Agenda

Cabinet Member for Streetscene

Date: Wednesday, 9 May 2018

Time: Not Required

Venue: Not Required

To: Councillors R Jeavons

Item		Wards Affected
1	Scrutiny Waste Strategy Review Group - Final Report *(Pages 3 - 74)*	

Contact: :

E-mail:
Date of Issue: Date Not Specified

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Report

Cabinet Member for Streetscene

Part 1

Date: 9 May 2018

Subject **Waste Strategy Policy Review Group – Final Report**

Purpose To present the Cabinet Member with the findings and recommendations of the Waste Strategy Policy Review Group.

Author Overview and Scrutiny Officer

Ward All Wards

Summary The report attached is to be considered alongside the report from the Waste Strategy Manager. The Policy Review Group was asked to make recommendations on three separate areas of the Waste Strategy. These three areas were Household Collections, Household Waste Recycling Centre and Trade Waste. The attached report outlines the background information on why a Waste Strategy is needed, the methodology used, a summary of the information presented to the Group, the conclusion made by the Group and their recommendations to you.

Proposal It is suggested that the Cabinet Member note the report and considers the findings of the group when taking a decision on the Waste Strategy.

Action by Head of Streetscene and City Services

Timetable Immediately

This report was prepared after consultation with:

- Head of Streetscene and City
- Waste Strategy Manager
- Head of Finance
- Head of People and Business Change
- Head of Law and Regulation

Signed

Background

2.1 The Council has to meet challenging targets set out by the Welsh Assembly Government (WG) in Towards Zero Waste. These targets are related to the amount of recycling collected, the amount of refuse going to landfill and the amount of energy gained from burning refuse. Following a previous Audit and the Council agreed to create a strategic plan to tackle the necessary developments within this these areas to meet future targets.

2.2 The Wales Audit Office (WAO) recommended that the Council establish a Waste Strategy in 2015/16 in their waste services audit. They also stated that the Council needed to map out how exactly it would meet any waste related targets.

2.3 There are financial consequences to not meeting the targets; the fines are calculated based on £200 per tonne short of the target. For 19/20 with a recycling target of 64%, and assuming same recycling performance as in 16/17 (61.4%) the fine would equate to a £366,000 fine from WAG for not meeting the recycling target. WG have waived two fines in the past for underperforming in these areas, in part due to the commitment of the Council to adopt a strategic approach through the development of a Waste Strategy..

2.4 The Council needs to have a new Waste Strategy in place that includes medium to long term options and actions to meet the increasing recycling targets imposed by the Welsh Government. This is recognised internally and Council Officers have been working very closely with the Welsh Government to review the waste services and come up with viable options to improve the recycling performance, and it is also one of the recommendations from WAO after their audit of the waste services conducted during 2016/2017.

2.5 WAO have recognised the benefits from the work done by the Scrutiny Committee and have recommended that the Council make a better use of its scrutiny arrangements to provide more frequent and accurate performance information and analysis to enable it to monitor and manage waste and recycling performance effectively. As part of this process it is believed that involvement from the Scrutiny Committee in making suggestions linked to the approval process for the new Waste Strategy would be beneficial and could mark the start of a closer reporting process in terms of performance.

2.5 This referral was originally submitted to the Streetscene, Regeneration and Safety Scrutiny Committee in November 2016. The Committee agreed to set up a Review Group to consider options for the development for the Waste Strategy. The Review group was due to begin its review in February 2017. Due to the volume of work to be undertaken, it was unlikely that this group would conclude its work prior to the Local Government Elections. Concerns were raised that the Membership of the review group would change half way through its investigation due to the election, that it would result in having to duplicate the work with the new members. As such, the Committee agreed to postpone the commencement of this review, until the Committees were reconstituted following the Elections.

Scrutiny have previously been involved in issues relating to Waste, and have previously undertaken a review into increasing recycling. Waste and recycling has been highlighted previously as an areas of interest for scrutiny, with significant implications on the Council's Budget and is a topic of high interest to local residents.

2.6 At its meeting on 26 July 2017, the Overview and Scrutiny Management agreed to set up the Waste Strategy Policy Review Group. Membership for this review group was sought from all Scrutiny Members (including those on the other three Scrutiny Committees). The Membership was confirmed as follows:
- Cllrs M Spencer, J Cleverly, K Critchley, L Lacey and J Hughes.

Review Group Consideration

2.6 It is important to note that the Policy Review Group were asked to consider a specific piece of work which had been produced by Enumonia, a consultancy firm. The group were asked to consider and make comment on options proposed as a result of a thorough review of the waste services and modelling of different scenarios under the Welsh Government "Collaborative Change Programme".

It was intended that this would then form the basis of the strategic direction for the Council in relation to Waste, and that a Waste Strategy would be developed around these options. They were not asked to look at options outside of this modelling.

2.7 The final report provides overview of the five meetings between the Policy Review Group, Officers, WRAP Advisors and Enumonia, a consultancy firm. Looking at the background information, the three areas of focus, and the Members comments, considerations and recommendations on the approach the Council should take.

2.8 At its meeting on 16 November, the Overview and Scrutiny Management Committee considered the final report of the Review Group and endorsed its findings.

2.9 Attached at **Appendix 1** is the final report of the Waste Strategy Policy Review Group.

2.10 Section 4 of the report contains the conclusions of the group, and the recommendations being made to the Cabinet Member in relation to the 3 areas that the review group were asked to comment on:

- Household Waste
- HWRC
- Trade Waste

2.11 In Summary, of the options proposed, the group were not able to support the adoption of three weekly household waste collections, as they did not feel that the implementation would be successful at this time due to issues they perceived within the current system. The Group acknowledged that the Enumonia report modelling required the savings to be made within the Household waste collection to make the investment required within the other two sections, but could not support the introduction of three weekly collections at this time.

No other options to make the necessary savings were considered by the group. Meeting the future financial pressures was a matter for Head of Service to discuss with the Cabinet Member when taking a decision on the Waste Strategy.

Financial Summary

The appendices of the Waste Strategy Policy Review Group Report, highlight the modelling and the cost benefit analysis of the proposals and recommendations. It highlights that there would be a significant risk of fines from Welsh Government of £200 per tonne, which from past experience could be in excess of £300k. There would be a capital cost of improving the Docks Way HWRC, and developing a new site and these are discussed in the financial case to the report.

Risks

There are no risks to the Cabinet Member receiving the final report of the Policy Review Group. Any risks relating to the content and the adoption of a waste strategy would be covered in the officer decision report.

Links to Council Policies and Priorities

The Draft Corporate Plan 2017 – 2022. *Modernised Council* – A new Household Waste Recycling Centre is built as part of a new Love Newport deal with residents on waste, recycling and community pride.

Improvement Plan objective 7. Increasing recycling

'To ensure Newport delivers the Welsh Government objectives for the increasing of recycling and the European targets for diversion of waste from landfill, every recycling and diversion opportunity available to the city must be explored and where applicable, implemented.'

Options Available and considered

The Cabinet Member is asked to note the report and consider the findings of the group when taking a decision on the Waste Strategy. The Waste Strategy will be the subject of a separate report from the Head of Streetscene and City Services.

Preferred Option and Why

The Cabinet Member is asked to note the report and consider the findings of the group when taking a decision on the Waste Strategy. The Waste Strategy will be the subject of a separate report from the Head of Streetscene and City Services.

A further report from the Head of Streetscene and City Services on the Waste Strategy is recommended to outline the options for the development of the Waste Strategy. The purpose of this would be to provide the Cabinet Member with officer comment on findings of the review group, and the options for the Waste Strategy prior to take a decision. This report would also contain the detailed financial /budget implications of taking a decision on the waste strategy.

Comments of Chief Financial Officer

The report presents a combined set of three proposals which if implemented would enable the Council to meet recycling targets and so avoid a significant pressure in the way of Welsh Government fines, this has currently been estimated in excess of £300k. It should be noted that the recycling targets can only be achieved by implementing all three proposals and as such need to be treated as a whole. In addition to the avoidance of penalty fines, the report states that the implementation of these proposals would generate on average over £300k per annum in operational revenue savings but would require capital investment of more than £700k plus the purchase of suitable land. It should also be noted that the figures used in the report have not been updated since 2015/16; however the implications would still be relevant.

Comments of Monitoring Officer

There are no specific legal issues arising from the Report, which sets out the recommendations of the Scrutiny Review Group for consideration by the Cabinet Member. The proposal that the Council should establish a Waste Strategy to provide a policy framework for improving waste management services and increasing recycling rates is consistent with the Wales Audit Office recommendations, the new Corporate Plan and Improvement Plan objectives. Otherwise, there is a clear risk of the Council incurring fines and financial penalties for not meeting recycling targets. The proposal that the Performance Scrutiny Committee should also have an enhanced role in monitoring performance and the implementation of the waste strategy is also consistent with the Council's performance management framework and the WAO review. The Review Group have also made specific recommendations in relation to three particular aspects of the waste strategy – namely the rejection of three weekly collections, the introduction of a trade waste recycling service and the need for an additional household waste recycling centre.

Comments of Head of People and Business Change

The Waste Strategy Policy Review Group's role has been to consider the potential options for remodelling and the report details the findings of this work. Any staffing implications will arise at the point at which the Cabinet Member may wish to make a decision on those potential options. The report clearly highlights the current and future recycling targets and the implications of not meeting these and achievement of the required performance should be considered by the Cabinet Member at the point of decision. Again, the report sets out the link between the decisions taken now and the legislative requirements of the Well-being of Future Generation Act (well-being goal, a globally responsible Wales). As this Act is embedded the decisions of the Council will be measured increasingly against this legal framework and the sustainability principles contained within it.

Comments of Head of StreetScene & City Services

The authority has agreed with Welsh Government to develop and implement a comprehensive waste strategy in order to meet a 70% recycling target and deliver other aspects of the towards zero waste (the national waste strategy). Considerable work has been carried out by officers with welcomed support from Welsh Government. This has resulted in a number of options. The best performing configuration of options will enable Newport to meet the 70% target, improve environmental performance and make a saving of 2.3M over the next 5 years. This option is supported by officers.

The Policy Review group recommends a partial introduction, but excludes changes to domestic residual waste collections. Without such changes Newport will not meet statutory targets and will incur an estimated fine, based on forecasted recycling rate in 2017/2018, of 6.2M by 2024/2025. This in addition to the extra operational costs will add an unfunded pressure of 8.5M up from 2020 to 2025.

Local issues

N/A

Scrutiny Committees

The final report of the Policy Review Group had been reported to the Overview and Scrutiny Management Committee at its meeting on 16 November 2017. The Committee endorsed the findings of the group.

Equalities Impact Assessment and the Equalities Act 2010

N/A

Children and Families (Wales) Measure

N/A

Wellbeing of Future Generations (Wales) Act 2015

The Wellbeing of Future Generations Act (2015) sets out in legislation how the Council must work towards improving the environmental wellbeing of Wales. This Act states that the Council should take into account long term and preventative measures when decision making. The issue of recycling and waste is covered within the Council's wellbeing objective 2 - To promote economic growth and regeneration whilst protecting the environment, action 10 – Increase household recycling and divert waste from landfill.

Crime and Disorder Act 1998

N/A

Consultation
N/A

Background Papers

Welsh Government – Towards Zero Waste
Minutes of the Overview and Scrutiny Management Committee – 26 July 2017

Dated: 9 May 2018

Summary Report

Newport City Council Business Planning Toolkit CBA Summary Report

Executive summary

The role of the Cost Benefit Analysis (CBA) tool within the Business Planning Toolkit (BPT) is to support authorities in making balanced and sustainable decisions regarding the future of their waste and recycling services. To do this, the CBA compares the performance of each future scenario across four areas:

- Cost of service delivery;
- Performance of the service;
- Environmental impact of the service; and
- Employment generated by the service.

As part of this project, four future scenarios were examined against a business as usual baseline. All scenarios involved the implementation of the same waste a three weekly kerbside refuse service in September 2018 and four weekly service in April 2024, whilst testing the following additional changes:

- **Scenario 1** –None.
- **Scenario 2** –Three weekly garden waste collections in September 2018.
- **Scenario 3** –The commissioning of the trade recycling service in April 2017, alongside the growth of all trade collection services.
- **Scenario 4** – The commissioning of trade recycling in April 2017 alongside the growth of all trade collection services and the re-development of Docks Way HWRC is April 2018.
- **Scenario 5** – The commissioning of trade recycling in April 2017 alongside the growth of all trade collection services and the improvement works at Docks Way and develop a new HWRC on a new site

The following sections summarise the performance of each scenario against the four performance areas:

Cost of Service Delivery
All scenarios represent a saving against the baseline position. Scenario 4 requires the lowest overall budget in 2030 due to this scenario receiving the highest amount of income from the sale of dry recycling and lowest residual waste disposal costs. However, when NPV is take into account, all scenarios perform similarly, with scenario 2 having the lowest NPV at £66m closely followed by scenario 4 at £66.2m. NCC should note that all scenarios require an increase in the waste grant budget, due to the increase in recycling activities. However, as this is allocated centrally by Welsh Government, the amount received cannot be guaranteed and may result in NCC having to fill this shortfall. This would be the case in all future scenarios to a greater or lesser extent. As the CBA takes into account financial costs as well as the monetised environmental costs of waste and recycling activities, these have also been analysed as scenario 4 has the lowest combined financial and environmental costs at just over £5.326m in 2029, however Scenario 5 has a minimal additional net cost per annum when compared to Scenario 4 which makes it equally recommendable when considering the increased services delivered to residents by this option.

Performance of the service
The baseline position does not allow NCC to meet the 2019/2020 or 2024/2025 statutory recycling targets set by the Welsh Government. By not meeting these targets, NCC are at risk of potentially receiving fines from Welsh Government. All modelled CBA scenarios allow NCC to meet the 2019/2020 target of 64% recycling, however only scenarios 3, 4 and 5 will

meet the 2024/2025 statutory recycling target of 70% achieving recycling rates of 71%, 72.7% and 73.4% respectively.

Environmental Impact of the Service
All of the modelled CBA scenarios save more Greenhouse Gas (GHG) emissions (expressed in tonnes of CO_2) than the baseline, business as usual position. As the savings in GHG emissions are strongly linked to the recycling performance, the scenarios which have the highest recycling performance (scenarios 4 and 5) save the most greenhouse gas emissions when compared to the baseline. In all scenarios, GHG emissions savings noticeably increase in 2018 and then again 2024 when changes are made to the kerbside refuse service, as more material is driven into recycling. When the environmental impact of each scenario is monetised, all scenarios including the baseline have a net environmental cost saving. Although Scenario 4 and 5 have a relatively similar net environmental cost, Scenario 5 has the highest net environmental cost saving at £3.25m.

Employment generated by the service
The baseline number of people employed by or as a direct result of the delivery of NCC's waste and recycling services is modelled at 203 FTEs. Unlike the other measures, employment levels actually drop below the baseline in scenarios 1 and 2, this is due to the reduction in residual waste frequency and associated frontline resource levels. Within scenario 3 and 4 and 5 the number of FTEs increases to 246 and 252 (both Scenarios 4 and 5) respectively, largely driven by the additional employment generated by the commissioning of the trade recycling service and expansion of all trade waste and recycling collections.

Conclusions

The results of the CBA demonstrate that the implementation of any of the 5 scenarios would lead to lower costs, increased performance and a reduced environmental impact compared to the baseline. Comparison of scenarios provides clear evidence to suggest that Scenario 4 or Scenario 5 should be implemented, as there are there are minimal differences between the performance both scenarios. However, for a minimal additional net cost per annum, Newport City Council could open a new HWRC and increase the services delivered to residents, whilst achieving an increased recycling performance.

This would involve the following changes to waste and recycling services in Newport:

- Kerbside Refuse and Recycling Services - Current Service until **September 2018** when **three weekly refuse collections** are introduced. In **April 2024 four weekly refuse collections** are introduced.
- HWRCs - **Undertake improvements work to Docks Way HWRC**, whilst d**eveloping a new site** to open **September 2018**.
- Trade Waste and Recycling Collections - Current service until **April 2017** when the **trade recycling service is commissioned** to a third party.

These changes could lead to the following benefits for Newport City Council:

- **One of the lowest overall budget requirements in 2030**. The 2030 budget requirements of scenario 4 and scenario 5 are extremely similar (with £10k per annum) This is due to both scenarios receiving the highest amount of income from the sale of dry recycling and lowest residual waste disposal costs. When taking NPV into account, Scenario 5 is more costly than Scenario 2, however the difference is marginal. The

budget required for operating Scenario 5 in 2029/2030 is £6.17m compared to a business of usual baseline of £8.09m.

