

STROUD DISTRICT COUNCIL
ENVIRONMENT COMMITTEE

**AGENDA
ITEM NO**

20 APRIL 2021

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Report Title	RECYCLING – DEVELOPMENTS FOR THE FUTURE			
Purpose of Report	To outline potential improvements, which would better insulate SDC from the fluctuations of markets in the sale of recyclates.			
Decision(s)	The Committee RESOLVES to: a) Note the report contents; b) Instruct officers in consultation with the Chair, to continue exploring opportunities to work with neighbouring authorities, and c) Bring a further report to Committee when there is greater clarity on the Government policy, in particular on the deposit return scheme (DRS) and extended producer responsibility (EPR).			
Consultation and Feedback	Consultation has taken place with Ubico and colleagues in Property Services			
Report Author	Michael Towson, Community Services Manager Email: michael.towson@stroud.gov.uk			
Options	N/A			
Background Papers	N/A			
Appendices	N/A			
Implications (further details at the end of the report)	Financial	Legal	Equality	Environmental
	No	Yes	No	Yes

1. INTRODUCTION / BACKGROUND

- 1.1 In June 2020 Officers brought a report to this Committee regarding the extension of our contract for the reprocessing of paper and card recyclate. The report outlined the worsening terms due to the downturn of the global market for mixed papers.
- 1.2 We are currently in the process of re-procuring a contract for this function, with the existing agreement set to run until the end of June 2021. The market for mixed papers has recovered somewhat and the financial impact has been less severe than first thought. However, we are still experiencing problems with moisture content and along with considerations for further improvement, this report looks at options for enhancements, which may better insulate SDC from the fluctuation of markets for recyclate.
- 1.3 Members will be aware that currently SDC operate a two stream recycling method with paper and cardboard going in one side of the vehicle and the other components (mainly glass, cans and plastics) going in the other side.

Reprocessors buy raw product, sorted in to material type. Each material has its own value. At present our paper and card is sorted by the paper mill, with the paper going directly in to the mill and the cardboard sent to a separate cardboard recycling plant. The dry mixed recycling (DMR) goes through a material recovery facility (MRF), which sorts the materials, mainly via automated processes, but with some manual intervention too.

- 1.4 Whilst global market fluctuations constitute the main financial risk to economic sustainability, each of our streams has a major weakness. The paper and card is susceptible to getting wet, especially given the box containment method used, whilst the DMR is costly to sort. Wet paper and cardboard is subject to additional expense, if it fails to meet acceptable moisture readings. Ignoring any moisture issues, the net cost position is laid out below:

Recyclate Stream	Cost/Revenue per tonne (as at Feb 2021 and subject to market fluctuation)
Paper and Cardboard	£16 Revenue
Mixed Recycling	£45.20 Cost

2. Paper and Cardboard

- 2.1 In 2020 SDC collected 5,021 tonnes of paper and cardboard.
- 2.2 The vast majority of bulked loads met moisture criteria. However approximately 400 tonnes were subject to additional costs and/or moisture downgrades. The costs, which include haulage, onward transportation, additional gate fees and processing, equate to approaching £30k.
- 2.3 To counter these problems there are two largescale improvements that could be made:
- A) The rollout of wheelie bins for cardboard and mixed papers, acting to keep the material dry.
 - B) The exploration of a much larger tipping bay, where material can be spread out to dry, either on an SDC site, or possibly in partnership with a neighbouring collection authority.

2.4 A) Wheelie Bins

The capital cost of wheelie bins for each of the 42,000 properties able to accommodate and/or be able to be serviced by a wheeled bin, is approximately £0.7m (excluding distribution costs). Further to the capital costs there will be an ongoing revenue cost to replace broken bins, typically factored to be 4% per annum.

- 2.5 A wheelie bin for paper and card would undoubtedly push up capture rates up as the wheelie bin provides an easy storage facility for larger amounts. A recent baseline report has illustrated that whilst SDC continues to outperform its peers overall, the capture rates for paper and cardboard is in the bottom 50% of local authorities when compared to those classified with similar characteristics and/or in the same rurality. This tends to suggest that the use of boxes is not maximising our potential.
- 2.6 Importantly though, higher capture rates could impact recycling vehicle capacity limits. Without a full study to model this, we could end up with unintended consequences i.e. that the paper and card recycling section of the vehicle fills too quickly, leading to fleet shortages.

2.7 B) Larger Tipping Bay

In relation to paper and cardboard, this means an area that can be used to allow a degree of material drying.

- 2.8 Currently the transfer station needs to ensure a steady flow of bulk collections to ensure space remains in the bay for tipping. Invariably this means that on wet days, there is no other option than to send wet material for reprocessing. This then leads to moisture claims and more cost.
- 2.9 A larger tipping hall will allow material to be rotated and dried prior to being sent for reprocessing. The caveat here though is that reprocessors don't like material that has been wet and then dried out. However, officers deem this unlikely to cause issue, as long as paper was not being stored for long periods.
- 2.10 Any alternative or enhanced transfer station needs careful consideration, especially in terms of location. However, when you factor that additional site capacity will be required in the fullness of time anyway, a plan becomes more feasible. Discounting land costs and only taking into account building costs, an additional tipping hall twice the size of the existing paper bay, is likely to cost circa. £850k.
- 2.11 On the face of it, this larger investment won't insulate SDC entirely from the vagaries of the paper and card reprocessing markets. It's only when increased volumes dictate an expansion, or any opportunity presents itself to work with other districts, that this really becomes feasible. Partnership work is discussed further in section 4.

