results are compared with the analysis carried out in 2012 and recommendations are made with respect to the behavioural change work and the strategy for collection services.

### **2. Introduction**

In 2012 an analysis of the residual waste in 1600 Devon households' dustbins was carried out to inform both the County Council and each District Council where to focus their communications to effect behavioural change; and where to consider service changes to increase recycling rates. Appendix I shows the results of the initial analysis. This formed the evidence base on which to develop behavioural change campaigns, and to target specific materials in specific areas where it had been shown that there was a significant element of that material in the residual bin.

This committee agreed at its meeting on 28 June 2017 to fund a new Waste Compositional Analysis of the dustbins across Devon and Torbay.

The work was carried out by M.E.L. in October 2017. It consisted of an analysis of the residual waste bins of approximately 200 households in each district and Torbay, 1,800 households in all. Samples were taken from the 5 main socio economic groups according to those most prevalent in each district using the ACORN (A classification of residential neighbourhoods) classification. The results are detailed below.

### **3. Key Results**

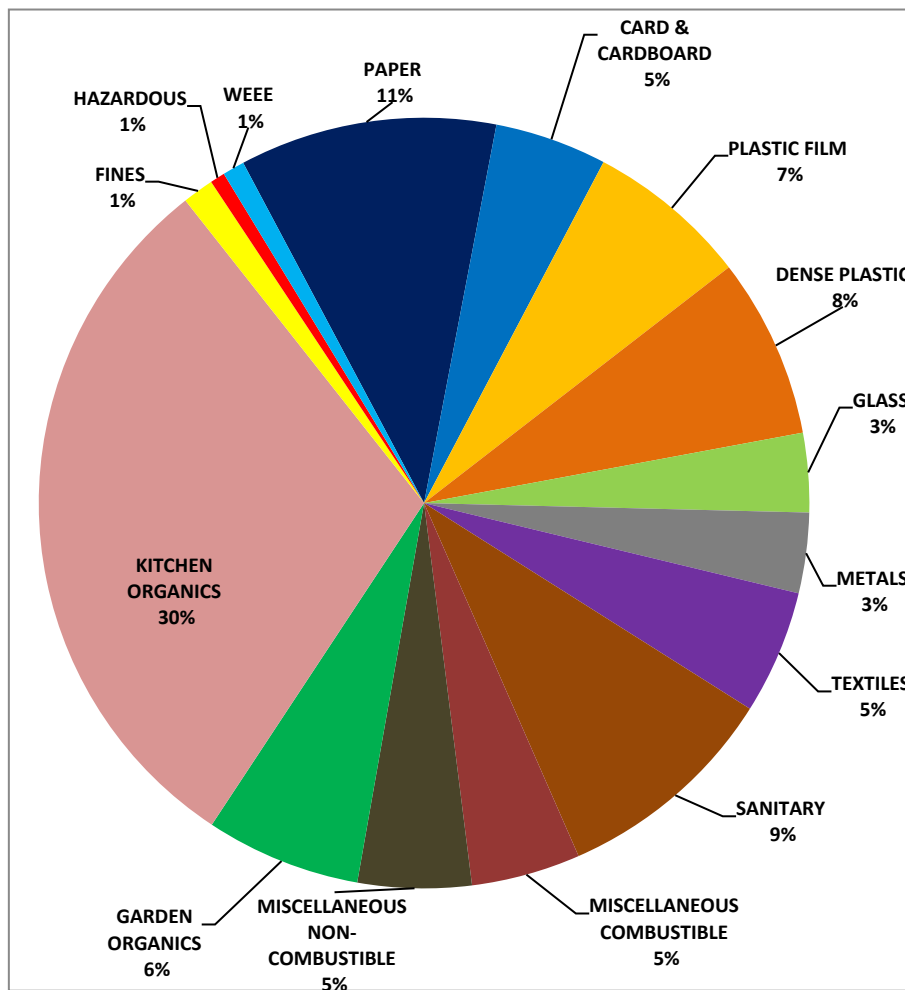
#### **Devon**

The key finding (in terms of the percentage of each material found in the bins) is that there is still a significant amount of food waste in the residual bins. This is particularly evident in Exeter where 47.3% of the bin contents was food, although it should be noted that Exeter do not collect food waste. Across Devon the percentage of food waste varied from East

Devon's 16.2% to Exeter's 47.3% averaging out at 30.1%. Of this, 83.7% was deemed to be avoidable, 14.6% was still packaged and 31.8% was home compostable.

The second most prevalent material was paper (10.8%), followed by sanitary waste (9.5%), mixed plastics (7.6%) and plastic film (6.8%). Chart 1 below shows the percentages for all the materials captured.

**Chart 1 Contents of the residual bins October 2017: Devon**

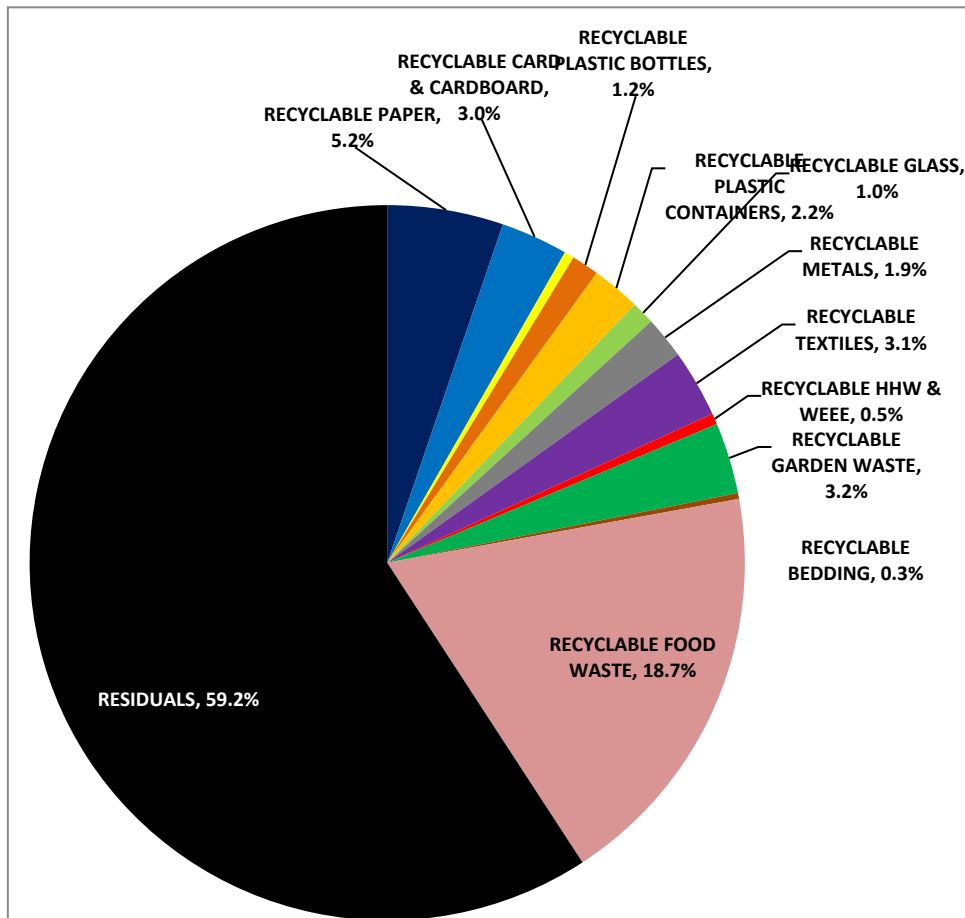


Under the current recycling collection regimes, 40.8% of the contents of the residual bin were found to be recyclable. This is shown in Chart 2. This is the equivalent of 56,000 tonnes of materials. If all Devon householders recycled all of this material, the recycling rate would rise to 71%. Devon is currently 3<sup>rd</sup> in the county recycling league with a recycling rate of 55.7%. Only Surrey and Oxfordshire are ahead on 57.7%.

It is known from recent research by WRAP that only 12% of the UK population get their recycling completely right.

The cost of the 56,000 tonnes going for disposal instead of recycling is approximately £6.7 million. In addition, the potential loss of income from the lost materials (glass, paper, card, metal, textiles and plastic) was more than £1 million.

**Chart 2 Residual waste currently recyclable: Devon**



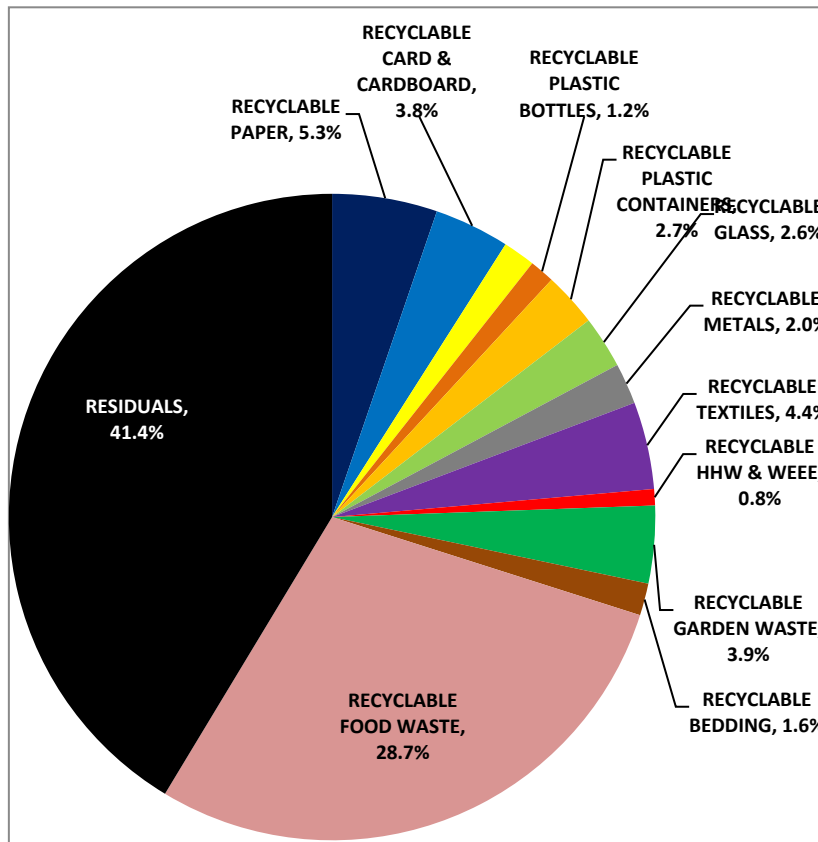
If all councils were to move to collecting a full range of recyclables, providing a weekly food collection, and collecting residual waste fortnightly (the 'aligned' option), it is estimated that as much as 58.6% of the bin contents would be recyclable and if householders recycled all of this material the recycling rate could rise to 78%. This is shown in Chart 3 below.

To achieve this sort of step change will require both a significant investment in communications and changes to some collection regimes towards a full range of recyclable materials and consistent regular collections (i.e. at least fortnightly residual waste, and weekly food and recycling collections).

The Waste Recycling Advisors contract supported by this committee aims to tackle those who are doing little or no recycling, and the Don't let Devon go to waste campaign work is all targeted in an evidence based manner to encourage householders to reduce, reuse and recycle.

Moving towards the aligned option and to collecting a broad and consistent range of materials would reduce confusion amongst householders, allow Devon wide single message communications and lead to increased recycling and reduced costs.

**Chart 3 Residual waste potentially recyclable: Devon**



Charts showing the results for each district can be seen at Appendix IV.

### **Torbay**

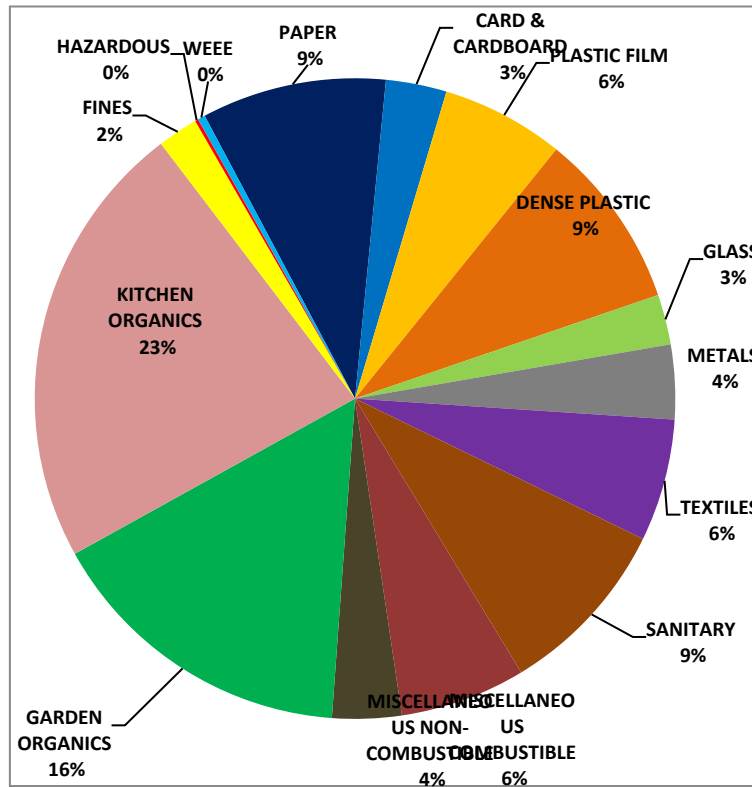
For Torbay food waste was also seen to be the major component of residual waste forming 22.7% of the total, equating to 1.1kg/hh/wk. Of this food waste 9.9% was deemed to be packaged with 30.3% home compostable. 79.5% of all food in the residual waste was deemed to be avoidable.

The second most prevalent material was garden waste which made up 15.8% or 0.77kg/hh/wk of the residual waste.

After this paper made up 9.3%, sanitary 9.1%, mixed plastic 8.9% and plastic film and textiles 6.2% each.

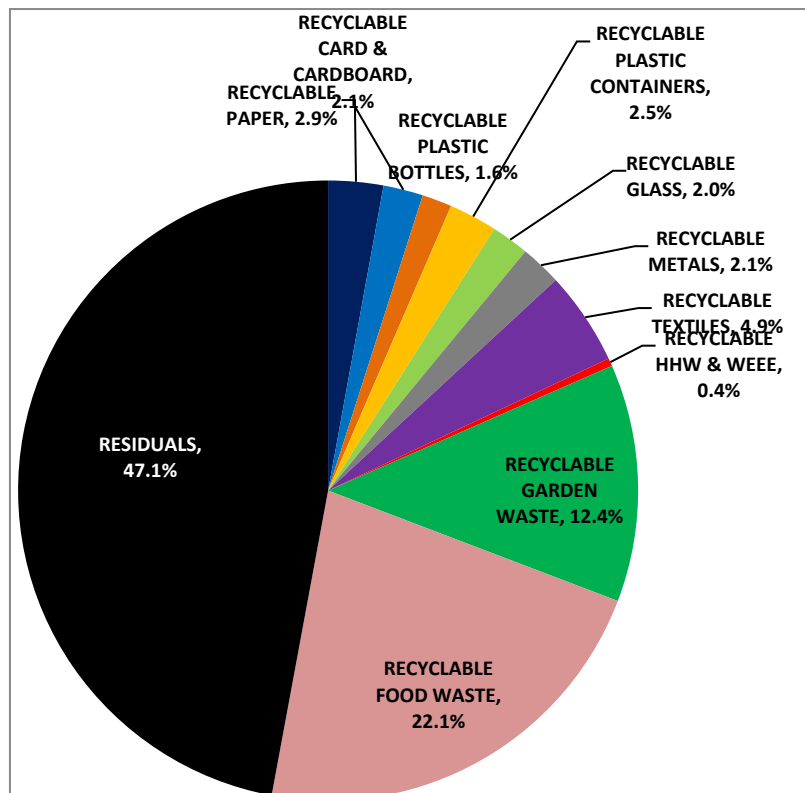
This data can be seen in Chart 4 below.

**Chart 4 Contents of the residual bins October 2017: Torbay**



Under the current recycling scheme 52.9% of the dustbin waste analysed was recyclable. If this was recycled this would increase the recycling rate to 65.7%. Chart 5 below shows this.

**Chart 5 Residual waste currently recyclable: Torbay**



#### **4. Comparison with 2012**

A comparison of the analyses over the 5 years in percentage terms does not give any clearly identifiable trends. Given that the overall recycling rate has been largely static over the 5 years since the previous analysis this is perhaps not surprising.

Nevertheless, there is some evidence to show that those who have made only minor changes to their service have seen an increase in recyclables in the residual waste. Exeter, South Hams and Torridge all have increased paper, card and plastics for example. Whereas those who have made significant changes have shown a reduction in paper (East Devon and Mid Devon), mixed plastics excluding film (East Devon, Mid Devon, North Devon and Teignbridge), glass (East Devon, Mid Devon and Teignbridge), and food (Mid Devon, North Devon, Teignbridge). See Appendix II for a table showing the comparison between 2012 and 2017.

However, comparing the 2012 and the 2017 results in terms of kilogrammes per household per week (kg/hh/wk) gives some positive and interesting results.

For nearly every recyclable material in every district the kg/hh/wk in the residual waste went down between 2012 and 2017. This can be seen in Appendix II. For Devon as a whole the figure went down from 5.94 to 4.94, a reduction of 20%. This is supported by the recent Defra statistics from 2016/17 that showed Devon at the top of the county league table for the kilogrammes of residual waste disposed of per household. This is very good news, highlighting the significant in-roads that have been made into reducing, reusing, recycling and composting household waste. This means reduced costs and also reduced environmental impact of waste management. East Devon showed the greatest reduction in kilogrammes of recyclable waste per household in the residual bin – a huge 62%, followed by South Hams, Teignbridge, North Devon. Only Torridge showed a significant increase, of 39%.