- **Successfully meeting the 2024/25 statutory recycling targets**. All scenarios lead to an improvement in recycling rates compared to the baseline, which would not allow NCC to meet the 2019/2020 or 2024/2025 statutory recycling targets set by the Welsh Government. However only scenarios 3, 4 and 5 will meet the 2024/2025 statutory recycling target of 70%, achieving recycling rates of 71% and 73% respectively. Furthermore, as NCC may be at risk of fines from Welsh Government of £200 per tonne for every tonne of material under the recycling target, only those will guarantee that no fines will be paid. This represents a potential £1.25 million saving in 2024/25 alone compared to the baseline.
- **The highest environmental cost saving of any option.** All of the modelled CBA scenarios save more Greenhouse Gas (GHG) emissions (expressed in tonnes of CO_2) than the baseline, business as usual position. Savings in GHG emissions are strongly linked to recycling performance, which is highest for Scenario 5. The CBA estimates a net environmental cost saving at £3.25 million (NPV, 2016-2030).
- **The greatest increase in employment of any option.** An additional 49 FTEs would be employed under Scenario 5 compared to the baseline, largely driven by the additional employment generated by the commissioning of the trade recycling service and expansion of all trade waste and recycling collections.

Figure 1 – Comparison Net Financial Costs Over Time

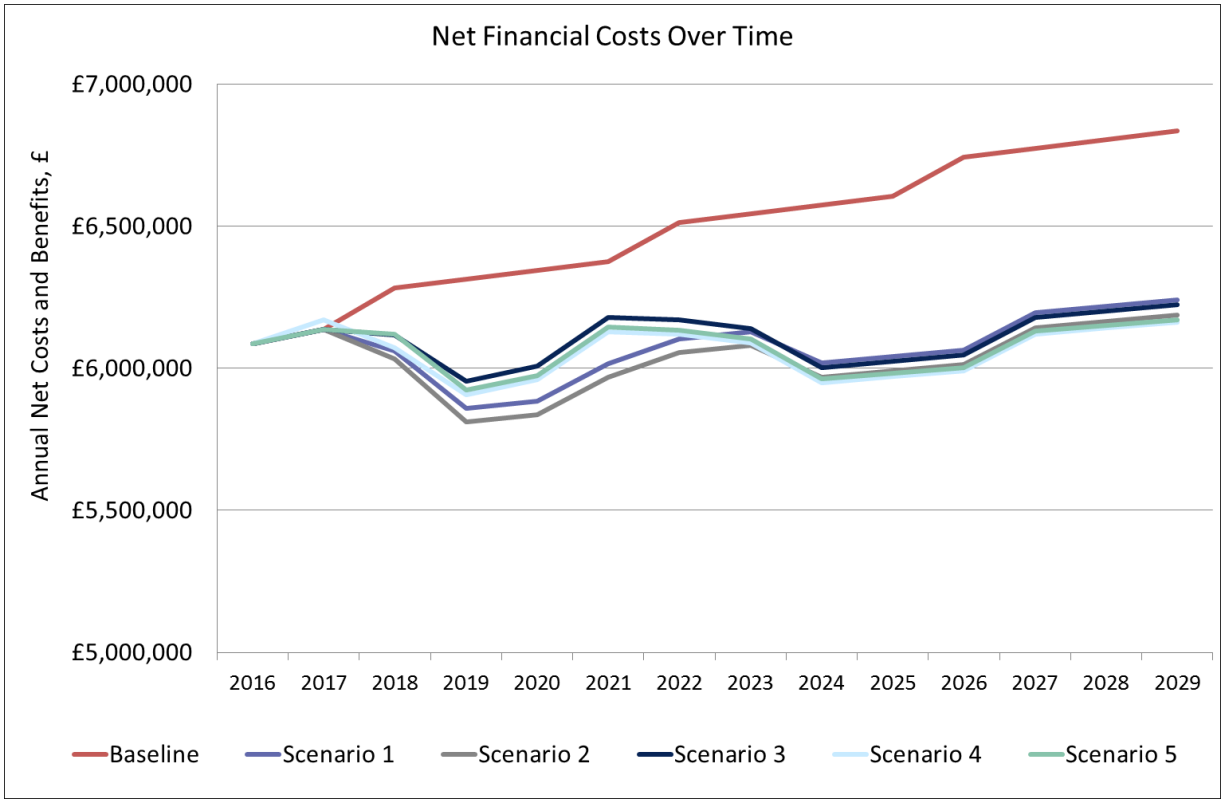


Figure 21 – Scenario 5 Mass Flows and Recycling Performance

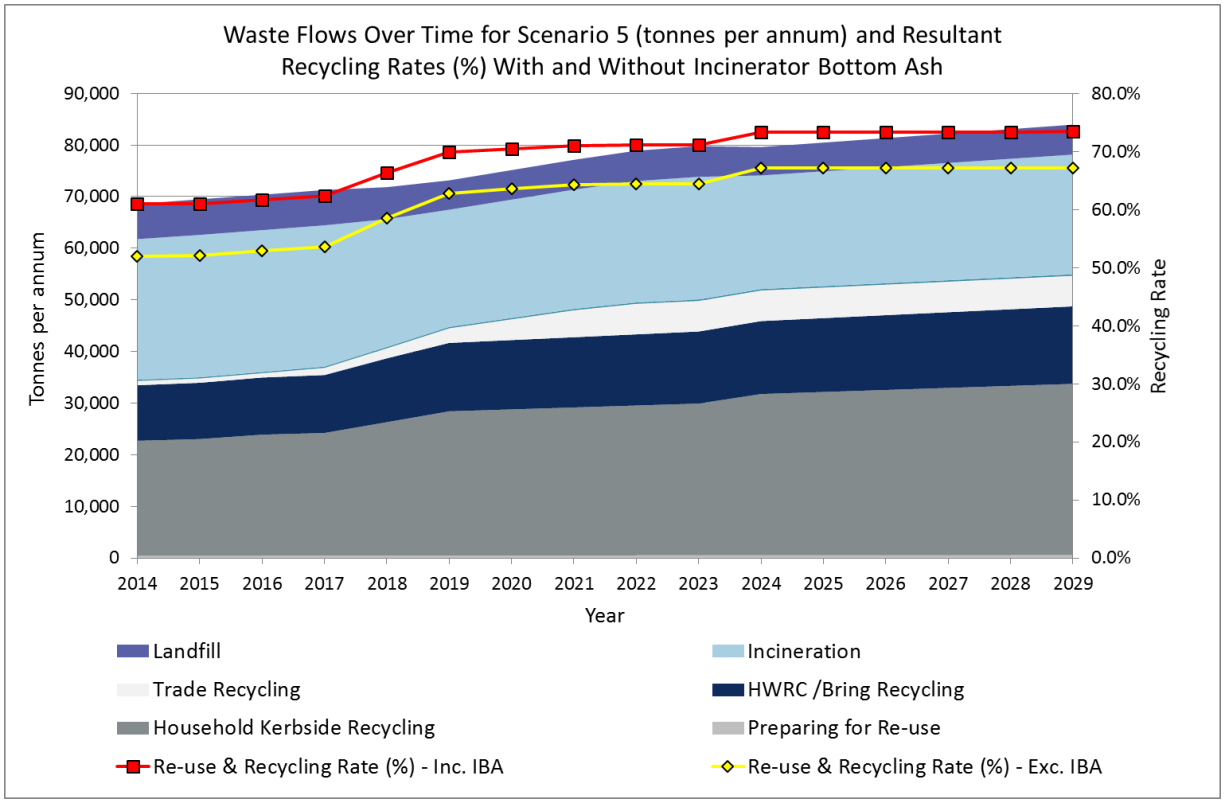


Figure 3 - Change in GHG Emissions Over Time Relative to the Baseline for Each Scenario

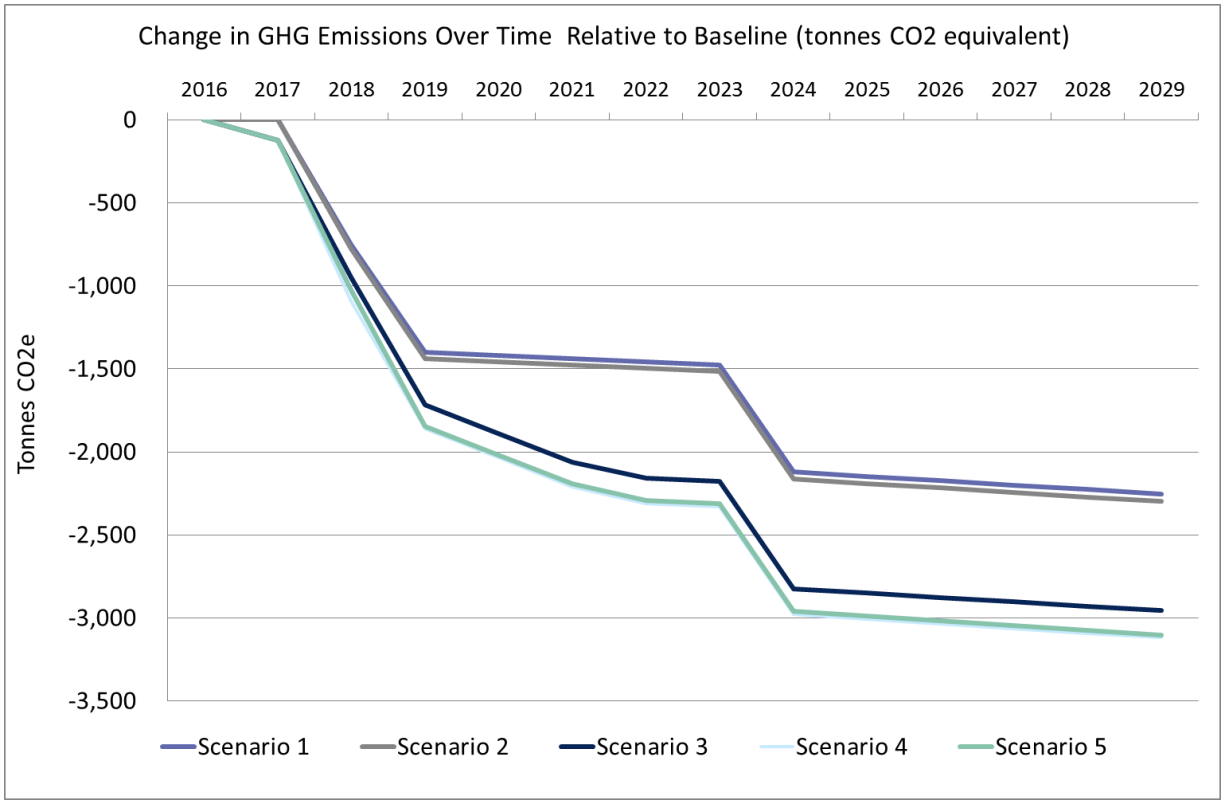
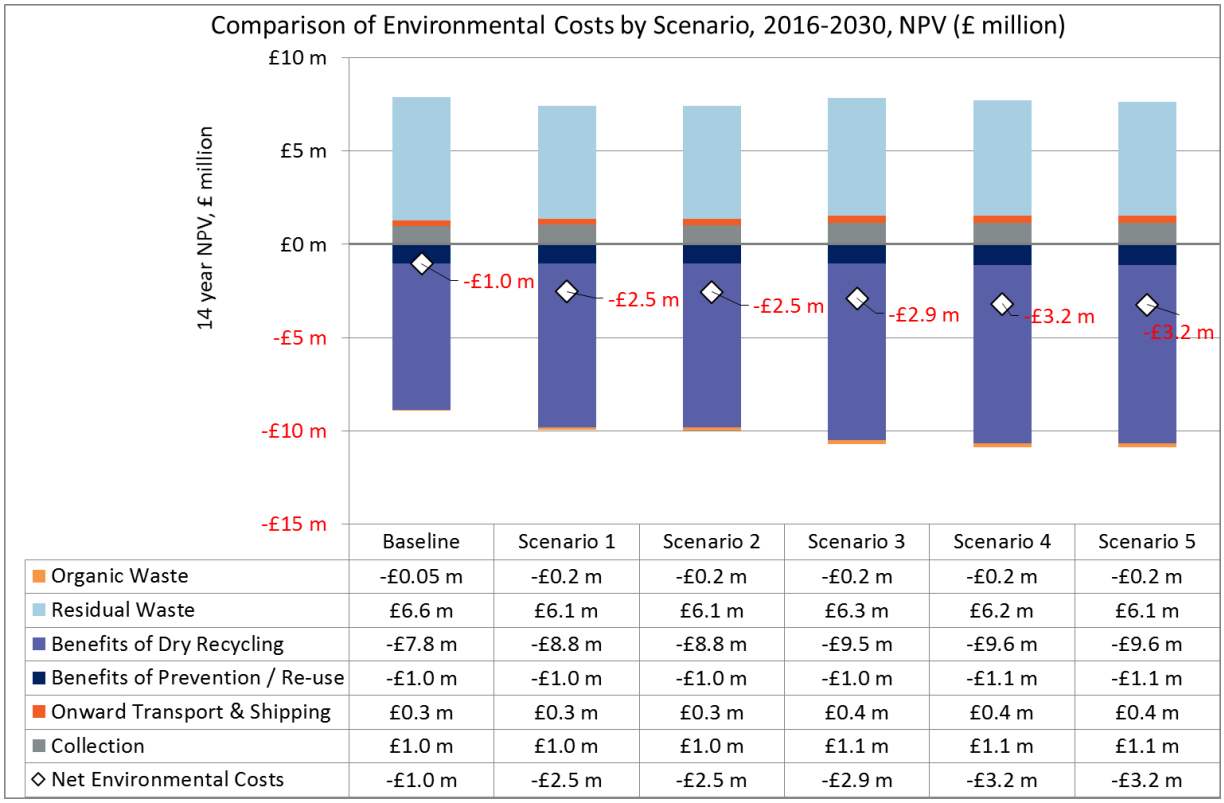
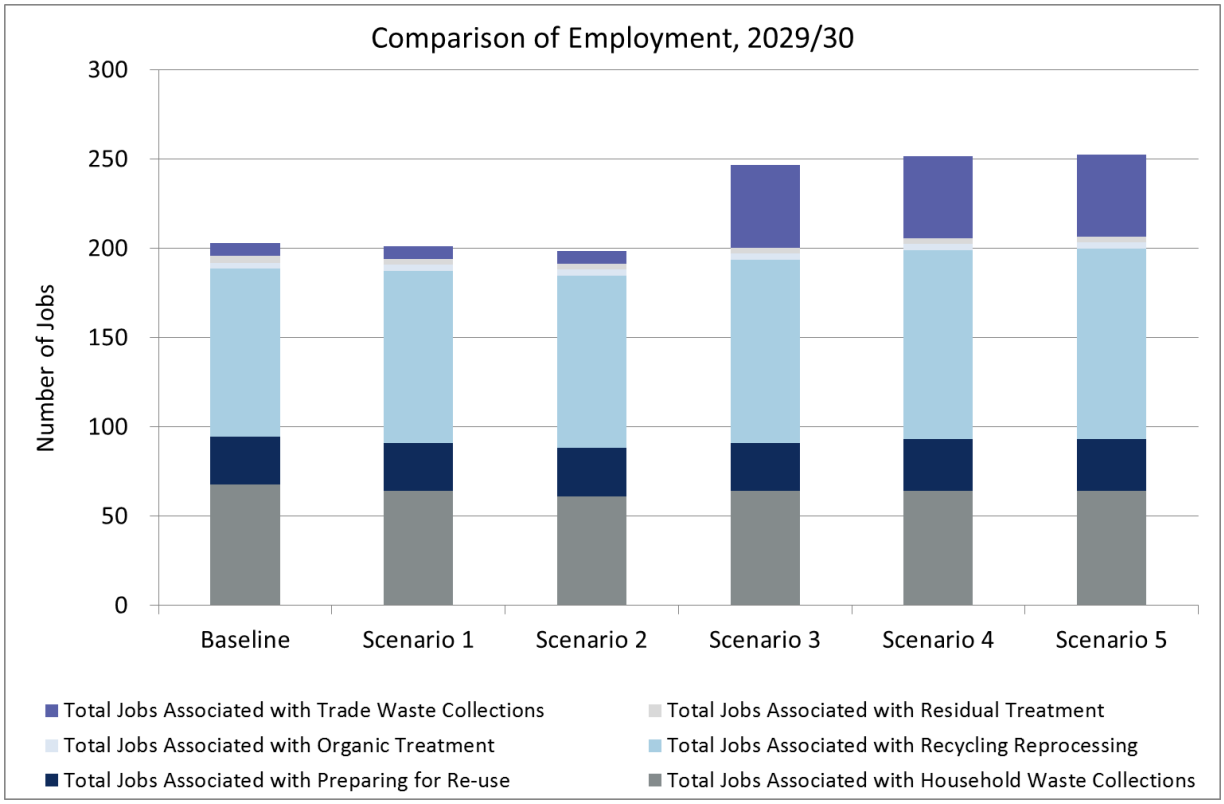


Figure 4 - Comparison of Environmental Costs by Scenario, 2016-2030, NPV



	Baseline	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5
Organic Waste	-£0.05 m	-£0.2 m	-£0.2 m	-£0.2 m	-£0.2 m	-£0.2 m
Residual Waste	£6.6 m	£6.1 m	£6.1 m	£6.3 m	£6.2 m	£6.1 m
Benefits of Dry Recycling	-£7.8 m	-£8.8 m	-£8.8 m	-£9.5 m	-£9.6 m	-£9.6 m
Benefits of Prevention / Re-use	-£1.0 m	-£1.0 m	-£1.0 m	-£1.0 m	-£1.1 m	-£1.1 m
Onward Transport & Shipping	£0.3 m	£0.3 m	£0.3 m	£0.4 m	£0.4 m	£0.4 m
Collection	£1.0 m	£1.0 m	£1.0 m	£1.1 m	£1.1 m	£1.1 m
◇ Net Environmental Costs	-£1.0 m	-£2.5 m	-£2.5 m	-£2.9 m	-£3.2 m	-£3.2 m

Figure 5 - The Maximum Amount of People Employed in Each CBA Scenario in 2029/2030


Comparison of Employment, 2029/30
300
250
200
150
100
50
0
Number of Jobs
Baseline
Scenario 1
Scenario 2
Scenario 3
Scenario 4
Scenario 5
Total Jobs Associated with Trade Waste Collections
Total Jobs Associated with Residual Treatment
Total Jobs Associated with Organic Treatment
Total Jobs Associated with Recycling Reprocessing
Total Jobs Associated with Preparing for Re-use
Total Jobs Associated with Household Waste Collections

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Newport City Council - Collections Modelling

Cost, performance and service delivery options for the collection of household waste for Newport City Council

Research date: Mar – June 2015

WRAP's vision is a world in which resources are used sustainably.

