

TITLE	Proposal to Mitigate Against Wet Paper
FOR CONSIDERATION BY	The Executive on Friday 11 September 2020
WARD	None Specific;
LEAD OFFICER	Director, Place and Growth - Chris Trill
LEAD MEMBER	Executive Member for Environment and Leisure - Parry Batth

PURPOSE OF REPORT (INCLUDING STRATEGIC OUTCOMES)

To set out how the Council will roll out waterproof recycling bags to replace the current open black recycling boxes to mitigate against the problem of wet paper and card. The proposed changes will help deliver 70% recycling by 2030 in line with our “Climate Change” objectives.

RECOMMENDATION

The Executive is asked to:

- 1) approve the sum of £288k for the purchase of the waterproof recycling bags;
- 2) note the support of the Overview and Scrutiny Management Committee to the resolution made by the Executive at its meeting on 30 July 2020 and;
- 3) approve the proposed change for the recycling container from open black box to a closable waterproof recycling bag by the end of January 2021.

EXECUTIVE SUMMARY

In July 2020, the Councils Executive considered the borrowing of £288k for the purchase of waterproof recycling bags and the revenue implications of the capital borrowing. At a subsequent call-in of this decision, the scrutiny committee upheld this recommendation. This report sets out how the proposed bags will be implemented by the end of January 2021 to mitigate against the collection and rejection of approx. 4,000 tonnes of mixed recycling in 2021/22 and beyond. This would allow the Council to achieve a recycling rate of between 57% - 58% by recovering an estimated 6% of the recycling per annum lost as a result of the high moisture content in paper and card. Given the greater capacity of the bags compared to the current boxes, and the communication plan to promote recycling that will accompany the change of receptacle, it is expected that an additional 1.5% recycling will be realised.

The deployment of the bags would ultimately prevent a budget loss of £600k per annum with a net gain of £403k for a full year (see Financial section below). Furthermore, it is likely additional income of £98k per annum will be realised by diverting approximately 980 tonnes of waste from the blue refuse bags to the new waterproof recycling bags.

Any delays to the implementation of this programme will result in loss of material, (based on 1% per month), associated costs of disposal of the wet material and loss of income.

BACKGROUND

Last year Wokingham Borough Council's (WBC) recycling service performed well in the first two quarters of 2019/20 with a recycling rate of 55.49%. In October 2019, the European end markets (where WBC's recyclate is sent) introduced higher quality standards in response to the widespread global economic changes happening at that time. This resulted in significant proportions of WBC's paper and card being rejected, due to the high moisture content which lowered the quality of the material. Tonnage data for 2019/20, shows the annual recycling rate at 50.83% (a difference of 4.66% compared to the average for the first two quarters of the year). WBC has a 70% recycling rate Climate Emergency target to meet by 2030 (and 100% target by 2050) and the current reduction in recycling rate severely affects the council's progress in meeting this target. The wet waste issue also increased disposal costs in the region of £368,000 in 2019/20.

Since the issue of wet paper and cardboard first surfaced in October 2019 it is now established that wet waste paper and card from WBC will continue to be treated as non-recyclable. Therefore, in order to counteract the lost recycling income and to continue to improve recycling levels in line with the Climate emergency agenda, it is essential that an alternative solution to the open recycling black bins is implemented. The Council commissioned specialist consultants Resource Futures (see full initial report in Appendix 1) to help it produce a short/medium and longer term plan for increasing recycling in the borough. Their initial priority has been to identify a solution to address wet waste that can be implemented as soon as possible.

A full options appraisal has been undertaken and recommendations are set out below

BUSINESS CASE (Options Appraisal)

In order to fully determine and ensure the correct receptacle would be selected, both officers and the commissioned external consultants, Resource Futures, undertook a full options appraisal. This involved assessing other Councils containers and compared criteria including price, health and safety, longevity and carbon impact, testing options working with the Council's contractors and reviewing surveys and trials undertaken elsewhere.