It was not possible to make a comparison for Torbay because they were not part of the 2012 analysis.

Appendix V shows a series of graphs detailing the 5 year comparison of Devon districts. Appendix VI shows progress towards the aligned option.

#### **5. Proposed Actions**

The Don't let Devon go to waste behavioural change work continues to target communications in line with the Waste Prevention and Reuse Strategy which highlights food waste as the most significant material to tackle. Proposals for 2018 include Love Food Hate Waste initiatives, composting clinics, and 'no food waste' bin stickers.

The Government is proposing to publish a new National Waste Strategy for consultation this year and Devon and Torbay will also be reviewing their Waste and Resource Management Strategy.

It is proposed that there will be an element of this devoted to a Food Waste Strategy with policies and actions that promote and follow the food and drink hierarchy and the circular economy for food. (See Appendix III.)

In respect of other materials the authorities will continue to work together on designing behavioural change communications to householders using the new waste compositional analysis data. Each authority will also target communications in relation to specific materials which are shown to be problematic in their area.

In terms of the collection of a full and consistent range of recyclables the authorities are all working towards the aligned option and to collecting the same materials where contracts and operations allow. When contracts come up for renewal authorities are looking at the optimum arrangements to fit with the aligned option, within their economic frameworks.

East Devon has moved to a 3-weekly residual waste collection and it can be seen from the waste compositional analysis that this has made a significant impact on the contents of the residual bin. There has also been a 20% reduction in the amount of residual waste collected. North Devon are currently piloting 3 weekly collections and others are looking at their frequency options.

## **6. Consultations/Representations/technical Data**

The Waste and Resource Management Strategy for Devon and Torbay is being reviewed and will be consulted upon later in the year. This waste compositional analysis will help to shape that Strategy review.

This report is based on the waste analyses carried out by M.E.L. in 2017 and Jacobs in 2012.

## **7. Financial Considerations**

Managing lower waste volumes reduces the cost of waste management. Recycling brings an income for most materials so the message to ensure fewer recyclable materials find their way into the residual bins needs to be communicated to householders in order to keep costs down and deliver potential savings. This requires the support of a spend to save principle based on promoting waste prevention, reuse, recycling and composting thereby reducing the demand for waste disposal. Consequently, behavioural change is fundamental to trying to inform and encourage all residents to recycle as much as they can.

## **8. Sustainability Considerations**

The less waste that is disposed of and the more that is reused, recycled or composted, the better for the long-term sustainability of waste management in Devon and Torbay. This analysis will assist authorities to design communications and collection services to further reduce residual waste and increase recycling.

## **9. Carbon Impact Considerations**

Reduced residual waste and increased recycling will reduce the carbon impact of waste management in Devon and Torbay. The waste analysis results show reduced recyclable materials in the residual waste since 2012 but also highlight the need to focus the Waste and Resource Management Strategy on reducing these further.

## **10. Equality Considerations**

There are no equality issues in relation to this report.

## 11. Legal Considerations

There are no legal issues arising in relation to this report.

## 12. Risk Management Considerations

There are no risk management issues arising in relation to this report.

## 13. Public Health Impact

There are no public health issues arising in relation to this report.

Meg Booth  
Chief Officer for Highways, Infrastructure Development and Waste

## Electoral Divisions: All

Local Government Act 1972: List of Background Papers

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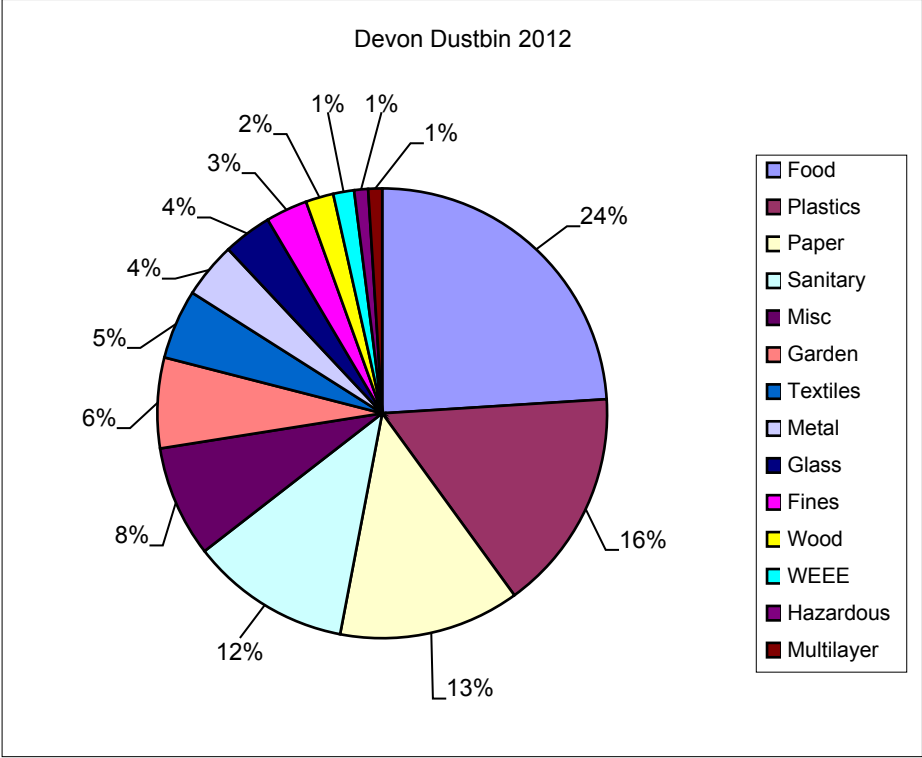
Tel No: 01392 383000

Background Paper	Date	File Ref.
M.E.L Summary Reports for Devon and Torbay on Kerbside Residual Waste Composition Analysis	November 2017	Waste Management team