Our mission is to accelerate the move to a sustainable resource-efficient economy through re-inventing how we design, produce and sell products; re-thinking how we use and consume products; and re-defining what is possible through re-use and recycling.

Find out more at www.wrapcymru.org.uk

Written by: WRAP Collaborative Change Programme Unit

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1. Introduction

WRAP, through the Collaborative Change Programme (CCP) has been commissioned to work with Newport City Council (NCC) in order to review their waste and recycling services. This forms part of a wider work programme aimed at creating a business plan for achieving 70% recycling by 2025.

Newport is an urban unitary authority with 64,000 households and a population of 146,000 . Waste services are provided via a partnership with a local social enterprise, Newport Wastesavers, and are as follows:

- Weekly recycling collection of paper, glass, cans, plastic, textiles and small WEEE (electricals), using 2 x 55 Litre kerbside boxes and carried out by Wastesavers;
- Weekly collection of food waste, using 23 litre kerbside caddie and co-collected with the dry recycling by Wastesavers;
- Fortnightly recycling collection for card in reusable hessian sacks carried out by NCC;
- Fortnightly collection of garden waste from 240 litre bins collected by NCC. This service is suspended in the winter for 4 months;
- Fortnightly residual waste collection in predominantly 180Litre wheeled bins collected by NCC;
- Flats receive a weekly or bi-weekly residual waste collection and do not receive a garden waste service.

NCC narrowly met its 2014-15 recycling target of 52%.

1.1. Depot locations and tips

All NCC collection vehicles operate from a depot sited next to Docks Way Landfill Site, Wastesavers vehicles are based nearby at the Esperanto Way bulking station

- Residual waste is bulked at Docks Way and then hauled to the Trident Park incinerator in Cardiff. This arrangement is part of the residual waste hub (Prosiect Gwyrdd) and the council receive a subsidy from Welsh Government (WG);
- Garden waste is bulked at Docks Way and then sent to an in vessel composting facility (IVC);
- Food waste is bulked at the Wastesavers depot and then taken to Bryn Pica anaerobic digestion (AD) facility.
- Dry recyclates; glass, paper, metals & plastics are sorted, bulked and baled at Wastesavers depot and then sent directly to reprocessors around the UK;

- Card is bulked and delivered loose to Viridor's bulking station in Ty Coch.

1.2. Overview of the report structure

As far as possible the technical detail and statistical analysis has been placed in the appendices, with the main body of the report structured as follows:-

- **Collections Modelling:** this section details the methodology and outputs of the collection modelling;
- **Strategic Considerations:** this section considers some of the impacts surrounding the implementation of changes to collection services**;**
- **Conclusion and recommendations:** this section brings together the key results and recommendations from the modelling.

1.3. Appendices

The detailed results are included in the appendices.

2. Methodology

2.1. KAT (Kerbside Analysis Tool) - Collection Modelling Tool

WRAP's proprietary model KAT was used to calculate the performance and costs associated with different kerbside collection scheme configurations for NCC. Furthermore, a 'baseline' model was created which represents the current service. It is essential that the resources and logistics of the existing services are reflected as accurately as possible within the baseline, so that it serves as a reliable foundation for testing various alternative collection service options. Authority specific inputs to the baseline include information regarding the Authority's geography, number and type of households, current services and service performance, resources, and waste composition. Known inputs (from the perspective of the model these include: tonnages of each material type collected, numbers and types of households offered the service, and assumed tipping locations) are calibrated to known outputs (which in modelling terms includes the numbers of crew and vehicles used to deliver the collection services). Factors such as productivity, pass rates, participation rates, recognition rates (and therefore capture rates) are subsequently checked (where known), or developed from scratch where required (depending on the data available and its quality) to provide a full baseline model.

Put simply, the baseline model should reflect:-

- Waste composition and tonnages;
- Current participation, set out, recognition and capture;
- Authority characteristics (household numbers, population, housing types, distances etc.);
- Travel logistics (time, distance, speed, pass rate, pick up time etc.); and
- Current vehicle and container types and costs.

This creates a sensible basis for testing the performance of possible new schemes, ensuring that the Authority's specific constraints are properly reflected.

The projected costs are standardised in order to fairly assess the differences between options. **It is important to note that KAT modelling is relative and based on the current service, thus; if efficiency savings could be made on the current services, then they could also be made on the alternative options.** As such the cost differences are the relevant outputs from this work rather than the absolute numbers.

2.2. Baseline

The current collection services provided by NCC include the following:

- 56,513 households receive a weekly multi-stream collection of paper, cans, glass, plastic bottles and food waste collection by Wastesavers using 7.5T stillage vehicles. These households also receive a fortnightly cardboard collection carried out by NCC;
- 48,000 households receive a fortnightly garden waste collection, which is suspended for 4 months over the winter;

- 6,638 communal properties are serviced by near entry recycling facilities for dry recyclables and food waste;
- Residual waste is collected fortnightly predominantly in 180L wheeled bins.

2.3. Current performance

NCC narrowly met the statutory recycling rate target of 52% for 2014-15; this was broken down as below:

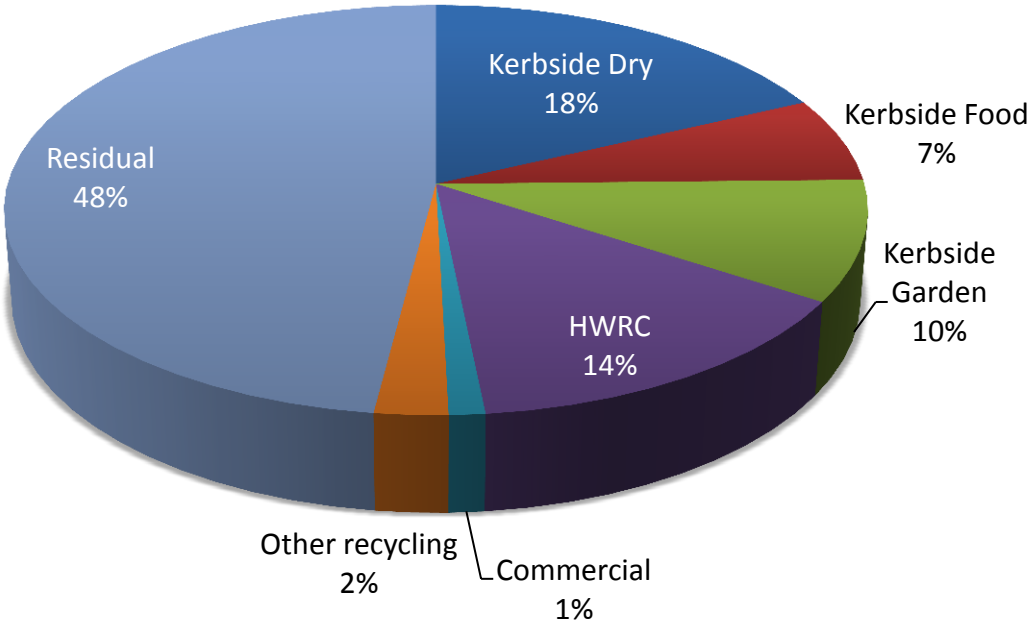

Figure 1: NCC Current Recycling, Reuse and Composting Performance Breakdown

The largest contribution to the recycling rate was from kerbside dry recycling with 18%, this is high compared to other Welsh Authorites, with the best performing authority achieving just over 20%.

Kerbside garden waste and food waste are about average at 10% and 7% respectively.

HWRC contribution is somewhat lower than most councils contributing 14% compared to 25% by some of the top performers.

It is however important to note that Newport only has 1 HWRC site to serve 65,000 households, compared to an average of 1 site per 17,000 across wales. This combined with free garden waste collection, will contribute to the lowered performance from HWRC sites.

In addition, Newport has a high amount of residual trade waste, which exhibits a downward pressure on its overall recycling rate, whilst some councils have little or no trade residual. Removal of trade waste would increase Newport's recycling rate by 4%.

Comparing the yields of individual dry recyclables can be difficult as the quantity available will vary depending on the composition. The figure below compares Newport to Bridgend.

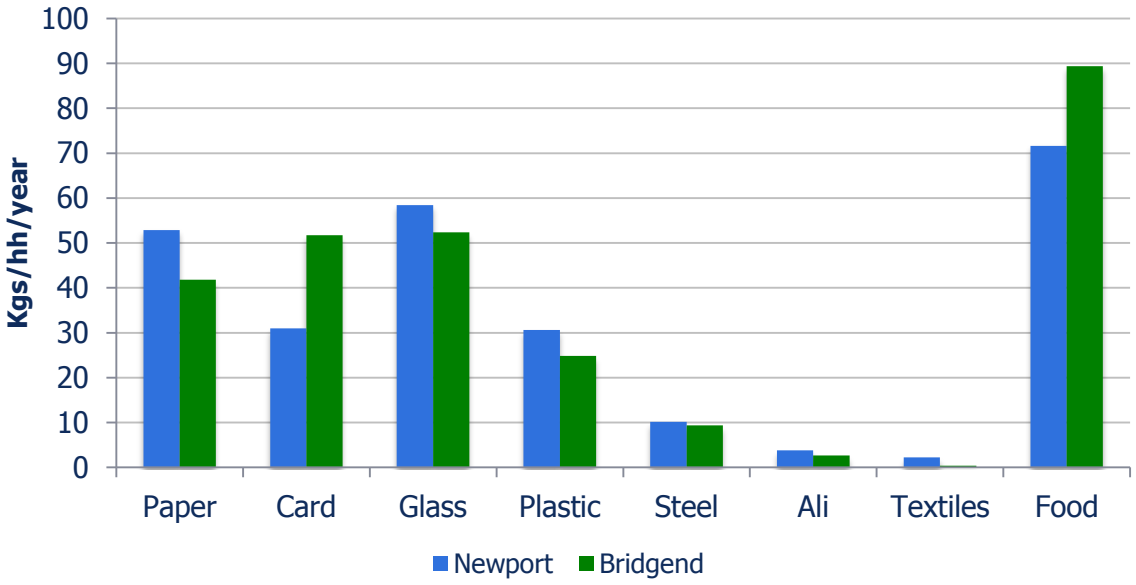

Figure 2: NCC Current Kerbside Yields

Bridgend has a similar demographic to Newport and operates a mature, weekly kerbside sort collection. The only difference is the weekly collection of card with the other dry recyclables. It can be seen that Newport compares favourable for all dry recyclables except card. This is consistent with the view that the fortnightly collection of card is slightly restricting the recycling yield. In addition food waste yields are higher in Bridgend, this may be in part to the fact that the authority has residual waste in sacks.

2.4. Current Service costs:

To understand how the cost of Wastesavers service compares to other councils we have used the latest WLGA waste finance data report, published in March 2015. The WLGA data set is built upon a consistent reporting methodology developed in partnership with the Wales Audit Office and WG. All costs are based around the waste management Revenue Outturn (R/O) of each authority, giving a control figure to cross reference to. 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).

As can be seen Newport has the lowest cost per household of any welsh authority, this is largely driven by very low kerbside recycling costs and the fact it only has 1 HWRC. Whilst this does not mean that no saving can be found, it shows that Newport perhaps have less scope for implementing more 'easy to make' savings

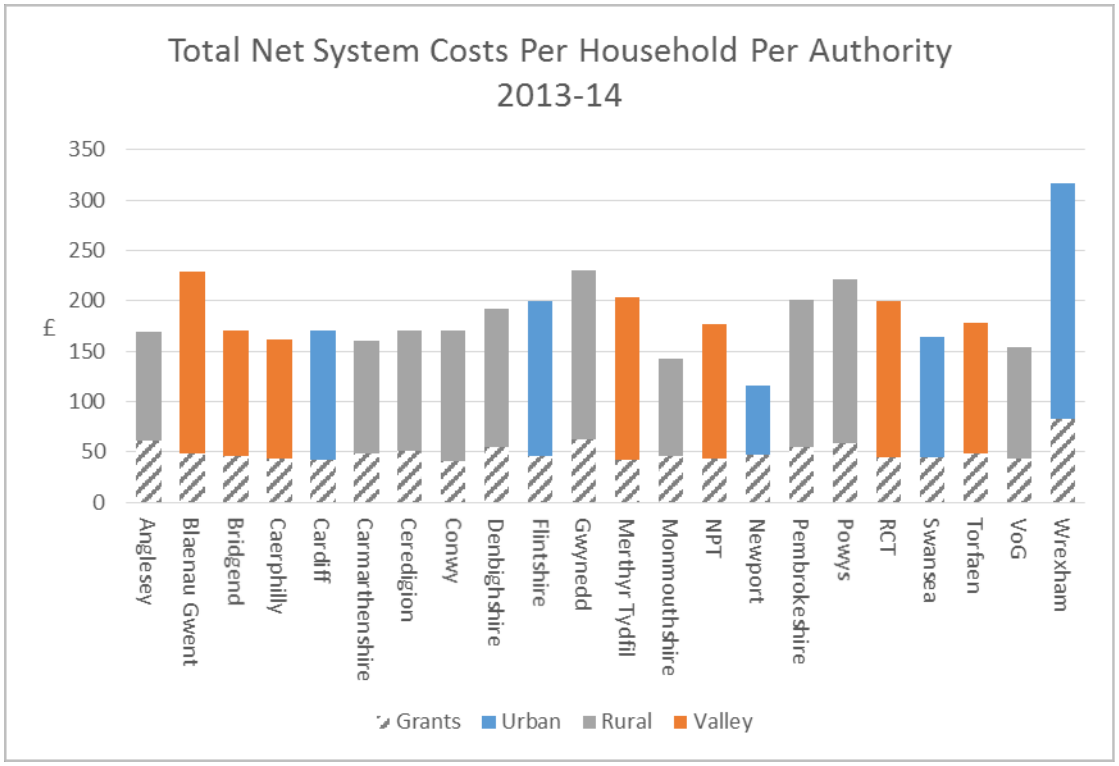

Figure 3: Total Net System Costs per Household per Authority 2013-14

2.5. Options Modelled

The core options modelling examines the impact of changes to the dry recycling configuration and greater residual restriction.

As noted above the fortnightly collection of card is likely to be reducing the yield obtained. When NCC moved its main dry recycling from fortnightly to weekly in 2003 it saw a significant increase in yield.

Given that NCC had recently replaced its residual wheeled bins with 180L bins, it was agreed to look at options that reduced residual collections to three weekly as a way of restricting waste.

Table 1 below summarises the service configurations of the options modelled.

Table 1: Summary of core modelling options

OPTION	Baseline	Option 1a	Option 2a	Option 3a	Option 1b	Option 2b	Option 3b
Refuse	Fortnightly	Fortnightly	Fortnightly	Fortnightly	3 weekly	3 weekly	3 weekly
Wastesavers	Weekly Dry/Food	Weekly Dry/Food	Weekly Dry/Food Card Romaquip	Weekly Dry/Food No Plastic	Weekly Dry/Food	Weekly Dry/Food Card Romaquip	Weekly Dry/Food No Plastic
NCC Dry	Card Fortnightly	Card Weekly		Card/Plastic Weekly	Card Weekly		Card/Plastic Weekly
Garden	Fortnightly	Fortnightly	Fortnightly	Fortnightly	Fortnightly	Fortnightly	Fortnightly

Option 1 is based on the current card collection moving to weekly using the same vehicles. Option 2 adds the card to the Wastesavers dry and food waste collection. For option 3 the current council card RCV is replaced by a two compartment RCV to enable the collection of plastic as well as card.

For the "a" options, refuse remains fortnightly, with the "b" options seeing a move to 3 weekly residual.

For each of the options the following impacts are considered:-

- Cost
- Performance
- Increased yields
- Capital expenditure
- Material income

2.6. Resource Recovery Vehicles (RRVs)

Since 2007, RRVs have been developed as an alternative to stillage and kerbsider type collection vehicles. RRVs commonly collect the full base range of dry materials as well as food waste and other minor streams (such as small WEEE, batteries and so on).