As set out above, given the finance and recycling lost to wet waste, it is important that a solution is implemented as soon as possible. In addition, as our residents have told us that they are happy with our waste service and support recycling through a survey in 2017, it was important that any solution should not fundamentally change the service. With this in mind, research indicated that there are nine different methods that local authorities use for ensuring recyclable material is kept dry. For the immediate term, these solutions are:

- Weighted waterproof recycling bags;
- Non-weighted waterproof recycling bags;
- Hinged lids on kerbside boxes;
- Loose lids on kerbside boxes;
- Shower-caps (bonnets), tied to the handle of the kerbside box; and
- Single use disposable bags.

And in the medium term (where more fundamental changes can be considered):

- Wheeled bins;
- Wheeled bins with a separate container inside; and
- Trollibocs (stackable kerbside boxes).

Resource Futures tested the following four options which were identified as solutions that could be implemented in the short to medium term in order to reduce the levels of wet paper.

- **Option 1:** Do nothing
- **Option 2:** Two loose lids per property for the two existing kerbside boxes
- **Option 3:** Two weighted waterproof recycling bags per property, no kerbside boxes used
- **Option 4:** Two shower caps per property for the two existing kerbside boxes

It is to note that some of our residents have indicated a preference to wheeled bins through response to “Stamp out the Damp” Campaign, on-line petitions and in the Council’s New Homes Survey undertaken annually. Wheeled bins are not a viable solution at the moment as this would require another three vehicles to be able to cover the work due to the extra time it takes to empty individual wheeled bins. They are something that will be considered in a comprehensive way by Resource Futures as they consider longer term plans for the Council to reduce waste and promote recycling.

The table below provides the results of the appraisal of the short to medium options:

Category	Weighting	Considerations	Guide				
				Do nothing (baseline)	1 2 x loose lids per property for existing boxes	2 2 x weighted reusable sacks for all properties receiving a kerbside	3 2 x shower caps per property for existing boxes
Recycling performance	40.0%	Impact on recycling rate	Recycling rate for each option considering potential impacts on wet waste. Maximum recycling points added = 10 points, baseline = 0 points.	0.0	6.0	10.0	6.0
Financial	30.0%	Annual revenue impact (Best)	Annual revenue impact for each option, including the Baseline. Scored as deviation from the maximum (0 points) and minimum (10 points) annualised operational cost calculated for each option.	0.0	4.3	10.0	5.5
	30.0%	Annual revenue impact (Worst)	Annual revenue impact for each option, including the Baseline. Scored as deviation from the maximum (0 points) and minimum (10 points) annualised operational cost calculated for each option.	7.8	0.0	10.0	0.9
	10.0%	Capital cost (Best)	Cost of implementation, with the Baseline (Option 1) scoring the highest (10 points), and most costly option scoring 0.	10.0	0.5	0.0	5.2
	10.0%	Capital cost (Worst)	Cost of implementation, with the Baseline (Option 1) scoring the highest (10 points), and most costly option scoring 0.	10.0	0.0	3.4	1.5
Political + public acceptability	10.0%	Number / type of containers	Points system based on number and type of container, available capacity and communications required. See "Political and public acc."	6.0	1.7	6.7	2.6
Health and safety	5.0%	Maximum weight possible	Weight of empty container plus full possible weight of contents based on average bulk density of comingled recycling. Heaviest scores 0, lightest scores 10.	10.0	9.2	0.0	5.3
Carbon impact	2.5%	Assessment of potential carbon (Best)	Points system based on impact of extra vehicle resource, and diversion of 'wet waste' to recycling. Baseline =5, with options scoring higher or lower in comparison.	5.0	7.0	9.0	7.0
	2.5%	Assessment of potential carbon (Worst)	Points system based on impact of extra vehicle resource, and diversion of 'wet waste' to recycling. Baseline =5, with options scoring higher or lower in comparison.	5.0	3.0	4.0	3.0
Equality impact assessment	2.5%	Potential to affect persons in the protected characteristics group	A high-level impact assessment of how each method of containment has the potential to affect persons in the protected characteristics groups. Baseline =5, with options scoring higher or lower in comparison.	5.0	4.0	6.0	4.5
Best Case Total Score (unweighted):				36.0	32.7	41.7	36.2
Best Case quantitative assessment weighted score:				2.3	4.6	8.0	5.4
Best Case quantitative assessment rank:				4	3	1	2
Worst Case Total Score (unweighted):				43.8	23.9	40.1	23.8
Worst Case quantitative assessment weighted score:				4.7	3.2	8.3	3.5
Worst Case quantitative assessment rank:				2	4	1	3