wb160118das Waste Compositional Analysis October 2017  
hk 07 240118



Contents of residual waste dustbins in Devon in 2012

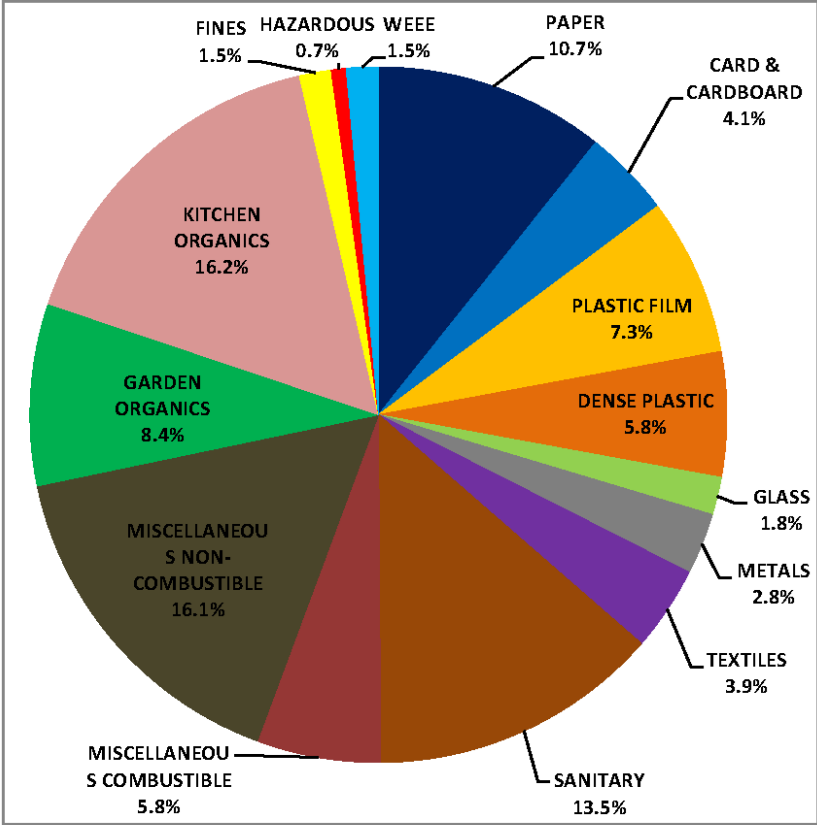




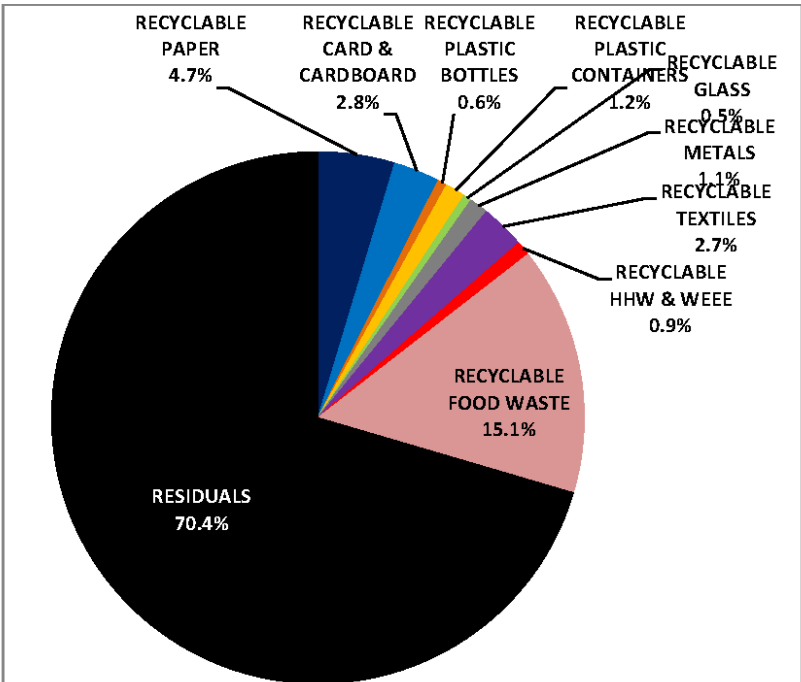


East Devon District Council

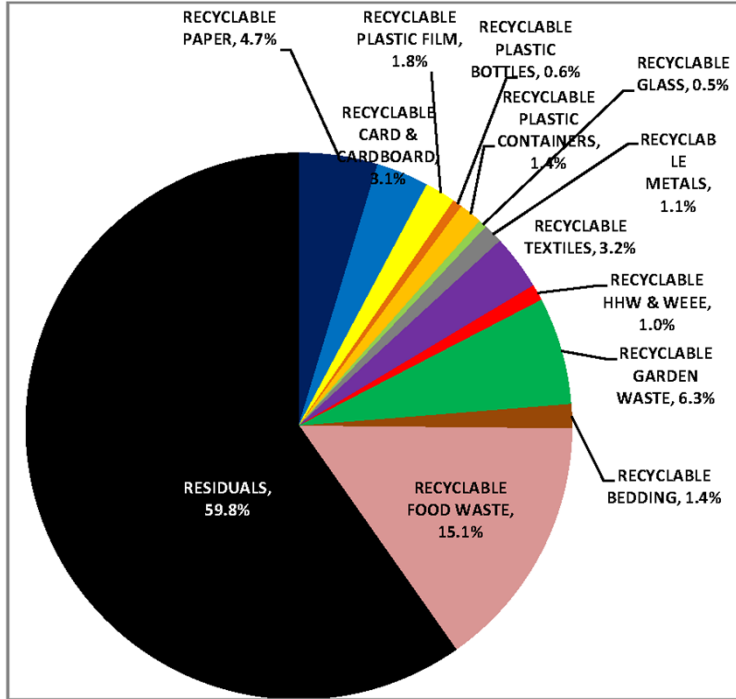
Contents of the residual bins



Residual waste currently recyclable

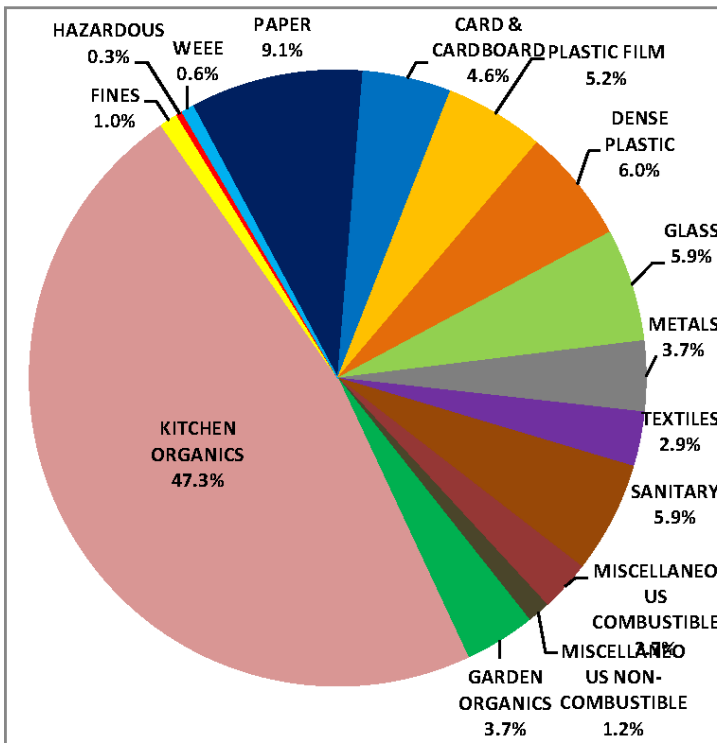


Residual waste potentially recyclable

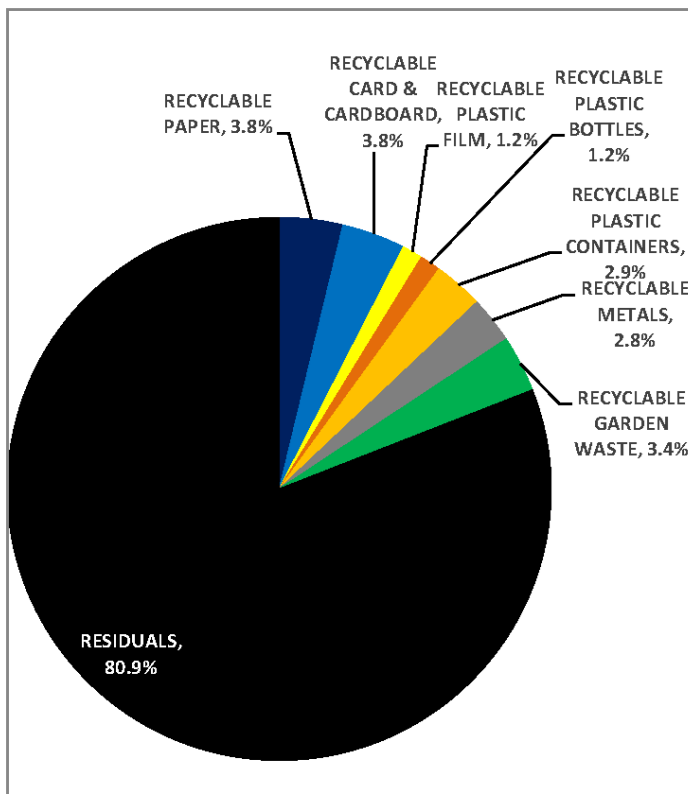


## Exeter City Council

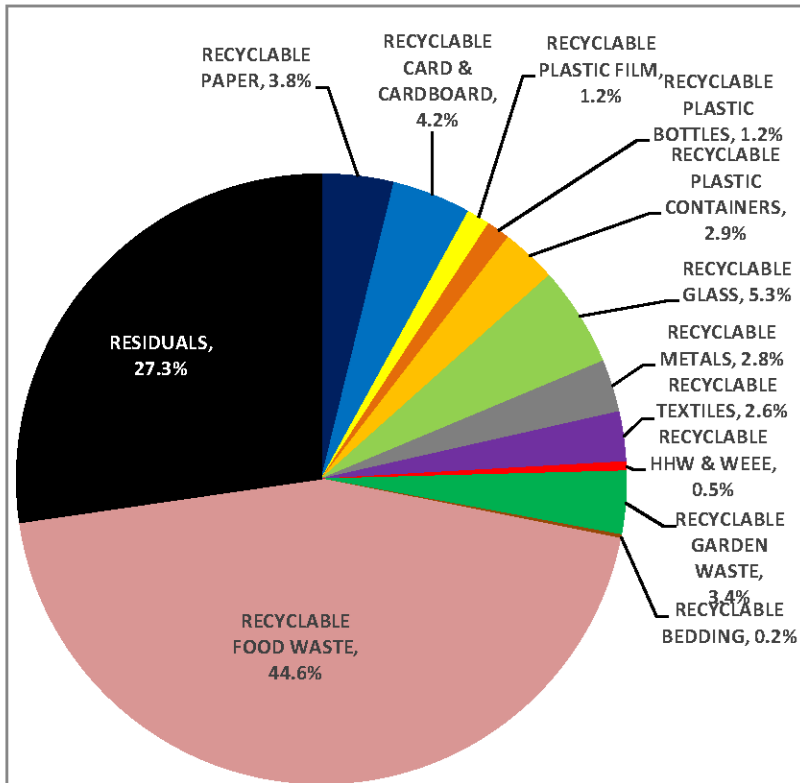
### Contents of the residual bins



### Residual waste currently recyclable

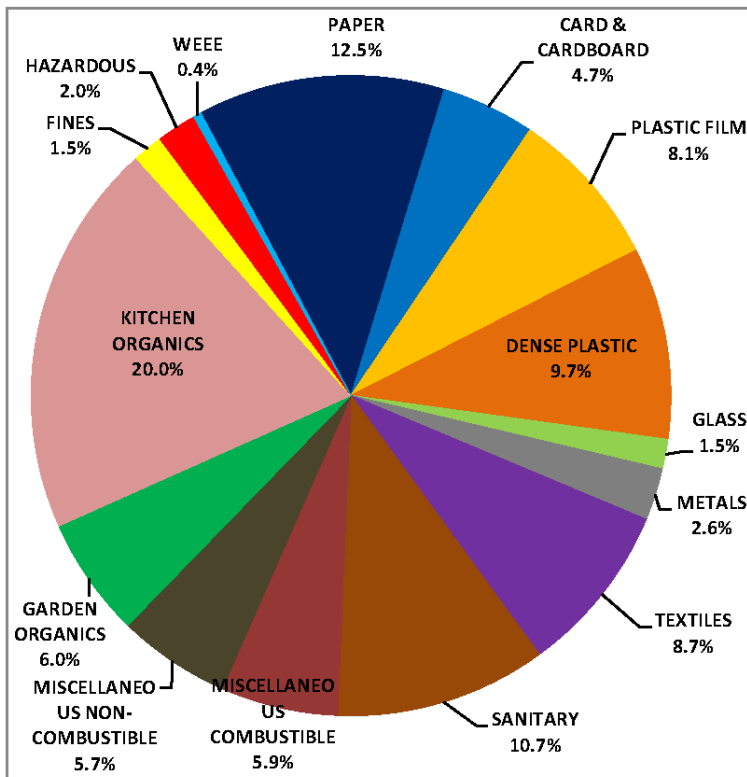


Residual waste potentially recyclable

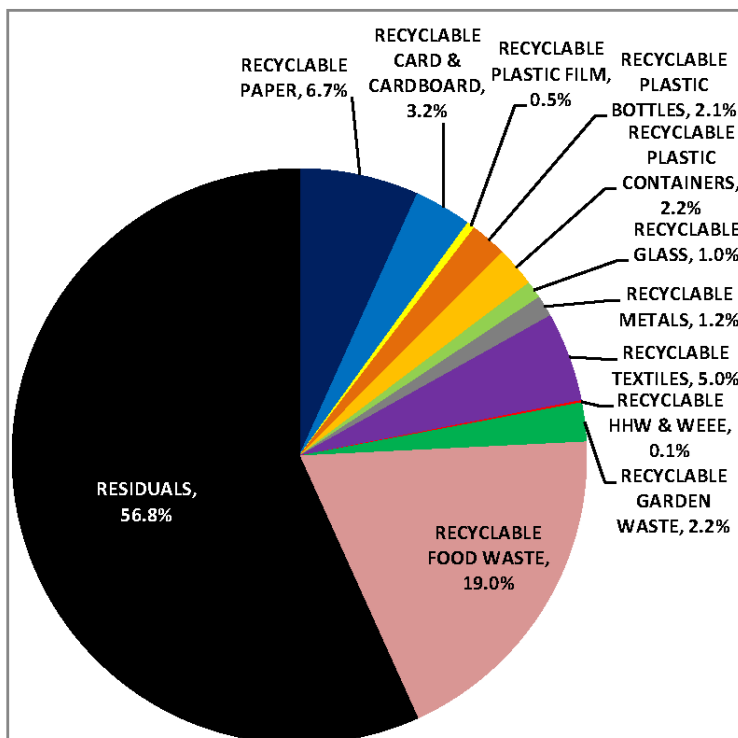


## Mid Devon District Council

### Contents of the residual bins

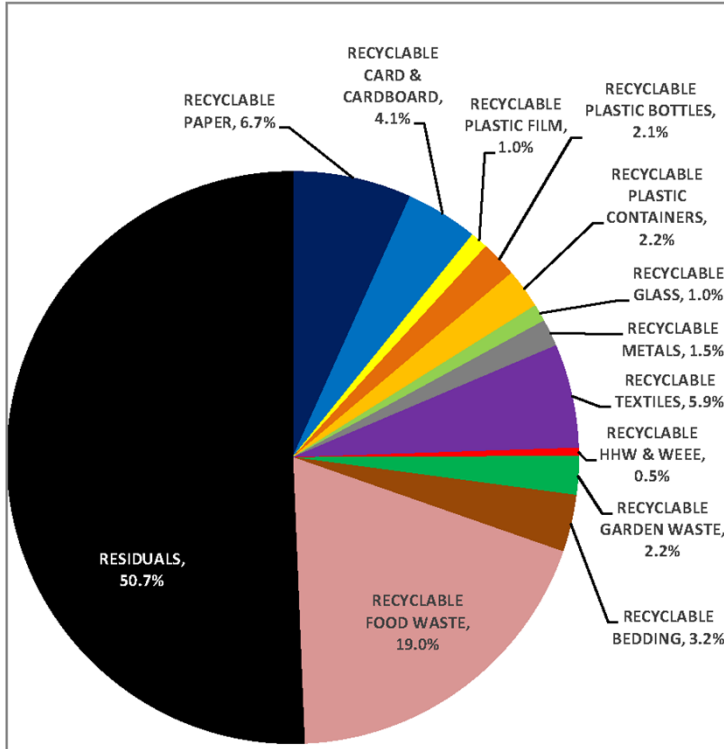