Standard RRVs are usually mounted on a 12 tonne chassis and are able to load on either one or both sides as well as having an element of compaction for plastic, cans and cardboard. A number of manufacturers are now producing such vehicles, including CWS Engineering, Romaquip (Figure 4) and Terberg. These vehicles cost between £90,000 and £125,000 and are typically crewed by a team of driver plus one loader. The latest models can be seen in operation in, Conwy, Anglesey, Powys, Merthyr Tydfil, Blaenau Gwent, Neath Port Talbot, Cotswolds, Cheshire West and Chester, Bristol, Belfast and Armagh.

Figure 4: Romaquip Kerbsort (Conwy)

The standard compartment volumes for this vehicle have been modelled, although it should be noted that the manufacturers are able to make adjustments to the compartment sizes to suit various service configurations.

These vehicles are used in option 2a and 2b as an alternative to the existing stillage vehicles.

2.7. Estimated yields:

The impact of a move from fortnightly residual waste collections to three weekly collections has been estimated based on the performance of other authorities that have made this switch. At the time of modelling only Gwynedd, Bury and Falkirk had moved to three weekly residual collections with a small trial also being carried out in Somerset.

Figure 5 below, shows the changes in residual and recycling yield experienced by these councils.

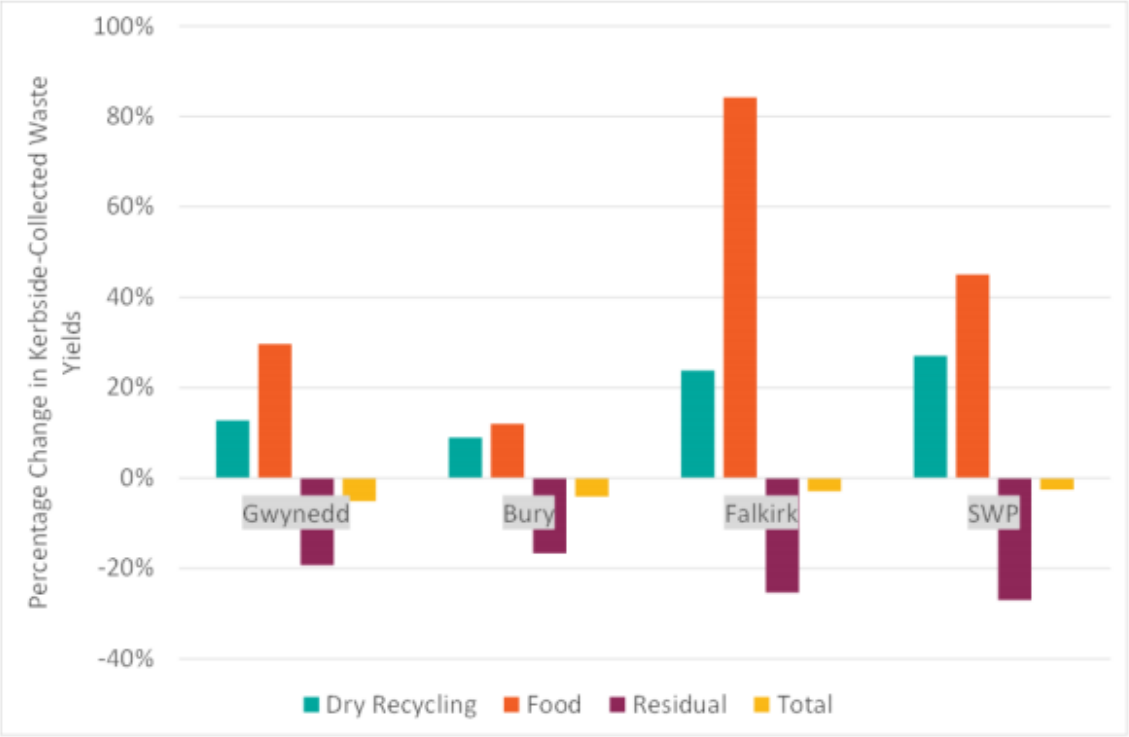

Figure 5: Impact of 3 weekly residual

The results show a clear pattern, of increased recycling and decreasing residual. Dry recycling increases by between 10% and 30%, though it should be noted that SWP added mixed plastics to its collections. Food waste increased by between 10% and 85%. Bury operates a mixed garden and food waste service and Falkirk's initial food yield was very low as such 30% to 40% is perhaps more realistic. It is also interesting to note that in all instances there was a small drop (2% to 5%) in total arisings

Based on this data the following central estimates have been made for the impact of 3 weekly residual in Newport

- Dry recycling increases by 15% for all materials other than glass;
- Glass recycling increase by 10% (due to the existing high capture rate);
- Food waste recycling increases by 30%;
- Garden waste recycling increases by 5%.

3. Modelling results

The following section seeks to present the headline results and draw out the key findings. A more detailed breakdown of the modelled costs can be found in the Appendix.

Note that for modelling purposes we are only interested in how costs will change under the different scenarios and as such, not all fixed costs and overheads are included.

For comparative purposes all capital costs are annualised, however in practice NCC may choose to directly purchase some capital. All costs are 2014-15 prices, and are based on a settled service. There will be a cost associated with any service change; however that will depend on the specific timing of the change, ages of vehicles etc.

The costs are broken down as follows:

Residual Collection -This includes annualised capital costs as well as direct vehicle revenue costs (fuel, maintenance, insurance etc.). It also includes all costs relating to direct operational staff (drivers and loaders,) and associated costs including cover for holidays and sickness.
Wastesavers - This includes annualised capital costs as well as direct vehicle revenue costs (fuel, maintenance, insurance etc.). It also includes all costs relating to direct operational staff (drivers and loaders), depot running costs and management of service. The figure is net of any material income received as this is passed back through to NCC.
NCC Dry - This includes annualised capital costs as well as direct vehicle revenue costs (fuel, maintenance, insurance etc.). It also includes all costs relating to direct operational staff (drivers and loaders); The figure is net of any material income.
Green -This includes annualised capital costs as well as direct vehicle revenue costs (fuel, maintenance, insurance etc.). It also includes all costs relating to direct operational staff (drivers and loaders,) and associated costs including cover for holidays and sickness. Supervision and management is assumed to be constant across all options.
Management and Supervision – This is the core NCC management costs that aren't service specific.
Receptacle replacement – This includes an allowance for on-going replacement of receptacles, and annualised cost for any new receptacles required for service changes.
Disposal Cost – This is the cost of disposal of non-recyclable waste, assumed to be via Trident Park and is net of WG subsidy.
Organics Treatment- This is the costs relating to the processing of garden and food waste.

3.1. Core Results:

Table 2 shows the component service costs of each of the core options modelled.

Table 2: Component service costs for all options

	Fortnightly refuse	Fortnightly refuse	Fortnightly refuse	Fortnightly refuse	3 weekly refuse	3 weekly refuse	3 weekly refuse
		Weekly card	WS card	NCC Card & plastic	weekly card	WS card	NCC Card & plastic
	Baseline	Option 1a	Option 2a	Option 3a	Option1b	Option 2b	Option 3b
Residual Collection	£1,126,902	£1,126,902	£1,126,902	£1,126,902	£865,279	£865,279	£865,279
Wastesavers	£1,020,907	£1,020,907	£1,278,591	£1,077,417	£1,310,512	£1,233,202	£1,080,472
NCC Dry	£454,286	£902,793	£0	£937,837	£913,856	£0	£1,027,345
Green	£439,069	£439,069	£439,069	£439,069	£439,069	£439,069	£439,069
Management & Supervision	£331,089	£331,089	£331,089	£331,089	£331,089	£331,089	£331,089
Receptacle Replacement	£257,344	£257,344	£224,595	£257,344	£280,405	£244,381	£280,405
Disposal Cost	£1,655,425	£1,602,952	£1,602,952	£1,602,952	£1,326,481	£1,326,481	£1,326,481
Organics Treatment	£615,316	£615,316	£615,316	£615,316	£671,341	£671,341	£671,341
Total	**£5,900,338**	**£6,296,372**	**£5,618,515**	**£6,387,927**	**£6,138,031**	**£5,110,841**	**£6,021,480**
Difference from Baseline		***396,034***	***-281,823***	***487,589***	***237,693***	***-789,497***	***121,142***
Recycling Rate	**52%**	**53%**	**53%**	**53%**	**59%**	**59%**	**59%**
Recycling Rate (with IBA)	**58%**	**59%**	**59%**	**59%**	**65%**	**65%**	**65%**

As can be seen the move to weekly card, using the current system (1a) would result in a significant increase in costs, this is due to extra cost related to running RCVs weekly. Whilst the extra card recycling generates some income and some disposal savings, it is not enough to offset the extra collection costs.

The addition of card to the Wastesavers vehicles (2a) is the most cost effective option and generates a net saving. This is due to the cost saving from the RCV pass for card and additional card recycling being greater than the additional cost incurred by the Wastesavers collection. Under this option Wastesavers will replace the current 7.5T stillage vehicles with modern 12T RRVs,this results in an additional cost of operation per vehicle. However the number of additional vehicles is small (1.2) because plastic and cans will no longer be sorted at the kerbside.

The move to weekly card collections is likely to only have a small impact on recycling rate and we have assumed only a 1% increase in overall recycling. However combined with the cost savings, and the improved service to residents, this option is worth pursuing.

The introduction of three weekly refuse collections, results in a reduction in all “b” options compared to the equivalent “a” options, however only option 2b shows a saving against the baseline.

Under option 2b, the residual waste collection and disposal costs are reduced. There is a slight increase in organics treatment, due to the additional food and garden waste recycling. The net cost of the Wastesavers recycling is broadly similar, this is due to the cost of additional vehicles being offset by the additional income.

3.2. Material income

The material values are based on the prices received at the time of modelling and the market for kerbside sort material.

Secondary commodity values are linked to both supply in primary commodity markets and demand for manufactured goods. Recycled products can compete directly with raw materials and this will be dependent on a number of key factors including supply, demand, quality and price, all of which interact with and influence each other.

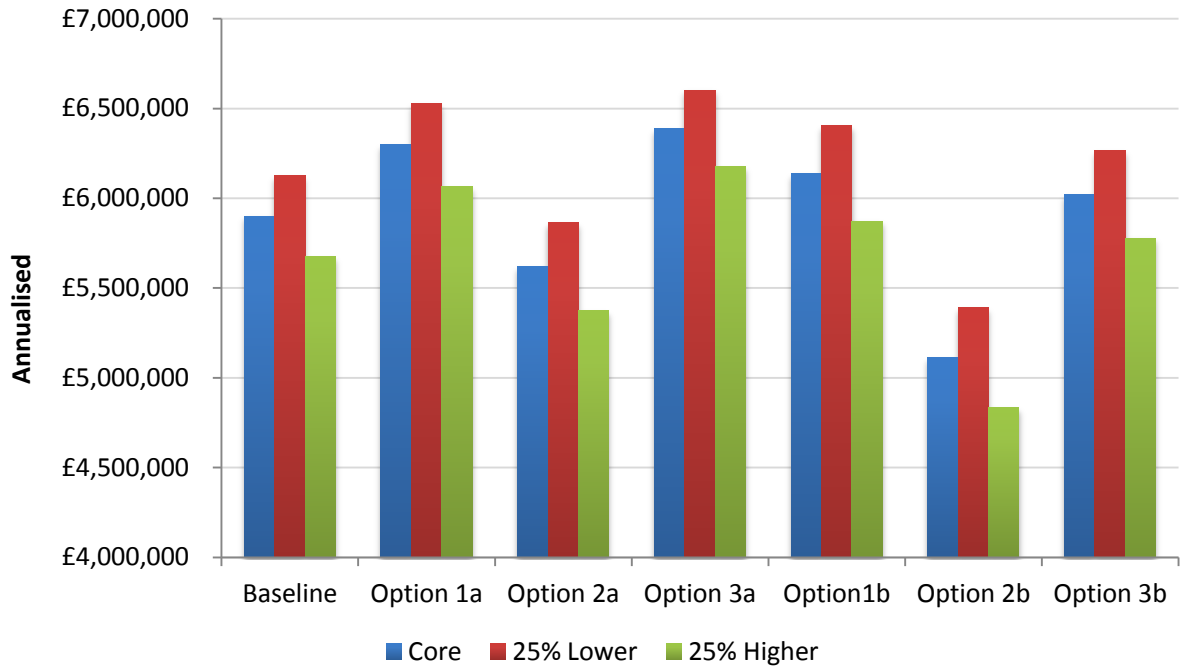

Figure 6: material income sensitivity

The figure above shows the significant impact of material values on the overall costs of service; however the relative performance of each option remains unchanged. An assessment of value for money of Wastesavers by WRAP found that material income derived by Wastesavers is high compared to other Welsh Authorities and the authority has a reputation for high quality recyclate, which will minimise the impact of market fluctuations. Whilst prices for some material can be fixed, this is often counterproductive as a risk premium will be attached to any fixing, which is likely to result in less income over a given period of time.

Further sensitives around composition and housing growth will be examined in the CBA model as these have a broader impact that kerbside collection alone.

3.3. Further options:

3.3.1 Garden waste

Following the initial modelling, it was requested that the reduction in garden waste frequency be examined. The logic for this is that should residual waste collections move from 2 weekly to 3 weekly, the juxtaposition with a retained 2 weekly garden waste service may be confusing.

As there is little data on such a change the modelling is less robust than the core modelling, but gives an indication of the likely impact of such a change.

Although the reduction in garden waste collected is somewhat speculative, we have used a 10% reduction as a central estimation. Given the amount of garden waste relative to the containment and the fact that excess can be taken to the HWRC site at Docks Way, this seems sensible. It may be that for heavy garden waste users NCC issue a larger or second orange lidded bin.

Based on this assumption the reduction in frequency of garden waste and residual waste to three weekly results is a saving of £86K per year, at the expense of 1% recycling rate.

Table 3: Component service costs for all options

	Fortnightly refuse Baseline	3 weekly refuse weekly card Option1b	3 weekly refuse WS card Option 2b	3 weekly refuse NCC Card & plastic Option 3b
total core	£5,900,338	6,138,031	5,110,841	6,021,480
3 weekly garden saving		-86,038	-86,038	-86,038
Net cost	£5,900,338	£6,051,993	£5,024,803	£5,935,442
Difference from Baseline		***£151,655***	***-£875,535***	***£35,104***

3.3.2: 4 weekly residual collection

There is very limited data around the impact of 4 weekly residual waste collections, although a number of trials are currently taking place. Given everything we have seen from the introduction of fortnightly refuse and three weekly refuse, it is reasonable to expect that further residual restriction will result in a greater increase in recycling, through quantifying this is challenging. As such we have chosen a conservative core assumption of a further 5% increase in dry recycling and 10% in food waste, due to the "yuk" factor of having it hanging around for 4 weeks.

Table 4: Component service costs for all options

	fortnightly refuse Baseline	fortnightly refuse WS card Option2a	3 weekly refuse WS card Option 2b	4 weekly refuse WS card Option 3b
Residual Collection	£1,126,902	1,126,902	865,279	748,197
Wastesavers	£1,020,907	1,278,591	1,233,202	1,246,665
NCC Dry	£454,286	0	0	0
Green	£439,069	439,069	439,069	439,069
Management & Supervision	£331,089	331,089	331,089	331,089
Receptacle Replacement	£257,344	224,595	244,381	244,381
Disposal Cost	£1,655,425	1,602,952	1,326,481	1,176,124
Organics Treatment	£615,316	615,316	671,341	689,097
Total	**£5,900,338**	**5,618,515**	**5,110,841**	**4,874,623**
Difference from Baseline	0	***-281,823***	***-789,497***	***-1,025,716***
Recycling Rate	**52%**	**53%**	**59%**	**61%**
Recycling Rate (with IBA)	**58%**	**59%**	**65%**	**67%**

Table 4 above shows the comparison of option 2, under fortnightly, 3 weekly and 4 weekly residual. Whilst the recycling improvement assumptions for option 4 are conservative and result in only a further 2% rise in recycling, the additional cost saving is significant. However the practicality of moving straight from fortnightly to 4 weekly residual may make this option unviable in the short term.

The modelling suggests that the introduction of three weekly residual waste collection, will increase the overall recycling rate in Newport to 65% once IBA is included and it is likely to be the case that a further 5% can be achieved from non-kerbside recycling sources (e.g. commercial, HWRC etc.).

4. Implementation of service change

It is important to note that the modelling carried out represents the cost differences between options based on a settled state, and that any change in service will result in an additional mobilisation cost, including but not limited to:

- Education and leafleting costs
- Initial re-routing and post implementation fine tuning
- Increased complaint handling
- Additional missed collection support vehicles
- Staff training
- Resource dis-optimisation during service roll out

The exact make-up of these costs will need to be developed as part of an implementation plan.

4.1. Routing

The modelling exercise gives a robust estimate of the resources required to deliver different collection scenarios. However, individual round sizes will vary and detailed planning and re-routing will be needed to ensure effective deployment of resources.