From the above assessment, the best solution to promote recycling in the most cost-effective way is to change the receptacles for recycling to weighted, waterproof bags. A number of products have been investigated with the following considerations:

- Preventing moisture infiltrating bags
- Availability within the market
- Lead in times for delivery
- Size and usability
- Price

The following table outlines the advantages and disadvantages of each of the three options.

	Waterproof shower caps	Lids for boxes	Waterproof recycling bags
Advantage	<p>Initial purchase is the cheapest option</p> <p>Shorter lead times</p> <p>If secured to the box less likely to blow away</p> <p>Can be posted rather than delivered reducing costs</p>	<p>Medium option for purchase cost</p> <p>Shorter lead times</p> <p>Recycling secured in boxes meaning less littering on collection day</p> <p>Lids can be made available from WBC outlets</p>	<p>Fully waterproof once sealed</p> <p>No escape of materials from the bag once it is sealed</p> <p>Greater recycling capacity than current boxes increasing recycling levels</p> <p>Used in another local authority with good resident's and crew feedback</p> <p>Best option to reduce carbon (due to only one additional collection vehicle)</p> <p>Bags can be made available from WBC outlets so no waiting time for delivery</p> <p>Cheapest option overall (due to need for only one additional vehicle/crew as opposed to two vehicles/crew)</p>

			needed for the other options)
	Waterproof shower caps	Lids for boxes	Waterproof recycling bags
Disadvantage	<p>Not durable – likely to tear/rip over a short period of time. Unlikely to be used/replaced once damaged</p> <p>Not fully waterproof if the shower caps are not used or ripped</p> <p>Due to the time taken to replace the shower caps by the crew an additional two collection vehicles would be required</p> <p>More expensive option overall due to additional two vehicles needed and continued replacement</p> <p>Spillage possible when the crew remove the showercap</p>	<p>Likely to become lost/broken or not used by residents which will mean the paper/card becomes wet</p> <p>Due to the time taken to replace the lids on the boxes an additional two collection vehicles would be required</p> <p>More expensive option overall due to additional two vehicles needed</p> <p>More expensive than the waterproof recycling bag</p>	<p>More expensive option than shower caps but fully waterproof once sealed</p> <p>Longer lead times to receive these as opposed to other options</p> <p>One additional vehicle and crew needed</p>

From the above analysis it is clear to see that the waterproof recycling bags are the best option overall financially, environmentally and practicability. Although they are more expensive to purchase initially than the shower caps, they are longer lasting as they are less likely to get broken and lost. This is also reflective of the experiences of Monmouthshire (see below) where they have had a very low replacement rate of these particular bags. They have greater capacity than the current boxes therefore additional recycling will be collected which will improve our recycling rate further. The street scene will be improved by less escape of recyclables on collection day and only one additional collection vehicle will be required, whereas the other options require two, reducing both the carbon and financial impact.

Bag Selection

A number of bags were assessed from a desktop study as well as practical testing. It was evident that those bags that did not seal or had a 'fold over' flap were not deemed suitable as water still entered the container causing the paper to become wet.