### Residual waste currently recyclable



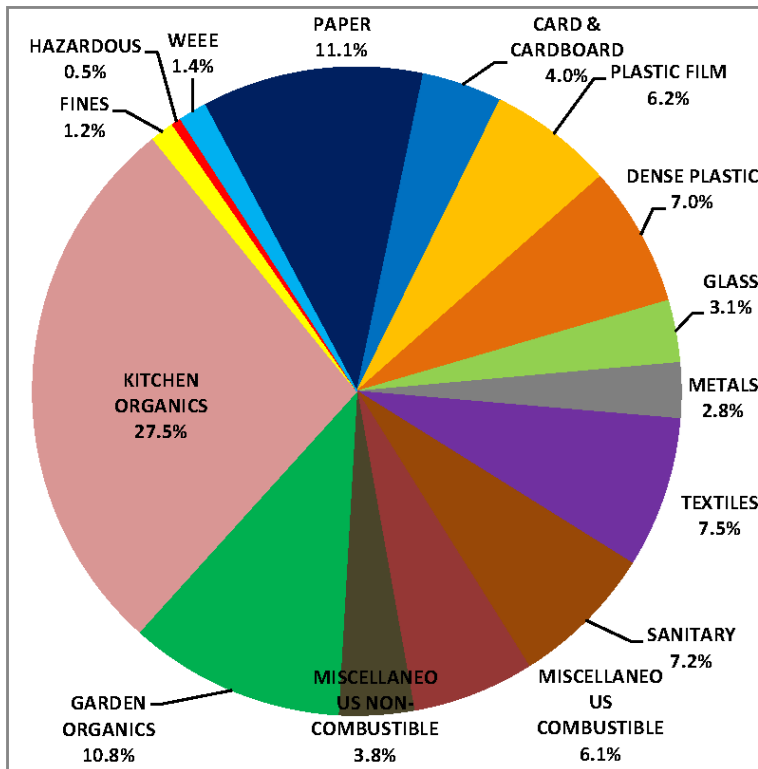


Residual waste potentially recyclable

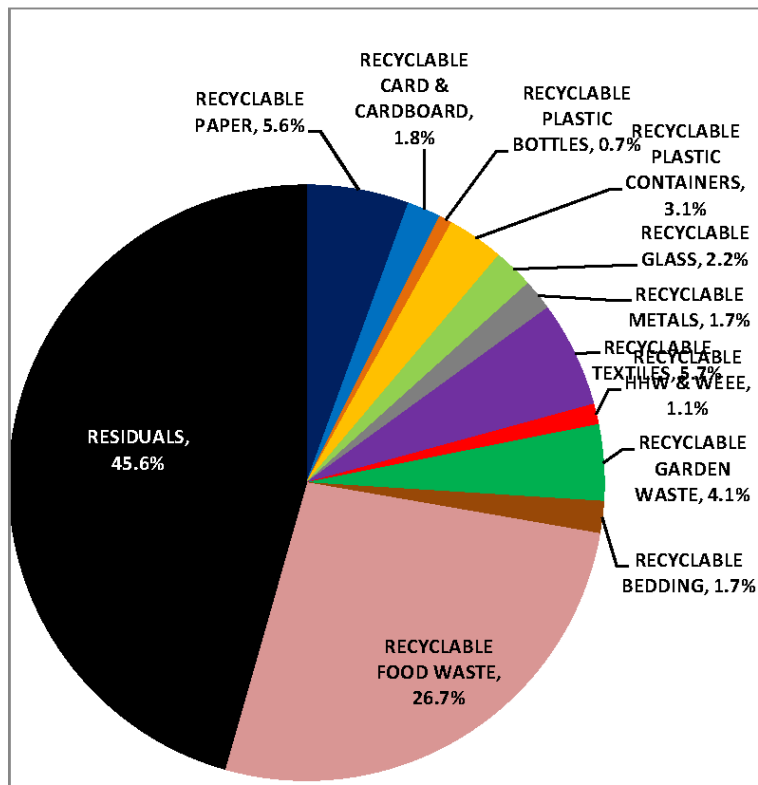


## North Devon Council

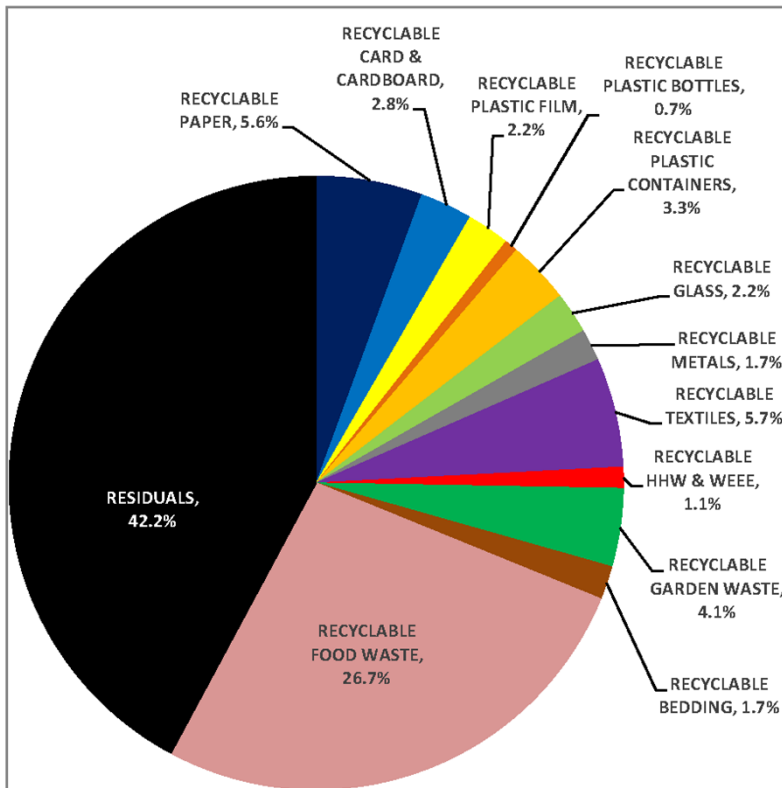
### Contents of the residual bins



### Residual waste currently recyclable

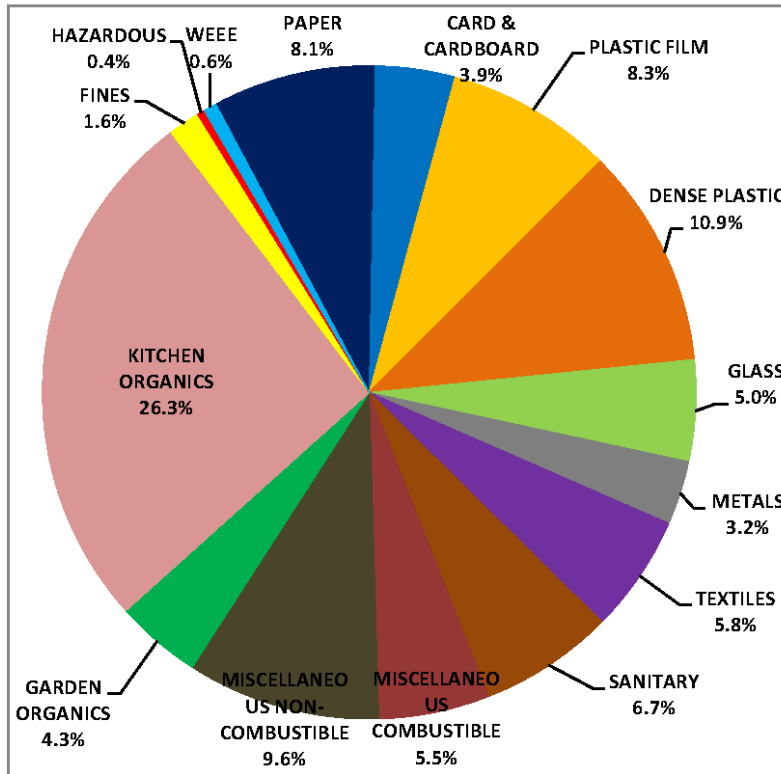


Residual waste potentially recyclable

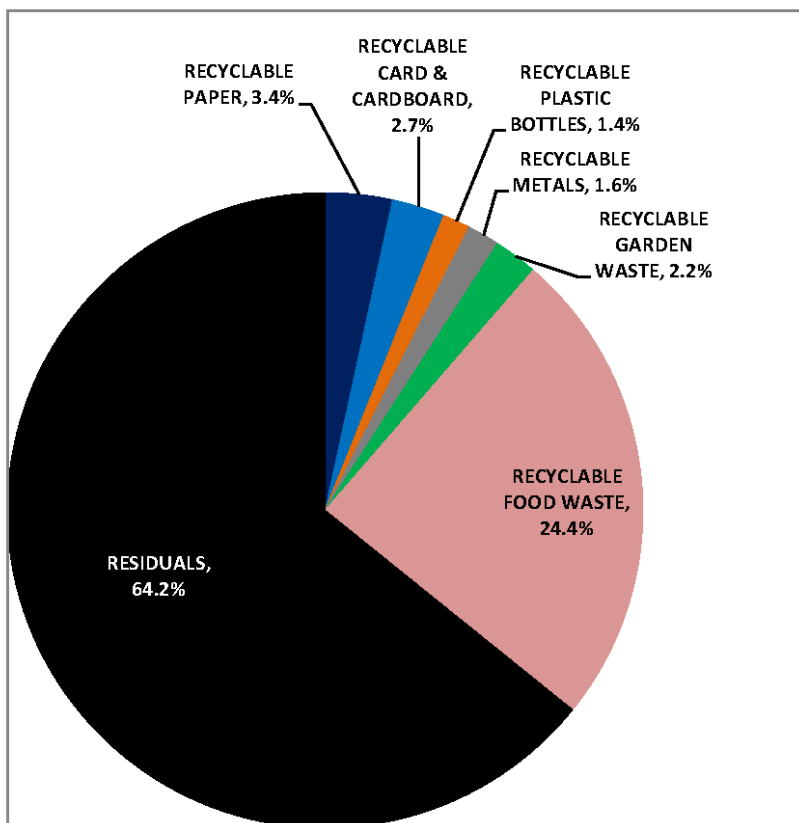


## South Hams District Council

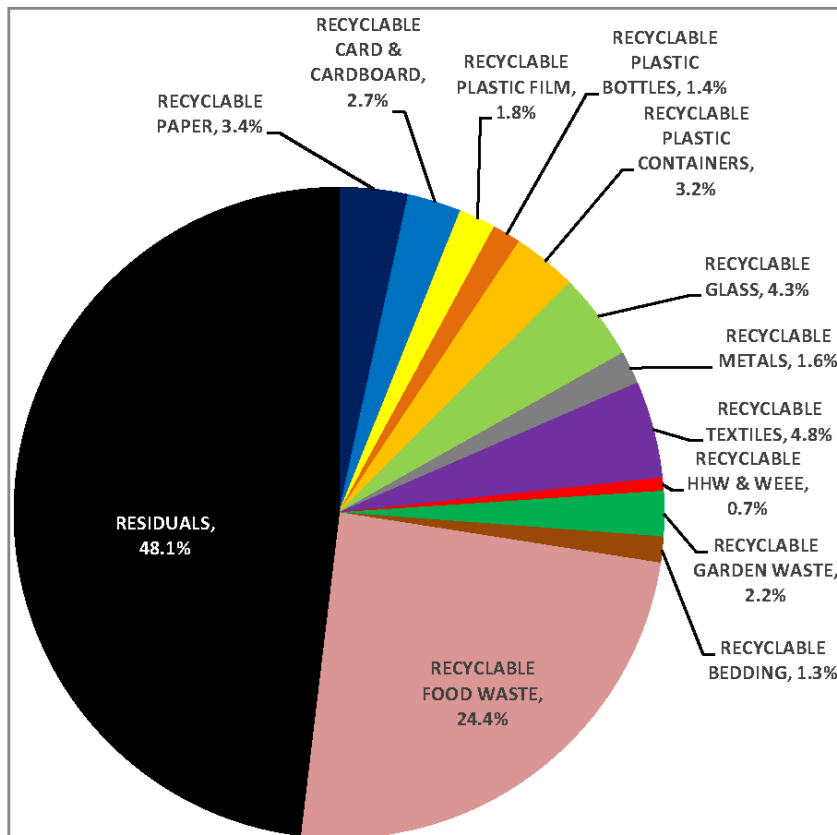
### Contents of the residual bins



### Residual waste currently recyclable

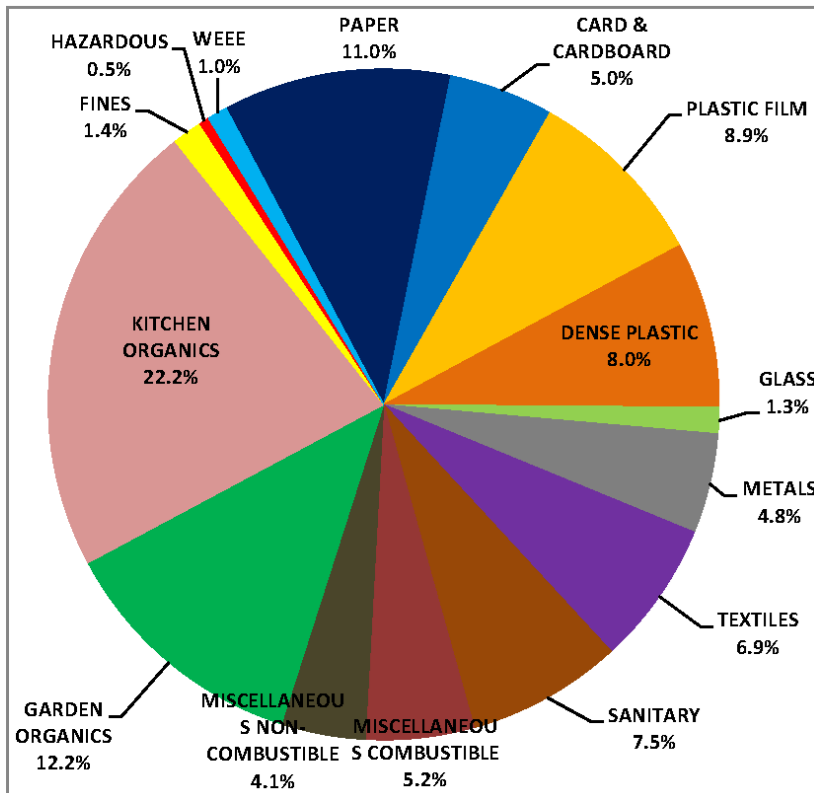


Residual waste potentially recyclable

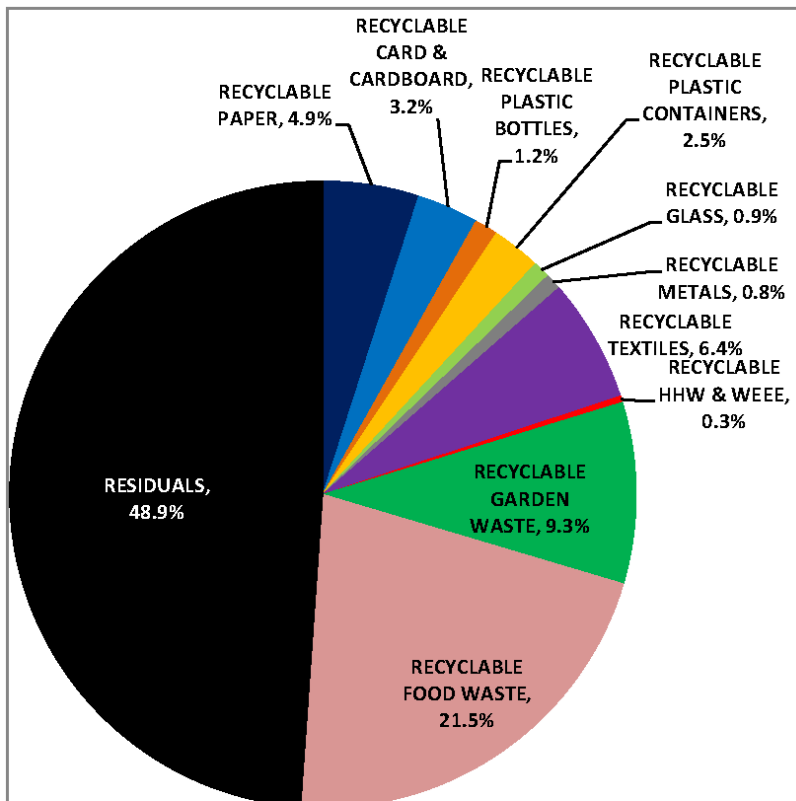


## Teignbridge District Council

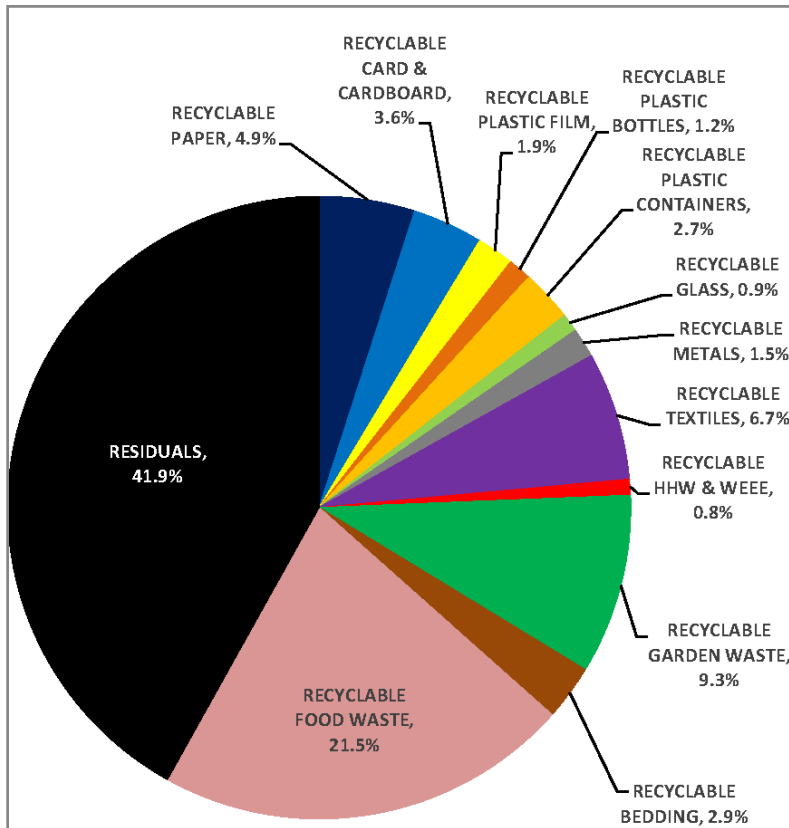
### Contents of the residual bins



### Residual waste currently recyclable

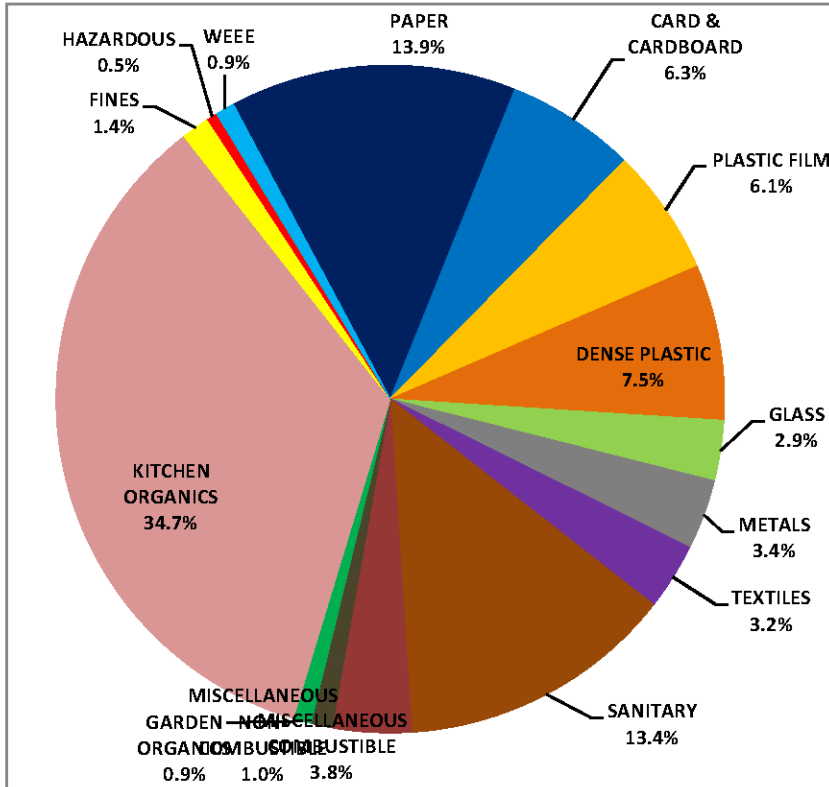