There are various routing software solutions available to authorities looking to re-route waste and recycling collection services. These fall into two main categories:

1. Route management software: Software of this type, which continues to be widely used both by public and private sector service providers, provides various interfaces for the design and management of routes but does not automate the process. Instead of supervisors and service managers designing routes, using maps and highlighters, the routes are created on screen by dragging-and-dropping streets, street segments or individual properties to allocate them to individual routes. As a prior exercise, the user will input the amount of waste of each type that they typically collect from each house and the collection time. Based on this data, as the routes are created the software will count the number of properties and make estimates regarding the point at which the round is collecting from as many properties as are practical, either in terms of collection time or vehicle capacity. Additional factors, such as travel time to and from the depot and the tip, allow the operator to quickly design routes which are practically deliverable. The data is stored in a database which is accessible by most council CRM systems, so that information regarding assisted collections or frequently missed collections or other customer complaints or issues can be easily associated with the round lists and flagged to the collection crew.

2. Route optimisation software does the entire above but also automates the design of the rounds using sophisticated algorithms to calculate the best possible routes through the entirety of the work.

Route management software is much quicker to set-up, is cheaper, and offers significant benefits over traditional paper-based methods of work management.

Whilst route optimisation is more expensive, both in terms of software costs and set-up time, an increasingly significant number of users report that it successfully designs genuinely more efficient routes. Once set-up has been completed, new routes can very quickly be generated with less user effort when, for example, service patterns change. It is entirely practical with route optimisation software to re-route services in the most rational way possible: if garden waste services are to be provided at different frequencies at different times of the year, when residual service frequencies are changed, when targeted recycling materials change or when the materials collected in various streams change over time. Route optimisation software would allow, for example, for the regular and fully automated re-routing of commercial waste collection rounds as customers leave and join the service.

4.2. Additional support

Additional support, be it overtime or temporary additional staff and rounds, should be planned and budgeted for during the first few weeks of a service change. Specifically, this is necessary to deal with:

- Potential additional workload due to resident anticipatory stockpiling of waste;
- Potential additional workload in collection areas with day changes as extra materials will be set out if the gap between collections is greater than normal;
- Slower collection times as crews familiarise themselves with new vehicles, collection areas and set out patterns;
- Additional vehicle breakdown likely with new vehicles;
- Deployment of new staff under some of the options;
- If a phased roll out approach is adopted then there are likely to be partial rounds until the full service roll out is complete.

In addition, it is normal to expect an increase in both receptacle requests and missed collections during a service change. Missed collections can result from resident collection times/days changing or crews' unfamiliarity with particular nuances of an area. It is common for informal assisted collections to develop in a stable service and every effort should be made to document these prior to route changes.

We have budgeted for receptacle replacement; however it is likely that these costs will be skewed towards the months around any service change. This is in part due to the added promotion but also due to previous non recyclers taking part.

4.3. Training

We would recommend that additional costs be budgeted for training (although this may just involve a refocusing of current training budgets) specifically to cover the following issues:

- All operational staff should receive general training on the new service as they are ambassadors for the service and will readily be approached by members of the public;
- New vehicles will mean new systems of work and risk assessments;

- Understanding new material grades and rules such as side waste polices;
- Contact centre staff will need guidance and new scripts for new service rules and how to apply any grace period or leniency..

5. Conclusions and recommendations

The current kerbside collection service performs well, delivering a good level of recycling at a very low cost. It broadly complies with the Welsh Government collections blueprint as well as the Waste (England and Wales) Regulations (2011) requirement for separate collection.

Increasing the frequency of card recycling from fortnightly to weekly is estimated to generate a small increase in overall recycling levels (1%).

The most cost effective method of introducing a weekly card collection is to add it to the weekly Wastesavers collection, this generates an estimated saving of £282K per annum compared to business as usual.

The reduction of residual waste collection frequency to three weekly is likely to significantly increase the overall recycling rate (by a further 6%).

When three weekly residual waste collections are combined with weekly collections of card through the Wastesavers service, there is an estimated saving of £789K per annum compared to business as usual, or there would be an estimated saving of £507K per annum, when compared to just introducing weekly card collection.

If residual waste is reduced to three weekly, it may be sensible to reduce garden waste frequency to match residual waste. This is likely to generate a small additional saving of around £86K per annum at the expense of 1% recycling rate.

Given the current performance in Newport, it likely that NCC can achieve a recycling rate of 65% or above through the introduction of three weekly residual waste collections. It is likely that with improvements to other services the 70% (HWRC and trade) target could be met.

It is important to note that year on year budgets will be impacted by movements in material markets and inflation. As such this modelling shows comparative performance rather than absolute.

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NEWPORT CITY COUNCIL
HWRC REVIEW-SUMMARY

Review of Docks Lane household waste and recycling centre

Executive summary

This report extracts key information, from the full reports presented by WRAP and Resource Futures, to provide a briefing for the Policy Review Board.

The WRAP Collaborative Change Programme (CCP) is funded by the Welsh Government to support Welsh Authorities to achieve the targets set out in its waste strategy. Resource Futures has been contracted under the CCP to provide technical expertise to review household waste recycling centres (HWRC) and Waste Transfer Stations (WTS).

Newport City Council (NCC) requested support to review the Docks Way HWRC. The Council has previously investigated redevelopment and the plans were reviewed as part of this study. The team also considered the congestion problems the site suffers from and improvements that could help increase the recycling rate performance. This report details the observations and recommendations associated with a review of the Docks Way HWRC and an appraisal of alternative HWRC options.

The recommendations that could be implemented in the short term are listed in the table below. If these improvements are made, Resource Futures predicts the recycling rate could increase to 84.5%, compared to a forecast of 77.5% in 2015/16. This is based on the Resource Futures HWRC recycling rate prediction model which calculates increases in recycling rate associated with statistically significant improvements. Rubble recycling has been assumed to remain constant[1]. The best available evidence (detailed statistical analysis of over 300 HWRC sites[2]) indicates that this can be achieved if improvements suggested are made. Site staff will require an accomplished manager to ensure performance is maximised. This improvement in recycling rate could add an additional 1.75% to the overall Newport recycling rate figure.

Type	Recommendation	Reason for recommendation	Priority
Recycling infrastructure	■ Reduce the number of residual waste skips thus allowing space for additional materials in the split-level section of the site	Increase recycling and reduce residual waste	High
	■ Move residual waste skips to the end of the site prompting the public to consider separating material for recycling beforehand	Increase recycling	High
	■ Improve drainage in the WEEE area and provide a painted pedestrian access zone	Increase recycling	High
	■ Collect dry recyclables in the same area of the site in order to improve clarity for the user	Increase recycling	Low
	■ Move the bulk skips for paper and cardboard into the split-level section of the site thus offering more space for clothes and books where paper is currently collected	Increase recycling	High
Traffic management	■ Install a webcam at the site with a live feed onto the NCC website to allow the public to view how busy the site is and wait until traffic at the site	Health and safety	Medium

[1] *The model calculates the recycling rate excluding rubble. As the rate excluding rubble is not a relevant indicator in Wales, only the total recycling rate has been included. For information, the model predicts a recycling rate of 71.3% excluding rubble.*

[2] *From an in house model similar to the one used in the WRAP HWRC Toolkit, http://www.wrap.org.uk/content/household-waste-recycling-centres-guide*

Type	Recommendation	Reason for recommendation	Priority
	reduces before choosing to go there		
	■ Repaint the road markings across the entire site	Health and safety	Medium
Staffing and opening hours	■ Amend staff numbers to employ more staff during busy periods (at weekends)	Increase recycling	High
	■ Extend weekday opening hours until at least 6pm in the summer to allow members of the public to use the site during the week after work	Increase recycling	Medium
Signage	■ Review all signs for consistency, quality and clarity	Increase recycling	High
	■ Improve signage from the main road	Increase recycling	High
	■ Consider displaying feedback signs on current recycling rates to residents and encourage even more recycling	Increase recycling	Medium
Re-use	■ Conduct PAT testing on site	Increase re-use	High
	■ Improve signage to the re-use shop to make it more prominent and urge site users to consider re-use	Increase re-use	High
	■ Rebrand the site as a re-use and recycling centre to focus attention higher up the waste hierarchy	Increase re-use	Medium
Trade waste	■ Install additional CCTV in the WEEE area to deter site users from disposing of items they should not be	Reduce residual waste	Low

There are other more significant redevelopment improvements that are expected to improve the safety of site users and workers, as well as maximise re-use, such as:

- Reversing the flow of traffic around the site
- Having a separate entrance and exit to the site
- Relocation of the central car park to another part of the site thus allowing for a horseshoe shaped site which would include space for more bulk skips and dedicated areas for dry recycling, WEEE and re-use.

These changes have been discussed with the waste management team and the in-house civil engineer and have been identified as helping to reduce congestion and reduce the risk of accidents in the area. Such changes are not known to be statistically significant and therefore their impact on recycling rate performance cannot be modelled. However, in our opinion, such changes will have a positive impact on performance.

As well as redevelopment of Docks Way, Resource Futures considered the feasibility of constructing a second HWRC or a zero waste site within the city.

An options appraisal has been completed which takes account of factors such as political appetite, capital requirements, environmental improvements and deliverability. The outcome of the appraisal suggests that the best option for NCC is to redevelop the Docks Way site. Plans for redevelopment of Docks Way have previously been developed by in-house civil engineers. It is advisable that these plans are updated to take account of recommendations in this report. Whilst not all recommendations relate to factors that are statistically significant in increasing HWRC recycling rates, Resource Futures believes that they would provide value for money due to the additional benefits the improvements would bring; for example, improved traffic flow in the area, greater focus on re-use and recycling onsite, improved safety of site users and the ability in future to locate additional services in the same area.

The development of a zero waste site was ranked second in the options appraisal. However, when the significant housing growth is considered NCC may therefore wish to redevelop Docks Way to provide an improved service (including improving health and safety and congestion locally) in the short to medium term, with a longer term view of providing a second site in the city which focuses on waste prevention and re-use. The potential for income generation makes this an exciting proposition.

1.0 Introduction

Resource Futures has been contracted to provide technical expertise to review household waste recycling centres (HWRC) and Waste Transfer Stations (WTS) under the WRAP Collaborative Change Programme. The CCP is funded by the Welsh Government to support Welsh Authorities to achieve the targets set out in its waste strategy. This report details the observations and recommendations associated with a review of the Docks Way HWRC in Newport, as well as consideration for the need for an additional site, and an options appraisal to evaluate HWRC network options.

2.0 Background

Newport City Council (NCC) has only one HWRC. The HWRC at Docks Way is a medium-sized purpose-built site, located in the industrial south of the city close to Alexandra Docks and the Docks Way landfill site. As the only site in the city it serves the entire population of Newport (145,700 in the 2011 census). The site experiences congestion on each weekend (usually between 10am and 2pm which can see up to 30 vehicles queuing outside the site and onto the surrounding road, which is a dual carriage way. Stopping is prohibited on this road, as well as dangerous.

Newport HWRC is provided solely for residents of Newport to take materials for recycling, composting, re-use and as a last resort landfilling at the adjacent landfill site. Residents can deposit up to five black bags of unsorted waste per week into the general waste skips, but must sort all remaining waste into the recycling skips. Enforcement is predominantly by encouragement as staff do not believe they have the authority to ban the public from sites. If a site user has more than five black bags, they are asked to split them. If they do not, or become aggressive, they are directed to the site office. Trade customers and residents with vans or pickups can deposit waste intended for landfill at the transfer station for a charge. Ad hoc arrangements are made for traders with residual and recycling who go the weighbridge, weigh off and tip residual then deposit recycling at the HWRC.

2.1 HWRC throughput and recycling rates

The Newport site throughput for 2014/15 was 13,631 tonnes with a recycling rate of 73.2% including rubble. This compared favourably with other authorities in Wales. Table shows the HWRC throughput and recycling rates in 2014/15. Figures from NCC for 2015/16 suggest a site throughput of 15,624 and a recycling rate including rubble of 77.5%

Table: HWRC throughput and recycling rates 2014/15 and forecast 2015/16

Residual tonnes	3,657	3,519
Recycling tonnes (ex rubble)	5,419	5,409
Rubble tonnes	4,554	6,696
Recycling inc rubble, tonnes	9,973	12,105
Throughput ex rubble, tonnes	9,077	7,732
Total throughput, tonnes	13,631	15,624
Recycling rate inc rubble	73.2%	77.5%
Recycling rate ex rubble	59.7%	60.6%

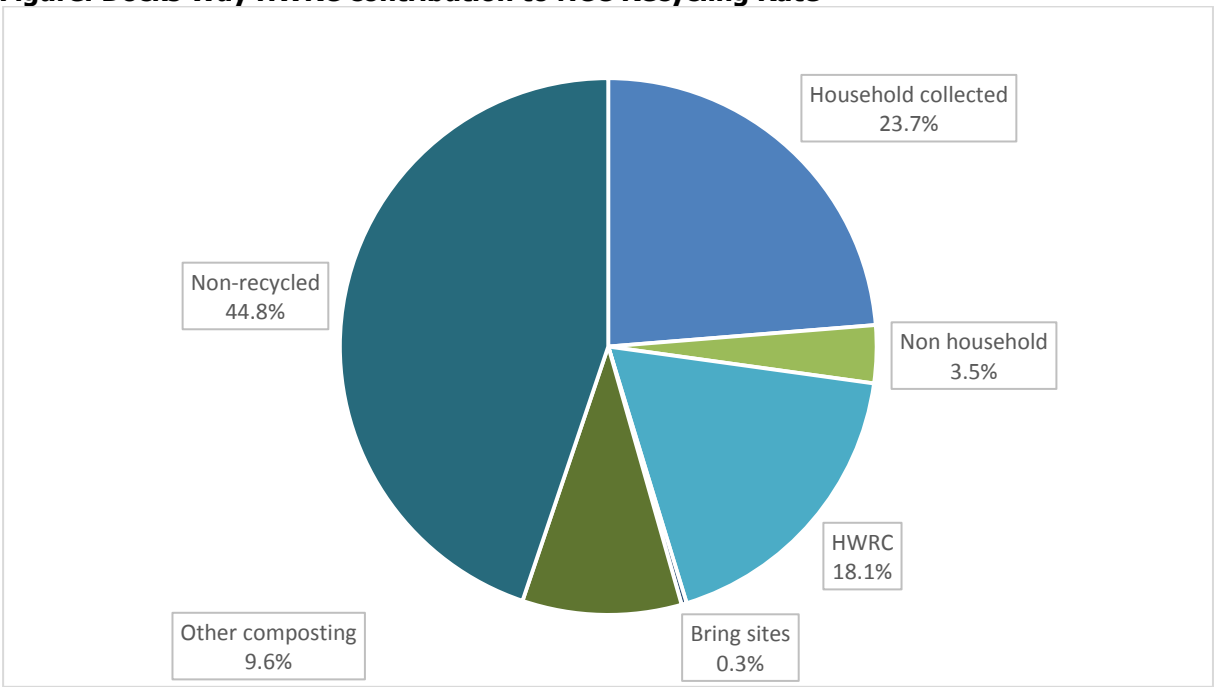
Households in Newport do not use the HWRC to dispose of as much waste and recycling as residents elsewhere in Wales. The table below shows the arising at the HWRC in terms of kilograms per household per year.

Table: Newport HWRC arisings per household

HWRC arisings, kg/hh/yr			
HWRC	**All HWRC throughput**	**HWRC residual**	**HWRC recycling, excluding rubble**
Newport	202	54	80
Wales Average	289	75	155

Figure 1 shows the contribution of approximately 15% that Docks Way HWRC made to the overall NCC recycling rate in 2014/15.

Figure: Docks Way HWRC contribution to NCC Recycling Rate



2.2 HWRC residual waste

Black bag waste is still delivered to the HWRC. The meet & greet system was implemented partially in an attempt to deal with black bag waste, but the authority would like to reduce this further.

As part of a Wales wide waste composition study, a snapshot of NCC HWRC residual waste has been assessed. The waste composition showed that non-clothing textiles such as carpet and furniture are generated in large amounts and could be further targeted for recycling. An example waste management company that could recycle furniture and (dry) carpet is Griffiths Waste Management in Swansea[3]. There is also a large amount of food, recyclable paper and electrical items that could be extracted for recycling. There are therefore, opportunities to extract value out of the HWRC residual waste stream and improve HWRC recycling rates through greater segregation.

[3] http://griffithsrecycle.co.uk/

3.0 HWRC options

A number of different options have been considered with regard to improving HWRC provision within Newport. This includes redeveloping the existing site, developing a second site or sharing a site with a neighbouring authority.

3.1 Spatial assessment

The spatial assessment is based on postcode data held by NCC, which was up to date in September 2015. It comprised of 67,437 households within 3,100 postcode areas. Of the total postcodes, 149 were not included within the spatial assessment as they were not recognised by the GIS software, 2,814 households fell within the postcodes not plotted. In total 64,623 households were included in the analysis.