3. Dry Mixed Recycling

- 3.1 In 2020 SDC collected 7,411 tonnes of dry mixed recycling.
- 3.2 The markets for this material are more complex and rather than offering one 'mixed paper' commodity price for paper and cardboard, the individual material prices are factored in to the rebate SDC receive. It is noted though that the rebate doesn't cover the cost of the sorting process as markets stand, or historically.
- 3.3 The recycling mix changes but using a broad average, glass makes up the majority of SDC dry recycling by weight (55%), with plastics making up around 31%, steel cans accounting for 10% and aluminium cans less than 5%. Table 1 below illustrates the value of each of these commodities from April 2020 to December 2020.
- 3.4 **Table 1 – Mid-point Prices for each of the commodities recycled (April 2020-December 2020)**

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mixed Glass	£11	£12	£10.5	£8	£7	£5.5	£5.5	£5.5	£6.5
Aluminium Cans	£665	£640	£680	£685	£705	£692.5	£710	£720	£775
Steel Cans	£47.5	£67.5	£82.5	£82.5	£87.5	£92.5	£105	£110	£130
Plastic Mix	£145	£135	£80	£55	£17.5	£10	£7.5	£15	£27.5

- 3.5 With glass representing over 50% of the dry recycling mix and having such little market value, it is clear to see why the sorting and haulage costs aren't covered by the material rebate. Aluminium cans have a very large market value but represent very little of the mix.
- 3.6 It is clear to see the volatility of the markets too. Mixed plastics traded at £145 per tonne in April, but the market slumped to just £7.50 per tonne by October.
- 3.7 In terms of making positive changes for DMR recycling, it's necessary to study more fully the recycle markets. Whilst we currently provide a mix of plastics, separated plastics will achieve more market value.
- 3.8 Table 2 below, shows the exact composition of material for a number of SDC bulked loads in June 2020.

Table 2 – Example of Dry Recycling Composition for Multiple SDC Loads (June 2020)

Date	Target Material (kgs)					
	Aluminium	Steel	Mixed Plastic	PET	HDPE	Glass
2.6.20	1.52	3.64	9.82	4.15	1.84	37.24
5.6.20	2.25	2.44	6.94	2.65	1.04	40.45
5.6.20	2.19	4.04	5.61	1.98	0.81	39.44
10.6.20	2.11	3.64	12.01	3.63	1.76	32.77
23.6.20	1.39	4.26	10.48	2.85	1.44	35.06

- 3.9 Tables 3 and 4 show the total composition of plastic collected (Table 3) and metals collected (Table 4) in the whole month of June 2020. In particular this shows the weights of the particularly valuable commodities; PET, HDPE and aluminium.

Table 3 – Illustrative Composition of SDC Plastic Mix Based on overall Composition Figures for June 2020

	Mixed	PET	HDPE
TOTAL Tonnage	108.74	36.95	16.72
% Composition	67%	23%	10%

Table 4 – Illustrative Composition of SDC Can Mix Based on overall Composition Figures for June 2020

	Steel	Aluminium
TOTAL Tonnage	43.67	22.93
% Composition	66%	34%

- 3.10 Table 5 applies the appropriate apportionments from Tables 3 and 4 to further break down the specific elements of the recycling mix to give an annual tonnage. This is then used to calculate the value of recycle for the year, taking midpoint prices from industry sources (at two different points in the year).

Table 5 – Illustrative Value of Dry Mixed Recyclates Collected by SDC at the Kerbside

	Annual Tonnage (calendar year 2020)	Actual Total Cost to SDC of reprocessing DMR recyclate (calendar year 2020)	Value of material (assuming sale in June 2020)	Value of material (assuming sale in December 2020)
Aluminium Cans	326.75*	N/A	£222,190	£253,231
Steel Cans	634.27*	N/A	£52,327	£82,455
Mixed Glass	4262.03	N/A	£44,751	£27,703
HDPE	218.87*	N/A	£102,868	£73,321
PET	503.39*	N/A	£118,296	£79,283
Remaining Plastics	1466.40*	N/A	£36,660	-£29,328
TOTAL	7411.71**	-£324,500	£577,092	£486,665

*Note – for the purposes of this illustration, the tonnages used for cans and plastics are apportioned based on the compositional data for June 2020.