Residual waste potentially recyclable

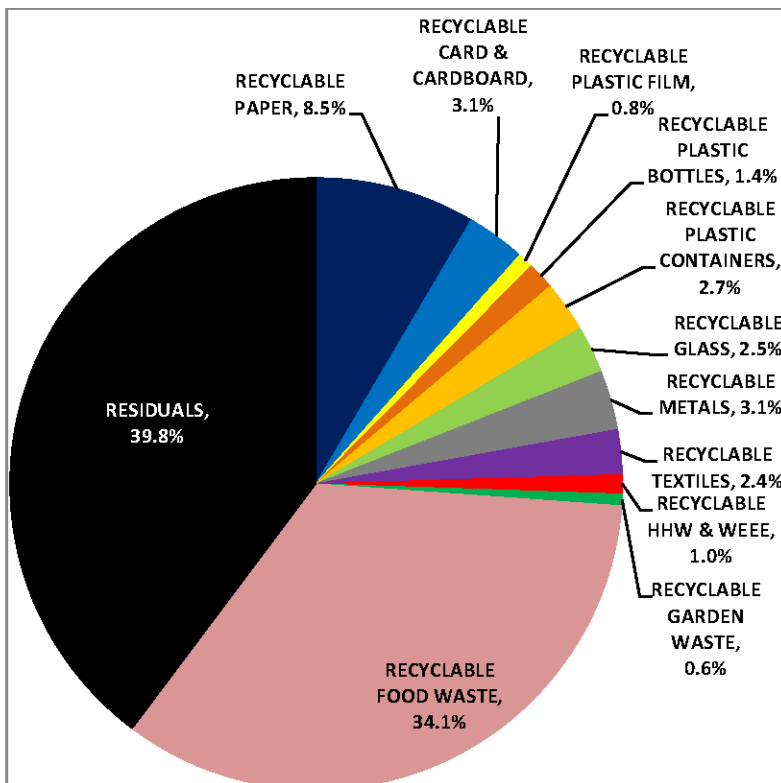


## Torridge District Council

### Contents of the residual bins

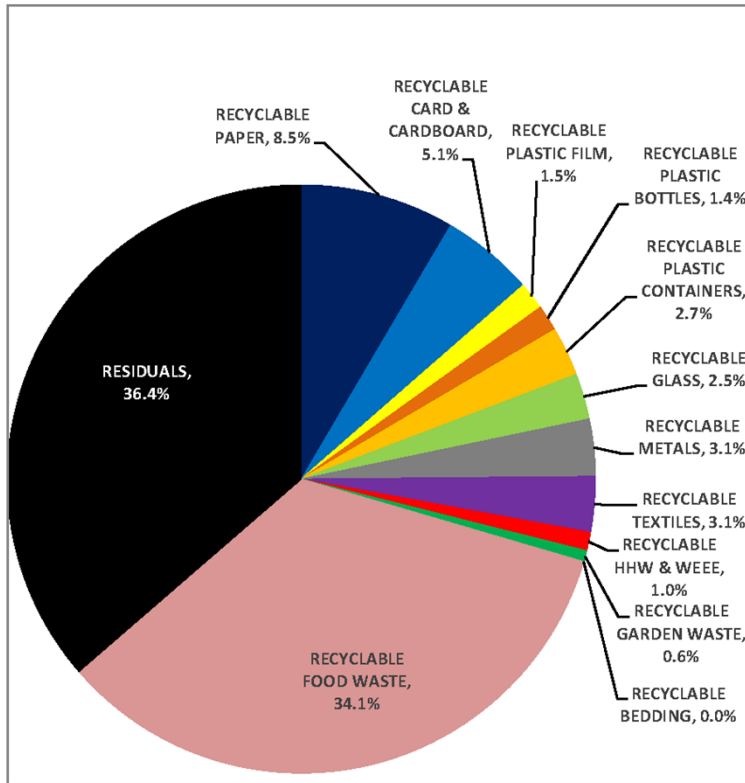


### Residual waste currently recyclable



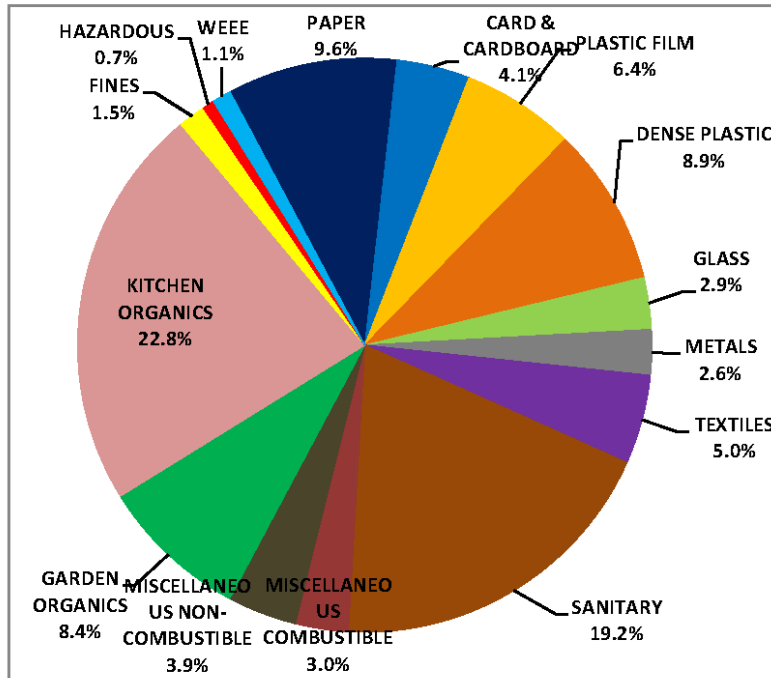


Residual waste potentially recyclable

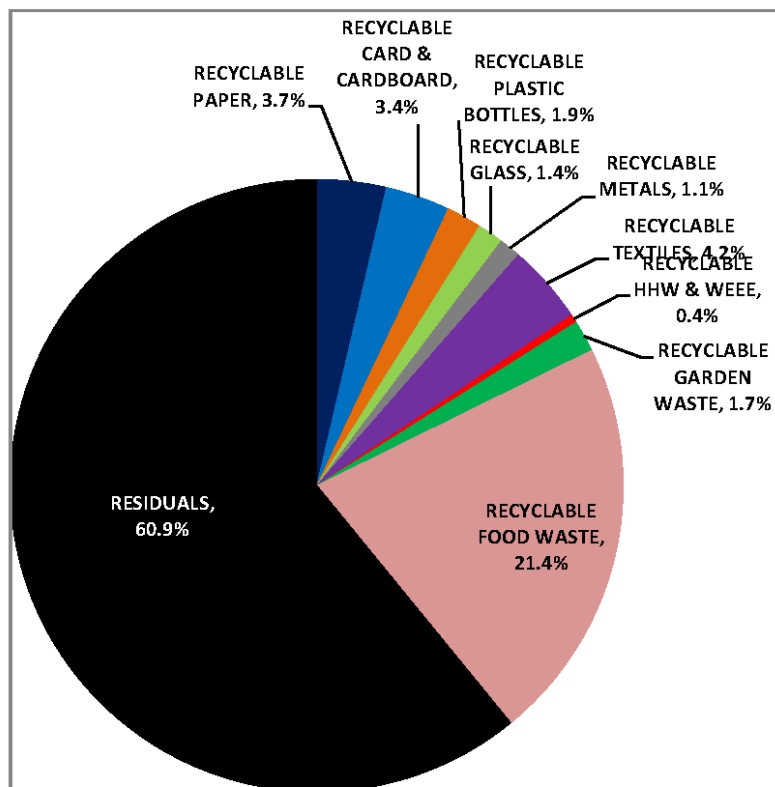


## West Devon Borough Council

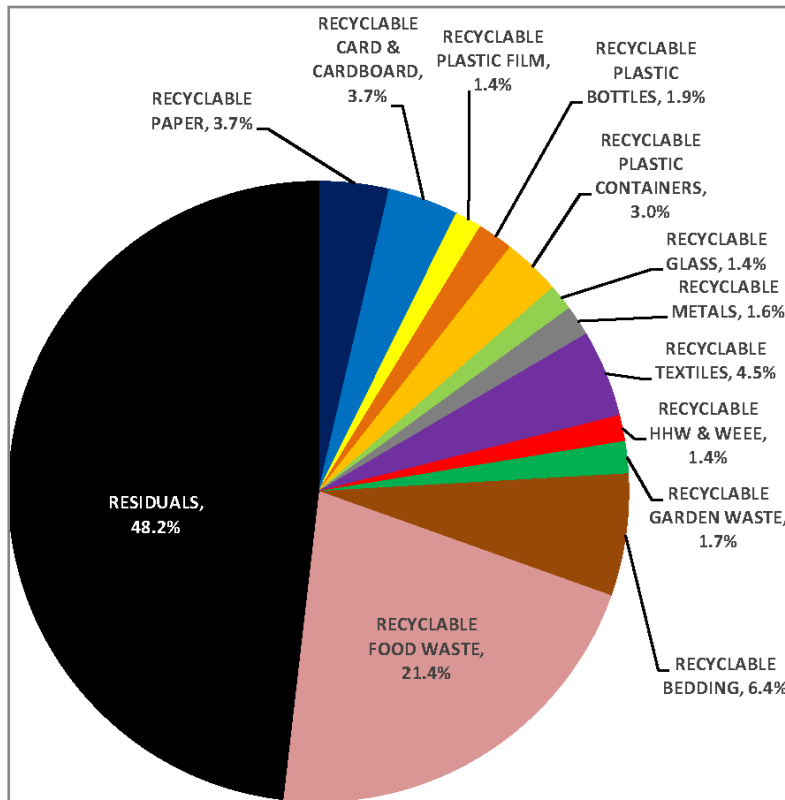
### Contents of the residual bins



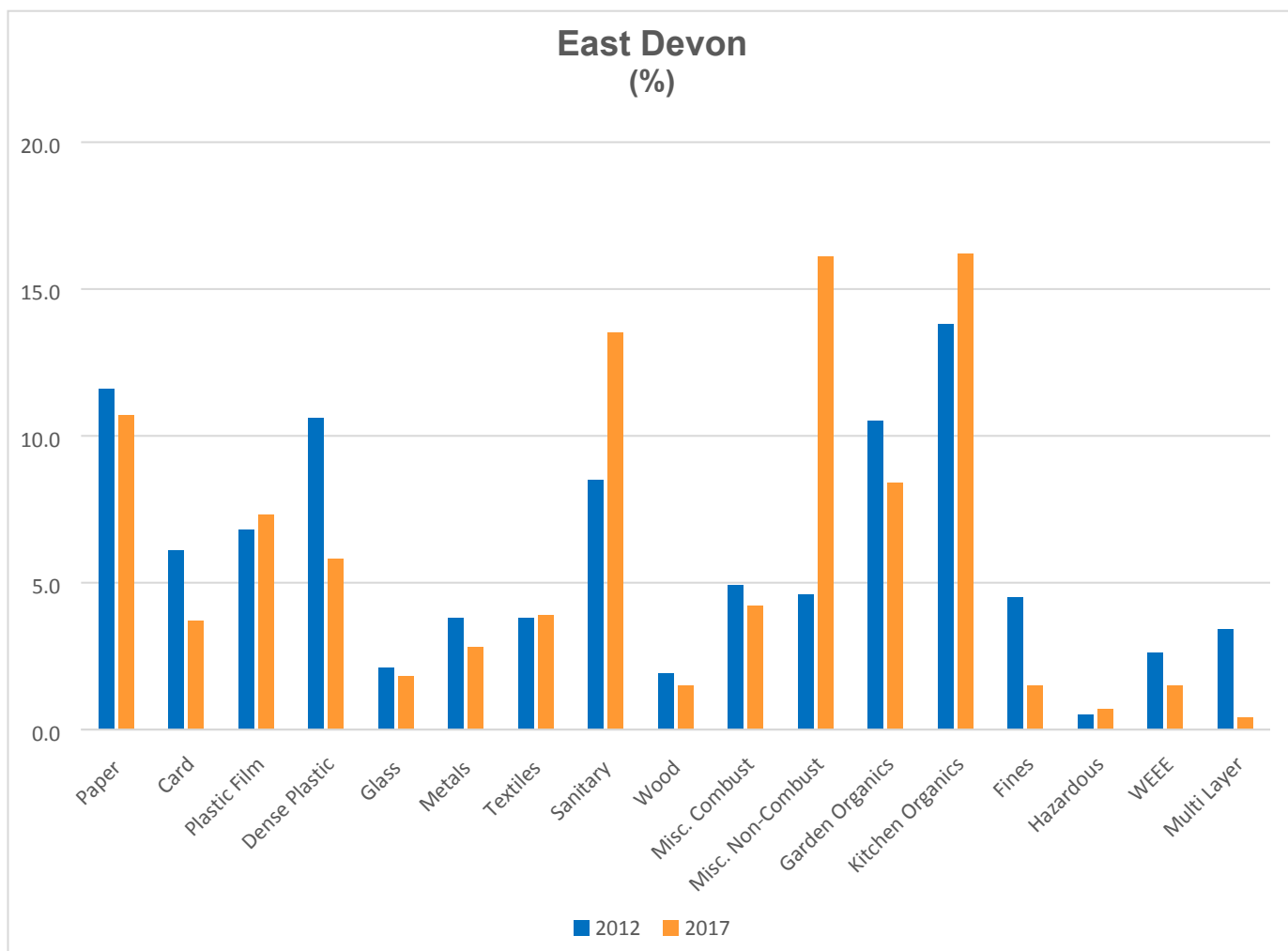
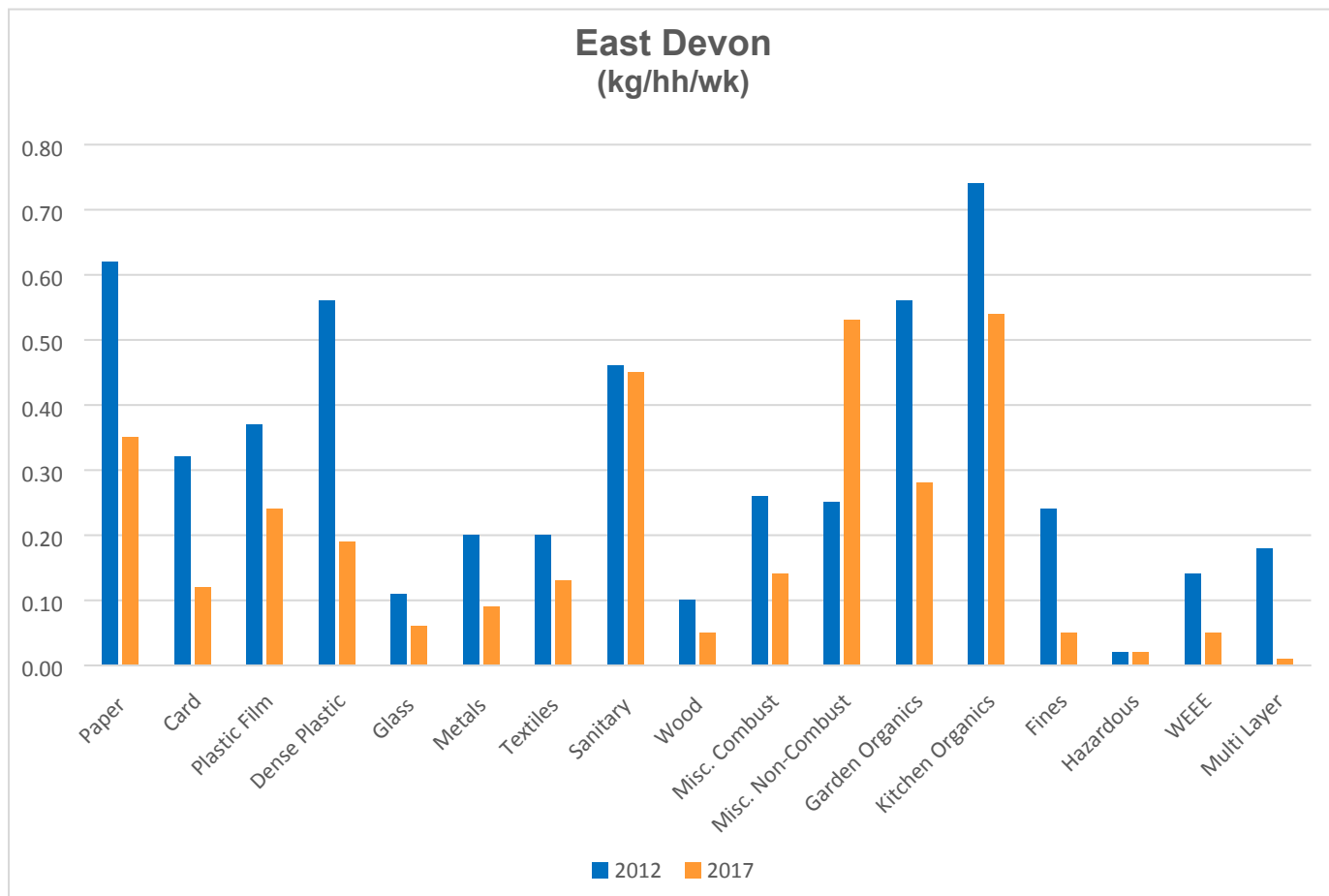
### Residual waste currently recyclable



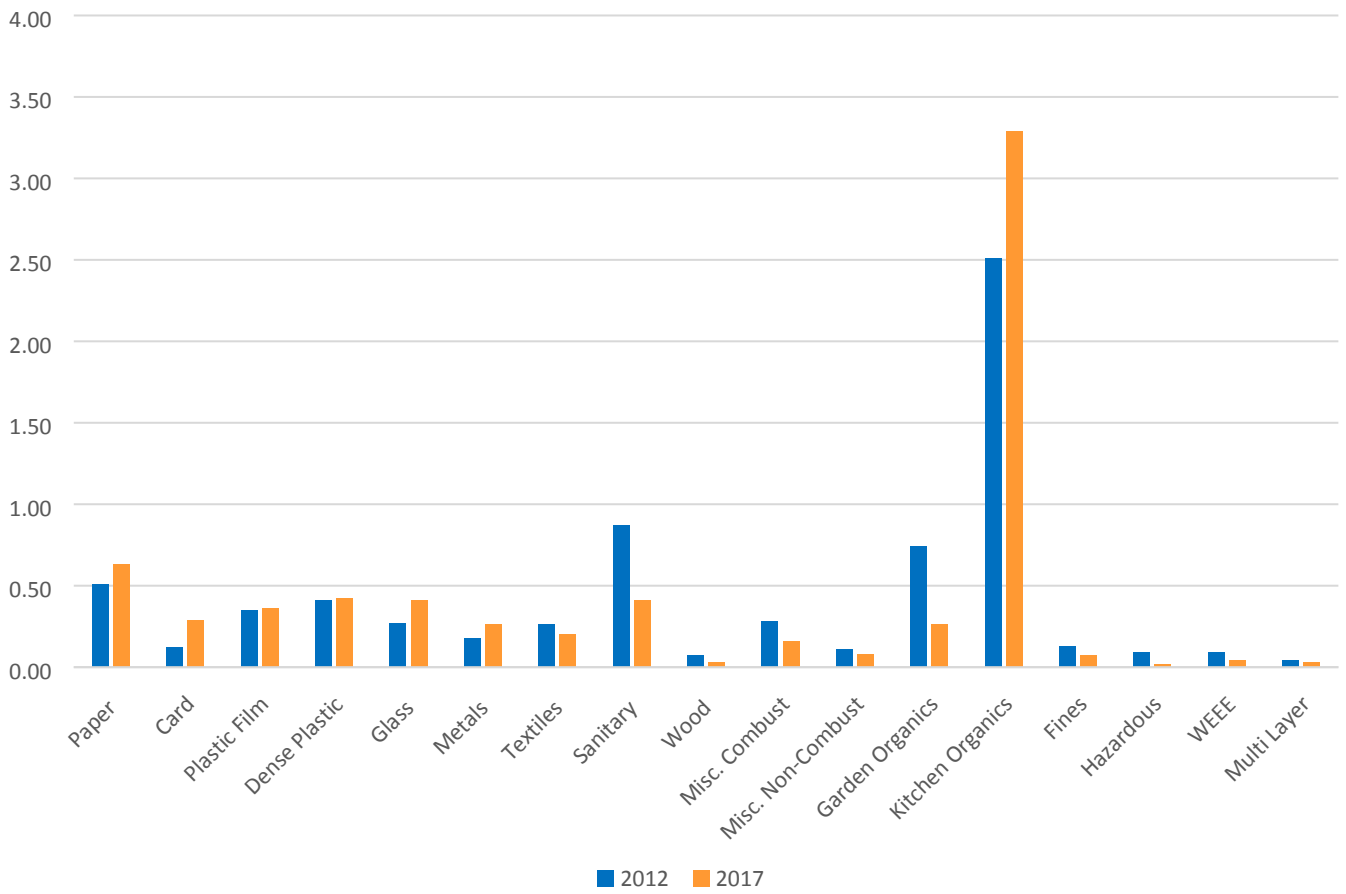
Residual waste potentially recyclable



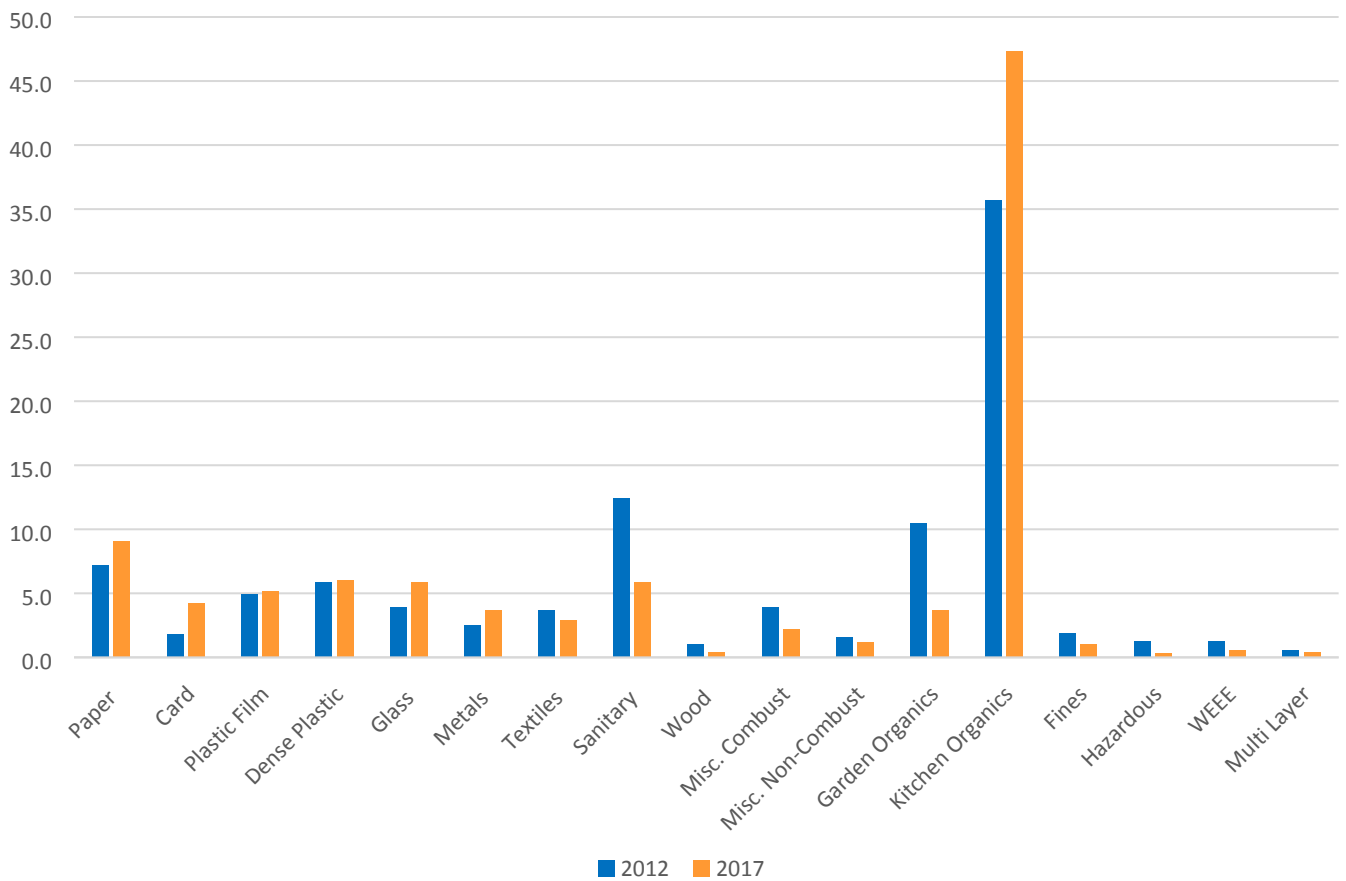
Waste Composition comparison 2012 v 2017 for each district and Devon in kg/hh/wk and by percentage