Therefore, a sealed bag was the only practical option to prevent moisture ingress. The preferred bag (Appendix 2) has, been chosen following significant testing of the product by officers and contractors. This testing included spraying the bag with a jet wash up to 20 seconds, a handling test where the bags were filled and moved over some distance and a capacity test to determine how much material could be placed in the bag.

Following these live tests, it was demonstrated that the bag kept the paper material dry, the suitability for moving was met and with a 60 litre capacity, they exceed the volume of the current recycling box. Additionally, the bags are weighted so they will not blow away when empty. This increased capacity (an additional 20 litres per property) will enable and encourage a greater amount of recycling. Larger bags are available (90 litres) but consideration has been given to both our residents, and those collecting the recycling to lift and move the bags.

The bag has a Velcro fastener across the top, to prevent moisture being able to infiltrate the waste and animals being able to get in. The bags will cost £1.66 per bag, cheaper than the current black bins that cost approximately £5.00 including the lid and box (see financial business case below for full financial details) (See Appendix 1 for full Resource Futures Report)

The lifespan of the current recycling boxes is between and five and 10 years. The waterproof recycling bags have been estimated of having a lifespan of between three and five years. However, the container replacement cost is £3.34 cheaper per unit as compared to the box and lid together.

As detailed above, these types of bags are in operation in Monmouthshire County Council, and regular discussions with this Council have occurred to understand their experiences of using this receptacle. An outline case study is detailed as follows:

Case study: Monmouthshire County Council

In late 2019, Monmouthshire County Council introduced a trial for the sealable, waterproof bags to replace their single use plastic recycling bags which were supplied to all properties. Not only was the aim to reduce the environmental and financial impact of single use plastic but to also consider other ways to keep presented paper and cardboard dry. The trial is ongoing, however full county-wide implementation of the bags is expected in 2021.

Although the trial was to primarily assess the potential cost savings and to determine the quality of paper within the bag, it also set out to understand the wider benefits of these receptacles. Feedback from residents has been, overall, positive in terms of usability and durability and there has not been any issues regarding the quality of the bags tearing/splitting. The crews have also been consulted and the only issue raised was to reduce the handle size which would enable the operatives to move the bags with straight arms rather than bent arms. This design modification has been made, and samples from the bag supplier has incorporated this change.

Both the crews and the Council have undertaken checks of the paper and cardboard presented in the bags and there have not been any concerns in terms of quality or moisture content.

From the Council's experience it is also evident that the bags stay in place during windy conditions with little movement. Clearly, high winds would affect any presented receptacle causing it to move or fall over.

The replacement of bags due to loss is lower as compared to the replacement of existing WBC boxes. Of the 6,000 bags supplied as part of the trial area, there have only been 23 requests for new containers. As a like-for-like comparison in terms of scale, the number of replacement recycling boxes is nearly 270. Undoubtedly many boxes have to be replaced as they become broken due to age, brittleness due to weather conditions, adverse handling and accidental damage. The waterproof recycling bags negate a number of these issues as they are flexible rather than rigid.

Recycling Performance

Based on 2019/20 performance, an annual loss of 6% of our overall recycling rate would occur as a result of wet waste. It has been estimated that, on top of the approximate 6% of recycling that is lost due to wet paper, the new bags will provide additional capacity for recycling. It is expected that this extra space will achieve a further 1.5% in performance by diverting more recycling from the blue bags. In summary, the weighted waterproof recycling bags will be able to:

- Recover the estimated 6% loss due to wet paper and;
- Gain an additional 1.5% of additional recycling as a result of the additional space. Furthermore, this is an opportunity to promote the recycling service through general communications as well as the leaflet delivered with the bags thereby moving us towards our "Climate Change" target to recycle 70% by 2030.

Procurement

The bags will be procured through our waste collection contractor Veolia as containers were included in the original OJEU notice. This will enable their specialist procurement section to act on our behalf and use their buying power to get the best possible price and purchasing influence.