Using a bespoke GIS application, the household and HWRC location data were combined and a matrix of distances and driving times produced. This formed the basis of the distance and drive time analysis; where drive times were calculated using the current road network and not 'as the crow flies' estimates.

Maps have been plotted to illustrate the existing service provision along with maps showing the provision that would be offered in each of two different scenarios with one of two new sites operating alongside the current site. These maps and further detail are included in Appendix 5 of the full report.

3.2 Option 1: Redevelopment of Docks Way HWRC

NCC has considered redeveloping the Docks Way HWRC in the past. NCC civil engineers have developed plans over a number of years to improve the site; however with no capital budget allocated and a number of internal changes, the redevelopment has not proceeded.

In 2013, the civil engineers developed a new plan for the Docks Way HWRC as part of a wider development and consolidation of council operations in the city. Resource Futures discussed the designs with the engineer to identify any potential flaws, and provide a critique of the plan with regard to good practice in the development of HWRCs. The plans for the new site deal with some of the current issues but leave room for improvement in others. The lists below provide a high-level critique of the plans against the recommendations noted during the site assessment.

Positives	Negatives
■ The lead in to the site from the main road has extended significantly, allowing cars to queue to enter the site within the site boundary rather than on the main road. ■ Dry recycling containers are located in the same place rather than distributed across the site. ■ Traffic exits the site in a different location than where it enters thus improving traffic control and alleviating congestion. ■ The Service Areas on the plan could house a WEEE collection facility. ■ There is only one lane for cars to park in whilst using the facility. This removes the need for public to cross the traffic lane thus improving health and safety.	■ There is no allocated space for a re-use shop on site (we acknowledge that the plans were drawn before re-use was added to the existing facility). ■ The 'meet & greet' location does not allow much space for queuing vehicles and may block access for HGVs entering the transfer station or landfill site. ■ There is space for only 11 bulk skips as opposed to the 16 currently in use. If this site remains the only HWRC in Newport then this configuration may pose a problem at busy times. ■ Public traffic will have to cross a lane dedicated for site traffic to enter the site posing a potential health and safety risk.

During the meeting, Resource Futures pointed out potential problems with the plans and options to avoid these issues were discussed. In summary, they included:

- Reversing the flow of traffic around the site. Members of the public would then enter the new site at the point marked 'A' on the top left of the plan in Annex 4 and exit at the roundabout at the current entrance. The roundabout would be redeveloped into a full roundabout as part of the redevelopment process.
- Relocation of the central car park to another part of the site thus allowing for a horseshoe shaped site which would include space for more bulk skips and dedicated areas for dry recycling, WEEE and re-use.

Addition of a re-use shop with car parking facilities at the entrance to the site would offer additional visibility of re-use at the site and provide the opportunity for the public to consider re-use first as specified in the waste hierarchy.

None of these improvements are likely to have a statistically significant improvement on recycling rates. However, as previously mentioned, failure to introduce changes could hinder the sites potential, as well as health and safety. As the redevelopment would be part of a wider council initiative, it would be a lost opportunity to not improve the site as discussed above as the changes are likely to make the site safer and more efficient.

3.2.1 Spatial assessment of existing provision

The current provision offered by the Docks Way site is good; two thirds of households (62%) are able to drive to an HWRC in less than 10 minutes. Within 15 minutes 92% of the population can drive to the site. Almost 100% of the population are able to drive to the site within 20 minutes. This meets WRAP's recommendation on HWRC provision which states that the great majority of residents, in good traffic conditions, should be able to drive to an HWRC in less than 20 minutes. This does not account for roadworks, peak travel times or queuing to access the site. Households in the centre of the city and to the West are served well by the Docks way site. A small number of households in the far North and East of the authority fall into the 20 minute driving time band, and some in the far east of the authority would have to drive for over 20 minutes. In some cases it is likely that householders go to sites in other counties.

3.3 Option 2: Constructing an additional HWRC

NCC has looked at options for an alternative site in the past, but there has not been political appetite for such a site. NCC has not identified areas of land that could be available for an alternative site.

However, whilst researching the issue, it became apparent that brief consideration had been given to two sites:

- Open Hearth Pub – a closed pub site on the A48 trunk road in the east of the city
- Llanwern – the site of the old steel works where regeneration is occurring including new housing developments.

Therefore these two locations have been considered within the spatial analysis. This will provide a site in the east of the city. The new facility would be a standard HWRC, accepting recycling and residual waste. Regardless of where a second site is located, the issues and comment below are relevant.

Opening a new site in addition to Docks Way would almost certainly reduce the throughput of Docks Way. There is some correlation between lower throughput sites and higher recycling rates; however, there is plenty of scope for improvements to increase the recycling rate at Docks Way at the current or higher throughput that are cost effective.

For the purposes of this analysis, it is assumed that a new site would result in an increase in overall HWRC tonnages in NCC of 5%.

3.4 Spatial assessment of an additional HWRC site

Two scenarios were considered for the development of an additional site. Both scenarios include Docks Way with a second site in the east of the city. In scenario 1, the Docks Way site is joined by a site at Llanwern. In this scenario more people in the east of the city could be better served by the new site. With the two sites 66% of households would be within 10 minutes of an HWRC, a slight improvement on the 62% of households within 10 minutes of the current site at present. 95% of households within 15 minutes of a site (compared to 92% at present). All households are within 20 minutes of a site.

In scenario 2, provision has been assessed based on the present Docks Way site operating alongside a new HWRC at the Open Hearth pub site. Again, more people in the East of the city could be better served by the new site. With the two sites 74% of households would be within 10 minutes from an HWRC, quite an improvement compared to the 62% of households within 10 minutes of the current site. Around 12% of households would be within 5 minutes of the site compared to just 6% at present. Within 15 minutes 99% of households would be able to drive to their nearest site (compared to 92% at present). All households would be within 20 minutes of a site; only 8% of households would have to drive more than 15 minutes.

This scenario offers better provision for householders based on drive time alone and it certainly meets WRAP's recommendations on HWRC travel time. Unlike scenario 1, more households in the north, far north and east would have a significantly shorter distance to travel. Based on the drive time analysis, the table below shows the number of households closest to each site.

Table: Number of households closest to each site in each proposed scenario

Scenario	Number of households	
	Current site	New site
Scenario 1 (Current site & Llanwern Site)	57,163 (88%)	7,460 (12%)
Scenario 2 (Current site & Open hearth pub site)	37,707 (61%)	24,916 (39%)

The percentage of households that falls into a given time band is shown in the table below. For the current provision and both proposed scenarios the average drive time from the modelled postcodes locations is less than 10 minutes. Scenario 2 offers the best level of provision where more people are served in the shorter time intervals.

3.5 Option 3: Constructing a zero waste site

During the inception meeting for this project, alternatives to redevelopment of Docks Way were identified. This included scoping the potential for constructing a zero waste site (ZWS), which would be an ambitious and innovative approach to household waste management. Of course, such an approach would need the support of Members and the waste team, as well as partners that can ensure re-use is maximised.

We have assumed that if a ZWS is to be constructed, it would be developed at one of the above sites, i.e. Llanwern or the Open Hearth Pub site. NCC could manage the site themselves or contract a private sector or third sector organisation to manage a ZWS on behalf of NCC. Re-use experience is likely to be extremely beneficial as the foundation for the business model for a self-financing ZWS is re–use revenue.

Long term financial viability is difficult to achieve as recyclate income and costs fluctuate. The site operator and NCC would need to ensure enough footfall to the site, if the 'benefit' to site users of disposing of waste is not there. The site may focus on re-use in order to generate sufficient income, with recycling almost an afterthought (rather than the other way around). Alternatively, if a large enough site is developed, additional 'green' activities could be initiated. For example space could be rented to micro businesses that use waste as a resource such as furniture upcyclers, bike repair and craft businesses. Rent could be paid to NCC by these businesses.

In order to estimate the site throughput, it is assumed that, as with the scenario of a second site above, that an overall increase of 5% is seen within the network.

If such a site were to be constructed, it would require a large building to house the re-usable material, particularly if it is to be sold on site. An even larger building will be required if repair works are to be carried out for furniture and (large) electrical items.

In order to make a ZWS more financially viable, NCC could consider accepting commercial recycling. NCC could provide a niche service to provide a recycling service to small businesses that do not want a weekly collection service, for example gardeners, builders and other tradesmen. Therefore, there should be a clear financial incentive to segregate waste and any recycling system needs to be convenient.

3.6 Option 4: Shared service and managing cross border usage

HWRCs is only one council service which may be the subject of cross border usage by residents and in general, local authorities recognise that in most cases the public will tend to use the HWRC that is closest to them, this being the most common cause of cross-border HWRC usage.

Welsh Government is considering local council reform. It is possible therefore that NCC will merge with neighbours as part of the Local Government Bill. Therefore, Newport residents may benefit from a larger HWRC network in future without the need for NCC to obtain funding, achieve planning permission, permits and build a new HWRC. Regardless of whether formal boundary mergers occur, all authorities within Wales need to consider how to provide the most cost effective services for residents as budgets tighten. In the short term, and potentially the long term, collaborative working may be the most sensible option. This could mean considering regional HWRC networks as well as regional waste and recycling infrastructure and contracts.

A formal arrangement could involve charging non-Monmouthshire residents for use of the site, or, more likely, a financial settlement between the authorities. One way to administer this is through annual postcode surveys (as part of other customer satisfaction surveying or similar) conducted during a typical week (i.e. not during Christmas or Easter etc). Financial arrangements can be made to ensure that each authority pays for their residents. It is worth bearing in mind that that with lower than average HWRC throughput it is possible that more waste is going to other local authorities and therefore shared arrangements might cost NCC more.

As well as costs, the councils will need to agree which authority benefits from the recycling performance. For example, if one authority incurs all waste and recycling costs that they benefit from any recycling rate increase associated with the additional throughput. If all costs are shared, NCC may wish to add their proportion of recycling at the neighbouring HWRC to the recycling rate for Docks Way.

The arrangements would be subject to any future infrastructure changes.

4.0 Summary of costs

The table below summarises the costs estimated to improve Docks Way HWRC and construct a new HWRC or a ZWS, and expected recycling rates. The capital requirements for the ZWS are considerably more expensive than a traditional HWRC because of the requirement for a larger building to accommodate re-use. The improvement works and operational expenditure for Docks Way would be incurred alongside a second site. The operational expenditure per annum for the improvement works are the costs should the work go ahead e.g. they are not additional costs.

4.1 Budget requirements

It is worth noting that at the present time there is no capital budget for redevelopment of Docks Way or the construction of an additional site. If following the outcome of this study, NCC decide to progress with reform to the HWRC network, consideration will need to be given to where the financial resources will be found. It may be possible to bid for funding within the Collaborative Change Programme or other Welsh Government funds using this report as a basis for a business case

Table: Summary of costs

	Improvement works at Docks Way	Redevelopment of Docks Way	Llanwern HWRC and Docks Way improvement	Llanwern ZWS and Improvement of Docks Way
Recycling rates				
Recycling rate excluding rubble	72.00%	72.00%	72.00%	77.94%
Reuse rate	0.80%	0.80%	0.80%	2.19%
Recycling rate including rubble	84.46%	84.46%	88.10%	88.24%
Capital expenditure				
Site works	£20,417	£247,925	£92,217	£92,217
Building	£0	£0	£90,000	£438,500
Civic Amenity Infrastructure	£13,333	£42,500	£85,833	£65,833
Contingency	£7,087	£60,989	£74,440	£143,425
TOTAL excl VAT	**£40,837**	**£351,414**	**£342,490**	**£739,975**
Annualised total*	**£8,167**	**£35,141**	**£38,333**	**£78,081**
Operational Expenditure				
Operating Staff	£200,308	£200,308	£200,308	£200,308
Equipment Hire	£0	£0	£25,000	£25,000
Maintenance and Repairs	£1,021	£8,785	£8,562	£18,499
Periodic Renovations	£2,042	£17,571	£17,125	£36,999
Utilities	£7,500	£7,500	£15,000	£15,000
Contingency	£21,087	£23,416	£26,600	£29,581
Operational Expenditure/Annum	**£231,958**	**£257,580**	**£292,595**	**£325,387**
Waste and recycling costs				
Residual waste, recycling, reuse and rubble costs	£606,849	£606,849	£627,954	£574,577
Total cost (capex not annualised)	**£879,644**	**£1,215,844**	**£1,263,039**	**£1,639,939**
TOTAL annual cost estimate	**£846,975**	**£899,571**	**£958,881**	**£978,045**

	Improvement works at Docks Way	Redevelopment of Docks Way	Llanwern HWRC and Docks Way improvement	Llanwern ZWS and Improvement of Docks Way
Income				
Estimated income recycling	£100,000	£100,000	£100,000	£100,000
Estimated income reuse (£250 per tonne)	£7,750	£7,750	£8,500	£77,250
Estimated income reuse (£500 per tonne)	£15,500	£15,500	£17,000	£154,500
Net cost	**£739,225**	**£791,821**	**£850,381**	**£800,795**

*annualised figures for 10 years, with exception of improvement works for Docks Way, annualised over 5 years
**net costs assume income for reuse at £250 per tonne)

5.0 Options appraisal

Options appraisals often include a do nothing option however we have assumed that this would not be acceptable under the circumstances. Therefore, the baseline is to improve Docks Way as a minimum. The HWRC network options available to NCC are:

1. Option 1: Improve Docks Way and redevelop Docks Way site
2. Option 2: Improve Docks Way and construct a new HWRC
3. Option 3: Improve Docks Way and construct a new zero waste site
4. Option 4: Improve Docks Way and share a site with a neighbouring authority.

As no alternative site has been identified, for the purposes of the options appraisal we have assumed that the HWRC or ZWS will be located at Llanwern. This is because of the regeneration activity taking place, the building of new homes (and therefore an increased population nearby) and the expected acceptance of a new site (as it is located on the old steel works so residents have been used to industrial activity). If the council decide to pursue Option 3 or 4, a detailed options appraisal would be needed to determine the most appropriate location. Based on the research undertaken for this project, the following criteria have been identified to evaluate the above options:

Table: Options evaluation criteria

Ease of access to the sites and impact on local community	The positioning of a site in an easily accessible location is important. Sites that vehicles have to queue for, travel in built up areas and/or potentially cause environmental (e.g. noise and odour) problems for neighbouring businesses or residents are scored lower. Out of town sites that have a lower impact on the community are rated higher.
Capital investment needed	Building a new site, or developing land to a standard suitable for an industrial site is expensive, particularly if site clearance or infill and earthworks are needed. Options that require less capital investment are scored higher. With regard to the capital investment required, a new site on a green field site would be scored low.
Revenue cost to operate the option	This considers the operational costs relate to staffing, waste, recycling and haulage, utilities, equipment and maintenance costs. Larger sites with greater segregation and throughput will have a higher revenue cost than smaller sites.
Revenue income from re-use	Revenue generation is often a consideration for authorities nowadays. There is potential to generate income from the sale of re-usable items. HWRC shops are becoming very successful, with turnover of tens or hundreds of thousands of pounds.
Future needs	An HWRC network that allows for future changes (e.g. space for additional material segregation) will score more highly than sites that are not flexible to change.
Environmental impact	Larger, purpose built sites have the potential to divert waste higher up the waste hierarchy by having space for greater segregation (when end markets become available) and re-use/ preparation for re-use activities.
Political impact	When locating new sites, there is often a "Not In My Back Yard" attitude. The option(s) likely to achieve the greatest public support are rated more highly.
Deliverability and timescale	A new site will take time to develop, requiring planning permission and licensing. Therefore redevelopment of a site, scores more highly than an unidentified new site.

The matrix below shows the weighted scored for the criteria for each option.

Table: Weighted scores

	Option 1 Redevelop Docks Way	Option 2 Improve Docks Way and construct a new HWRC	Option 3 Improve Docks Way and construct a new ZWS	Option 4 Improve Docks Way and share a site with a neighbouring authority
Capital investment needed	50	50	50	50
Revenue cost to operate the option	45	27	27	27
Revenue income from re-use	24	24	8	40
Political impact	21	21	35	7
Environmental impact (waste & recycling)	18	18	30	6
Environmental impact (new build)	15	25	25	15
Deliverability and timescale	20	20	20	12
Future needs	9	9	9	15
Ease of access to the sites	10	2	2	10
Proximity of site to residents	3	0	0	5
Score out of 275	215	196	215	187
Rank	1	3	1	4

The results of the options appraisal suggests that the most favourable options are either to redevelop the Docks Way HWRC, or improve Docks Way and construct a ZWS. However, all options score well and therefore if the Council had a preference for an alternative option, the detail in the report will help to justify that decision.

Rank	Option
Rank 1	Redevelop Docks Way
Rank 1	Improve Docks Way and construct a new ZWS
Rank 3	Improve Docks Way and construct a new HWRC
Rank 4	Improve Docks Way and share a site with a neighbouring authority

This is because it provides best value for money whilst providing an acceptable level of service for Newport residents.