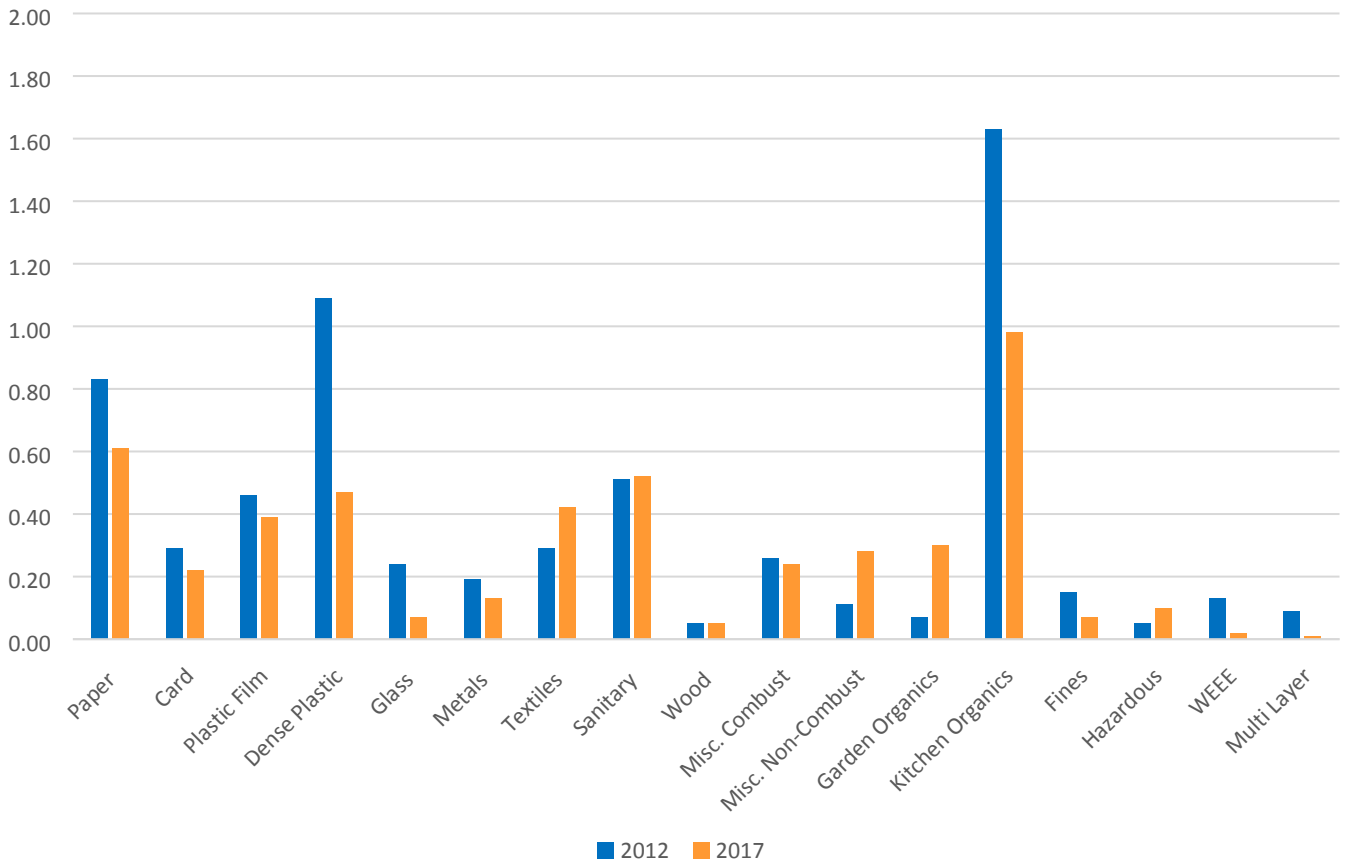
### Exeter (kg/hh/wk)



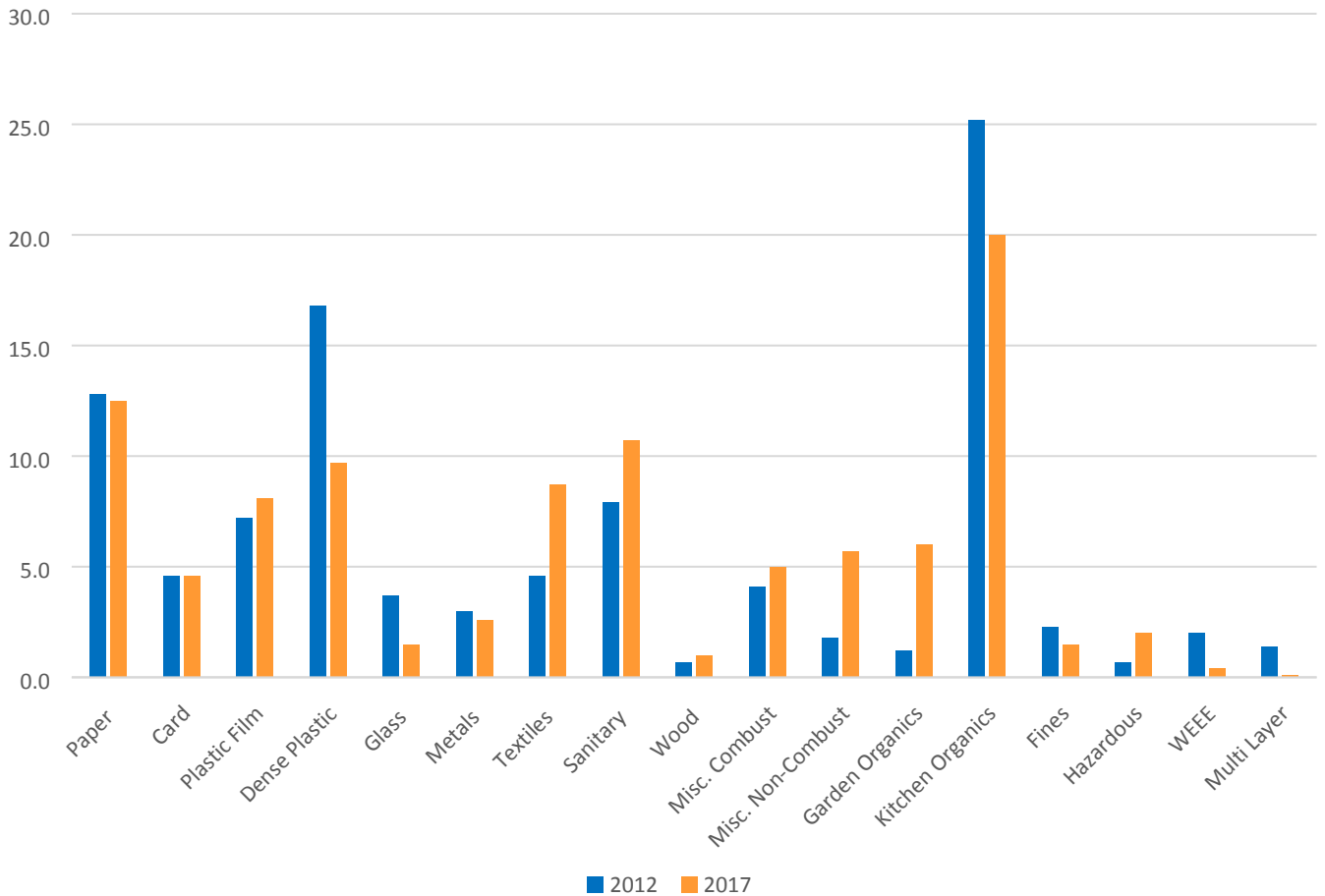
### Exeter (%)



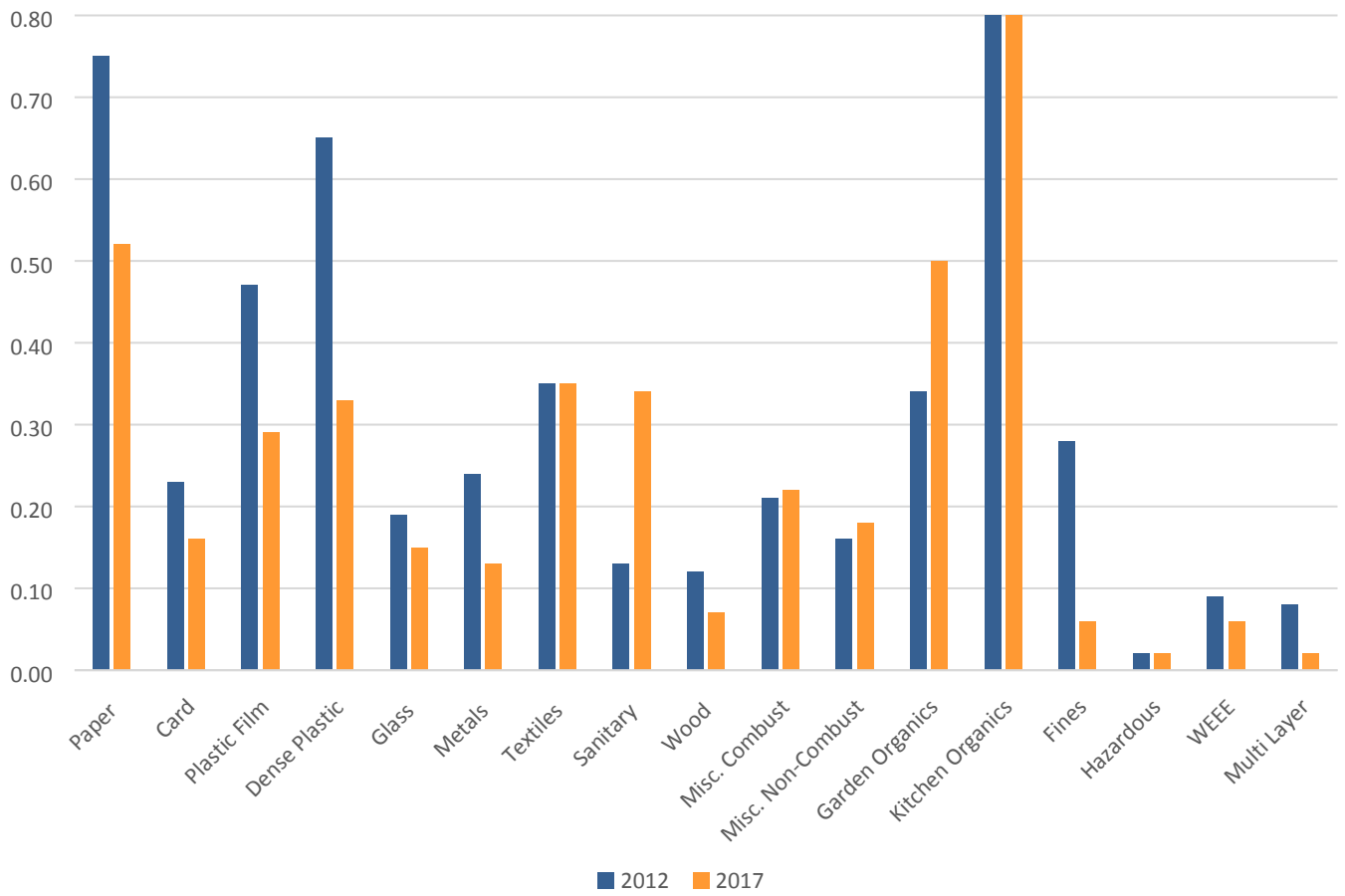
### Mid Devon (kg/hh/wk)



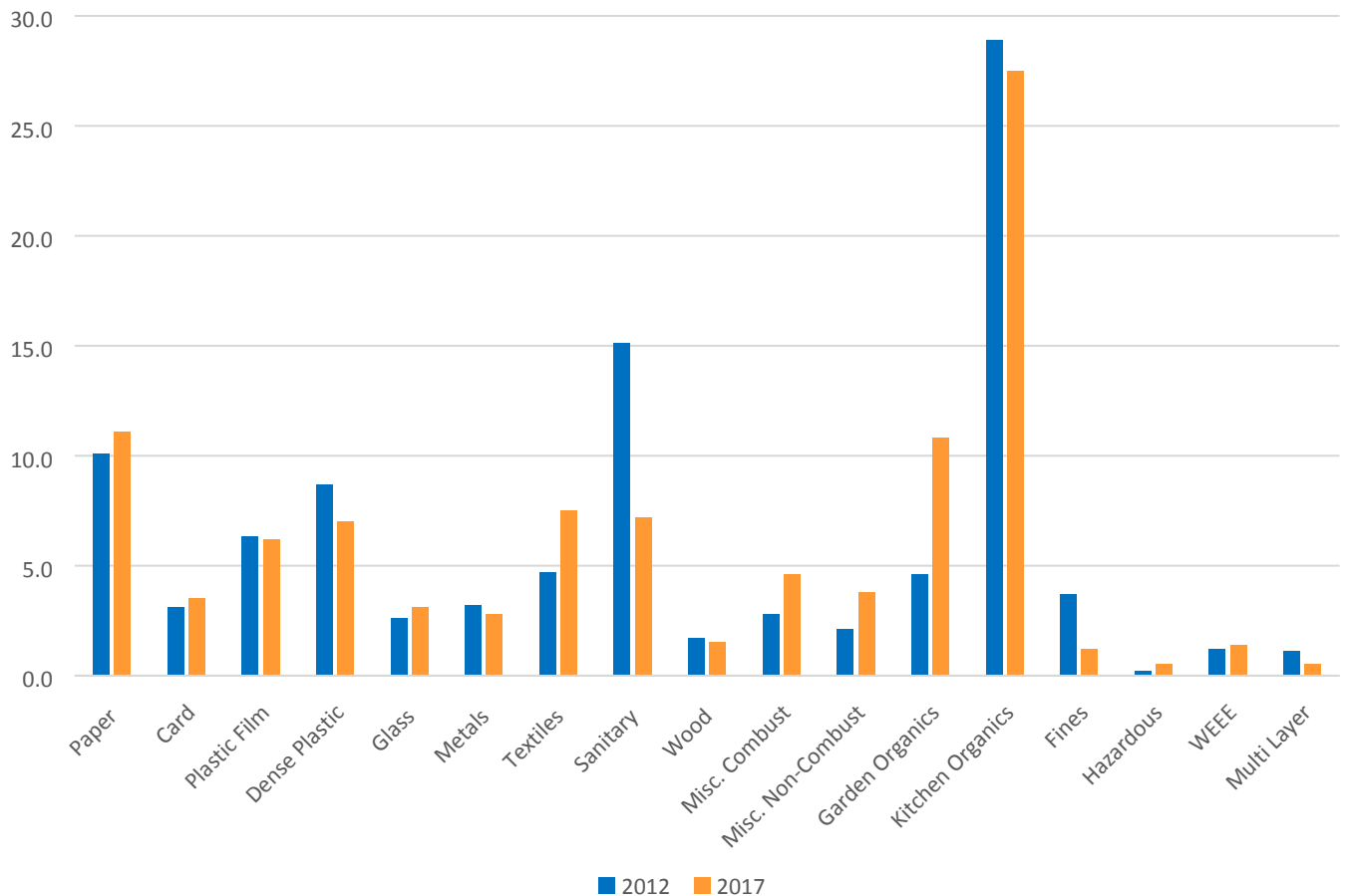
### Mid Devon (%)



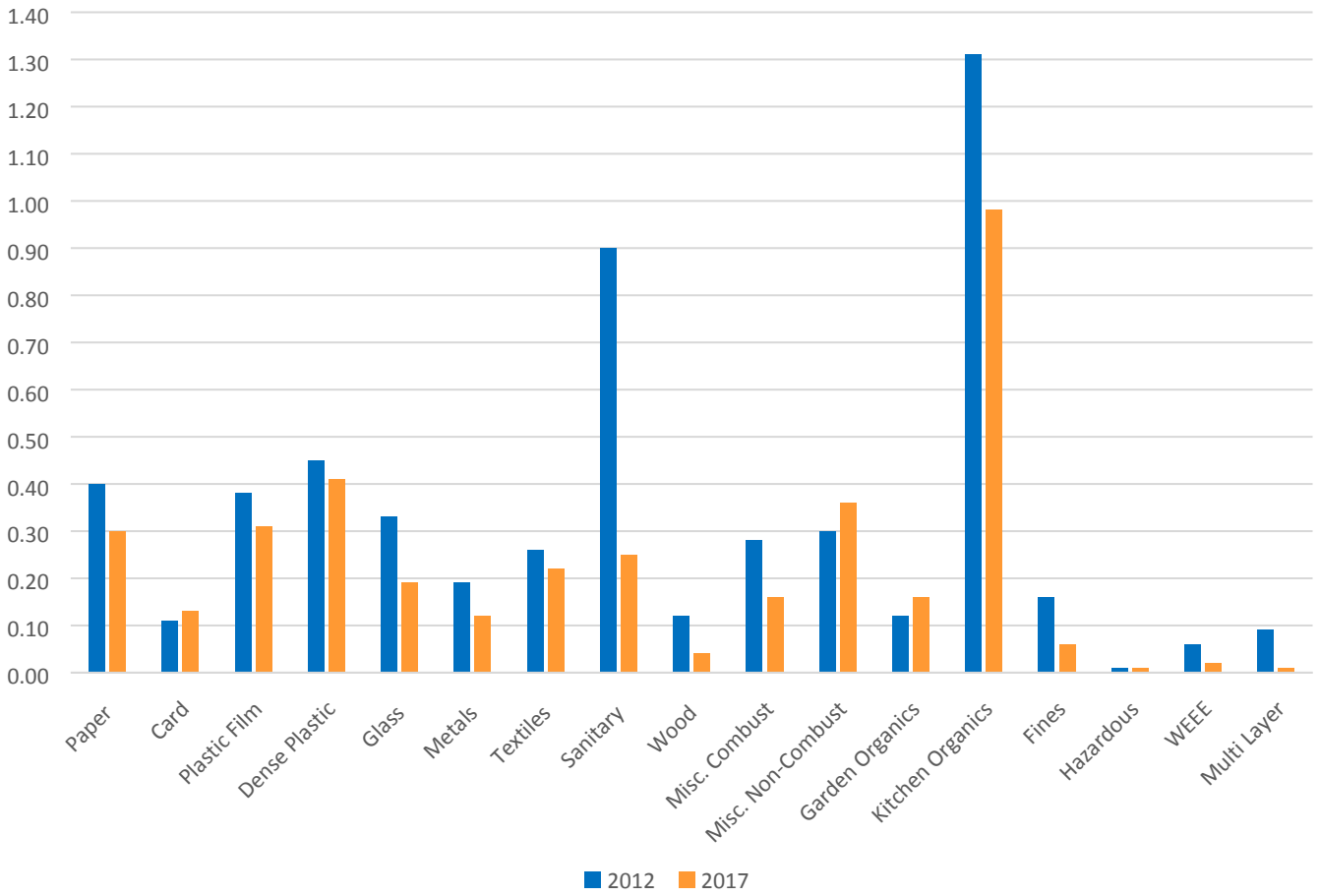
### North Devon (kg/hh/wk)