Financial Business Case

At the 30 July 2020 meeting, the Executive approved the borrowing of £288k for the purchase of waterproof recycling bags and the revenue implications of the capital borrowing, which will have the effect of increasing recycling levels and generating a beneficial financial impact far in excess of the cost of borrowing.

The annual costs of both the new bags and an extra vehicle/crew to maintain existing collection standards with a sealable bag receptacle is estimated at £295k p.a. The financial benefit arising from increased recycling and reduced disposal costs, as a result of this initiative, is estimated at £698k per annum. There would therefore be a net gain (budget impact avoidance) of £403k per annum.

Consultation

Stakeholder consultation and consideration has been assessed as part of this evaluation. In 2017, WBC undertook a comprehensive waste and recycling consultation which set out to gain insight into resident's waste and recycling opinions. 95% of residents stated that it was important to increase recycling and reduce landfill. A further 97% stated that it was important to reduce the impact on our environment.

This consultation also asked residents about the current service and approximately half of respondents said that they were happy with the current collection system. On this basis officers have continued to work on maintaining the current service while promoting its continuous improvement. The issue of wet waste has prompted consideration of the most waterproof option as well as customer desire for greater capacity to recycle more. Going forward there will be further consultation on longer term options towards the end of the current contract.

Significant work by Officers and Resource Futures has been undertaken to ensure the proposed option meets the required outcomes. This has involved engaging an external consultant to undertake a full appraisal of appropriate options that can be implemented as early as possible in the winter period. Officers informed and reviewed the extensive options appraisal, as well overseeing the process of testing these informed by their experience and knowledge of Wokingham's waste service. Officers have been integral to ensure the selected receptacle is cost-effective, will keep recyclable material dry and is durable.

It is clear that presented material needs to be recycled rather than disposed of and with the current open box system it is very likely more recycling will get wet and residents' efforts would be wasted.

Implementation and delivery

WBC Officers have been working with our waste collection contractor Veolia and the waste disposal partnership re3 to address how the bags can be implemented and this is highlighted as follows:

- 2 x 60 litre bags to be delivered around 67,000 properties (approximately 3,000/4,000 multi occupancies already have wheeled bins for recycling so these would remain);
- Those properties that are served by the limited access vehicle (approximately 500 properties) would retain the boxes and would have lids provided as the bags are not suitable for lifting into the vehicle that is used to access these properties;
- The recommended colour for the bags is green based on green being related to recycling and green not clashing with any other existing receptacles;
- These bags have an expected 12 week manufacturing timescale and will take approximately five weeks to deliver to residents (19 weeks total) along with an explanatory leaflet and whilst the timescale is tight, it is expected that they would be in place by the end of January 2021.
- It is proposed that these bags will completely replace the black boxes (approximately 67,000 properties) to ensure, as far as reasonably practicable, that our paper is delivered to re3 in a condition to allow it to be recycled;
- Whilst the bags will replace the boxes completely a four to six-week amnesty will be put in place, after which a programme to collect any unwanted boxes.

However, residents may wish to hang onto them for alternative uses which will be encouraged;

- Residents can have more bags and they will be able to collect them from our community hubs. Those residents unable to collect will be accommodated;
- Officers will work with any resident with specific needs to seek a workable alternative solution as detailed in the Impact Equality Assessment in Appendix 3.

FAQs & Communications Strategy

Significant work has already gone into this element of the project and Officers are aware of the need to “get this right”. However, the principles that worked well with the food waste will be employed to ensure that the campaign first concentrates on “why we’re doing it” then deal with “when we’re implementing it” and finally “how the system will work”. This will include how the boxes will be phased out and eventually collected if required (See Communication Plan and FAQs in Appendix 4 & 5)

In addition to explaining why, when and how the system will work, rolling out the new bags will provide a great opportunity to act as a “springboard” to promote recycling across the borough (including the food waste service) in order to achieve greater recycling through the changed behaviour of residents. The communication strategy will, therefore, focus on wider elements of recycling to maximise the opportunities provided in line with the Council’s Climate Emergency objectives.