**Note – this doesn't include paper/cardboard or other non-target materials.

- 3.11 The only way to fully realise the potential value of recyclates we collect is to pre-sort the material. The obvious option is to build a MRF negating any reliance on a third party. SDC could then bring materials to market and potentially and perhaps importantly, store materials until there is sufficient market demand to maximise the sale price.
- 3.12 Build costs would be substantial, with a MRF typically costing £5-6m to mobilise (excluding land purchase). The specification will determine ongoing operational costs, but given the requirement for personnel to finalise the sort, these are likely to run to six figures.
- 3.13 In short, if we assume a £0.5m revenue stream per annum (see Table 5) and £6.5m site acquisition and build costs, it'd cost 13 years to repay the capital investment, excluding operating costs. If we further assumed operating costs of £100k p/a, that would take the repayment period to just over 16 years. However, when you factor in the saving on existing sorting costs of circa. £300k p/a, this reduces the pay back time to around 10 years.
- 3.14 This ignores any potential commercial opportunity that would exist to throughput material from sources beyond the SDC residential collections, or any increase in the value of recyclates that may be realised. If these costs were shared between neighbour authorities, not only would repayment times be reduced but there would be further scope for storage and subsequent sale at the best price.

4. Collaboration with Authorities in Gloucestershire

- 4.1 There is some potential to work with other districts in Gloucestershire, all of whom now have a relationship with Ubico following the recent announcement that Gloucester City Council will engage them for waste services from April 2022.
- 4.2 Members and officers attend countywide forums with joint working always high on the priority list. Members from other authorities especially, have shown interest when tentative mention of joint ventures, such as the MRF venture outlined, have been raised.
- 4.3 This is tempered though by the different collection systems used to undertake kerbside collections, which invariably means different local priorities. Tewkesbury operate a similar

collection system to Stroud but Gloucester City, Cheltenham and Cotswold undertake a kerbside sort. The Forest of Dean may change when their contract is renewed. Thus while only one other authority would currently benefit from a MRF, all would benefit from facilities to bale and store recyclates, maximising the opportunities to sell recyclates in bulk and at the appropriate price.

5. Government Policy

- 5.1 The next round of national waste consultations have just been released, with a deposit return scheme (DRS) and extended producer responsibility (EPR) facet still firmly on the table. As a county we will be looking at these in more detail and responding with one voice.
- 5.2 With the introduction of either or both of these schemes, comes fundamental change to local authority waste collections. DRS could for example strip out the high grade, high value material from kerbside collections, leaving the low value recycling for collection authorities to deal with. Clearly this would severely impact the overall value of recyclate we collect and in turn the viability and business plan for a MRF in particular.
- 5.3 Work to factor in the potential impacts of change is being undertaken as part of the County Waste Strategy revision, with scenario modelling being used across a multitude of variables.
- 5.4 We will know more as detail is confirmed, at which point we will need to review our waste services to ensure they meet both legal requirements and resident expectations.

6. CONCLUSION

- 6.1 SDC are in a strong position with the waste service it operates providing some of the best recycling rates in the country. However, constant improvement will be required to meet stretch targets in the future.
- 6.2 This report highlights just a few long term options and very crudely associates some costings. The complexities of each will need further, more detailed work and officers would recommend engagement of consultants if any option warranted a full cost and performance appraisal.
- 6.3 However, given the proposed changes to waste legislation and the potential to impact lots of the detail contained in this report, it would be prudent to withhold any decision on investment until these are published.

7. IMPLICATIONS

7.1 Financial Implications

There are no financial implications directly related to this report as it is a recommendation to explore potential improvements of the impact in fluctuations in the sale of recyclates. However, any future reports brought to this Committee will most certainly have a financial impact dependent upon the preferred recommended option.

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7.2 Legal Implications

7.2.1 Under the Waste (England and Wales) Regulations 2011 (as amended in 2012) there is a specific requirement Regulation 13, to separately collect paper (including card), glass, plastics and metals where:

(a) It is necessary to produce high quality recyclate, and

(b) It is technically, environmentally and economically practicable to do so

It is acceptable to still co-mingle materials at point of collection provided it can be shown the recyclate is of sufficiently high quality, and/or that technical, environmental and economic factors do not permit separate collection. The provision of bins would move the Council towards full compliance with Regulation 13 both in terms of producing high quality recyclate and providing the practicable means for separate collection in respect of paper.

7.2.2 As noted in the body of the report changes may be imminent with regard to waste legislation and it is possible the requirements of the Regulations may alter in the near future.

7.2.3 The provision of bins for paper and card would represent a change in the way the service was provided and thus would require a consultation with service users so that the Council can show it has fulfilled both its best value and equality duties.

7.3.4 Co-operation arrangements of the type envisaged in paragraph 4 of the report would require a formal legal structure, the exact nature of which will depend on the relationship between the parties. For example, the Council providing MRF services to another authority could be dealt with via a contract under the Local Authorities (Goods and Services) Act 1970, or an explicitly non-commercial partnership agreement under the general power of competence contained in the Localism Act 2011.

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7.3 Equality Implications

There are not any specific changes to service delivery proposed within this decision.

7.4 Environmental Implications

There are significant implications within this category, considering waste services are a key driver for environmental improvements. Given the scoping nature of this report, further work will be done to establish the nature of any environmental improvements, should any option merit further consideration.