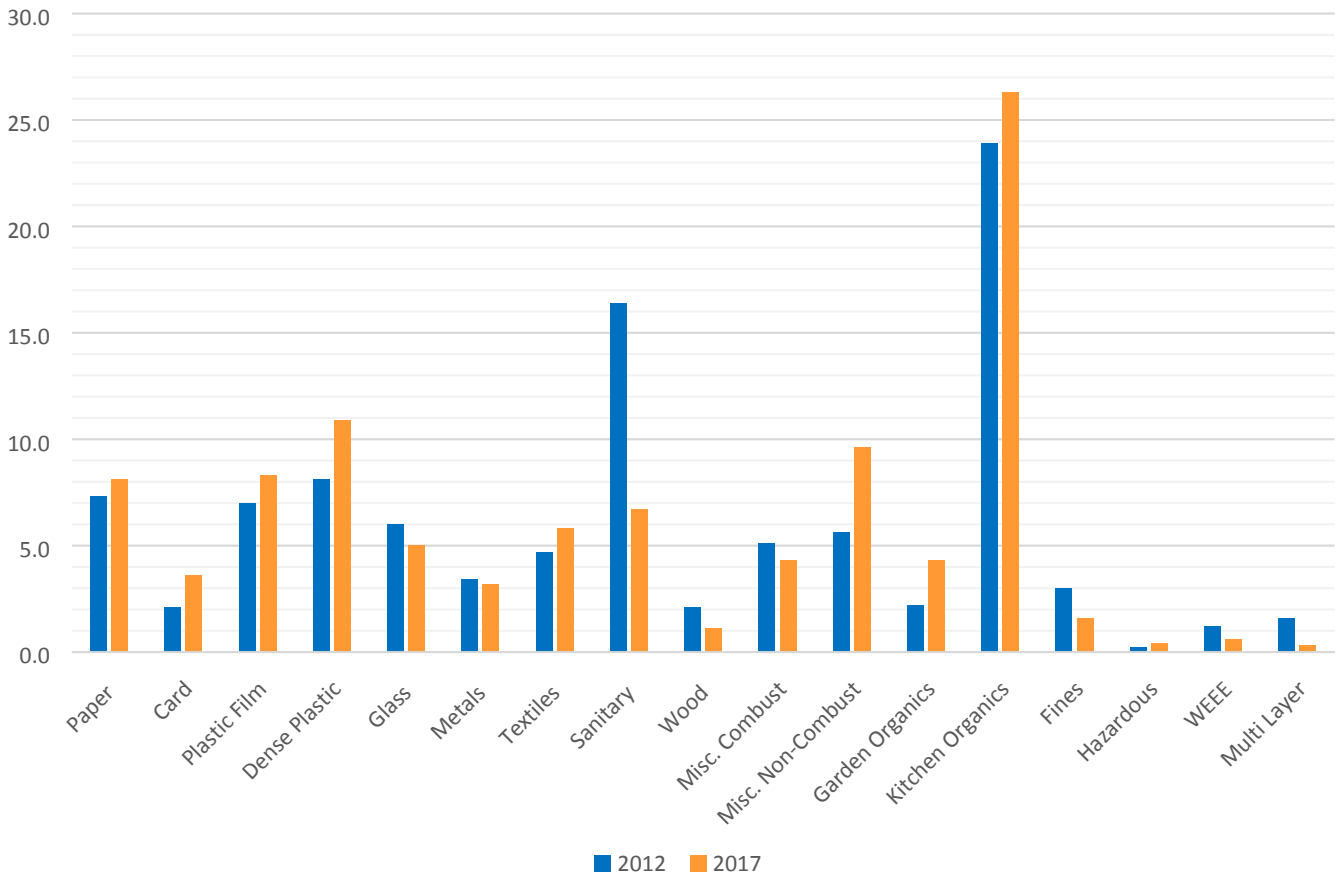
### North Devon (%)



### South Hams (kg/hh/wk)

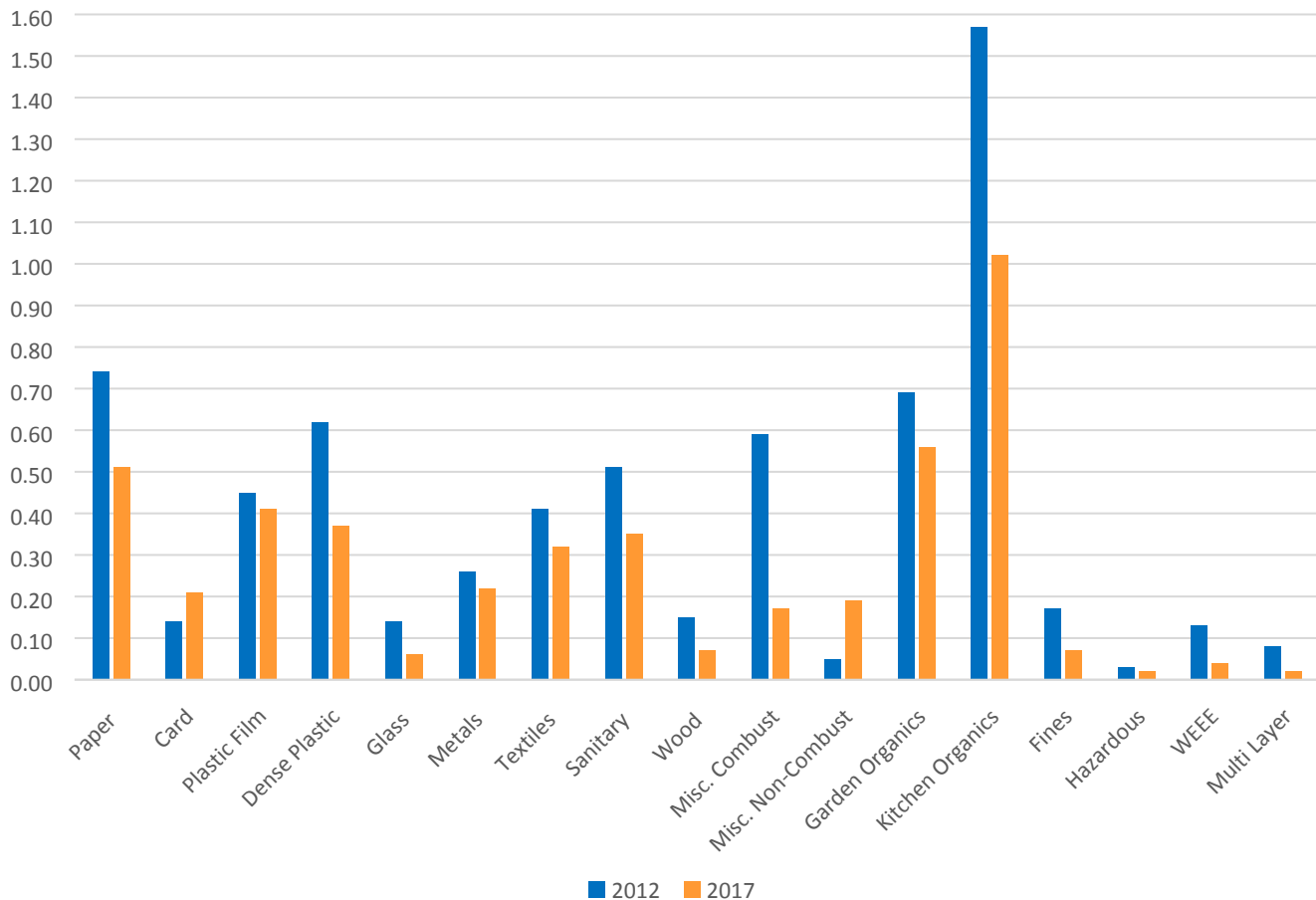


### South Hams (%)

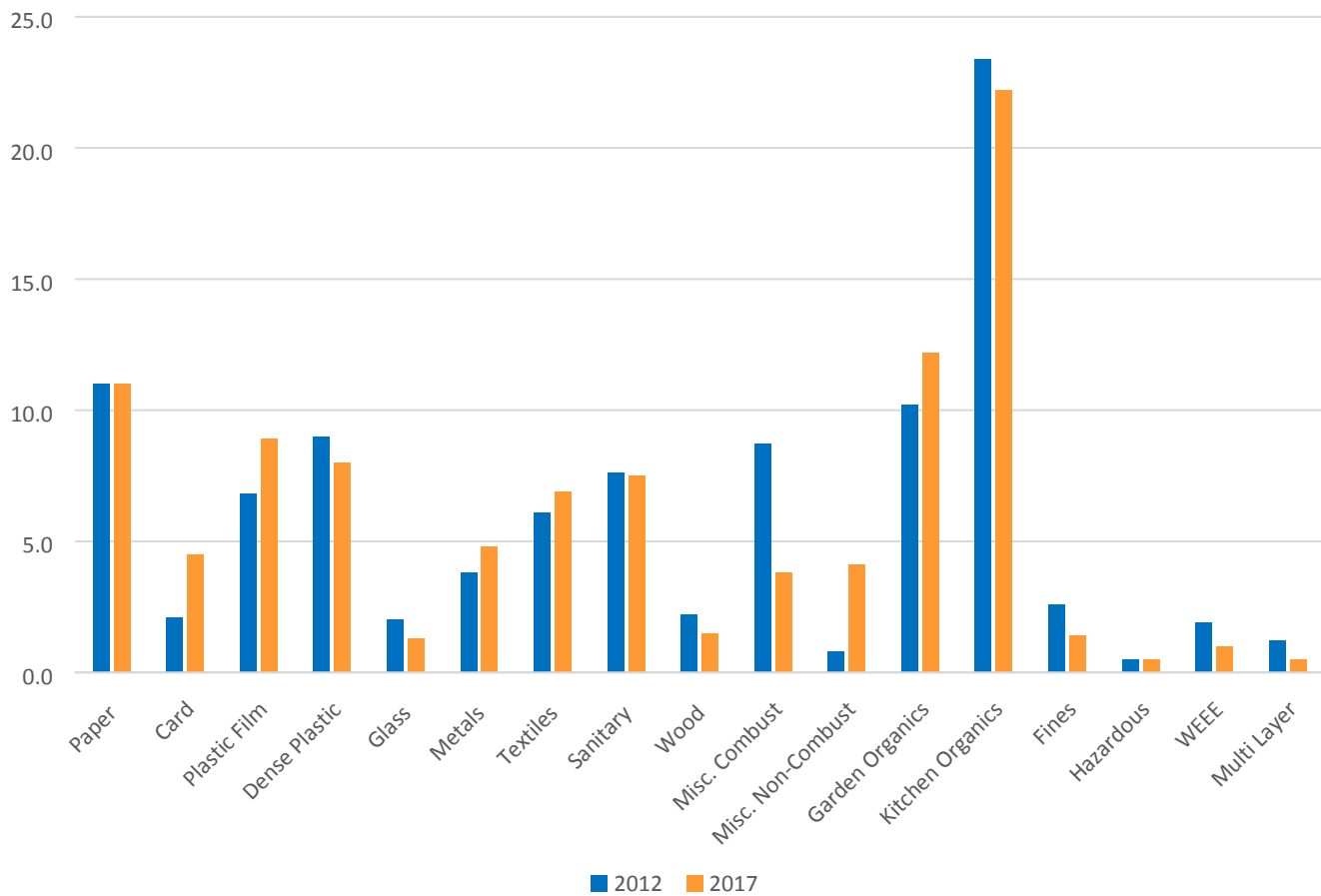




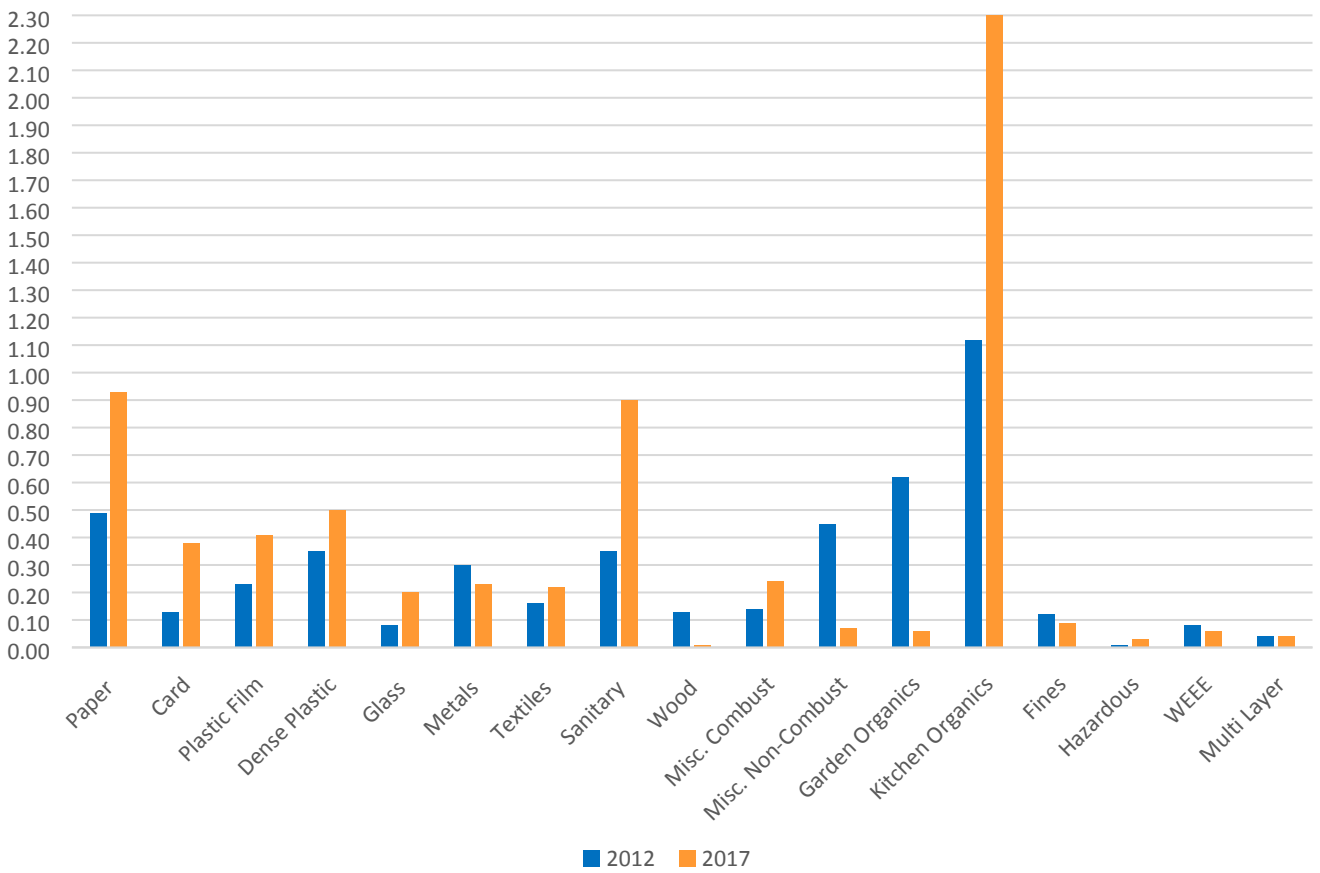
### Teignbridge (kg/hh/wk)



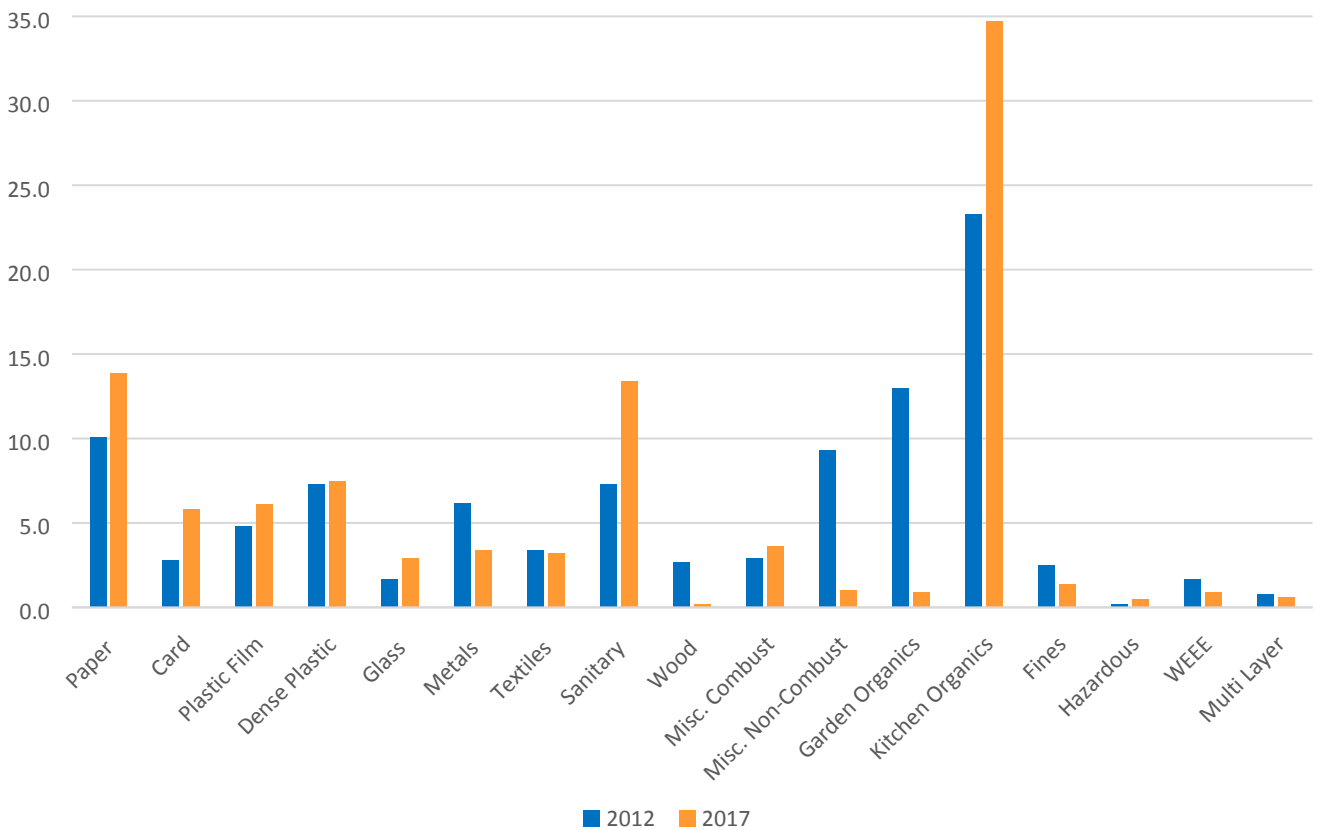
### Teignbridge (%)