6.0 Longer term vision

Taking a long term view to 2024/25, NCC may wish to embrace Options 2 or 3 and construct an additional HWRC or a zero waste site. There are only a few examples of zero waste sites in the UK but they are common place elsewhere in Europe and America. Constructing a ZWS is a risk, but it is feasible with good planning. There may be Welsh Government or European funding available to support the capital investment required, but a well-managed site could turnover thousands of pounds of stock; sufficient to cover operating costs once the site is established. Of course a full business case would be needed and a feasibility study to ensure the estimated throughput and quantity of re-usable items is realistically estimated. Any project like a ZWS would need time and financial input to become self-sufficient, especially if including additional waste prevention activities.

7.0 Recommendations and conclusions

The existing HWRC at Docks Way in Newport would benefit from site improvements to help drive up the recycling rate at the site. A number of recommendations have been suggested that will improve traffic flow, recycling infrastructure, re-use infrastructure, site signage and health and safety

The results of the options appraisal and spatial analysis suggests that redevelopment of the Docks Way site is the most effective option to provide an HWRC service for Newport residents that is fit for modern recycling and re-use habits. As budgets are shrinking, the redevelopment may offer the most politically acceptable, environmentally and economically sound option. However, before significant changes are made, NCC could consider formal arrangements with Monmouthshire and/ or Caerphilly councils to allow Newport residents to use their sites: residents may already do so and therefore shared provision is likely to incur a cost to NCC.

NOTE:

It must be noted though that this review did not take into account housing growth and therefore if the chosen option is to redevelop Docksway site, it is recommended that another review on the service provision and number of people being serviced by the existing site is done on the medium term.

The housing growth assumptions that have been taken into account in later stages of the CCP work (using a housing growth rate calculated based on household projections in the Newport Local Development Plan 2011 – 2026, Adopted Plan, January 2015) are the following:

Year	No. of Households
2015/16	66,166
2016/17	67,089
2017/18	68,013
2018/19	68,936
2019/20	69,860
2020/21	70,784
2021/22	71,708
2022/23	72,632
2023/24	73,555
2024/25	74,479
2025/26	75,403
2026/27	76,326
2027/28	77,250
2028/29	78,173
2029/30	79,097

This means a potential increase of up to 7% by 2020 with only one site servicing the whole of Newport, when recommendation is to have at least one site per 143,750 residents, with a maximum throughput for any site of 17,250 tonnes per annum. This housing growth would more than justify the need for an additional site should Newport City Council want to pursue this option.

Waste Management Business Planning Process – Trade Waste and Recycling Service-SUMMARY

Newport City Council

2015/2016

Waste & Resources Action Programme Wales

Carlyle House, 5-7 Cathedral Road, Cardiff, CF11 9RH

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1.0 NCC OPERATIONS

The characteristics of the current trade service are as follows:-

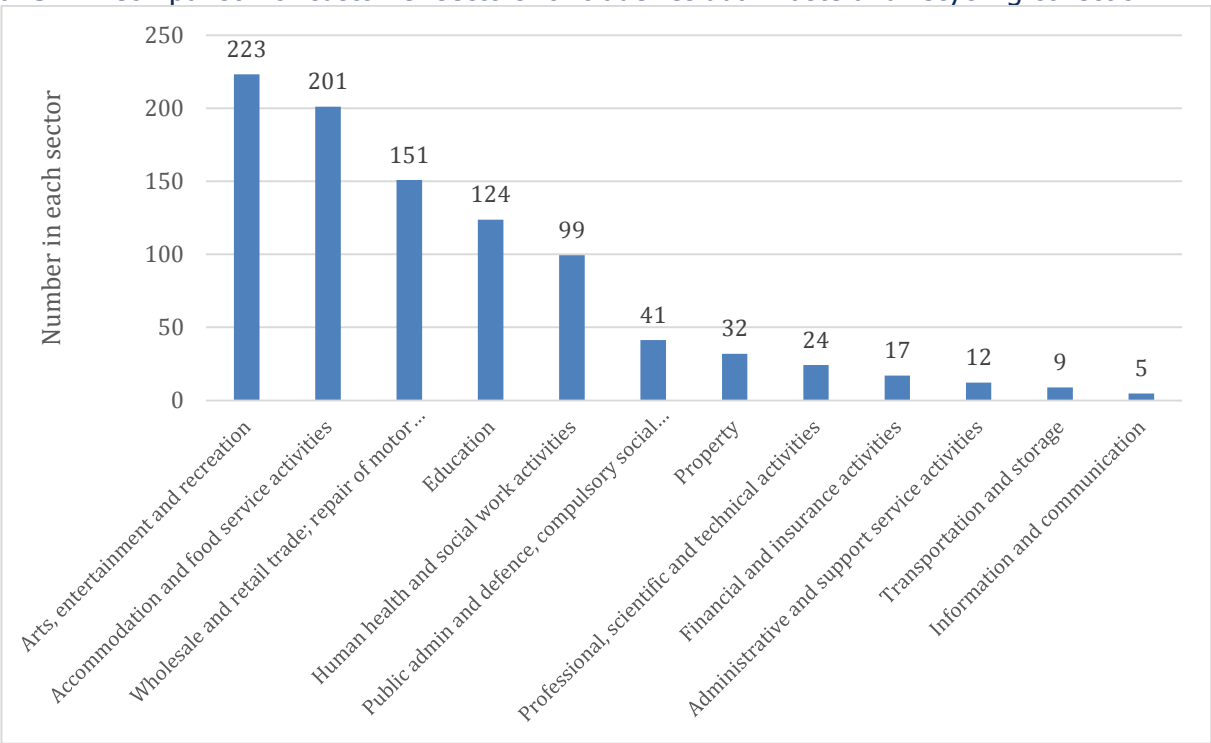
- 4,500 tonnes collected a year, only 25 of those are dry mixed material, plus approximately 200 tonnes of cardboard,
- An average of 950 clients,
- Residual waste is co-collected with household waste, with 1,850 lifts a week using 2.2 vehicles (including coverage)-one is a dedicated vehicle, the rest is co-collected with residual household waste. With household numbers growing annually by around 500 properties there is pressure on the household collection service's ability to accommodate co-collected trade waste, and
- Containment options – stickers, sacks, 240 and 360 litre two-wheeled bins and 660 and 1,100 litre four-wheeled bins. Recycling customers can have recycling collected in single use sacks or with stickers applied.

2.0 MARKET PROFILE

Amec Foster Wheeler, a company providing research on the trade waste market, as part of the CCP review, identified:

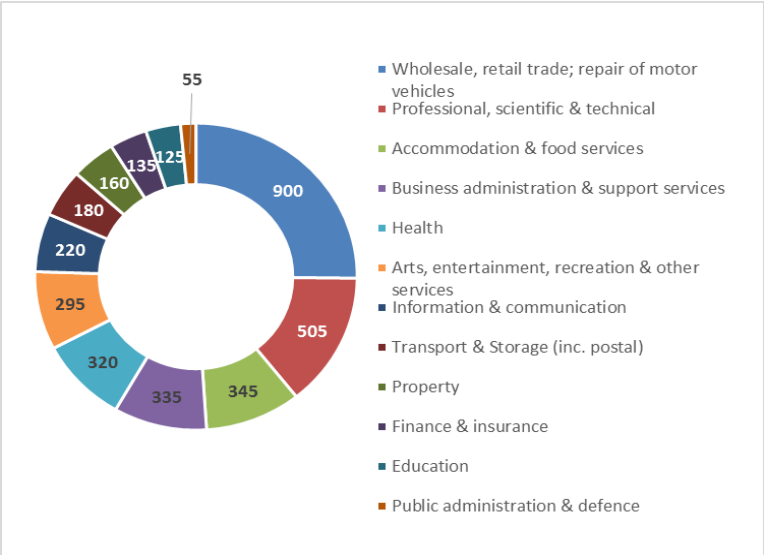
- NCC's residual waste customer base is dominated by entertainment and recreation, with accommodation and food services close behind. This aligns with the City-wide business segmentation but has implications for both future opportunities and current costs:
    - Food waste outlets tend to produce the heavier containers because of the dense organic content so therefore have the highest disposal costs associated with them.
    - With current charging mechanism (fixed prices without flexibility) these customers pay the same for the collection of a residual waste container as a different type of business with much lighter waste using up the same volume.

Figure 2.2 Comparison of customer sectors for trade residual waste and recycling collection



A review of the wider market was completed which included an investigation of potential customers within the City's boundaries (by sector and size) and an estimation of the composition of the trade waste:

Figure 3.1 Newport City's enterprise segmentation



- In 2014 there were 3,575 PAYE and VAT registered enterprises operating in the area and generating standard waste

- Of the wholesale, retail trade; repair of motor vehicles sector, retail comprises 535 enterprises representing 15% of the City's total number of enterprises. Professional, scientific & technical represent 14% and accommodation and food services 10% of the City's enterprises.

- Local authority trade waste collection services do not have access to a large proportion of the potential market place as Councils, in general, are unlikely to directly win collection contracts from larger waste producers and national chains. In Newport's case it is estimated that the proportion of businesses the Council might potentially count as customers, in the best case scenario, is around 92% of the total market place, but considering these are the enterprises with 35 or fewer employees and produce significantly less waste than larger businesses, the amount of waste 'accessible' to NCC is significantly lower than the estimated total generated.

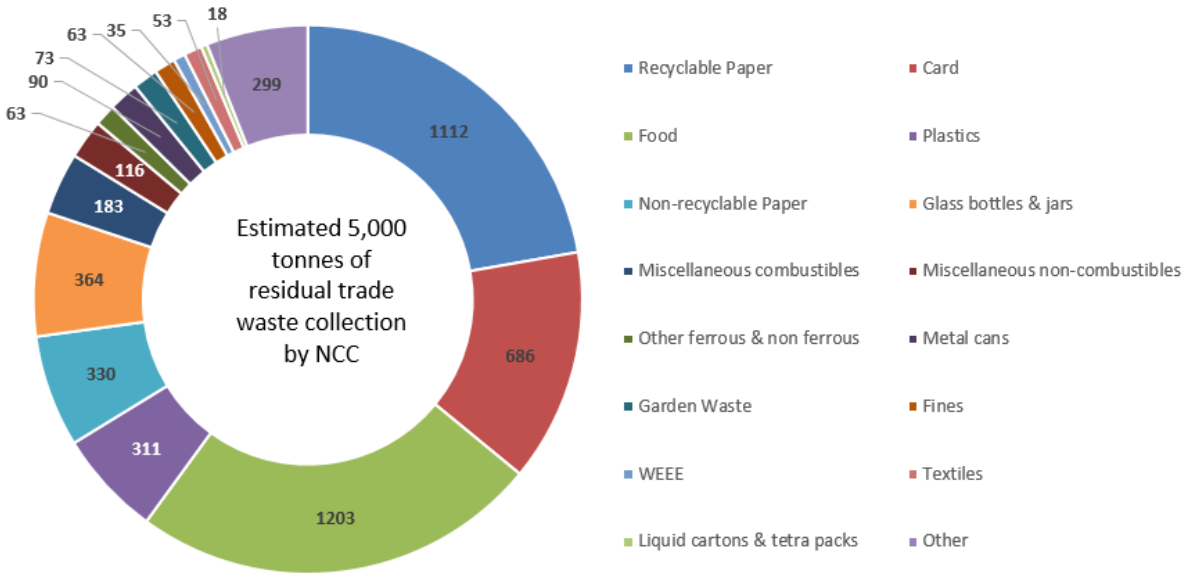
- It has been estimated that the total amount of trade waste generated in the City is 160,740 tonnes. However, once the quantities of waste generated by larger organisations (with 35+ employees) and national chains are deducted the amount of trade waste 'accessible' to the Council is estimated to be just under 35,000 tonnes.

- NCC's 5 main competitors were identified (local firms being Amber Waste, Smiths and GD Environmental and the nationals being Veolia and Biffa). Although only small in number, NCC's recycling customers put them in direct competition with the Newport Wastesavers Trade Waste Service.

- Prices were also compared and potential pricing strategies have been identified that would still ensure the Council would be competitive.

- An estimation of the composition of the residual waste that NCC collects has been made, suggesting that up to 50% of the material currently collected could be recycled (paper, glass, cardboard, cans and plastics) and up to an additional 25% is food waste that could also be collected separately and recycled.

Figure 3.4 The estimated composition of the residual waste (tonnes) collected by NCC[1]



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3.0 FINANCE

The service shows strong financial performance, with customer charges producing a surplus of 40% over the direct costs of operating the service:

- Estimated current costs of running the service 16/17: 683k
- Forecasted income- 16/17 budget: 951k (*)
- Surplus: 268k

(*) Service financial forecast, not modelled income

Note that the costs do not include notional rent costs for the depot space that the service utilises, or recharges for central overheads (human resources, finance, IT, legal etc.), and it is important that the commercial waste service bears its share of these.

However, a typical commercial waste business would hope to achieve a profit margin, after overheads, of around 10-15%, and it is likely that the Council's service will exceed this.

4.0 RECYCLING PERFORMANCE

It is estimated that the Council collects 4,500 tonnes of trade residual waste a year, which is sent to landfill. Were the Council to stop the trade waste collections, the recycling figure would go up, using 15/16 data, from 57.15% to 60.80%, so carrying on with the current non-recycling trade waste service would continue to negatively impact the Council's recycling performance.

[1] The category "Other" is a consolidation of non-recyclable glass, foil, other ferrous and non-ferrous metals, other organics (e.g. soil), plastic film, liquids and hazardous waste.

5.0 SELL OR KEEP THE CURRENT CUSTOMER LIST

If the Council decided to sell its current customer list this would likely generate a one-off capital receipt. However, the following would need to be considered:

- A sale could generate a capital receipt however the value of this could be relatively low compared to the turnover of the business, as the contracts are relatively easy to terminate by the customer.
- Any buyer could be buying a customer book with a relatively low value and this would be reflected in the offer.
- Selling the service does not absolve the Council of its' legal responsibilities as regards the collection of trade waste.
- The market may not want to purchase the service or offer a price the Council was expecting and would simply target the customers.
- Selling the service may be negatively viewed by business enterprises in the City, some who have been long standing and loyal customers of the Council.

6.0 GROW CURRENT SERVICE

If the Council decides to grow and maximise this service without a proper strategy that takes into account introducing recycling collections, the negative impact will be even bigger and increases the risk of missing the recycling targets.

A growth of just 15% in the number of customers per year has been estimated to bring an increase of about 675 tonnes of residual waste a year. Assuming all the other factors (in terms of HWRC, household recycling collections etc.) remain the same, as in 15/16 for comparison purposes, this would mean a decrease of approximately 0.60% in the recycling performance on a yearly basis; that percentage would equate to more than £80,000 in fines should the Council fail to meet the recycling targets.

Findings show:

- Stopping the trade service is not an option as the income it brings to the council is significant; but NCC needs to include a recycling service that reduces the impact the current service has on the recycling rate and the potential for fines, and
- Other changes need to be implemented in other areas such as the household collection services and HWRC provision, as only acting on trade will not be enough to meet the recycling target.

7.0 DEVELOP A RECYCLING SERVICE AND GROW RESIDUAL SERVICE

NCC's trade service has been analysed and modelled by Eunomia. This model helps to inform the decision regarding whether insourced or outsourced collections are likely to be the most effective choice for the delivery of (a) trade recycling collections and (b) trade waste collections. However, modelling alone cannot determine which approach will yield the best results, as much will depend on:

- How successful the council is at selling the new service; and
- The price that the market offers for the services the council requires.

Outsourcing the whole of the service has been modelled. However, since there remains a significant prospect of deriving a surplus from an in house collection service, the case for full outsourcing is less compelling unless a very good price can be obtained from the collector:

- The council does not require any specialised vehicles in order to undertake residual waste collections as NCC already have the resources to deliver this service, therefore no additional investment is currently needed.
- The council requires a vehicle with a bin lift suitable for collecting 1100 litre bins in order to serve its communal bin properties, and this will not be fully utilised unless commercial waste is also collected. Therefore savings in operational costs if trade residual waste services were to be removed may actually be lower than recognised within this analysis.
- The issue of outsourcing could be revisited at a later date, once the impact of the changes to the recycling system are better understood.
- The council's household recycling collections are carried out on its behalf by Newport Waste Savers. As a result, the council does not have the vehicles, depot infrastructure or materials sales experience necessary to undertake a successful commercial recycling service itself.

So it is recommended that the refuse service can continue as it is, with the option for a future review if the business is expanded

The proposal to outsource the recycling part of the service will enable the council to achieve the following principal objectives:

- Increase its recycling rate by substantially increasing the proportion of commercial waste that is recycled.
- Procure a service provider that can deliver this service on their behalf, while integrating the client-facing, sales and administration side of the service so that the overall service is seamless.
- Ensure that collections are provided on a source separated basis in order enable compliance with expected Welsh Government regulations mandating this approach.
- Secure the services at a low price, so as to enable the council's margin to be maintained, and to maximise the opportunity to derive future income from commercial waste services.
- It was recognised that, since recycling services are generally cheaper for clients than residual waste services, even if the council's margin remains constant, the commercial waste business would need to grow if overall income is to be maintained.
- Achieve wider social benefits so far as possible through the tender.