FINANCIAL IMPLICATIONS OF THE RECOMMENDATION

The Council faces severe funding pressures, particularly in the face of the COVID-19 crisis. It is therefore imperative that Council resources are focused on the vulnerable and on its highest priorities.

	How much will it Cost/ (Save)	Is there sufficient funding – if not quantify the Shortfall	Revenue or Capital?
Current Financial Year (Year 1) (2020/21)	£49,250 (based on three months versus the amount if nothing was done i.e. £150,000)	Yes	Revenue
Next Financial Year (Year 2)	£197k (versus the amount if nothing was done i.e. £600k)	Yes	Revenue
Following Financial Year (Year 3)	£197k (versus the amount if nothing was done i.e. £600k)	Yes	Revenue

Other Financial Information

Do nothing

- To do nothing would result in a major budget loss which would amount to £600k per annum. This is calculated through lost income (30%) and an increase of disposal costs (70%) (using Oct –Mar actuals of £400k) = £600k p.a

To implement waterproof recycling bags

Cost of bag solution (two parts)

Part 1:

- Cost of bags £288k for 5.5 years (£52k MRP + £8k interest) = £60k p.a.

Part 2:

- Cost of new vehicle and crew needed to compensate for the extra time taken to empty new receptacles (based on previous costs and depreciated over 5.5 years) = £235k p.a. (time difference is approximately 3 seconds per property which equates to 55 hours extra per week)

Total = Bags per annum = £60k (Part 1) and vehicle/crew = £235k (Part 2) = £295k p.a.

Benefit of bag solution

- The implementation of the bag solution will avoid (30%) increase disposal costs (70%) (using Oct –Mar actuals) of £400k or £600k for the full year which will impact the budget significantly.
- Increased recycling as a result of greater container capacity of 1.5% = £98k per annum income. This equates to additional recycling per property per year of 1kg. This is expected to be realised, not only due to the additional capacity but a determined drive in educational activity. There is still waste material in the blue bags which could be recycled in the kerbside scheme and an educational leaflet will accompany the new bags. This will clearly explain what can be recycled in the bags and the reasons why. There is a high degree of confidence that this is achievable which is borne out of evidence of other Councils which have similarly increased capacity in their own kerbside containers.
- The £98k per annum (1.5% increase of recycling by using these bags) includes all landfill diversion benefits as a result of capturing this additional material.

Cost of bag solution

The annual cost of implementing the bags would be £295k p.a. – £98k p.a. = £197k cost per annum. However, this is a significant improvement relative to the current position (see below)

Total net gain from bags

£600k – £295k (bag costs) + £98k (increased recycling due to awareness and increased capacity) = £403k

Benefit of bags relative to open bins = +£403k net gain (budget impact avoidance)

Stakeholder Considerations and Consultation

Stakeholder consultation was undertaken in 2017 to inform the procurement of the waste collection contract. This showed that our residents are generally happy with the waste service and support recycling. The recycling bag solution enables the service to remain largely unchanged and to increase recycling which supports the outcome of the consultation.

There has been considerable testing of the bags with the Council’s waste collection and disposal contractor to ensure that they are appropriate.

This change has been implemented to ensure that the collected paper is kept dry but as detailed in the Executive Summary Political and Public Acceptability were given a 10% weighting in the selection criteria by the consultant in their assessment of the options based on their knowledge, experience and testing of recycling options nationally.

Public Sector Equality Duty

Laid out in Appendix 4

Climate Emergency

This Council has declared a climate emergency and is committed to playing as full a role as possible – leading by example as well as by exhortation – in achieving a carbon neutral Wokingham Borough by 2030 – This will put us on track to achieve 30% recycling by 2030.

List of Background Papers

None not included in Report

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Appendices

1. Full Resource Futures Report
2. Details of selected bag
3. Impact Equality Assessment
4. Communications Plan
5. FAQ's

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