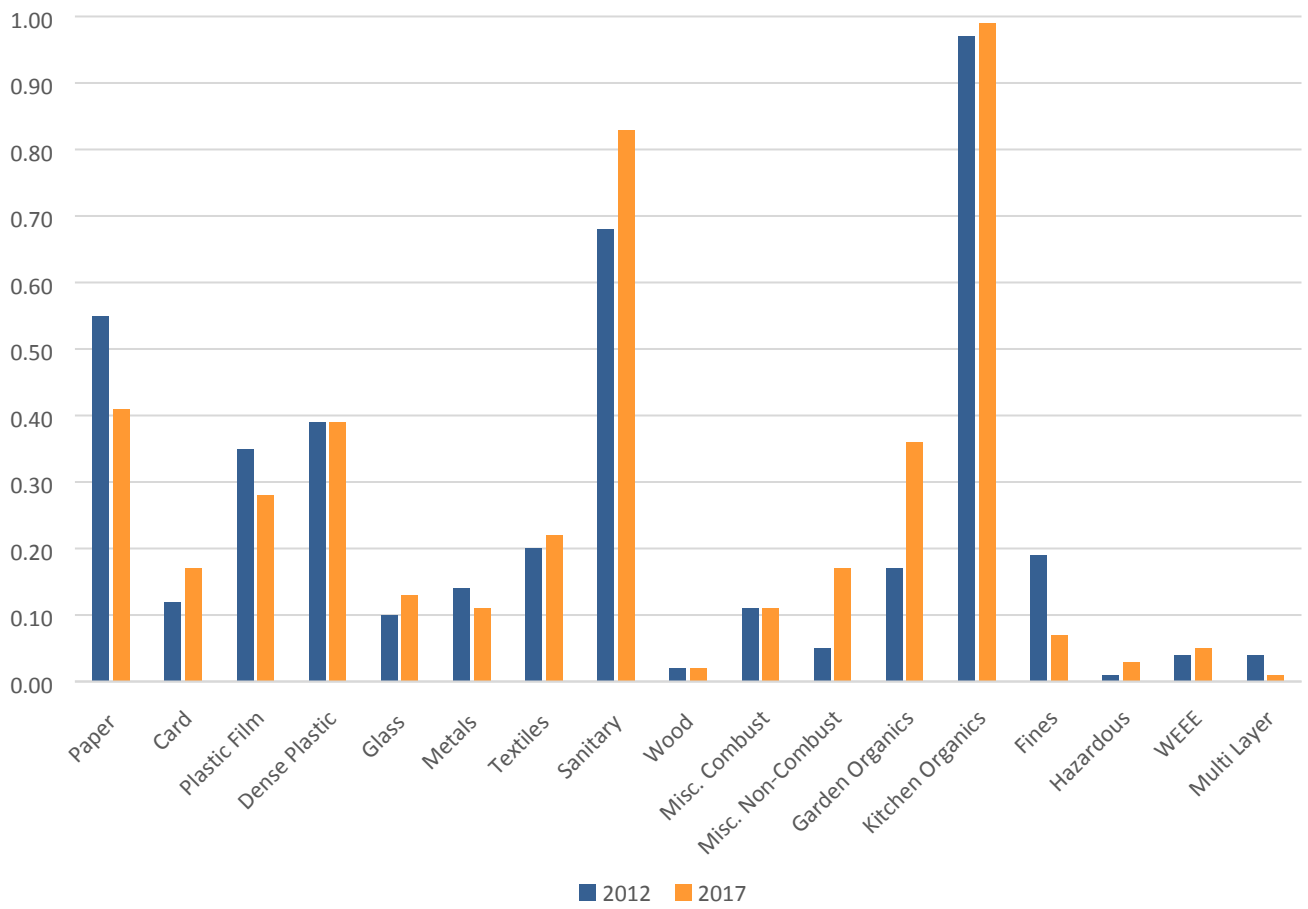
### Torrige (kg/hh/wk)



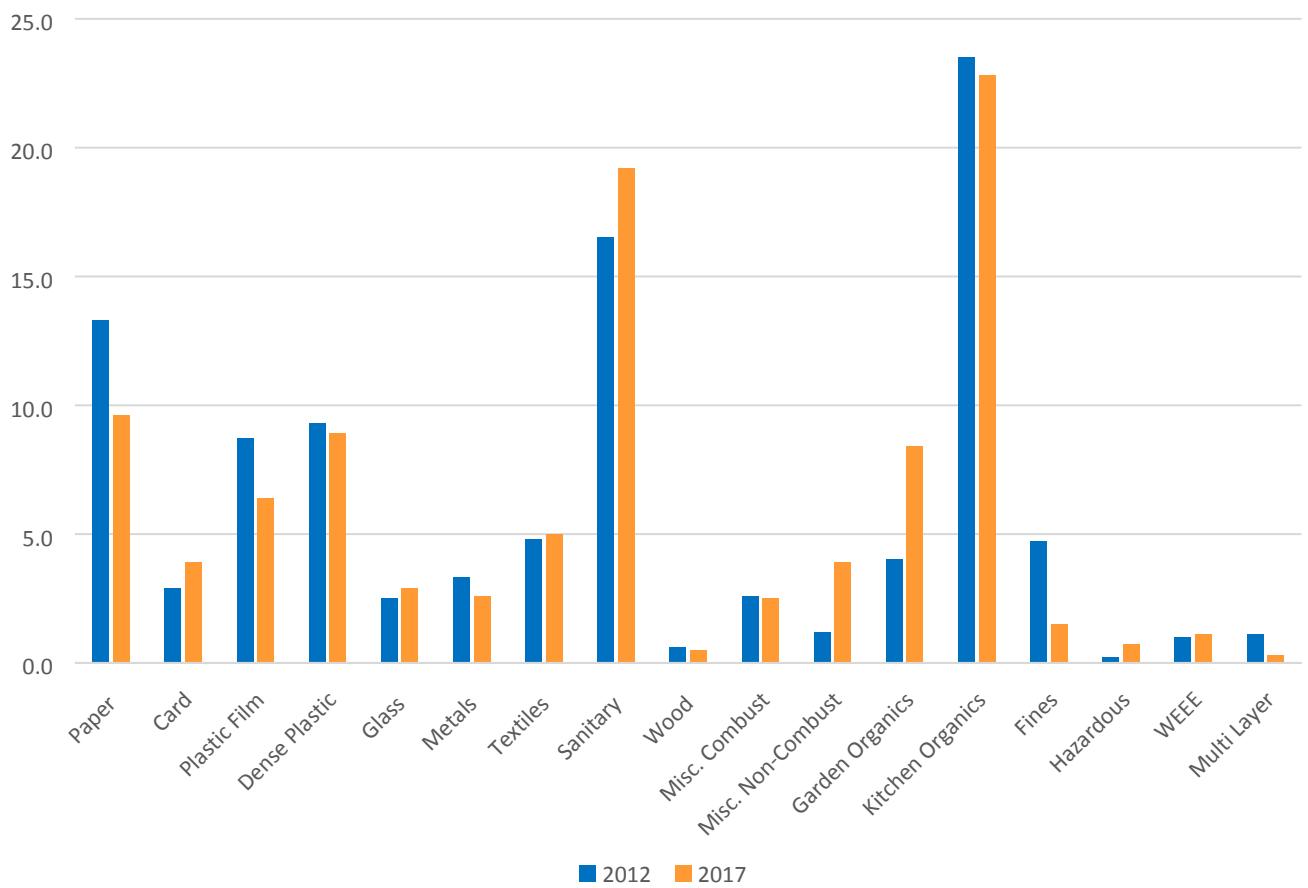
### Torrige (%)



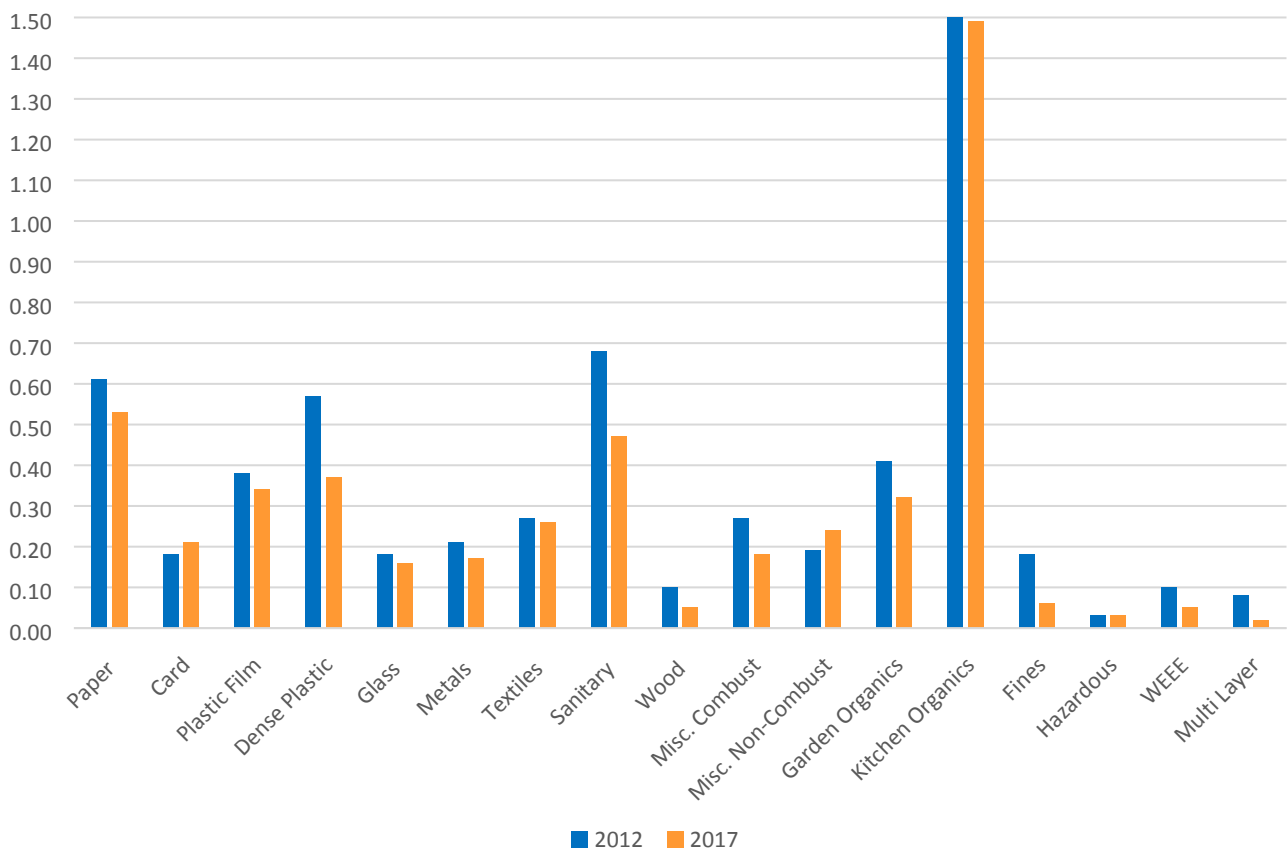
### West Devon (kg/hh/wk)



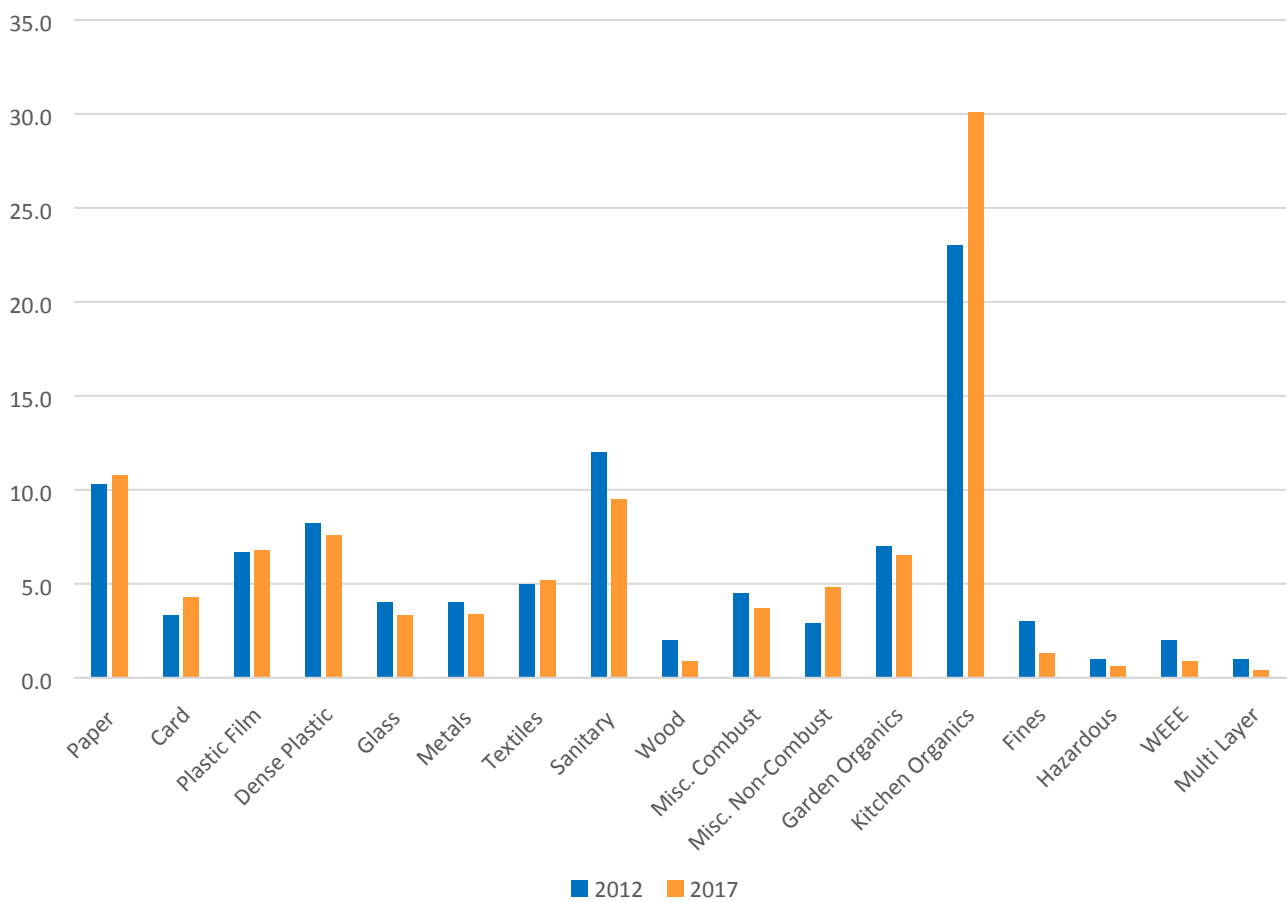
### West Devon (%)



### Devon (kg/hh/wk)



### Devon (%)



Progress towards the aligned option

Progress toward the 'Aligned Option'

Version: January 2018

				
	<b>Food Waste</b> (Weekly)	<b>Garden Waste</b> (£/fortnightly)	<b>Dry Recycling</b> (Weekly)	<b>Residue</b> (fortnightly)
<b>East Devon</b>	✓	✓	✓	✓ (t)
Exeter	(X)	✓	(f)	✓
Mid Devon	✓	✓	(f)	✓
<b>North Devon</b>	✓	✓	✓	✓
South Hams	(m/f)	(m/f)	(f)	✓
<b>Teignbridge</b>	✓	✓	✓	✓
Torrige	(m/f)	(m/f)	✓	(w)
<b>West Devon</b>	✓	✓	✓	✓
<b>Torbay</b>	✓	(£/X)	✓	✓

YELLOW = aligned option / £ = charged service / m = mixed collection / w = weekly / f = fortnightly / t = 3wklly / X = N/A