In essence, the main conclusions from the findings report are:

- NCC would benefit from outsourcing their trade recycling service as that limits NCC's risks if the recycling service is not grown in line with expectations, as no capital investment is needed. This service model allows NCC to charge a simple admin fee on top of a provider's operational costs to cover internal costs and meet budget expectations.
- NCC should keep the trade residual waste service in house and try to grow the service at the same time. There is still investment in the residual service required to be funded by NCC – it should be noted however that this could be further reduced if we retain current front-line fleet and keep it running longer for the trade service
- If the council is to persuade customers to adopt recycling, and if it is to grow the service in an ambitious way, this will require a concerted effort and it is recommended the sales team is expanded.

- Offering fully source-separated recycling services will ensure NCC is compliant with future Welsh Government legislative requirements (new regulations that require recyclable materials from business are collected segregated will likely come into place by 2019).

Financially, a summary of the modelled option of outsourced recycling collection could result in the following scenario:

Table: Whole Service Costs and Income – Outsourced Recycling Option

	2016/17	2017/18	2018/19	2019/20	2028/29	2029/30
Expenditures						
Vehicles (incl. fuel and maint)	72,655	79,920	108,982	138,044	268,823	276,089
Wages (incl. on costs)	170,030	187,033	255,044	323,056	629,110	646,112
Containers	3,898	7,055	10,353	13,651	25,317	26,008
Supplies	3,445	3,790	5,168	6,546	12,747	13,091
Disposal	265,001	233,700	210,662	205,477	276,633	288,495
Admin & BD	76,436	110,019	110,019	110,019	110,019	110,019
Total Expenditure	**591,464**	**621,516**	**700,228**	**796,793**	**1,322,649**	**1,359,814**
Income						
Client Charges	1,186,084	1,167,533	1,180,125	1,197,601	1,773,725	1,850,089
Material Income	-	-	-	-	-	-
Total Income	**1,186,084**	**1,167,533**	**1,180,125**	**1,197,601**	**1,773,725**	**1,850,089**
SURPLUS/ DEFICIT	**594,621**	**546,017**	**479,896**	**400,809**	**451,076**	**490,274**

In summary, when all service costs and income are considered for an outsourced recycling and in house trade waste service, the modelling has shown that NCC could still generate a surplus for the service, whilst minimising operational delivery risk, removing the need for capital investment in the recycling service, and increasing overall trade recycling performance to 63% and add between 1.5% and 2% to NCC's recycling rate.

Forecast of NCC's recycling rate with changes in household collections and trade:

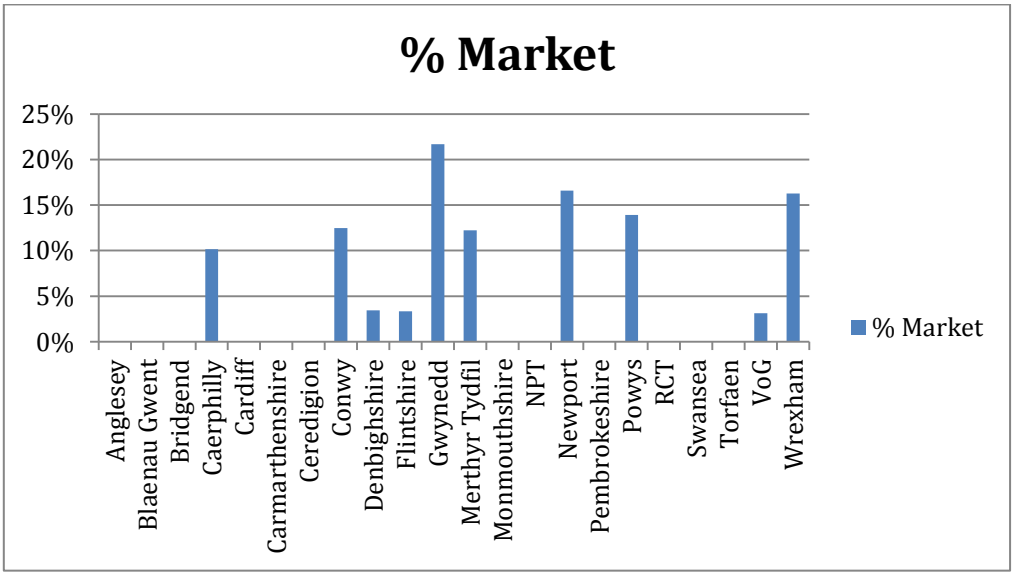
Year	2017/18	2019/20	2024/25
Target	58%	64%	70%
Forecast	62%	68%	71%

8.0 LOCAL AUTHORITY BENCHMARKING INFORMATION

Some information has been included for comparative purposes; the available data shows that amongst the LAs that run a trade service, the market take up on average is 10%; NCC comes in third place with a take up of 17%, so much higher than the average.

Local Authority Estimated Market Share (tonnes per year)

Authority	Available	Collected	% Market
Anglesey	14,757		0%
Blaenau Gwent			
Bridgend			
Caerphilly	35,100	3,560	10%
Cardiff			
Carmarthenshire			
Ceredigion			
Conwy	28,019	3,490	12%
Denbighshire	21,155	730	3%
Flintshire	26,889	892	3%
Gwynedd	33,063	7,173	22%
Merthyr Tydfil	16,500	2,017	12%
Monmouthshire			
NPT			
Newport	**34,998**	**5,800**	**17%**
Pembrokeshire			
Powys	43,220	6,015	14%
RCT			
Swansea			
Torfaen			
VoG	38,040	1,184	3%
Wrexham	21,891	3,564	16%



Newport City Council Business Planning - Summary

Business Plan for Newport City Council's waste and recycling services from 2016/2017 to 2029/2030.

Project code: COL127 - 001
Research date: September 2015 to July 2016 **Date:** June 2017

Executive summary

The following report sets out the business case and forward plan for the development of recycling and waste services for Newport City Council (NCC). This plan has been prepared in line with the Welsh Local Government Association (WLGA) Business Planning Toolkit and takes into account the results of extensive service options modelling commissioned by WRAP Cymru on behalf of NCC.

Strategic Case

In 2015/2016 NCC reported a recycling rate of 57.1%, like other Welsh authorities NCC are required to meet Welsh Government (WG) statutory recycling targets of 64% by 2019/2020 and 70% by 2025/2025, therefore without a step change in the performance of the service NCC will fail to meet these targets. This is not however, just an environmental and sustainable goal, failure to meet these targets also comes with a potential financial penalty of £200 a tonne for every tonne the target is missed by. If this fine were to be exercised, based on current performance, NCC would be liable to a fine of £326,686 in 2019/2020 and £1,253,020 in 2024/2025[1].

Year	2017/18	2019/20	2024/25
Baseline	£0	£327k	£1.25 million
Scenario 5	£0	£0	£0

In addition to potential fines for performance failures, the service is also being affected by cuts to the WG Waste Grant, which part funds the service, meaning that additional funding will need to be provided by NCC. To mitigate the impact of ongoing budget cuts, NCC will also need to reduce the costs of service delivery as much as possible, service innovation and efficiencies are being explored to this end. A do nothing business as usual, approach will not provide NCC with the recycling performance or budget savings requirements to operate a sustainable waste and recycling service.

If the grant continues to decrease at 5% per year and no change is made, NCC would face the following funding gap:

Year	WG Grant	Additional funds required vs. 2016/17
2016/17	£2.76 m	£0
2017/18	£2.62 m	£138k
2018/19	£2.49 m	£269k
2019/20	£2.36 m	£393k
2020/21	£2.24 m	£511k
2021/22	£2.13 m	£623k

[1] *Thus far NCC has received no fines from Welsh Government after marginally missing targets, however it is unclear if this position would be maintained in the future.*

Year	WG Grant	Additional funds required vs. 2016/17
2022/23	£2.03 m	£730k
2023/24	£1.92 m	£831k
2024/25	£1.83 m	£927k

Economic Case

To understand the impact of future service scenarios, options for each of the core waste and recycling services (kerbside collections, household waste recycling centre operations (HWRCs and commercial waste) have been analysed and then combined as part of the BPT Cost Benefit Analysis (CBA) tool. Five CBA scenarios have been tested as part of this process (details of these can be found in **Error! Reference source not found.**) and their performance against the following outputs measured:

- Cost of service delivery;
- Performance of the service;
- Environmental impact of the service; and
- Employment generated by the service.

When the results of each scenario, against these measures, were compared scenario 5 performed best in each area, apart from cost of service expressed and NPV where it was only £300k per annum more expensive than the lowest cost scenario – Scenario 2.

A summary of scenario 5 can be found in Table 1.

Table 1 - Summary of Scenario 5

	Scenario 5
Kerbside Refuse and Recycling Services	• Current Service until **September 2018** when **three weekly refuse collections** are modelled. • In **April 2024 four weekly refuse collections** are modelled.
HWRCs	• **Undertake improvements work to Docks Way HWRC**, whilst d**eveloping a new site** to open **September 2018**.
Trade Waste and Recycling Collections	• Current service until **April 2017** when the **trade recycling service is commissioned** to a third party.

As summary of the comparative performance of scenario 5 against the baseline can be found in **Error! Reference source not found.**. The dates identified above reflect the original assumptions and it should be noted that the benefits from trade waste and recycling collections commissioning will be delayed. For the purposes of comparison across the original modelling work, these dates have not been amended.

Table 2 - Comparison of scenario 5 and baseline

	Baseline	Scenario 5
Cost of Service Delivery –2016-2030, NPV (£ million)	£70.6 m	£66.3 m
Performance of the Service – Recycling Rate in 2024/25[1]	62%	73%
Environmental Impact of the Service – Environmental Costs, 2016-2030, NPV (£ thousand)[2]	-£1,00	-£3,200
Employment Generated by the Service – FTEs in 2029/30	203	252
Notes: *1. The statutory recycling target for Wales in 2024/25 is 70%.* *2. Negative environmental costs are associated with an environmental benefit*		

Scenario 5, has emerged as the most beneficial option on which to base this optimised future business plan, with the intention being to present the business plan to members when the impact of these changes could be quantified.

The advantages of progressing with scenario 5 as part of this business plan are:

- **One of the lowest overall budget requirements in 2030**. The 2030 budget requirements of scenario 4 and scenario 5 are extremely similar (with £10k per annum) This is due to both scenarios receiving the highest amount of income from the sale of dry recycling and lowest residual waste disposal costs. When taking NPV into account, as shown in **Error! Reference source not found.**, Scenario 5 is more costly than Scenario 2, however the difference is marginal. The budget required for operating Scenario 5 in 2029/2030 is £6.17m compared to a business of usual baseline of £8.09m.
- **Successfully meeting the 2024/25 statutory recycling targets**. All scenarios lead to an improvement in recycling rates compared to the baseline, which would not allow NCC to meet the 2019/2020 or 2024/2025 statutory recycling targets set by the Welsh Government. However only scenarios 3, 4 and 5 will meet the 2024/2025 statutory recycling target of 70%. Furthermore, as NCC may be at risk of fines from Welsh Government of £200 per tonne for every tonne of material under the recycling target, only scenarios 3, 4 and 5 will guarantee that no fines will be paid. This represents a potential £1.25 million saving (including avoided fines) in 2024/25 alone compared to the baseline.
- **The highest environmental cost saving of any option.** All of the modelled CBA scenarios save more Greenhouse Gas (GHG) emissions (expressed in tonnes of CO_2) than the baseline, business as usual position. Savings in GHG emissions are strongly linked to recycling performance, which is highest for Scenario 5.
- **The greatest increase in employment of any option.** This is largely driven by the additional employment generated by the commissioning of the trade recycling service and expansion of all trade waste and recycling collections.

Commercial Case

If NCC were to implement scenario 5, there are no substantial changes required to current contractual arrangements, as main activities proposed would not affect any of the subcontracted activities-they will only impact in house services or services not being provided

currently. There is also minimal risk to guaranteed minimum tonnages as part of existing disposal contracts. The only service which would need to be formally procured by NCC, is the operation of the trade waste recycling service. However, as this contract would be for service operations only and NCC would retain all responsibility for the growth of the service, this once again, presents minimal risk to the authority.

Financial Case

The impact of implementing option 5 on NCC's overall budgetary position is positive with the future service, including all operational and capital expenditure being less than the business as usual baseline. However, as option 5 requires services to change and develop capital funding is required for the improvement of Docks Way, the opening the new HWRC and the expansion of the trade waste service. The non- annualised capital expenditure associated with these items are £352,490 and £515,000 (17/18) respectively. NCC will need to gain approval to fund these items through the authority's finance systems, however grants may be available via the WG CCP Capital Grants programme, although availability and award of this money cannot be guaranteed.

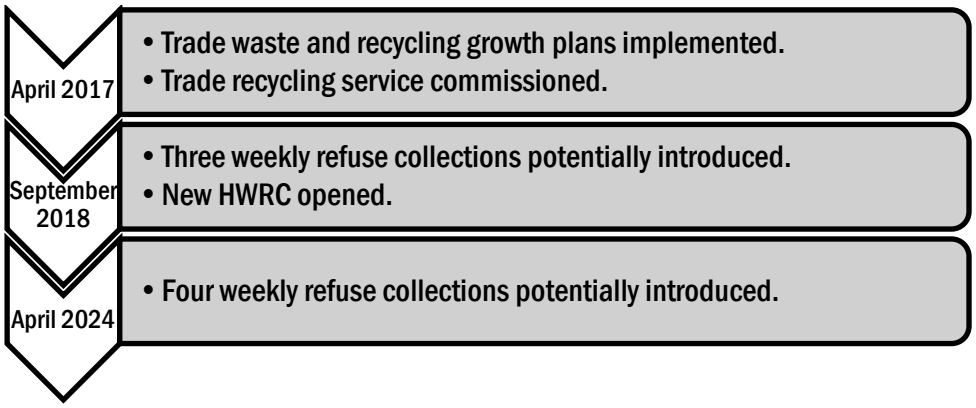
As discussed previously, with the ongoing reduction in the availability of the WG waste grant, NCC will also need to consider internally how this gap in required funding will be met.

Action Plan and Forward Work

In order to meet the savings and performance levels discussed as part of this business plan, NCC will need to develop and manage a programme of short, medium and long term actions. Many of the changes discussed as part of the business plan will also require close working with members in the development of policy and direction and this will need to be factored in to the planning process.

A timetable for the implementation milestones for scenario 5 can be found in the next figure

Figure 1 - Scenario 5 Implementation Milestones



And a list of the main short, medium and long term actions can be found in the tables below:

Table 33 – Proposed Short Term Actions November 2016 – March 2018

Action	Timeframe (*)	Measure of Success
Gain political agreement to commissioning of trade recycling service.	2016/2017 Q3 (*)	Agreement gained for commissioning of service
Recruit trade waste and recycling sales team	2016/2017 Q4 (*)	Experienced and capable officer recruited
Commission trade recycling service	2016/2017 Q4 (*)	Operations are successfully awarded to an operator
Develop trade waste and recycling sales strategy and business plan	2016/2017 Q4 (*)	A clear sales and development strategy and accompanying business plan is developed
Implement trade waste and recycling sales strategy and business plan	Q1 2017/2018 (*)	Strategy put in place with clear performance KPIs
Design new HWRC	Q2 2017/2018 (*)	Design in place and location of suitable site
Appointment of Contractor to develop new HWRC	Q4 2017/2018	Completion of Construction work at new HWRC
Gain political agreement to 3 weekly collections.	Q4 2017/2018	Agreement gained for service change
Develop transition plan for new waste and recycling services	Q4 2017/2018	Clear plan developed with all stakeholders on board.
Development of household communications plan for new waste and recycling service	Q4 2017/2018	Multi-channel communication plan produced

(*) Note these actions are in the past so should be moved to the earliest possible periods

Table 4 –Proposed Medium Term Actions – April 2018– November 2020

Action	Timeframe	Measure of Success
Re-routing of new waste and recycling service	Q1/Q2 2018/2019	Achievable rounds which have been approved by workforce and managers
Completion of new HWRC	Q1 2018/2019	Opening of new HWRC
Potential implementation of three weekly refuse collections	Q2 2018/2019	Successful implementation of three weekly collections

Table 5 – Proposed Long Term Actions – November 2020+

Action	Timeframe	Measure of Success
Monitor the impact of all new services	Q3 2018/2019 onwards	Transparent monitoring of service performance
Policy and political review of the potential impact of four weekly refuse collections	Q2 2022/2023	Potential approval of four weekly refuse collections
Potential implementation four weekly refuse service	Q1 2024/2025	Four weekly refuse collections potentially implemented

It is also recommended that the outputs of this business plan is reviewed an updated annually by officers and members to monitor costs and also progress against recycling

targets. Officers should work within the NCC scrutiny process to ensure that members are aware and have the opportunity to examine progress against this plan.

As this plan covers such as significant time period it is also likely that other external factors such as changes in the financial markets, developments in technology and indeed developments within Newport itself, mean that is sensible undertake a more significant review every three years, or before a significant policy decision point. Undertaking this review would be the responsibility of the Head of Service and the Portfolio holder responsible for waste and recycling.

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